

TROPICAL AFRICAN FLOWERING PLANTS

Ecology and Distribution

Vol. 3 – Mimosaceae – Fabaceae (incl. Derris)



- J.-P. LEBRUN
- A. L. STORK



Conservatoire
et Jardin botaniques
de la Ville de Genève
2008

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VOL. 3: LEGUMINOSAE: MIMOSACEAE – FABACEAE (incl. DERRIS)



*This volume is dedicated to our friends and colleagues Roger Polhill and Diana Polhill; to Roger in particular for his important contribution to Legume research and taxonomy, and in recognition of his distinguished work as Editor of *Flora of Tropical East Africa* (1972-1997); to his wife Diana because we owe to her the book “*Flora of Tropical East Africa: Index of Collecting Localities*” (Royal Botanic Gardens Kew, 1988), an invaluable tool for compiling our distribution maps.*

[A short biography, with dedication to Roger, was published by P. S. Herendeen & A. Bruneau, Editors of *Advances in Legume Systematics* Part 9: p. VII-VIII; Kew, 2000.]
Photograph taken at the 17th AETFAT Congress, Addis Ababa, Ethiopia, 25 September 2003 (A. L. Stork).

Cover page illustration: *Adenocarpus mannii* (Hook. f.) Hook. f. (photograph: Anders Barfod, Aarhus University, Denmark; Mt. Kilimandjaro, 2700 m alt., 2005, by courtesy).

JEAN-PIERRE LEBRUN – ADÉLAÏDE L. STORK

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Erratum

Erratum to Volume 2: Euphorbiaceae-Dichapetalaceae (2006).

The following errors occurred in family **Euphorbiaceae** :

- (p. 28) **Anthostema membranaceum** Müll. Arg. should read **Antidesma membranacea**,
- (p. 30) **Antidesma senegalense** A. Juss. should read **Anthostema senegalense**.

We thank Laurent Aké Assi for having brought these errors to our attention.

I. STATISTICAL SUMMARY

The present volume covers the *Leguminosae*, here treated as three separate families, viz. *Mimosaceae*, *Caesalpinaceae* and *Fabaceae*.

Table 1 summarizes our lack of information relating to plant habit, flowers, fruit, ecology, and herbarium material.

With a total of 2848 species, Table 1 shows the following results (figures within brackets indicate uncertain data):

- 2 species (= < 0,1 %) without known habit;
- 13 (+4) species (= < 0,5 %) for which flowers are unknown;
- 221 (+32) species (= > 8,5 %) for which fruits have not been seen;
- 109 (+20) species (= 4,4 %) without records on their ecology;
- 247 (+22) species (= < 9 %) which are only known from the type.

We are aware of the fact that our figures do not reflect the absolute truth. They are certainly too high and should be considered as an indication only.

Table 1. – Families included in Volume 3 (alphabetical order, 6-letter acronyms). Statistical summary: number of genera (Nr. gen.) and species (Nr. spp.); number of species for which habit (hab.), reproductive organs (flowers, male flowers, female flowers, fruits) or ecology (eco.) are not recorded; and number of species only known from the type collection. Figures within brackets indicate uncertain data.

<i>Family</i>	<i>Nr. gen.</i>	<i>Nr. spp.</i>	<i>No hab.</i>	<i>No fl.</i>	<i>No ♂ fl.</i>	<i>No ♀ fl.</i>	<i>No fr.</i>	<i>No eco.</i>	<i>Only type</i>
Caesal	84	501	2	2 (+ 4)			53 (+ 4)	27 (+ 5)	40 (+ 1)
Fabace	138	2111		10			159 (+ 28)	76 (+ 15)	198 (+ 3 + 17?)
Mimosa	25	236		1			9	6	9 (+ 1)
Total									
3	247	2848	2	13 (+ 4)			221 (+ 32)	109 (+ 20)	247 (+ 22)
			= < 0,1 %	= < 0,5 %			= > 8,5 %	= 4,4 %	= < 9 %

Caesal: no ripe fruit 11; no seeds 9 (+1).

Mimosa: no seeds 4; no ripe seeds 5.

Fabac: no ripe fruit 79 (+3?); no seeds 142 (+23); no ripe seeds 67 (+3?); no underground tuber 1; no rootstock 1; no leaves 2; no stipules 1; no flower colour 4; no mature flower 1.

II. LIST OF FAMILIES INCLUDED IN VOLUME 3

Leguminosae (p. 14)

Mimosaceae (p. 15)

Caesalpinaceae (p. 80)

Fabaceae, incl. Derris (p. 173/174)

III. HOW TO USE THIS BOOK

For each species there is a description and a simplified map of distribution. In a few cases two species figure on the same map but with different symbols.

The **text** is conceived in the following manner, based upon our “Enumération”, Vol. 1 (J.-P. Lebrun & A. L. Stork 1991).

- Bibliographical references are sometimes given at the beginning of families and genera, as appropriate. They mostly refer to monographs or articles published after the issuing in 1997 of Volume 4 of our “Enumération” (an updating of the bibliographies is found at the end of each volume in the chapter “Additions et corrections...”).
- Basionym and synonym(s) are only cited if they do not figure in the “Enumération”.
- A short description, mainly with regard to life form, is given, e.g. tree, shrub, subshrub, liane, (annual, perennial) herb, and to the height of the plant; for trees sometimes also other characters, such as diameter and/or girth of the bole or presence of buttresses, are mentioned. Presence of rhizomes, tubers or bulbs and of spectacular features, such as showy flowers, exceptionally small or large leaves, flattened or rounded shoots, etc., or particular uses, are often specified.

- Ecological data are recorded, sometimes in rather detailed form if known; range of altitude is generally given.
- If a species comprises two or more intraspecific taxa, this is mentioned, but their names are not always quoted, as most of them appear in our “Enumération”. However, there may have been changes since the publication in 1991, and in this case the names figure in the text.
- Extraterritorial geographical distribution is given (i.e. not marked on the accompanying map of distribution which includes only the tropical part of Africa as defined in our “Enumération”).

* * *

On the **maps** of distribution (Fig. 1) we indicate the northern and southern limits of our area, as well as the political frontiers of the countries within these borders. Arrows (at the margin of the continent, W Africa) indicate the situation of four particular countries, viz. Western Sahara, Guinea Bissau, Togo, and Benin.

The main phytochoria, based upon Frank White's classification and indicated on the maps that figure in Volume 1 of this Series (p. 19), have been slightly modified. In the following list Section B has been split into two areas. From North to South, and East to West the phytochoria are (Figs. 1 and 2):

- A. Southern Sahara-Sindian zone [corresponding to the southern part of White's phytochorion XVII (Sahara regional transition zone)].
- B. Sahelian-Sudano-Zambezian zone:
 - Ba. Sahel regional transition zone [corresponding to White's zone XVI];
 - Bb. Sudano-Zambezian zone [corresponding to the following phytochoria of White: III (Sudanian regional centre of endemism), XI (Guinea-Congolia/Sudania regional transition zone); X (Guinea-Congolia/ Zambezia regional transition zone); II (Zambezian regional centre of endemism); XIII (Zanzibar-Inhambane regional mosaic); and the north-eastern tip of XV, i.e. the southernmost part of Mozambique]; the enclosed parts of the "Afromontane archipelago-like regional centre of endemism" (VIII) and of the "Afroalpine archipelago-like region of extreme floristic impoverishment" (IX) have not been taken into account here (precluded by the small scale of our map).
- C. Guineo-Congolian rain-forest zone [corresponding to phytochorion I of White (Guineo-Congolian regional centre of endemism)].
- D. Ethiopian Afromontane zone [the northern part of White's phytochorion VIII (see above under Bb)].

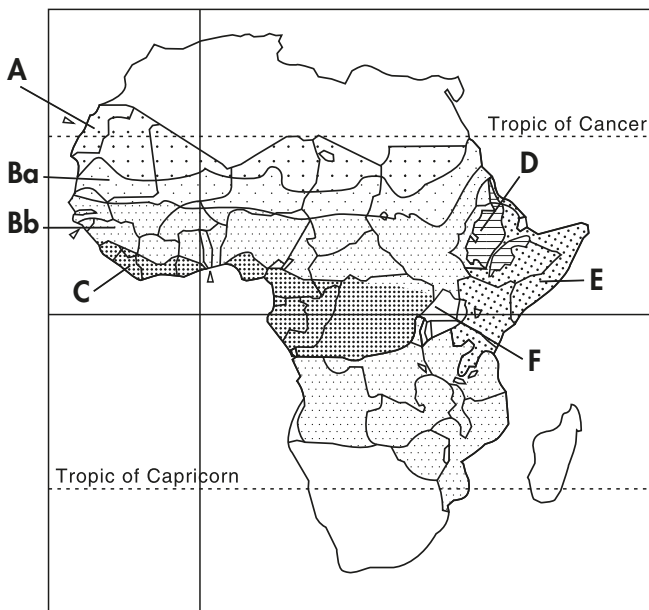


Fig. 1. – Main phytogeographical zones of tropical Africa used in the present work. For zones A through F, see explanations in the text.

- E. Somalia-Masai/Afroriental zone [phytochorion IV of White (Somalia-Masai regional centre of endemism) and the northernmost part of XIII (see above under Bb)]. The "Afromontane" (VIII) and "Afroalpine" (IX) archipelago-like regional centres are included (see above under Bb).
- F. Lake Victoria mosaic [White's phytochorion XII (Lake Victoria regional mosaic)]. As is the case in our zones Bb and E, the "Afromontane" (VIII) and "Afroalpine" (IX) archipelago-like regional centres are included here (see above under Bb).

Madagascar is not included in our compilation although present on the map (Fig. 1).

The maps are based on literature records at our disposal; thus they are indicate, but not exhaustive. In certain cases it has even been impossible to find the exact locality. Although it will always be possible to add dots on the maps, we believe that in most cases such additions will not change fundamentally the general pattern of distribution for a particular species.

The distribution of the species is shown on the maps in the following way:

- For small countries only one dot is used. For larger countries, and in particular if the distribution falls into different phytochoria, two (or more) dots are present.
- Dots are also placed in particular "subdivisions" of large countries, according to those given in the following floras: *Adumbratio Florae Aethiopiae*, *Flora of Ethiopia and Eritrea*, *Flora of Somalia*, *Flora of Tropical East Africa*, *Flora Zambesiaca*, *Flore du Congo Belge et du Rwanda-Urundi* (succeeded by *Flore du Congo Belge, du Rwanda et du Burundu*, and ultimately by *Flore d'Afrique centrale*), and *Conspectus Florae Angolensis*.

Readers will notice that plants seem to be more common (as dots are more numerous) in the eastern part of tropical Africa. This is often an illusion due to the subdivision of large countries mentioned above.

At more or less regular intervals, and at the end of a family, one or two maps are left blank, in order to allow for mapping of newly described species (or species overlooked by the compilers).

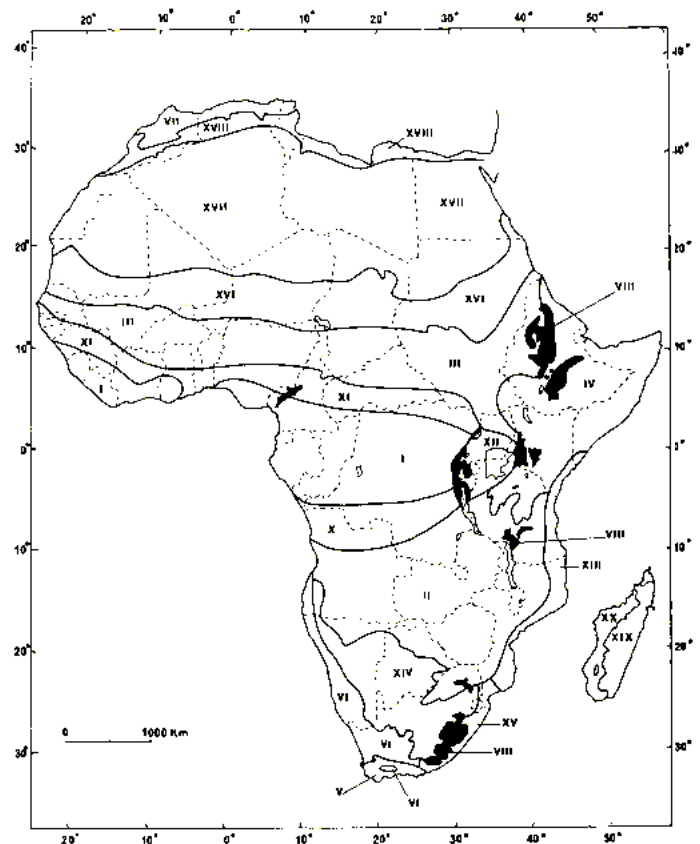


Fig. 2. – Main phytochoria of F. White (1983): p. 38 (cf. quotations in the text). See also "Énumération", vol. 1: pp. 24-25 (1991).

BASIC REFERENCE

WHITE, F. (1983). *The vegetation of Africa: A descriptive memoir to accompany the Unesco/AETFAT/UNSO vegetation map of Africa*. Unesco, Paris.

IV. THE CHECKLIST : Leguminosae: Mimosaceae – Fabaceae (incl. Derris)

LEGUMINOSAE / 247 g. / 2848 spp.

The Leguminosae represent the third largest family (group) of Angiospermae after Asteraceae (c. 22 750 species) and Orchidaceae (c. 18 500 species). In their importance to humans, Legumes come second to the Gramineae. They include grain and forage species grown on 12-15% of the Earth's arable surface, and grain legumes contribute about a third of the dietary protein nitrogen needs of humans (P. H. Graham & C. P. Vance, Legumes: Importance and Constraints to Greater Use, in *Pl. Physiol.* 131: 872, 2003). Some were domesticated as early as 9000-8000 BP.

Most Legumes have the ability to form nodules with nitrogen fixing rhizobia. So they also play a critical role in soil improvement, in agricultural settings as well as in natural ecosystems. Such use in agriculture dates back to the Romans.

“The Leguminosae constitutes one of the important plant families widely studied both taxonomically and agronomically. Both in well-known and locally important legumes various levels of knowledge are extant, but many details need to be filled in” [J. van der Maesen, “Genetic resources of tropical legumes” in *Symb. Bot. Ups.* 28(3): 79, 1988].

“Considerable progress has been made... on phylogeny of the family [Leguminosae]... Nevertheless, questions about relationships of legumes persist at every taxonomic level. Among the most important of these at the higher taxonomic levels are sister group relationships of legumes, identification of basal taxa within the family, and naturalness of the three subfamilies and their constituent tribes” (J. J. Doyle & al., “Towards a comprehensive phylogeny of Legumes:...” in P. S. Herendeen & A. Bruneau, *Advances in Legume Systematics* 9: 1; Kew, 2000).

There are about 19 327 species of legumes world-wide and these have been partitioned into 727 genera in three subfamilies. Caesalpinioideae: 4 tribes, 171 genera, 2251 species. Mimosoideae: 4 tribes, 82 genera, 3271 species. Papilionoideae: 28 tribes, 478 genera, 13 805 species (Lewis & al. 2005: 3, 35).

Nearly a third of the species are contained in six genera, *Astragalus* (c. 2400 species), *Acacia* (c. 1 450 species), *Indigofera* (c. 700 species), *Crotalaria* (c. 690 species), *Cassia* (incl. *Senna* and *Chamaecrista*, c. 520 species), and *Mimosa* (c. 500 species).

* * *

Referring to our “Énumération des plantes à fleurs d’Afrique tropicale”, Volume 2: p. 22 (1992) we have chosen to treat the Leguminosae as composed of three related families, viz. *Mimosaceae*, *Caesalpinioideae*, and *Fabaceae*. By others the Legumes (or “Fabaceae”) are considered to be a single family with three subfamilies, i.e. *Mimosoideae*, *Caesalpinioideae*, and *Papilionoideae*. May we cite R. M. Polhill, P. H. Raven & C. H. Stirton, “Evolution and systematics of the Leguminosae” in Polhill & Raven, *Advances in Legume Systematics* “Part 1: p. 1 (Kew, 1981): “The recognition of one family or three families within the Leguminales may still be regarded as a matter of opinion (Brenan, 1967), depending on the emphasis given to the relatively few genera that are transitional between the three major groups, as against the relatively numerous genera about whose position there is no possible difference of opinion.”

However, in a recent publication Lewis & Schrire (2003) advocate another opinion: “The three family argument for treating legumes must now be considered untenable... the Mimosoideae and Papilionoideae are apparently unique and distinct lineages

which arose independently... the Caesalpinioideae... is currently under detailed scrutiny... and division of this paraphyletic subfamily into several more clearly definable groups comparable in status to the other two subfamilies seems inevitable...” – “The legumes should be recognised as a single family, the Leguminosae. The alternative name, Fabaceae, is ambiguous...”

* * *

GENERAL BIBLIOGRAPHY (see also under *Caesalpinioideae* p. 80, *Mimosaceae* p. 15, and *Fabaceae* p. 174):

- DOYLE, J. J. & al. (2000). Towards a comprehensive phylogeny of legumes: evidence from rbcL sequences and non-molecular data. In: HERENDEEN, P. S. & A. BRUNEAU, o.c.: 1-20.
- DU PUY, D. J. & al. (2002). *The Leguminosae of Madagascar*. Royal Botanic Gardens, Kew. X + 737 pp. + 32 coul. pl.
- FIGUEIREDO, E. (2000). Leguminosae of Angola. *Sabonet News* 5: 125 [announcement of a new project].
- GRAHAM, P. H. & C. P. VANCE (2003). Legumes: Importance and Constraints to Greater Use. *Pl. Physiol.* 131: 872-877.
- GROUZIS, M. & I. DIÉDHIU (1998). Importance des légumineuses dans les systèmes écologiques semi-arides du Sénégal. *AAU Reports* 39: 97-111.
- GUNN, C. R. & J. V. DENNIS (1999). *World Guide to Tropical Drift Seeds and Fruits*. Krieger Publishing Co., Malabar/Florida. XIII + 240 pp.
- HEGNAUER, R. & M. HEGNAUER (2001). *Chemotaxonomie der Pflanzen Band 11b-2. Leguminosae Teil 3: Papilionoideae*. Birkhäuser Verlag, Basel, etc. XV + 1494 pp.
- HELUTA, V. P. (1998). Distribution of *Erysiphe* and *Microsphaera* species (Erysiphales) by phylogenetic groups of legumes. *Ukrain. Bot. J.* 55: 481-486.
- HERENDEEN, P. S. & A. BRUNEAU, Eds. (2000). *Advances in Legume Systematics* 9. Royal Botanic Gardens, Kew. X + 363 pp.
- HUXTABLE, R. (1999). Some legume toxins. *Aridus* 11(2): 1-3.
- ISELY, D. (1998). *Native and Naturalized Leguminosae (Fabaceae) of the United States (exclusive of Alaska and Hawaii)*. Monte L. Bean Life Science Museum, Brigham Young University, Provo/Utah. XI + 1007 pp.
- IZIDINE, S. & al. (2003). Maputaland's Licuati forest and thicket. *Veld & Flora* 89: 56-61.
- KAJITA, T. & al. (2001). rbcL and legume phylogeny, with particular reference to Phaseoleae, Millettieae, and allies. *Syst. Bot.* 26: 515-536.
- KIRKBRIDE Jr., J. H. & al. (2003). Fruits and Seeds of Legume Genera. *USDA Techn. Bull.* 1890. 2 vols., 1212 pp.
- KIRKBRIDE Jr., J. H. & al. (2004). Worldwide identification of legume (Fabaceae) seeds using expert computer technology. *Seed Sci. & Technol.* 32: 53-68.
- KLITGAARD, B. B. & A. BRUNEAU, Eds. (2003). *Advances in Legume Systematics, part 10. Higher Level Systematics*. Royal Botanic Gardens, Kew.
- LEMORDANT, D. (2001). Les légumineuses et l'homme. *Bull. Soc. Linn. Provence* 52: 29-45.
- LEWIS, G. P. & B. D. SCHRIRE (2002). Molecular sampling needs in Leguminosae. *Bean Bag* 49: 3-7.
- LEWIS, G. P. & B. D. SCHRIRE (2003). Leguminosae or Fabaceae? In: KLITGAARD, B. B. & A. BRUNEAU (2003): 1-3.
- LEWIS, G. P. & al. (2005). *Legumes of the World*. Royal Botanic Gardens, Kew. XIV + 575 pp.
- MAESEN, L. J. G. VAN DER (1988). Genetic resources of tropical legumes. *Symb. Bot. Ups.* 28(3): 79-91.
- MIRUTSE GIDAY & al. (2005). The role of herbaria and flora in preserving local plant-use information: The case of the Ethiopian National Herbarium and flora. *J. E. African Nat. Hist.* 94: 287-301 [uses of Leguminosae, Euphorbiaceae, on herbarium labels].
- NICK, G. (1998). *Polyphasic taxonomy of Rhizobia isolated from tropical tree legumes*. Academic dissertation in microbiology, Faculty of Agriculture and Forestry, University of Helsinki, 18 September 1998. Helsinki. 66 pp.
- OHASHI, H. (2002). A historical review on legume systematics in the latter half of the twentieth century with a book review of “Advances in Legume Systematics” Series (1981-2000). *J. Jap. Bot.* 77: 1-8.

- OTTOW, J. C. G. & J. SAUERBORN, Eds. (1997). *Leguminosen zur Verbesserung und nachhaltigen Sicherung der Agrarproduktion*. Giessener Beiträge zur Entwicklungsforschung (Reihe 1, Symposien 24), Tropeninstitut Giessen.
- PENNINGTON, R. T. & al. (2001). Phylogenetic relationships of basal papilionoid legumes based upon sequences of the chloroplast trnL intron. *Syst. Bot.* 26: 537-556.
- PERRY, E.L., IV, & J.V. DENNIS (2003). *Sea-Beans from the Tropics. A Collector's Guide to Sea-Beans and Other Tropical Drift on Atlantic Shores*. Krieger Publishing Company, Malabar, Florida. XIV + 217 pp.
- PRENNER, G. (2004). The asymmetric androecium in Papilionoideae (Leguminosae): Definition, occurrence, and possible systematic value. *Int. J. Plant Sci.* 165: 499-510.
- PUEPPKE, S. G. & W. J. BROUGHTON (1999). Rhizobium sp. strain NGR234 and R. fredii USDA257 share exceptionally broad, nested host ranges. *Molecul. Plant-Microbe Interactions* 12: 293-318.
- ROBYNS, W. (1929). Plantes congolaises pour engrais verts et pour couverture. (*Bull. Agric. & Elevage Congo Belge* du 15 décembre 1928 and) Ministère des Colonies, Publications de la Direction Générale de l'Agriculture, Bruxelles. 31 pp.
- SCHRIRE, B. D. & al. (2003). Africa's role in global legume distributions. In: SEBSEBE DEMISSEW, Ed., *XVIIIth AETFAT Congress 21-26 September 2003, Abstracts*: 49-50. The National Herbarium; Department of Biology, Science Faculty, Addis Ababa University, Addis Ababa.
- SKERMAN, P. J. (1977). *Tropical Forage Legumes*. FAO (Plant Production and Protection Series 2), Rome.
- SONKÉ, B. (2005). Forêts de la Réserve du Dja (Cameroun): Etudes floristiques et structurales. *Scripta Bot. Belg.* 32. 144 pp.
- SPEEDY, A. & P.-L. PUGLIESE, Eds. (1992). *Legume trees and other fodder trees as protein sources for livestock*. Proceedings of the FAO Expert Consultation held at the Malaysian Agricultural Research and Development Institute (MARDI) in Kuala Lumpur, Malaysia, 14-18 October 1991. FAO, Rome. 339 pp. [tropical Africa: by O.B. Smith p. 43-59, and by M. S. Dicko & L. K. Sikena p. 27-41].
- SPRENT, J. I. (2000). Nodulation as a taxonomic tool. In: HERENDEEN, P. S. & A. BRUNEAU, o.c.: 21-44.
- SPRENT, J. I. (2001). *Nodulation in legumes*. Royal Botanic Gardens, Kew. XII + 146 pp.
- SPRENT, J. I. (2005). West African legumes: the role of nodulation and nitrogen fixation. *New Phytol.* 167: 326-330.
- TUCKER, S. C. (2003). Floral development in Legumes. *Pl. Physiol.* 131: 911-926.
- VANDENBOSCH, K. & G. STACEY (2003). Advances in Legume Biology. *Pl. Physiol.* 131: 839 [Editorial to a Special Issue on Legumes].
- WINK, M. & G. I. A. MOHAMED (2003). Evolution of chemical defense traits in the Leguminosae: mapping of distribution patterns of secondary metabolites on a molecular phylogeny inferred from nucleotide sequences of the rbcL gene. *Biochem. Syst. Ecol.* 31: 897-917.
- WOJCIECHOWSKI, M. F. & al. (2004). A phylogeny of legumes (Leguminosae) based on analysis of the plastid matK gene resolves many well-supported subclades within the family. *Amer. J. Bot.* 91: 1846-1862.

MIMOSACEAE / 25 g / 236 spp.

With a large genus, viz. *Acacia* (117 spp.) representing c. 50% of the family in tropical Africa (See also Notes under *Acacia* below). Among the other genera, a few are insufficiently known, in particular *Calpocalyx* and *Xylinia*. For the whole family flowers are unknown in one species, and the flower colour is uncertain in a few others (only judged from dried material). In nine species (= <4%) the pods are unknown. The ecology is not recorded for 6 species (= <3%). Nine (+ 1 ?) species (= <4%) are known only from the type gathering. In addition, the seeds of 4 *Acacia* species are unknown, and ripe seeds in further 5 species (4 *Acacia* + 1 *Entada*).

* * *

GENERAL BIBLIOGRAPHY (See also under Leguminosae p. 14):

- ESTRELLA, M. & al. (2005). Checklist of the Mimosoideae (Leguminosae) of Equatorial Guinea (Annobón, Bioko, Rio Muni) *Belg. J. Bot.* 138:11-23.
- LUCKOW, M. & al. (2000). Relationships among the basal genera of Mimosoid legumes. In: HERENDEEN, P. S. & A. BRUNEAU, Eds., *Advances in Legume Systematics* 9: 165-180. Royal Botanic Gardens, Kew.
- LUCKOW, M. & al. (2003). A phylogenetic analysis of the Mimosoideae (Leguminosae) based on chloroplast DNA sequence data. In: KLITGAARD, B. B. & A. BRUNEAU, Eds., *Advances in Legume Systematics, part 10, Higher Level Systematics*: 197-220. Royal Botanic Gardens, Kew.
- MILLER, J. T. & al. (2003). A phylogenetic analysis of the Acaciaeae and Ingeae (Mimosoideae: Fabaceae) based on trnK, matK, psbA-trnH, and trnL/trnF sequence data. *Syst. Bot.* 28: 558-566.

ACACIA / 117

Acacia is the second largest genus in Leguminosae, and the largest in *Mimosaceae*. It is cosmopolitan and contains more than 1350 species (Maslin & al., 2003). *Acacia* is an ancient name for an Egyptian species. The current classification views the genus as comprising three large subgenera, viz. subg. *Acacia* (c. 161 spp., pantropical), subg. *Aculeiferum* Vassal (235 spp., pantropical) and subg. *Phyllodineae* (DC.) Seringe (960 spp., mostly Australian). New data from cladistic and molecular studies show that five separate monophyletic groups can be recognized, each representing a distinct genus, fide Maslin & al. (l.c.). The nomenclatural implications would then be considerable, the (lecto-)type being *Acacia nilotica* (subg. *Acacia*) with c. 161 spp., 73 of which in Africa). Name changes could then be required for the remaining c. 1191 spp. (69 of which in Africa). In the interest of nomenclatural stability, it has been proposed that the name *Acacia* be conserved with a new type (Orchard & Maslin, 2003). A summary of the debate is given by Brummitt (2004). The latter proposal was accepted at the International Botanical Congress held at Vienna (Austria) in July 2005, with a new type *A. penninervis* Sieber ex DC. The African species will henceforth be in the genus *Senegalia* (cf. Moll, 2005).

Acacias are important components of natural savanna areas. Their ecological and economical roles in arid lands are also significant. They are natural sites for birds and mistletoes; many are nitrogen fixers. The wood is used to make poles and for fire-wood (e.g. charcoal); the bark is the source of gum arabic (more than 20 species; *A. senegal* yields 90% of today's production). The foliage is grazed by domestic and wild ungulates; foliage and seed pods are used for fodder (goats and sheep), although some species contain large amounts of cyanogenic glucosides and alkaloids toxic to livestock (M. de L. Rico Arce & P. Griffiths in *Bot. Mag.* 19: 152-159, 2002).

Species armed with thorns and prickles are often colonized by ants forming so called "ant-galls" (Stanton & al., 2002).

ACACIA

* * *

Many Australian species have been (too) successfully introduced, either as attractive ornamental trees, to provide firewood or to stabilise moving sand dunes or for reforestation. Some have become major weed problems. But many have attractive flowers and are also of value in the perfume industry.

A few exotic species are included in the following list, but within square brackets []. They are not mapped. An extensive list of introduced taxa figures in our Enumération, Vol. 2: 28, 1992.

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BIBLIOGRAPHY:

- SMIT, N. (1999). *Guide to the acacias of South Africa*. Briza, Pretoria. 223 pp.
- MÜLLER, J. V. (2005). Einige Akazien der wechselfeuchten Savannengebiete Westafrikas. *Palmengarten* 68(1): 29-36.
- TIMBERLAKE, J. & al. (1999). *Field guide to the acacias of Zimbabwe*. CBC Publishing, Harare. 160 pp. + map.
- * * *
- ALI, S. I. & S. A. FARUQI (1969). Hybridization in *Acacia nilotica* complex. *Pakistan J. Bot.* 1 (1-2): 119-128.
- ALI, S. I. & al. (1969). A taxonomic study of *Acacia nilotica* complex in W. Pakistan. *Pakistan J. Bot.* 1 (1-2): 1-8.
- BRUMMITT, R. K. (2004). Report of the Committee for Spermatophyta: 55. Proposal 1584 on *Acacia*. *Taxon* 53: 826-829.
- JACQUEMIN, D. (1997). *Mimosas pour le climat méditerranéen. Une étude du genre Acacia*. Editions Champflour, Marly-le-Roi. 128 pp.
- MACKINDER, B. (2005). The future of *Acacia*. *Bean Bag* 52: 2.
- MASLIN, B. R. (2004). Response to Walker and Simpson's views on the ICBN Proposal 1584 by Orchard and Maslin to conserve the name *Acacia* with a conserved type: ASBS Newsletter 117: 17-21 (2004). *Austral. Syst. Bot. Soc. Newsl.* 118: 15-19.
- MASLIN, B. R. & C. H. STIRTON (1997). Generic and infrageneric classification in *Acacia* (Leguminosae: Mimosoideae): a list of critical species on which to build a comparative data set. *Bull. Int. Group Study Mimosoideae* 20: 22-44.
- MASLIN, B. R. & al. (2003). Overview of the generic status of *Acacia* (Leguminosae: Mimosoideae). *Austral. Syst. Bot.* 16/1: 1-18.
- MOLL, E. (2005). *Acacia for Africa! Veld & Flora*. December 2005: 178-179
- MURRAY, D. R. (2004). On the genus *Acacia*. *Austral. Syst. Bot. Soc. Newsl.* 119: 6-7.
- ORCHARD, A. E. & B. R. MASLIN (2003). (1584) Proposal to conserve the name *Acacia* (Leguminosae: Mimosoideae) with a conserved type. *Taxon* 52: 362-363.
- ORCHARD, T. & B. MASLIN (2004). Australian *Acacia* to (mostly) remain *Acacia*. *Austral. Syst. Bot. Soc. Newsl.* 119: 5-6.
- PEDLEY, L. (2003). A synopsis of *Racosperma* C. Mart. (Leguminosae: Mimosoideae). *Austrobaileya* 6: 445-496.
- PEDLEY, L. (2004). Supplement to a synopsis of *Racosperma* C. Mart. (Leguminosae: Mimosoideae). *Austrobaileya* 6: 958-986.
- PLAYFORD, J. & al. (1997). The 5 SDNA units of *Acacia* species. *Bull. Int. Group Study Mimosoideae* 20: 19-21.
- VASSAL, J. (1996). Un exemple de biodiversité: le genre *Acacia* subgen. *Heterophyllum*. In: GUILLAUMET, J.-L. & al., Eds., *Phytogéographie tropicale: réalités et perspectives*: 365-377. (Actes du Colloque international de Phytogéographie tropicale, en hommage au professeur Raymond Schnell. Paris, du 6 au 8 juillet 1993) ORSTOM éditions, Paris [introduced species].
- WALKER, J. & J. SIMPSON (2003). An alternative view to ICBN Proposal 1584 to conserve the name *Acacia* (Leguminosae: Mimosoideae) with a conserved type. *Austral. Syst. Bot. Soc. Newsl.* 117: 17-21.

* * *

ACACIA

- BACKELJAU, T. & al. (2000). Software dependent phenetic relationships of non-nodulating African species of *Acacia*. *Pl. Syst. Evol.* 220: 139-146.
- MILLER, J. T. & R. J. BAYER (2000). Molecular phylogenetics of *Acacia* (Fabaceae: Mimosoideae) based on the chloroplast TRNK/MATK and nuclear histone H3-D DNA sequences. In: HERENDEEN, P. S. & A. BRUNEAU, Eds., *Advances in Legume Systematics* 9: 181-200. Royal Botanic Gardens, Kew.
- MILLER, J. T. & R. J. BAYER (2003). Molecular phylogenetics of *Acacia* subgenera *Acacia* and *Aculeiferum* (Fabaceae: Mimosoideae), based on the chloroplast matK coding sequence and flanking trnK intron spacer regions. *Austral. Syst. Bot.* 16: 27-33.
- ROBINSON, J. & S. A. HARRIS (2000). A plastid DNA phylogeny of the genus *Acacia* Miller (Acacieae, Leguminosae). *Bot. J. Linn. Soc.* 132: 195-222.
- SALEEM, M. & al. (1998). Chemistry of the medicinal plants of genus *Acacia*. *Hamdard Medicus* 41/1: 63-67.
- SEIGLER, D. S. (2003). Phytochemistry of *Acacia* – sensu lato. *Biochem. Syst. Ecol.* 31: 845-873.
- * * *
- BOND, W. J. & al. (2001). *Acacia* species turnover in space and time in an African savanna. *J. Biogeogr.* 28: 117-128.
- BUKHARI, Y. M. (2002). Seed weight and protein concentration of whole seed, cotyledons and seed coat of 57 accessions of *Acacia* and *Prosopis* (Mimosaceae): phylogenetic and nutritional implications. *Indian Forester* 128/6: 686-699 (fide *Seed Abstr.* 26/3: n° 769, p.123-124, 2003).
- CAMPA, C. & al., Eds., (1998). *L'acacia au Sénégal*. Editions de l'ORSTOM, Collection Colloques et séminaires, Paris. 476 pp.
- CAVANAGH, A. K. (1997). The germination of acacias – a bibliography. *Bull. Int. Group Study Mimosoideae* 20: 56-60 [listing by species].
- CRISP, M. D. & al., Eds., (2003). *Biology of Acacia: Advances in Legume Systematics Part 11*. A special issue of Australian Systematic Botany 16/1. II + 138 pp.
- DANTHU, P. & al. (1998). Compatibilité de greffage entre quelques acacias africains. Premiers résultats. *Bois Forêts Trop.* 248: 49-57.
- GOHEEN, J. R. & al. (2004). Net effects of large mammals on *Acacia* seedling survival in an African savanna. *Ecology* 85: 1555-1561.
- MIDGLEY, S. J. & W. J. BOND (2001). A synthesis of the demography of African acacias. *J. Trop. Ecol.* 17: 871-886.
- MIDGLEY, S. J. & J. W. TURNBULL (2003). Domestication and use of Australian acacias: case studies of five important species. *Austral. Syst. Bot.* 16: 89-102.
- OBA, Gufu (1998). Effects of excluding goat herbivory on *Acacia tortilis* woodland around pastoralist settlements in northwest Kenya. *Acta Oecol.* 19: 395-404.
- PAYNTER, Q. & al. (2003). Worth the risk? Introduction of legumes can cause more harm than good: an Australian perspective. *Austral. Syst. Bot.* 16: 81-88.
- SCOTT, R. C. & D. L. SMITH (1998). Cotyledon architecture and anatomy in the Acacieae (Leguminosae: Mimosoideae). *Bot. J. Linn. Soc.* 128: 15-44.
- STANTON, M. L. & al. (2002). Competition-colonization trade-offs in a guild of African *Acacia*-ants. *Ecol. Monogr.* 72: 347-363.
- STONE, G. N. & al. (1998). Partitioning of pollinators during flowering in an African *Acacia* community. *Ecology* 79: 2808-2827.
- STONE, G. N. & al. (2003). Pollination ecology of acacias (Fabaceae, Mimosoideae). *Austral. Syst. Bot.* 16: 103-118.
- TYBIRK, K. (1997). Reproductive biology and evolution of the genus *Acacia*. *Bull. Int. Group Study Mimodoideae* 20: 45-53.
- WILLMER, P. G. & G. N. STONE (1997). How aggressive ant-guards assist seed-set in *Acacia* flowers. *Nature* 388: 165-167 [summary by I. BRISSON, Le Figaro, 25 août 1997].

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ACACIA

In this large genus a few species occurring in tropical Africa are insufficiently known, and in particular *A. antunesii* and *A. schlechteri*. In a few taxa the flower colour is uncertain, judged only from dry material. For 3 species the fruit is unknown (*A. pseudonigrescens*, *A. schlechteri*, *A. tephrodermis*), no seeds are reported for 4 species (the three latter ones and *A. antunesii*), and no mature seeds for another 4 species (*A. ankokib*, *A. manubensis*, *A. petrensis*, *A. tetrphylla*). The ecology is unknown, or uncertain, in 4 species (*A. antunesii*, *A. quintanilhae*, *A. schlechteri*, *A. tephrodermis*). The following taxa (= 4) are known only from the type: *A. andongensis*, *A. pseudonigrescens*, *A. schlechteri*, and probably *A. taylorii*.

Acacia abyssinica Hochst. ex Benth., excl. var. *macroloba* Schweinf. (= *A. johnwoodii* Boulos in Saudi Arabia) – Icon.: J. Timberlake & al., Field guide Acacias of Zimbabwe: 29, 1999.

Tree 6-20 m usually with more than one stem; crown flattened spreading to 30 m Ø; bark dark, rough, fissured, papery on young trees; branchlets conspicuously longitudinally ridged; epidermis of twigs not peeling (cf. *A. lasiopetala*, *A. pilispina*, *A. rehmanniana*); stipules spinescent, straight, in pairs, sometimes absent; flowers white tinged red, in heads.

Montane forest, woodland, wooded grassland, on hills; forest margins, along sides of streams and rivers (subsp. **abyssinica**); in fire-swept grassland above 1680 m alt. (Sudan: Imatong Mts.); often as a forest pioneer tree, *Loudetia* grassland; often gregarious; the dominant species in *Acacia abyssinica* woodland; 900-2800 m alt.

Tropical Arabia?

Comprises 2 subsp. (subsp. **abyssinica** confined to Ethiopia); however according to J. Timberlake & al., o.c.: 28, the subspecific distinction is untenable.

A. adenocalyx Brenan & Exell

Compact shrub or tree 1-5 m tall, sometimes low and spreading, or scandent and up to 10 m high; young branchlets dark, conspicuously lenticellate, with numerous glands; prickles curved downwards, along the internodes, arising from longitudinal bands; stipules not spinescent, deciduous; flowers white, in heads.

Secondary bushland and thickets; dry *Cynometra* forest; bushed grassland; coastal; 1-1000 m alt.

A. amythethophylla Steud. ex A. Rich. – Icon.: Timberlake & al., o.c.: 33, 1999.

syn.: *A. macrothyrsa* Harms; *A. buchananii* Harms; *A. prorsispinula* Stapf; *A. dalzielii* Craib

Tree 4-12 m, or much-branched lax shrub to 5 m tall with trunk free to 8 m, 35 cm Ø; crown rounded, spreading; bark greyish, rough, fissured; stipules spinescent straight, usually in pairs, sometimes absent; leaves large, 10-20 cm wide with 50-70 pairs of leaflets; flowers orange-yellow, fragrant, in heads in conspicuous axillary panicles. Resembling an *Entada* in form.

Deciduous savanna woodland; savanna forest, sometimes forming thorny thickets; wooded grassland; dambos, rocky savanna, alluvial plains (Zaire); *Albizia zygia* and *Combretum* woodlands (S Sudan, Kenya); rocky hillsides; (30-)600-2000 m alt. (1300-1450 m in Ethiopia; 30-1500 m in Fl. Zambes. area).

ACACIA AMYTHETHOPHYLLA

Variable in pubescence of branchlets, leaf-rhachides and inflorescence-axes; and in size and number of leaflets.

A. macrothyrsa Harms (with the synonyms cited above) is still maintained as a separate species by certain flora authors, to distinguish it from *A. amythethophylla* (only in Ethiopia and Angola) which is lacking the large paniced inflorescences.

A. ancistroclada Brenan

Shrub or small tree 2-8 m tall, several-stemmed or trunk branching near the base; bark brown-yellow, peeling off in large papery pieces to show green underbark; stipules spinescent, in pairs, straight or mostly recurved; leaves with 1-3 pairs of pinnae; flowers yellow in heads; pod falcate, constricted between the seeds.

Dry bushland, bushed or wooded grassland, thornveld; 700-1550 m alt.

Flowers and pods resembling those of *A. seyal*; spines reminiscent of those of *A. tortilis*. Not in Somalia (= *A. nilotica* subsp. *leiocarpa* and *A. tortilis*; cf. Thulin, Fl. Somal. 1: 368, 1993).

A. andongensis Welw. ex Hiern

syn.: *A. sp. sensu* Oliver in Fl. Trop. Afr. 2: 353, 1871.

Tree 6-8 m with patent branches and dilated crown; branchlets very spiny; inflorescences pubescent.

Rather damp sandy declivities, and also very dry places, along river banks in company with “Muçoso” (? *Gigalobium abyssinicum*).

Insufficiently known; very close to *A. goetzei* subsp. *microphylla*, and perhaps not specifically distinct from it, fide Ross (Conspectus Afric. Acacia spp.: 82, 1979). Only known from the type collection (Welwitsch 1814) of 1857.

A. ankokib Chiov. – Icon.: A. S. Hassan & B. T. Styles, A Conspectus of Somali Acacias: 53, 1990.

Multistemmed shrub or tree, to 6 m tall; crown rounded; bark yellow, papery, peeling off in large sheets to show smooth greyish-green underbark; young branchlets greyish or red-brown, densely puberulous; stipules not spinescent, deciduous; prickles in pairs, to 6 mm long, straight, or absent; leaves with few pairs of leaflets; flowers (whitish) yellow, in spikes; pods narrow; mature seeds unknown.

Semi-desert bushland, in rocky places on limestone, in rocky gullies and gravelly valley bottoms, in association with *Mimusops angel*, *Bridelia somalensis*, *Euphorbia cameronii*, *Sterculia* and *Commiphora* spp.; 10-750 m alt.

Localized in Bari Region, Somalia.

A. antunesii Harms

Tree to 6 m branching from the base; young branchlets greyish-brown with epidermis splitting to show yellowish or red-brown inner layer, young tips with dense grey indumentum or glabrous; stipules spinescent, in pairs, flattened basally, straight or recurved; leaves with dense grey indumentum; flowers bright yellow, in heads; seeds unknown. Very distinctive species, but insufficiently known.

Ecology not recorded; growing at foot of mountain; c. 1650 m alt.

Variable in pubescence of branchlets, spines, leaves and peduncles.

ACACIA ANTUNESII

Similar to *A. amythetophylla* but lacking the latter's paniced inflorescences and in having fewer pinna pairs and fewer leaflets.

Also resembling *A. ebutsiniorum* P. J. H. Hurter (S. Africa).

A. arenaria Schinz – Icon.: Timberlake & al., o.c.: 35, 1999.

syn.: *A. rufobrunnea* N. E. Br.; *A. hermannii* Bak. f.; *A. seyal* var. *seyal* sensu O. B. Miller in J. S. Afr. Bot. 18: 24, 1952, quoad specim. Pole Evans 4093; *A. seyal* var. *multijuga* sensu Miller, l.c. quoad specim. Pole Evans 3251, non Schweinf.

Obconical shrub to 2 m tall, or small tree to 9 m, with very short bole branching near the base; bark dark, rough (or smooth), sometimes peeling off to reveal green underbark; stipules spinescent, slender, divergent, straight, in pairs; flowers white to pale pink, in heads borne only on shoots of the current year, in the axis of shoot apices; pods arcuate, red-brown, glandular.

Deciduous bushland and woodland of drier types, grassland, scrub, sometimes with *Colophospermum* (*Hardwickia*) *mopane*; locally common in transition between sandy and alluvial soil and grey hard-pan (Tanzania); often invading roadsides and old fields on red clay soils (Zimbabwe); often in association with other *Acacia* spp.; 900-1520 m alt.

Caprivi Strip, Namibia, N Botswana; absent from Zambia. Disjunction C Tanzania – southern Africa.

Superficially resembling *A. davyi*, but differs in having white or pink flowers – and arcuate, dark red-brown pods.

A. asak (Forssk.) Willd., excl. var. *unispinosa* Fiori (= *A. oliveri*).

bas.: *Mimosa asak* Forssk.

syn.: *Acacia glaucophylla* Steud. ex A. Rich. (and sensu auctt. p.p., excl. syn. *Mimosa stellata* and *Acacia stellata*; *A. senegal* (L.) Willd. subsp. *glaucophylla* (Steud. ex A. Rich.) Roberty var. *glaucophylla* p.p. quoad specim. Schimper 725, 1710, 1746; *A. triacantha* Hochst. ex A. Rich.; *A. senegal* subsp. *modesta* (Wall.) Roberty var. *triacantha* Roberty

Shrub or slender tree (4-)6-10 m tall; bark on young stems yellow, papery, flaky, on older stems dark grey, fissured; stipules not spinescent; prickles solitary or in threes, the central one hooked downwards; flowers white to pale yellow in long spikes (11 cm).

Rocky places, rock crevices, stream banks, deciduous bushland; 400-900 m alt. (Ethiopia).

SE Egypt; Arabia. Not in Somalia (= ? *A. hamulosa*).

A. ataxacantha DC., incl. var. *australis* Burt Davy – Icon.: Timberlake & al. o.c.: 37, 1999.

syn.: *A. eriadenia* Benth.; *A. "ariadenia"* (sphalm., Schinz); *A. macrostachya* sensu Oliv. in Fl. Trop. Afr. 2: 343, 1871, p.p. quoad specim. Welwitsch, non Reichenb. ex DC.; *A. lugardiae* N. E. Br.; *A. caffra* (Thunb.) Willd. var. *rupestris* Sim; *A. senegal* sensu Wild 1952, Guide Victoria Falls, quoad specim. Rogers 5544, non (L.) Willd.; *Albizia mossambicensis* Bolle 1861, non Sim 1909 (= *Albizia versicolor*).

Scandent or scrambling lax, formless shrub 3-5-15 m tall, or non-climbing shrub or tree to 10 m, with stem to 10 cm Ø; stipules non spinescent, soon deciduous; prickles recurved, scattered

ACACIA ATAXACANTHA

along internodes and leaf rachis; flowers yellowish white in long spikes (to 11 cm); pods red-brown, papery brittle, early dehiscent.

In drier areas, woodlands, wooded grassland, below 1200 m, locally common on Kalahari and similar sands, sometimes in lowveld in riverine areas, forming thickets (Zimbabwe); riverine fringing vegetation, forest margins and clearings; component of mesophytic scrub in shaded ravines, in dry river valley scrub and thornveld; occasionally in open grassland; termite mounds (Mali, Burkina Faso, S Chad); principal component of "brousse tigrée" (Niger); dry *Acacia-Commiphora* bushland, often on rock or near rivers (Kenya); dry open *Terminalia* woodland (S Sudan); forming thickets in regrowth and on rocky hills within forest region, also in dry savanna (Ghana); 100-1800 m alt.

Variable in pubescence (strongly developed indumentum in SE part of range (= var. **australis**)).

Namibia, Botswana, S. Africa (Transvaal, Natal), Swaziland. Disjunction in Tanzania, E Zambia.

Planted for fences and impenetrable barriers around villages (Ghana) and along drainage lines (Zimbabwe).

Closely related to *A. macrostachya*. Can be confused with *A. schweinfurthii* but differs in having smaller leaves and flowers in spikes. Also sometimes confused with *A. caffra* (with prickles in pairs). Resembling *A. chariessa*, *A. hereroensis*, *A. adenocalyx*.

A. bavazzanoi Pichi-Serm.

syn.: *A. abyssinica* sensu Schweinf. 1896 p.p. quoad specim. Schweinfurth 252, non Hochst. ex Benth.

Tree to 6 m; crown flattened, somewhat spreading; stem and branches yellowish, powdery, epidermis flaking to show powdery yellowish inner layer; stipules straight, spinescent, in pairs; flowers (colour ?) in heads.

Woodland; c. 1680-2400 m alt.

A. borleae Burt Davy – Icon.: Timberlake & al., o.c.: 39, 1999.

syn.: *A. barbertonensis* Schweick.

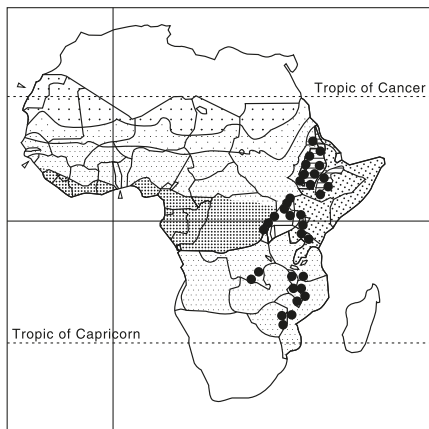
Shrub 1-3 m tall with many slender stems from the base, or slender tree to 5 m; bark grey, sometimes peeling, and greenish underbark; young branchlets green with red glands (sticky); stipules spinescent, white, slender, straight, in pairs; flowers bright yellow, in heads; pods small, curved, glandular, with wavy margins.

Always associated with basalt; locally common on basalt-derived deep black clays below 600 m, often with shrub mopane, sometimes on roadsides and in fallow fields forming small thickets (Zimbabwe); often in *Acacia* or *Colophospermum* woodland; 430-610 m alt.

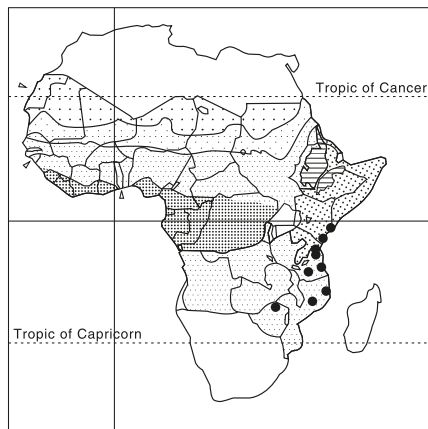
Botswana, Swaziland, S. Africa (N Transvaal, Natal).

A. brevispica Harms – Icon.: A. S. Hassan & B. T. Styles, Consp. Somali Acacias: 20, 1990.

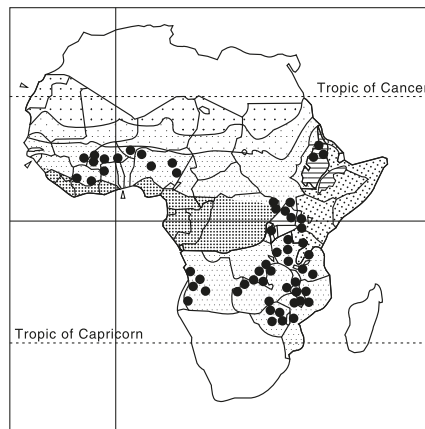
syn.: *A. pennata* sensu Bak. f. et auctt. plur., omnia p.p., sensu Gilbert & Boutique in Fl. Congo Belge 3: 154, 1952, excl. specim. Devred 793; sensu Cufod. Enum.: 198, 1955, non (L.) Willd.



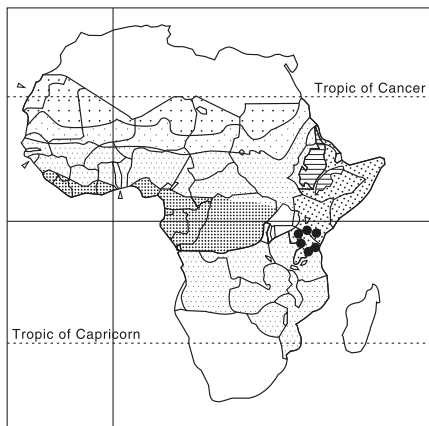
Acacia abyssinica



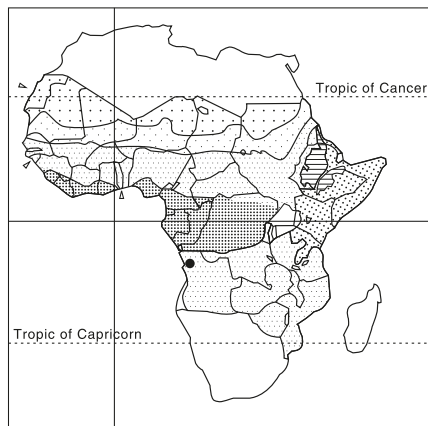
Acacia adenocalyx



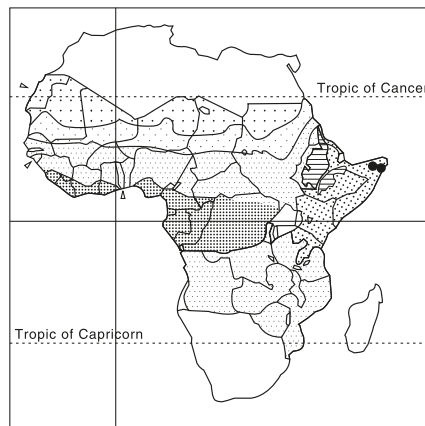
Acacia amythethophylla



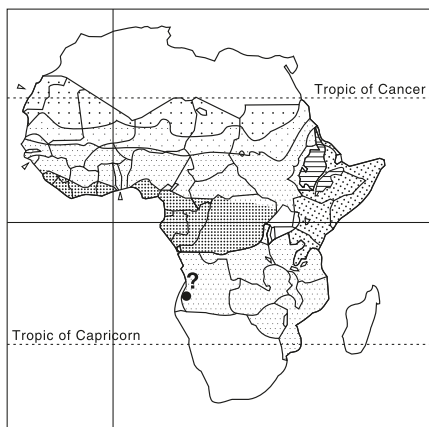
Acacia ancistroclada



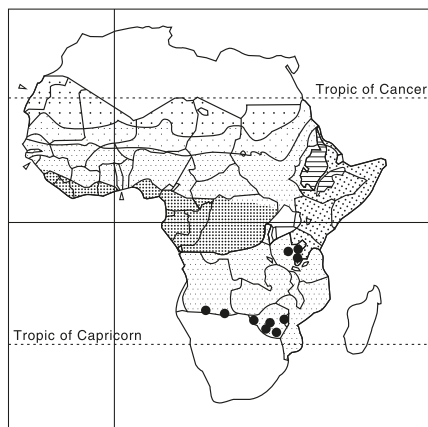
Acacia andongensis



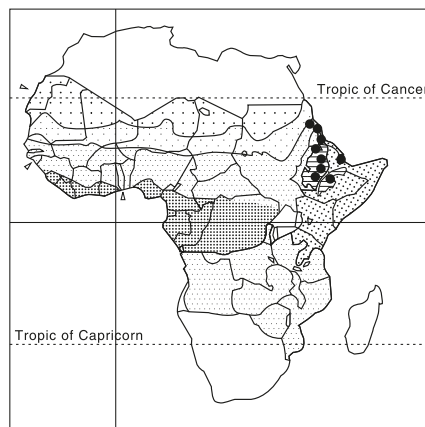
Acacia ankokib



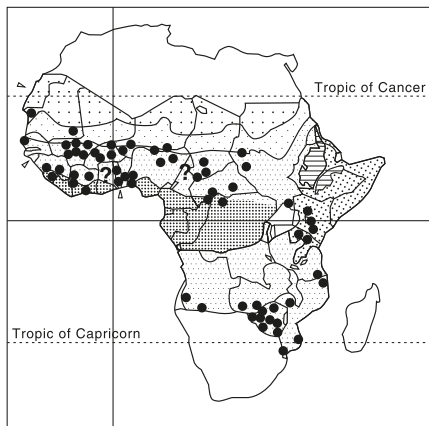
Acacia antunesii



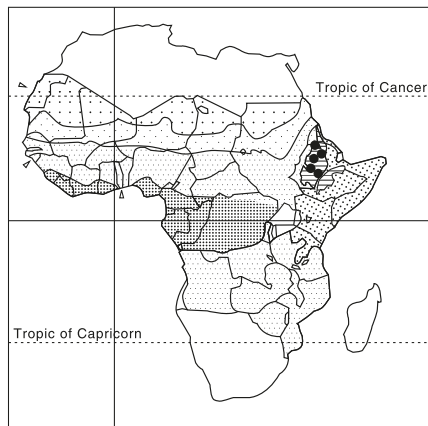
Acacia arenaria



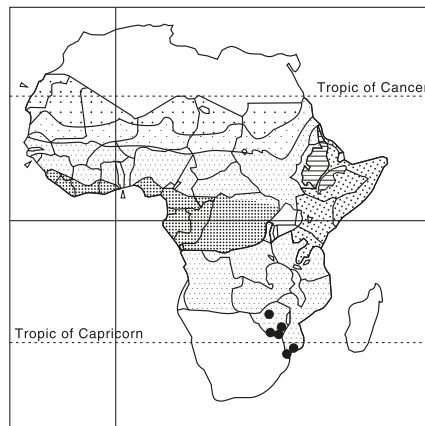
Acacia asak



Acacia ataxacantha



Acacia bavazzanoi



Acacia borleae

ACACIA BREVISPIDA

Scandent shrub to 12 m tall, or non-climbing shrub or slender tree 1-7 m; young branchlets puberulous, glandular; stipules not spinescent, deciduous; prickles scattered along the internodes, arising from longitudinal bands; flowers (yellowish) white, in heads; pods ± coriaceous, straight, with red glands.

Bushland, thickets, scrub; in high rainfall savanna and on dry rocky slopes (S Sudan); *Acacia* woodland, *Combretum* woodland in gully; stony hill with *Terminalia brownii* woodland; dry upland forest edges; often on rocky or stony soil; 1-2000 m alt. (900-2000 in Ethiopia, 50-1310 in Somalia).

S. Africa, Swaziland.

Comprises 2 subspp. [subsp. **dregeana** (Benth.) Brenan in SE part of range].

Resembling *A. erythrocalyx* and (subsp. **dregeana**) *A. schweinfurthii*.

A. bullockii Brenan

Small tree 1-3 m, with stout simple or only slightly branched stems; ? rhizomatous; epidermis of branchlets purplish brown, flaking off to show underbark of uncertain colour; stipules spinescent, straight, in pairs, fused basally into “ant-galls”; leaves large; flowers cream, in heads; pods falcate.

Shrub- and dwarf-tree grassland, locally gregarious and abundant in black soils of flood-plains and valleys, margins of seasonal swamps; 1130-1220 m alt.

Variable in pubescence of young stems (var. *bullockii* glabrous) and in size of leaves.

Comprises 2 vars.; however the status of var. **induta** Brenan is doubtful.

A. burkei Benth. – Icon.: Timberlake & al., o.c.: 41, 1999.

syn.: *A. ferox* Benth. 1846 p.p. nom. illegit., non M. Martens & Galeotti 1843 (Mexico); *A. mossambicensis* sensu auctt., non Bolle

Tree to 10-27 m with flattened, rather narrow crown; bark grey-brown, deeply fissured, flaking; stipules not spinescent, soon deciduous; prickles strongly recurved, dark, in pairs; flowers white in spikes, produced with the leaves.

Dry river valley scrub, thornveld, mixed woodland; scrub, bushland; confined to Cretaceous sandy soils, often with *Terminalia sericea*, *Guibourtia conjugata* (Zimbabwe).

Variable species, particularly in size, shape and number of leaflets.

S. Africa (E Transvaal, Natal), Swaziland, SE Botswana.

Similar to *A. nigrescens*, *A. welwitschii*, *A. goetzei*.

A. burttii Bak. f.

Shrub or small “columnar” tree 2-3 m tall with pole-like stem and short lateral branches; plant glabrous; bark fawn; epidermis of branchlets flaking off to show powdery rusty-brown inner layer; stipules spinescent, straight, grey-white, in pairs, some fused basally to form purplish black, and spotted or flecked “ant-galls”; leaflets large; flowers creamy white, in heads; pods half-moon-shaped, 1-seeded. – Very distinctive easily recognized species.

Shrub- or dwarf-tree grassland; gregarious on brown or black clay soil in valleys in *Brachystegia* country; 1130-1220 m alt.

ACACIA

A. bussei Harms ex Sjöstedt, excl. var. *benadirensis* Chiov. in Miss. Stefanini-Paoli, Bot.: 72, 1916 (= *A. horrida* subsp. *benadirensis*). – Icon.: A. S. Hassan & B. T. Styles, Consp. Somali Acacias: 72, 1990.

syn.: *A. benadirensis* sensu Chiov. Fl. Somal. 2: 183, 1932 p.p. saltem quoad specim. cit. e Somalia Senni, 798, non Chiov., s. str.; *A. latronum* auct. non (L. f.) Willd.

Shrub or tree 3-10(-16) m, usually flat-crowned and with a well-defined trunk, sometimes branching from the base; stipules spinescent, to 9 cm long, ± straight, some enlarged but then constricted near the base, in pairs; flowers cream, in spikes.

Dry *Acacia-Commiphora* bushland, bushed grassland, *Acacia-Commiphora-Combretum* woodland, mostly on sandy soils (Kenya; = 1-1000 m); deciduous bushland, dry scrub; associated with *Delonix elata*, *Gyrocarpus angustifolia*, *Acacia tortilis*, *A. mellifera*, *A. senegal*, *Balanites* sp., *Terminalia* spp., *Commiphora* spp. (Somalia); 1-1800 m alt.

Threatened in Somalia by overexploitation for charcoal. Closely related to *A. horrida* subsp. *benadirensis* but differs in habit, enlarged spines and wider curved pods. Similar also to *A. lahai*.

A. caffra (Thunb.) Willd., excl. var. *rupestris* Sim (= *A. ataxacantha*) var. *pechuelii* Kuntze (= *A. erubescens*), and var. *campylacantha* (Hochst. ex A. Rich.) Aubrév. (= *A. polyacantha* subsp. *campylacantha*); but incl. var. *longa* Glover, var. *namaquensis* Eckl. & Zeyh., var. *tomentosa* Glover and var. *transvaalensis* Glover – Icon.: Timberlake & al., o.c.: 43, 1999.

bas.: *Mimosa caffra* Thunb.

syn.: *Acacia fallax* E. Mey.; *A. multijuga* Meisn.

Shrub or tree to 2-10-14 m tall with crooked stem and shapeless narrow crown; bark greyish, fissured; stipules not spinescent; prickles large, hooked, mostly in pairs below nodes, but a few can be scattered, or rarely absent; leaves large; flowers cream, in spikes. Coppicing.

Open woodland on rocky hills, dry river valley bush; 1070-1220 m alt.

Very variable species (indumentum, number of pinna pairs), the extremes looking very different.

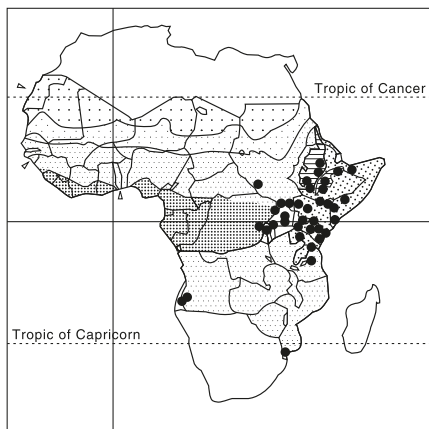
SE Botswana, S. Africa, Swaziland.

Very closely related to *A. hereroensis*, and similar to *A. ataxacantha*. In Zimbabwe an isolated population at Harare (a construction camp in 1999); said to date back to ox-wagon transport days, i.e. an introduction from then (fide Timberlake & al., l.c.).

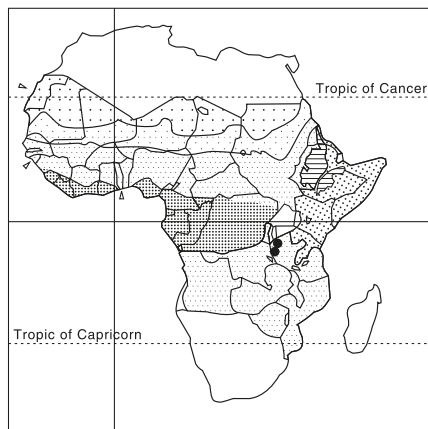
A. caraniana Chiov.

Slender tree to 7 m; bark pale grey-whitish; young branchlets glabrous with *long internodes*; stipules not spinescent, soon deciduous; prickles solitary or in threes; flowers unknown, remnants seen in spikes; pods straight, long-stipitate, dehiscent, constricted between some of the seeds.

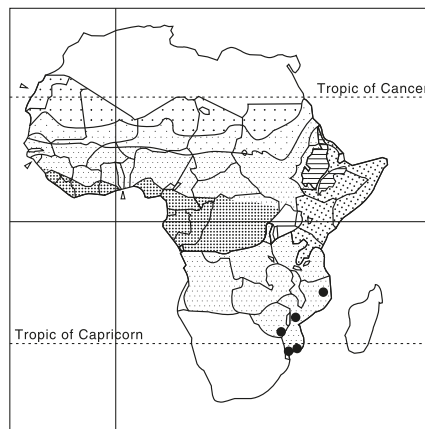
In sparse vegetation on gypsum hills; 600-800 m alt.



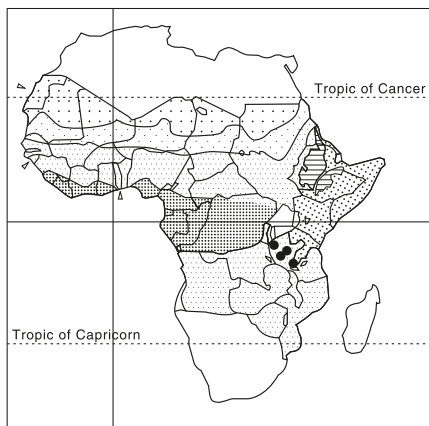
Acacia brevispica



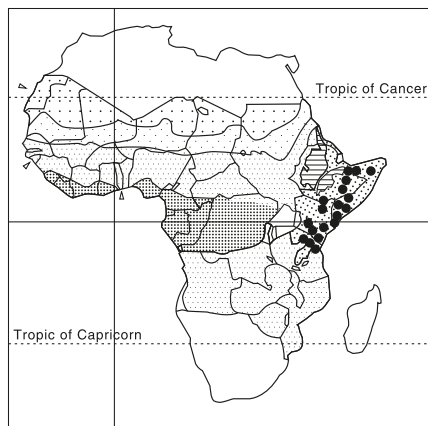
Acacia bullockii



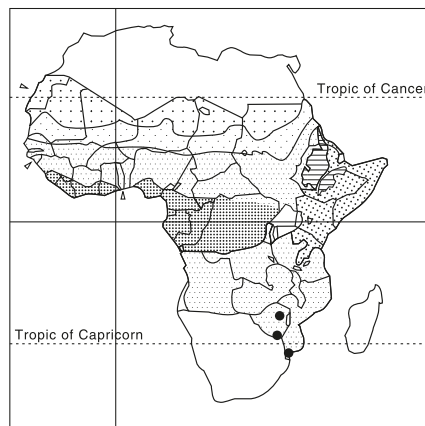
Acacia burkei



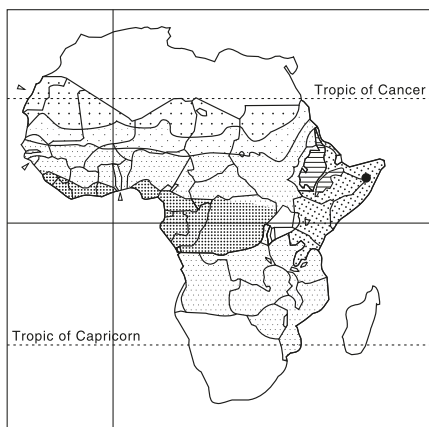
Acacia burttii



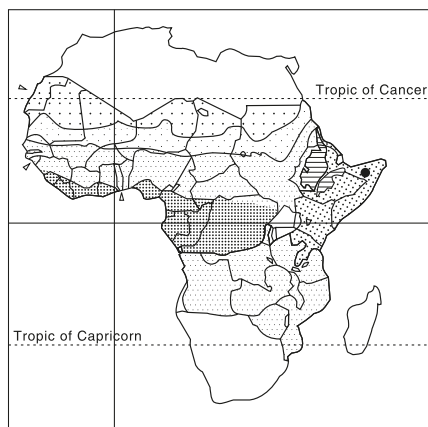
Acacia bussei



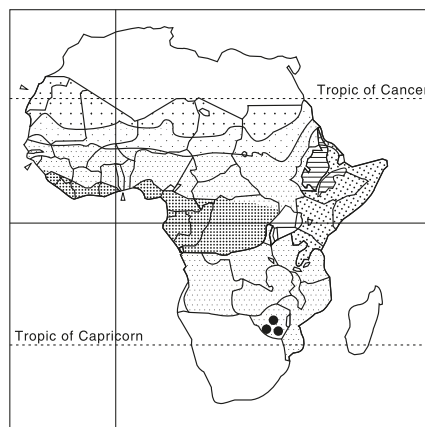
Acacia caffra



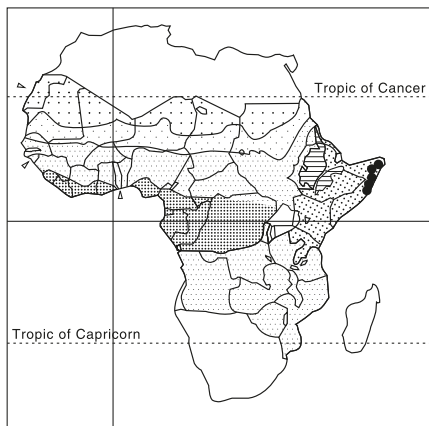
Acacia caraniana



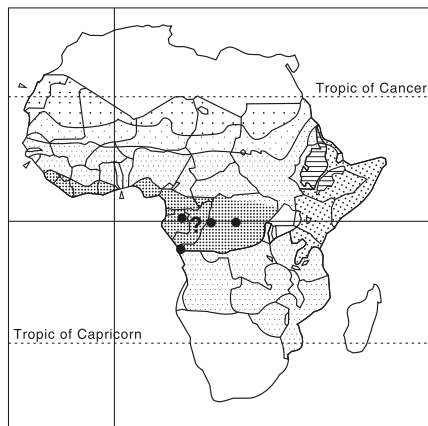
Acacia cernua



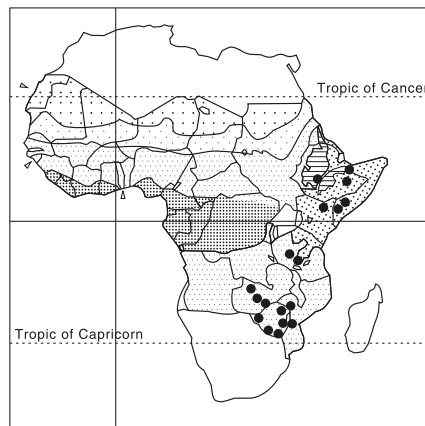
Acacia chariessa



Acacia cheilanthifolia



Acacia ciliolata



Acacia circummarginata

ACACIA

A. cernua Thulin & Hassan – Icon.: Thulin, Fl. Somal. 4: 280, 1995.

Slender tree 2-5 m with hanging terminal branches; foliage glaucous; bark smooth, ash grey-white, not flaking; stipules spinescent, slender, straight; flowers pale yellow, in small heads.

Rocky slopes and on rocks along wadis; 400-625 m alt.

Close to *A. etbaica*.

A. chariessa Milne-Redh. – Icon.: Timberlake & al., o.c.: 45, 1999.

Low, spreading or ± erect shrub (almost a woody herb) 0,3-1,5 m tall, sometimes forming thickets; young branchlets slender, glabrous, purple; stipules not spinescent, deciduous; prickles very small, hooked, scattered along internodes (“ankle-grabbing”); leaves small (2-4 cm long); flowers cream, in spikes; pods small, papery.

Open bushland, low woodland on rocky shallow soils, often with *Combretum* or *Acacia* spp.; on serpentine and pyroxenite soils, but also on a range of substrates derived from schistose goldbelt rocks; also open disturbed sites, roadsides, etc.; over 1000 m alt. (on the central watershed in C-SW Zimbabwe).

Superficially similar to *A. ataxacantha*.

A. cheilanthifolia Chiov., incl. var. *hirtella* Chiov.

Low shrub, or small tree to 6 m tall; stem slender, whiplike emerging from a cushion of basal vegetative branches; stipules not spinescent, soon deciduous; prickles in threes, the central one curved downwards, the 2 lateral upwards; leaves small; flowers white, in spikes.

Acacia-Commiphora bushland, usually in rocky places on limestone hills; 80-800 m alt.

One of the syntypes (Puccioni & Stefanini 479) is *A. laeta*. Perhaps also in E Ethiopia, but not yet recorded there; collections from Harare are better placed in *A. senegal* (fide Thulin in Fl. Ethiop. 3: 75, 1989).

A. ciliolata Brenan & Exell

Scandent shrub or liane; young branchlets glandular, lenticellate; stipules not spinescent, soon deciduous; prickles small, scattered along internodes; leaflets 30-56 pairs; flowers cream, in heads in irregular panicles.

Forest; 900-1000 m alt.

Close to *A. kamerunensis*, but differing from this by its dense indumentum.

Probably also in Congo-Brazzaville.

A. circummarginata Chiov.

Tree 5-10(-25) m; crown open, rounded, spreading; bark yellowish, papery, peeling; stipules not spinescent; prickles in threes, the central one hooked downwards, the 2 lateral curved upwards; flowers cream, in long spikes (11 cm).

Acacia-Commiphora bushland, sometimes growing with *A. senegal*, on whitish-red sandy soils or on limestone outcrops on hillsides; 230-490 m alt. (Somalia); c. 1000-1700 m alt. in Ethiopia; shallow basalt soils on stony hillsides and gravelly slopes, but also on gneissic and rarely shallow sandy soils, with mopane and *Combretum* and *Commiphora* species, below 900-1600 m alt.

ACACIA CIRCUMMARGINATA

(Zimbabwe); woodland and bushland often with mopane, 460-910 m alt. in Fl. Zambes. area; dry scrub with trees, 730-1180 m (F.T.E.A. -area).

Botswana, S. Africa (Transvaal).

Behaves as a distinct species in Somalia; usually called *A. senegal* var. *leiorhachis* in E Africa south to Transvaal, with also more straggling forms occurring, making the situation complicated.

A. condyloclada Chiov. – Icon.: A. S. Hassan & B. T. Styles, Consp. Somali Acacias: 45, 1990.

Tree (2-)3-11 m, with smooth yellowish peeling bark; crown open with ascending branches; branchlets dark-brown often enlarged towards apex, internodes long (5-12 cm); stipules not spinescent, soon deciduous; prickles solitary or in threes, slightly hooked or straight, spreading; leaves with large flattened gland at base of petiole and with few pairs of large leaflets; flowers (colour ?) in long spikes (to 13 cm).

Acacia-Commiphora dry bushland, usually on limestone outcrops; eroded hillsides; 300-1200 m alt. (very rare in Kenya: known from only 2 collections; 450-800 m alt.).

A. davyi N. E. Br.

Small tree to 5 m with rounded crown, or multi-stemmed shrub, to 2 m tall; bark thick, soft, corky, sometimes flaking off in papery layers; stipules spinescent, in pairs, slender, straight; flowers yellow in pedunculate heads.

Acacia-Bauhinia bushland; 600-800 m alt.

S. Africa (Transvaal, Natal), Swaziland.

Superficially resembling *A. arenaria* (with white-pink flowers, arcuate pods; very different distribution).

[A. dealbata Link] – Silver Wattle. – Icon.: Timberlake & al., o.c.: 143, 1999.

Shrub or small tree 1-2,5-10 m tall, unarmed, closely related and similar to *A. mearnsii*; leaves bipinnate, silvery; flowers yellow, in heads; pods ± straight dehiscent along one margin only.

Native of E-SE Australia.

Cultivated for fodder, charcoal, flowers (cosmetics). Naturalized in Fl. Zambes. area.

[A. decurrens Willd.] – Green Wattle. – Icon.: G. Kunkel, Flowering trees in subtropical gardens: 177, 1978.

Unarmed tree 5-12 m, closely related to *A. mearnsii*; young branchlets angular, with ± wing-like ridges; leaves bipinnate; flowers yellow, in heads; pods not or slightly moniliform, dehiscent along one margin only.

Native of SE Australia, Tasmania.

Grown for tannin, fuelwood (rapid growth), and montane reforestation; naturalized locally (Zaire, SE Africa).

A. densispina Thulin – Icon.: Thulin, Fl. Somal. 1: 72, 1993.

Shrub or small tree to 3,6 m tall; bark yellowish, papery, flaking; young branchlets grey-white to purple-brown, internodes very short; stipules not spinescent; prickles solitary, straight,

ACACIA DENSISPINA

ascending or hooked downwards, sometimes with 1-2 lateral rudimentary ones; leaves small, pinnae 1 pair, leaflets 2-3 pairs; flowers yellow-green in heads or short spikes.

Acacia-Commiphora bushland on limestone, growing with other *Acacia* spp., *Commiphora* spp., *Sesamothamnus* sp.; locally common; 260-300 m alt.

Closely related to *A. somalensis*, and the two species are very similar in vegetative parts.

Known only from the type and 2 other specimens.

A. dolichocephala Harms

Tree 3-13 m; branchlets glabrous, often longitudinally ridged; stipules spinescent, straight, short, in pairs; flowers bright yellow in short spikes or ellipsoid heads (1 cm).

Woodland, grassland, often at sides of lakes and rivers; 1100-2130 m alt. (Ethiopia); riverine woodland and foot of rocky hills, rocky outcrops, in high rainfall savanna, 1220 m (S Sudan); rocky sites, 1350-1650 m (W Kenya).

This species bridges the gap between the capitate- and spicate-flowered groups; probably a relative of *A. lahai*.

A. drepanolobium Harms ex Sjöstedt

Shrub or tree 1-5(-8) m, slender, with short branches radiating from main stem, or sometimes with a spreading top; young branchlets without powdery inner bark; stipules spinescent, straight, grey-white, in pairs, some fused basally into inflated, round, dark brown "ant-galls"; flowers white or cream, in heads; pods falcate, dehiscent. – Canopy modification by ants: dense "cushions" of axillary buds are produced below each pair of stipular thorns.

Shrub and dwarf-tree grassland, usually on hard-pan grey soils or heavy black soils; grassland, often gregarious over large areas liable to flooding; 20-2680 m alt. (Ethiopia); reported to be tolerant of alkaline soils; grassland, bushland, 20-50 m (Somalia); on dark clay water depressions in short grass savanna; on black cotton soil with *Combretum adenogonium*, *Dombeya quinque-seta*, *Maytenus senegalensis*, *Pseudocedrela kotschyi*, *Grewia mollis*, *Dichrostachys cinerea* on ground with rocky outcrops, 1040 m (Sudan/Uganda); wooded and bushed grassland, 750-2550 m (Kenya).

Variable in pubescence of branchlets, peduncles, flowers, pods; habit varying according to presence or absence of grass fires.

STANTON, M. L. & al. (1999). Sterilization and canopy modification of a swollen thorn acacia tree by a plant-ant. *Nature* 401: 578-581. [Summaries in: *Le Figaro*, 25 octobre 1999, and *Spektrum d. Wissenschaft* 1999/12: 25, 1999.]

The most widely distributed *Acacia* in E Africa with swollen "ant-galls" and cream flowers in heads. Young "galls" and young fruits edible.

A. dudgeonii Craib ex Holland

syn.: *A. samoryana* A. Chev.

Shrub or small tree to 7 m tall, with short bole, brown and fissured; bark on older branches grey to brown, flaking minutely; stipules not spinescent, soon deciduous; prickles in threes, the central one hooked downwards, the 2 lateral curved upwards, or sometimes solitary; flowers cream, fragrant, in spikes.

Savanna forest of the damper Guinea zone, often on poorer soils (mean annual rainfall c. 1200 mm p.a.); gregarious.

ACACIA DUDGEONII

Very similar to *A. senegal*, but differs in the leaves having a greater number of pinnae and leaflets; also occurs in moister regions than *A. senegal*.

A. edgeworthii T. Anders.

syn.: Enum. 2: 25, 1992; *A. bricchettiana* Chiov.; *A. gloveri* Gilliland; *A. erioloba* Edgew. 1847 nom. illegit., non E. Mey. 1836; ? *A. turnbulliana* Brenan (cf. under this species).

Shrub to 0,3-3 m tall, usually wider than high, with ascending branches and flattened crown; branching from the base, or sometimes with a very short main stem exposed; stipules spinescent, straight, to 4,5 cm long, in pairs; flowers white, in heads; pods falcate, woody, ultimately dehiscent.

Dry, semi-desert scrub, *Acacia-Commiphora* bushland, sand dunes (also used in sand stabilization); 0-1130 m alt.

Very variable, and also growing in a variety of habitats. Approaching (forms with very small leaflets with woolly indumentum) *A. leucospira*. Coastal forms in Somalia are prostrate, matforming ("*A. humifusa*"). Sometimes growing as a small tree to 5 m tall, locally abundant on sandy plains, 195-320 m alt. (Somalia: C1, C2 regions).

Socotra; SW Arabia.

A. ehrenbergiana Hayne

syn.: Enum. 2: 25, 1992; *Mimosa flava* Forssk.; *Acacia ehrenbergii* Nees; *A. seyal* sensu A. Chev. in Rev. Bot. Appl. Agric. Trop. 14: 878, 1934, non Del.

Shrub or tree to 2-6(-7) m, often many-stemmed; bark *not powdery*, sometimes peeling off to show smooth greenish-yellow underbark; young branchlets red-brown, sometimes as though whitewashed over a darker background, sometimes flaking minutely (without inner powdery layer); stipules spinescent, 5 cm long, slender, straight, in pairs, longer than the leaves; flowers bright yellow, in heads; pods falcate, mostly constricted between the seeds, dehiscent.

Dry semi-desert areas on sandy soils; on sand in association with *Zygophyllaceae*, *Panicum turgidum*; thalweg in sand on sandstone (Mauritania); on clayey-gravelly soil; sandy and stony desert wadis and plains; on sandy and rocky soils in dry areas, frequently along seasonal water courses; semi-deserts on dry sandy plains with rainfall less than 100 mm (Sudan); to 450 m alt. (Ethiopia).

N Africa – Egypt; Arabia (widespread; details in Thulin & Al-Gifri, Nord. J. Bot. 20: 693, 2001); Iran (Bull. Jard. Bot. Natl. Belg. 58: 539, 1988).

Similar to *A. hockii*, but differs in having only 1-2(-3) pairs of pinnae, and a somewhat different distributional range; also occupies drier habitats. Also resembling *A. seyal* for which it has been mistaken.

A. elatior Brenan

Large tree to 7-40 m; crown rounded, or flattish, branchlets pendulous; bark ± black, longitudinally fissured; stipules spinescent, ± straight, some short (0,7 cm), others long (9 cm), whitish, in pairs, sometimes modified to form inflated fusiform "ant-galls"; flowers greenish-white to pale yellow, in heads.

Sandy riverbanks in short grass savanna, often with *A. tortilis*; along rivers and lakes, also near dry luggas and drainage lines; 1-1750 m alt. (Kenya).

ACACIA ELATIOR

Variable in pubescence (subsp. **elatior** ± glabrous); spines inflated (subsp. **elatior**) or not.

Comprises 2 subspp.

Closely related to *A. etbaica*, but differs in being a large riparian tree with occasional “ant-galls”. Sometimes confused with *A. robusta* subsp. *usambarensis* (misidentifications in herbaria).

A. eriocarpa Brenan – Icon.: Timberlake & al., o.c.: 47, 1999.

Tree (2-)3-6 m tall, sometimes many-stemmed; sometimes a scrambling shrub; stipules not spinescent, broadly and obliquely ovate; prickles hooked, scattered along internodes and on leaf rachis; leaves and leaflets large and hairy; flowers yellowish white, in spikes on new growth; pods tomentose, straight, dehiscent.

Woodland, thicket; on unconsolidated sandy deposits, often of colluvial origin, possibly acidic, also on rocky soils derived from sandstone (typical constituent of Upper Hwange formations, Zimbabwe); typically associated with *Terminalia brachystemma*, *Combretum* spp.

A. erioloba E. Mey. – Camel Thorn.

syn.: Enum. 2: 25, 1992; *A. giraffae* var. *espinosa* Kuntze; [*A. giraffae* Willd.: type specimen a hybrid *A. erioloba* x *A. haematoxylon* Willd.].

Tree (4-)6-16(-22) m, with trunk to over 1 m Ø and with rounded flat-topped crown to 18 m Ø; occasionally a shrub or sucker form; bark dark, deeply furrowed, often flaking off in thick sections when old; young branchlets zigzag in shape and as though whitewashed on purple background; stipules spinescent (5-10 cm long), stout, often thickened below, fused basally to form “ant-galls”; foliage dark green; flowers golden-yellow, in heads; pod velvety, glandular, ± woody, semi-lunate, “ear-shaped”, indehiscent.

Dry woodland, bush, thornveld, frequently on Kalahari and other sands; often the dominant species in Kalahari thornveld; in very dry areas along watercourses; fossil sand dunes; 900-1050 m alt. (Fl. Zambes. area); to 1400 m in Angola.

Namibia, Caprivi Strip, Botswana, N & W S. Africa.

COE, M. (2000). Some aspects of the interaction between mammalian herbivores and *Acacia erioloba* E. Mey. *Trans. Roy. Soc. S. Africa* 53: 141-147.

Roots have been reported at a depth of 45 m in a borehole (Namibia).

Pods rich in protein, eaten by game and livestock.

A. erubescens Welw. ex Oliv. – Icon.: Timberlake & al., o.c.: 53, 1999.

syn.: *A. caffra* (Thunb.) Willd. var. *pechuelii* Kuntze; *A. dulcis* Marloth & Engl.; *A. longepetiolata* Schinz; *A. kwebensis* N. E. Br.

Many-stemmed shrub or tree 2-10 m; crown often flattened, spreading; bark yellow- or grey-brown, rough, outer layer papery, peeling off; stipules not spinescent, soon deciduous; prickles recurved, in pairs (very rarely in threes); flowers yellowish-white, in spikes; pods ripening early in season.

Drier types of mixed deciduous woodland often with mopane or scrub, often on rocky outcrops or on sandy river banks; lowveld on gneissic soils or on shallow, gravelly soils or red clays; 240-1680 m alt. Only locally common, rarely forming stands.

ACACIA ERUBESCENS

Namibia, Botswana, S. Africa (Transvaal).

Closely related to and often confused with *A. fleckii* (petiole length different: 1,3-2,5 cm in *A. erubescens*, 0,5-1 cm in *A. fleckii*).

A. erythrocalyx Brenan

syn.: *A. aff. schweinfurthii* sensu Brenan & Exell, *Bol. Soc. Brot.*, Sér. 2, 31: 132, 1957.

Scandent shrub 1,5-6 m tall; young branches eglandular; stipules not spinescent, deciduous; prickles scattered along internodes; flowers (yellowish) white, in heads, calyx strikingly red.

Dry rocky plains, woodland; forming thicket in grassland; open savanna woodland with *Combretum*, *Croton*, etc.; open woodland near stream; seasonally inundated grassy places with clayey soils, on river banks; forest gallery; edges of waterpools and hard-pans; termite mounds; schist outcrops; by roadside at edge of farmland in rather damp place (Nigeria).

Has often been confused with *A. pennata*, *A. brevispica*, *A. schweinfurthii*, but distinctive by the red calyx.

A. erythrophloea Brenan

Slender tree to 4 m; bark deep purple to brick-red (unless blackened by fire); bark of young branchlets flaking off to show powdery brick-red underbark; stipules spinescent, black, short, in pairs, some fused to form “ant-galls” (on young coppice shoots long, whitish); flowers white, in heads; pods falcate, dehiscent.

Shrub and dwarf-tree grassland, locally gregarious and abundant on black soils of floodplains and valleys and on margins of seasonal swamps; c. 1130 m alt.

Closely related to *A. pseudofistula*, and more material needed to confirm differences.

A. etbaica Schweinf., excl. var. *hirta* A. Chev. (= *A. gerrardii*).

Usually a tree 2-12 m with distinct trunk and flat or rounded crown; bark rough, blackish, not flaking; stipules spinescent, all short and hooked (subsp. **australis**) or straight 7 mm long, or with long straight spines to 6 cm long intermixed (subsp. **uncinata**, subsp. **platycarpa**), or sometimes all spines long and straight (subsp. **etbaica**); “ant-galls” and other prickles absent; flowers white or cream, in heads.

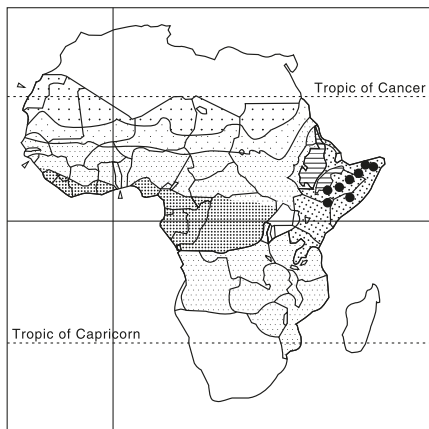
Wooded grassland, short grass savanna, dry deciduous bush, forming dense thickets on overgrazed land; dry scrub with trees and semi-desert scrub and grassland; occasionally sub-dominant (Kenya); 1-2000 m alt.

Variable species in type of indumentum and spines, and in width of pods.

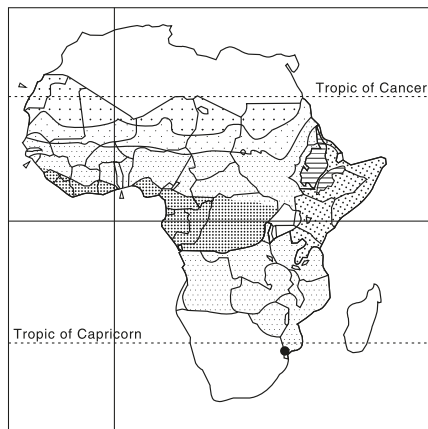
SE Egypt; tropical Arabia.

Comprises 4 subspp.: – subsp. **etbaica** in N part of range; – subsp. **uncinata** Brenan in N-NE part (syn.: *A. petersiana* Vatke var. ?); – subsp. **australis** Brenan in S part; – subsp. **platycarpa** Brenan (syn.: *A. holstii* Taub. in *Pflanzenw. O.-Afr. C.*: 194, pl. 21 fig. C, 1895, p.p. quoad legumina tantum; Holst 8744) in C part of range; – intermediates seem to occur between subsp. **platycarpa** and subsp. **uncinata** in Kenya.

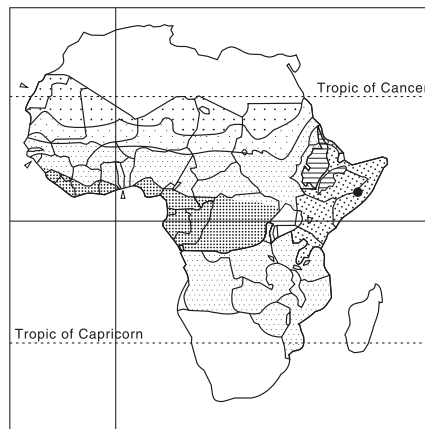
Provides pillars and beams to hold heavy roofing (N Ethiopia). Not in Angola (= *A. reficiens*). Two undescribed species found in NE Somalia (“Al Miskat” area) seeming to be closely related to **A. etbaica** and that would key out under this species, are recorded



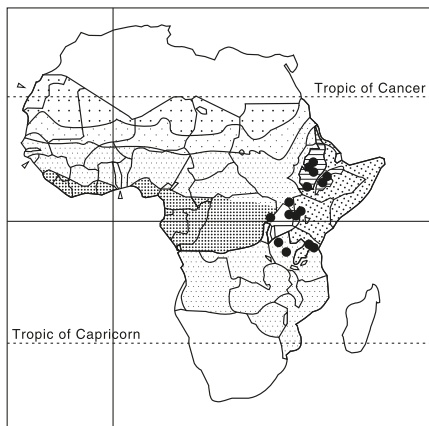
Acacia condyloclada



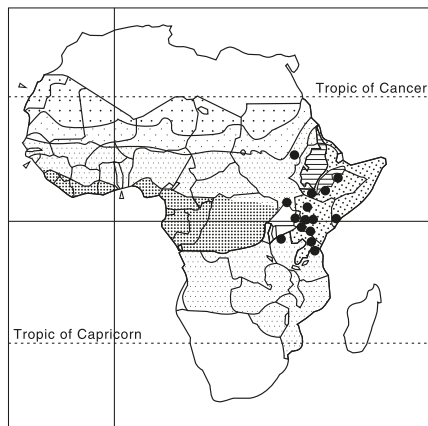
Acacia davyi



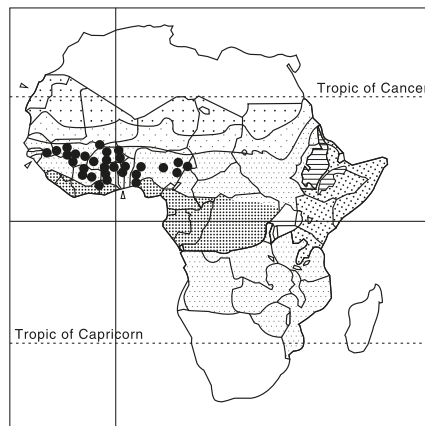
Acacia densispina



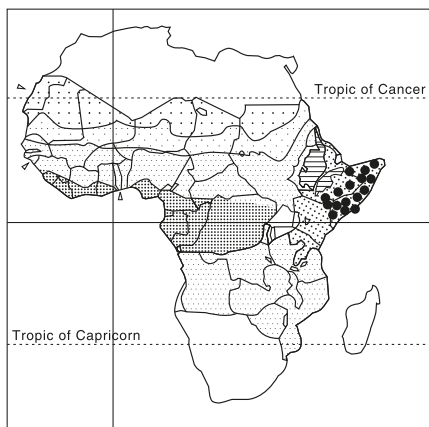
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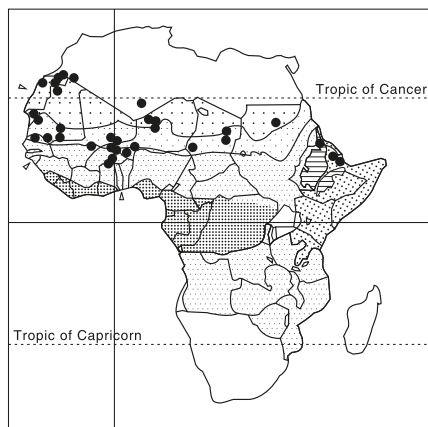
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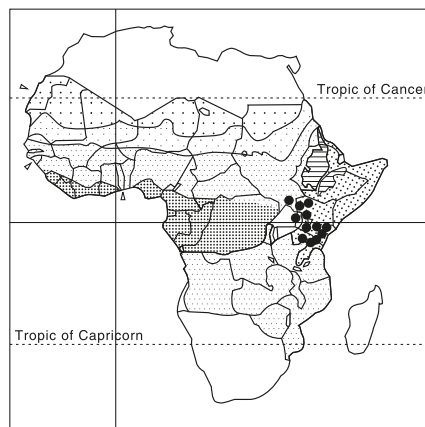
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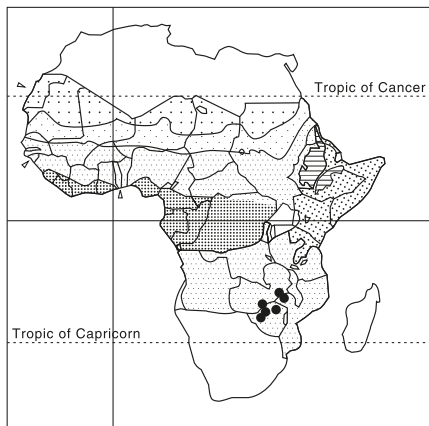
Acacia edgeworthii



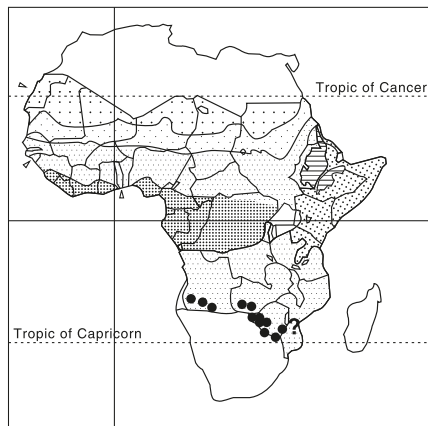
Acacia ehrenbergiana



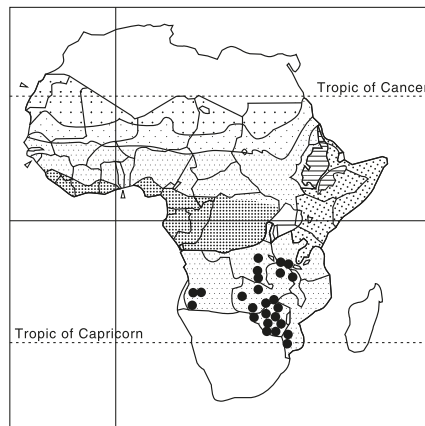
Acacia elatior



Acacia eriocarpa



Acacia erioloba



Acacia erubescens

ACACIA ETBAICA

by Thulin, Fl. Somal. 1: 381, 1993 (Thulin & Warfa 5843, Beckett 790, 800-1100 m alt.; and Gillett & Watson 23492, 1300-1400 m alt., respectively).

A. exuvialis Verdoorn – Icon.: Timberlake & al., o.c.: 55, 1999.

Small shrub to 2 m tall, with many slender grey-brown stems of oily appearance (not flaking); young branchlets sticky (glands); stipules spinescent, straight, white, in pairs; leaves small; flowers bright yellow in solitary heads; pods small, constricted between the seeds, dehiscent.

Mixed deciduous bush or woodland, often on gravelly soils derived from Cretaceous sandstone, commonly associated with mopane; c. 460 m alt.

S. Africa (NE Transvaal).

Can be confused with *A. borleae* (on basalt clays) and *A. nebrownii* (on shallow sandstone soils). The shrub form found in SE Zimbabwe is distinct from the larger form with peeling bark occurring in NE Transvaal (fide Timberlake & al., l.c.; cf. fig. in N. Smit, *Acacias of S. Africa*: 43, 1999).

[**A. farnesiana** (L.) Willd. var. **farnesiana**] – Icon.: J. Berhaut, Fl. ill. Sénégal 4: 454, 1975; J. H. Ross, *Conspectus Afric. Acacia...*: 102, 1979.

bas.: *Mimosa farnesiana* L.

Shrub or small tree 1-5(-10) m tall with suberect branching habit; stipules spinescent, short, never inflated, in pairs; leaves bipinnate, 3-7 cm long; flowers yellow, in heads; pods black, swollen, ± curved, indehiscent.

Probably native of tropical America.

Grown as an ornamental (fragrant flowers, for perfume); naturalized widely in tropical Africa.

PEDLEY, L. (2002). A conspectus of Acacia subg. Acacia in Australia. *Austrobaileya* 6: 177-186.

A. fischeri Harms

Shrub or tree 1-6 m tall; crown flattened; bark dark, rough, fissured; branchlets densely pubescent, often glandular; stipules spinescent, long, straight, in pairs; leaves hairy; flowers pale cream, in heads; pods uncertain (fragmentary pods described by Harms belonging to the species?).

On hard-pan grey soils, growing in patches of trees crowded together, in shallow drainage glades, fringes of large seasonal rivers; 1220-1520 m alt.

A. flagellaris Thulin

Slender tree 3-5 m; basal vegetative branches forming a cushion c. 0,5 m high from which emerges a single stem with slender whip-like branches; bark grey, smooth; young branchlets densely puberulous, internodes short; stipules not spinescent, caducous; prickles short, solitary, best developed on basal branches, sometimes with 2 additional lateral rudimentary straight prickles; flowers pale yellow, in spikes (1-4 cm); pods small, straight, dehiscent.

North-facing exposed slopes or ridges on limestone in low-bush vegetation where it is one of the few emerging species; 800-1100 m alt.

Related to *A. cheilanthifolia*, *A. ogadensis*.

ACACIA

A. fleckii Schinz – Icon.: Timberlake & al., o.c.: 57, 1999.

syn.: *A. cinerea* Schinz 1888, nom. illegit., non *A. cinerea* Spreng. (1826); Enum. 2: 25, 1992; *A. catechu* sensu Harms in Warb., Kunene-Samb. Exped.: 243, 1903, non (L. f.) Willd.

Tree to ± 10 m, or many-stemmed shrub to 3 m tall; crown rounded, spreading, coming close to the ground; trunk 20-30 cm Ø; bark pale, greyish, tinged yellow, smooth, sometimes peeling; stipules not spinescent, soon deciduous; prickles strong, recurved, black, in pairs; flowers white in spikes, appearing after the first rains, sometimes before the leaves; pods striking grey when ripe. – Shallow-rooted; early deciduous.

Drier types of deciduous woodland, with *Baikiaea*, on coarse sandy soils, sandy river banks, coarse-textured sandy colluvial or alluvial soils on granite and gneiss; also common on Kalahari sand (indicating disturbance or fire); sometimes thicket-forming in logged areas or on river banks; 800-1370 m alt.

N Namibia, Caprivi Strip, Botswana, S. Africa (W Transvaal).

Frost tolerant; recovering well after severe frosts (Zimbabwe).

Similar to *A. erubescens*, but different in having shorter leaf petiole (0,5-1 cm), eglandular rhachis, and bigger petiole gland.

A. galpinii Burt Davy – Icon.: Timberlake & al., o.c.: 59, 1999.

Large erect tree (8-)15-20-36 m, branching high up; crown rounded; trunk to 40-60 cm Ø, with grey-brown flaking bark, corky when young; stipules not spinescent, soon deciduous; prickles recurved or straight, strong, blackish, in pairs, and can persist on raised bosses on the trunk; flowers cream-yellow in long thin spikes (to 11 cm), calyx red; pods long, broad, pointed, dehiscent.

Woodland, wooded grassland, bushveld, often but not always on river banks; also on termite mounds or (scattered) through low acacia woodland; on loamy soils or clays derived from goldbelt rocks (Zimbabwe); a pioneer species in suitable habitats; 360-1500 m alt.

Botswana, S. Africa (Transvaal).

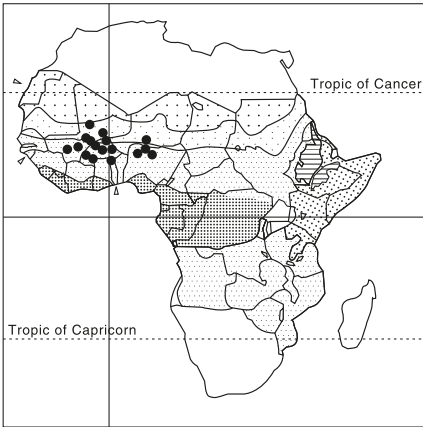
Widely planted for timber (fast growing); although frost tolerant, branches can be killed off by severe frosts, giving the trees a stag-headed appearance (Zimbabwe).

Confused with *A. polyacantha* (with more numerous leaf pinnae), and with *A. nigrescens* when leafless. Closely related to *A. persiciflora* (also having red calyx).

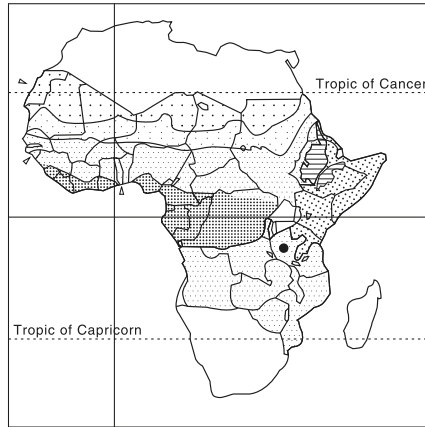
A. gerrardii Benth. subsp. **gerrardii** – Icon.: Timberlake & al., o.c.: 61, 62, 1999.

syn.: Enum. 2: 25, 1992; *A. subtomentosa* De Wild.; *A. etbaica* Schweinf. var. *hirta* A. Chev.; *A. stenocarpa* sensu Robyns, Fl. Spermat. Parc Nat. Albert 1: 389, 1948, p.p., non Hochst. ex A. Rich.; *A. sp. F* sensu Brenan in Fl. Trop. E. Afr.: 135, 1959, p.p. quoad specim. Burt 2001.

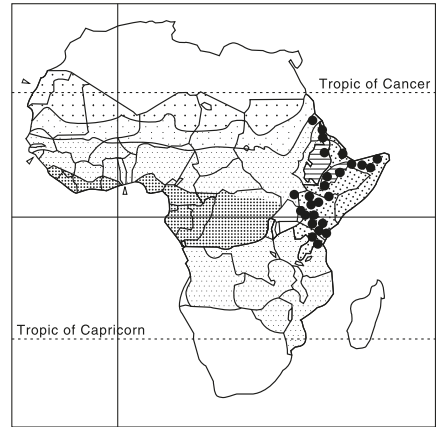
Shrub 0,5-3 m tall, but more often a tree (5-)10-15 m tall with ascending branches and tufted leaves; trunk 20-30 cm Ø; bark ± black, rough, fissured, younger branches with smooth and wrinkled bark (“like an elephant’s trunk”); crown narrow, open, but spreading in older trees; young twigs robust, densely pubescent with rusty-red inner indumentum; stipules spinescent, straight,



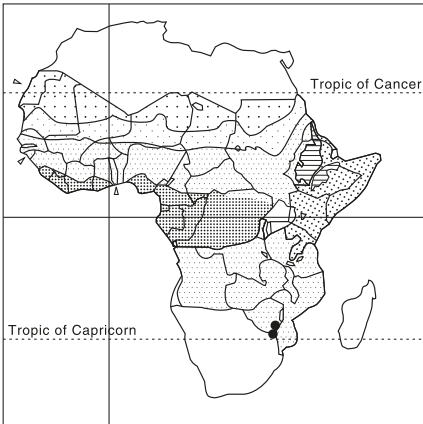
Acacia erythrocalyx



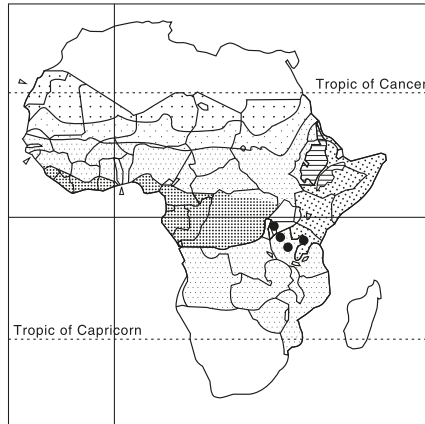
Acacia erythrophloea



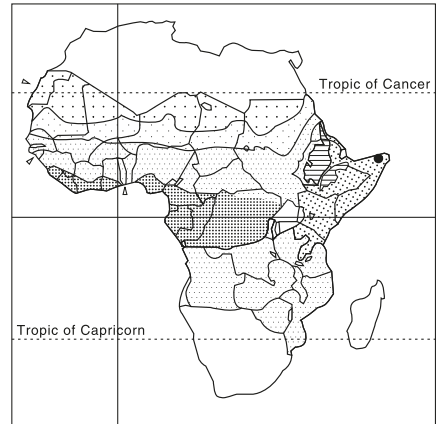
Acacia etbaica



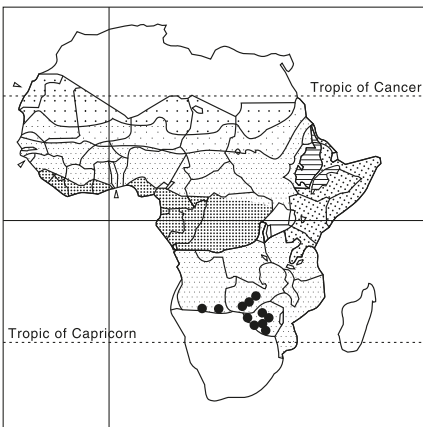
Acacia exuvialis



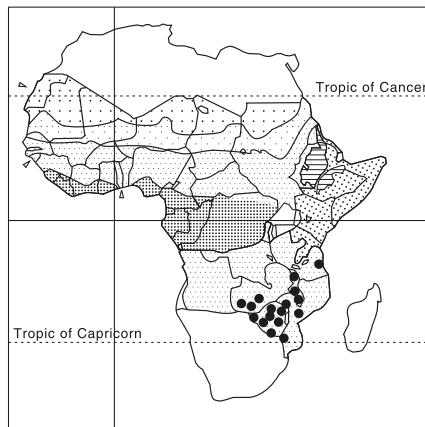
Acacia fischeri



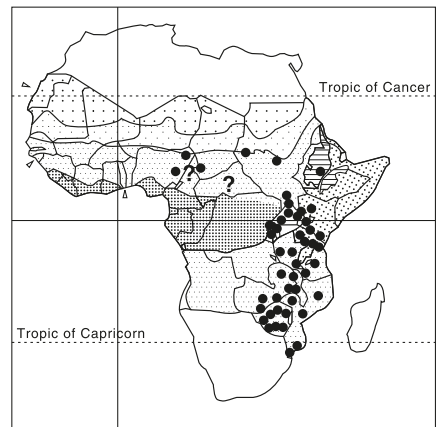
Acacia flagellaris



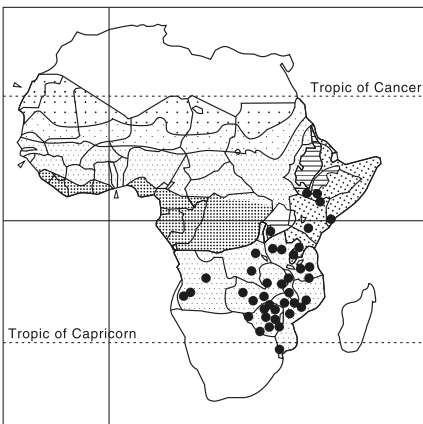
Acacia fleckii



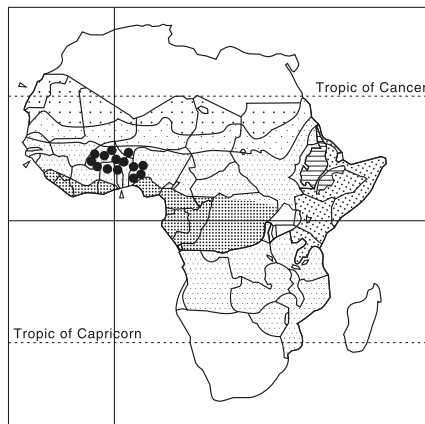
Acacia galpinii



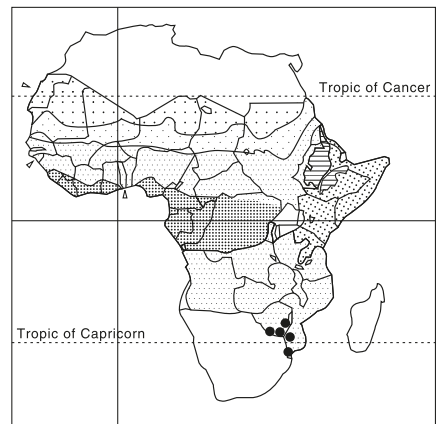
Acacia gerrardii subsp. *gerrardii*



Acacia goetzei



Acacia gourmaensis



Acacia grandicornuta

ACACIA GERRARDII

stout, pubescent, in pairs, sometimes to 6(-12) cm long; leaves tufted, borne on distinct “cushions”; flowers white, in heads; pods curved, velvety hairy, dehiscent.

Wooded savanna on sand; woodland, wooded grassland; gregarious on alkaline grey clays in tall grass savanna, above 600 m alt. (Sudan); common on eroded basement complex or clay plain soils (Jebel Marra, Sudan); *Combretum binderianum* woodland, open *Combretum* woodland on termite mound; savanna with *Euphorbia candelabrum*, *Albizia anthelmintica*, *Tamarindus indica*; occasionally riverine (Kenya); in some areas (E Africa) dominant and common; 450-600-2200 m alt. (1500-2000 m in Ethiopia); wooded grassland, 1370-1750 m (var. **latisiliqua**); riverine forest and wooded grassland, 1160-1770 m (var. **calvescens**).

Variable in pubescence of young growth and of pods, in width of pods. Often difficult to distinguish from *A. robusta*.

Botswana, S. Africa, Swaziland. – Subsp. **negevensis** Zohary (= *A. iraqensis* Rech. fil.) in Israel, Iraq, Kuwait; its var. **najdensis** now included in *A. pachyceras* O. Schwartz var. *najdensis* (Chaudhary) Boulos (Kew Bull. 50: 336, 1995).

Comprises 3 vars.: – var. **gerrardii** in S part of range; var. **calvescens** Brenan is heterogenous, some specimens approaching *A. robusta* subsp. *usambarensis*; var. **latisiliqua** Brenan in E. Africa, some specimens in Kenya approaching var. **gerrardii**.

A. goetzei Harms – Icon.: Timberlake & al., o.c.: 65, 1999.

syn.: Enum. 2: 25, 1992.

Tree to 5-16-20 m with a rounded or ± spreading crown; trunk 60-100 cm Ø; bark grey-brown, irregularly fissured; young branchlets often with yellowish hairs and thin splitting epidermis; stipules not spinescent, soon deciduous; prickles strongly recurved, short, in pairs, often on raised bosses; flowers yellowish-white, in spikes (to 12 cm) produced with the leaves; pods straight, irregularly constricted, coriaceous, dehiscent.

- Subsp. **goetzei**: Mixed dry woodland on moderately fertile shallow or stony soils, often with *A. nigrescens*, associated with *Brachystegia boehmii* and mopane, as scattered individuals (not in stands); riverine woodland, c. 50 m alt. (sterile specimen, uncertain, Somalia); wooded grassland; (400-) 1450 m alt.
- Subsp. **microphylla**: component of miombo woodland on less fertile soils often with *A. amythethophylla*; relict in cultivation (formerly montane scrub; Kenya); in drier areas at watercourses; 1080-1800 m alt.

Very variable species: size, shape and number of leaflets; armature of leaf-rhachis; development of indumentum; flowers and pods fairly uniform. The 2 subsp. are equally heterogenous within themselves. It has been suggested that the variation may be due to a hybrid origin of the species (with *A. nigrescens*) and distinctive characters blurred by introgression.

Comprises 2 subsp. found in similar areas across the range, although subsp. **microphylla** Brenan in higher altitude and rainfall areas. Intermediate forms present, only extremes well defined.

Similar to *A. nigrescens* (in shape), *A. welwitschii*; also (subsp. **microphylla**) to *A. burkei* and *A. rovumae* (with indehiscent pods).

Scattered localities in Angola.

Acacia schlechteri Harms is perhaps a variant of *A. goetzei* subsp. *goetzei*.

ACACIA

A. gourmaensis A. Chev.

syn.: *A. gourmaca* A. Chev., nom. nud.

Shrub or tree to 7 m tall; bark grey, rough; young branchlets whitewashed over darker background; stipules not spinescent, soon deciduous; prickles hooked, small, in pairs; leaves small; flowers cream in spiciform racemes (3-5 cm).

Savanna on sand; “mimosa scrub”; sometimes forming thorny thickets.

Closely related to and often confused with and mislabelled *A. mellifera* (with different distribution). Very distinctive, with large kidney-shaped leaflets and short pods with 1-2 seeds.

A. grandicornuta Gerstner – Icon.: Timberlake & al., o.c.: 69, 1999; N. Smit, Guide Acacias S. Africa: 61, 63, 1999.

Tree to 3-10(-12) m, shrubby, branching low, or sometimes a small spreading shrub 1-2-5 m tall, with rounded, irregular crown; trunk to 20 cm Ø; branches ascending; young branchlets glabrous, not flaking off to reveal a rusty-red inner layer; stipules spinescent in pairs, 10-14 cm long, ± straight, stout, partially inflated along their length; flowers white, in heads; pods falcate, narrow, dehiscent. – Difficult to identify confidently.

Lowveld on black deep clay soils, woodland, dry thornveld; sometimes dominant over large areas, forming thickets; c. 900 m alt.

Botswana, NE S. Africa.

Difficult to separate from *A. robusta* subsp. *clavigera* that has more numerous pairs of pinnae (3-5) borne in “cushions”, not discoloured leaves, and less developed thorns.

A. hamulosa Benth.

syn.: *Mimosa senegalensis* Forssk. 1775, nom. illegit., non Houtt. 1774; *Acacia paradoxa* Chiov. 1929, nom. illegit., non DC. 1813; “*A. brevis*” J. B. Gillett unpubl.

Shrub or tree 1,5-5 m tall; young branchlets grey, as though white-washed over purplish background; stipules not spinescent, soon deciduous; prickles in threes, the central one strongly hooked downwards, the laterals curved upwards; leaves small; flowers white or cream in spikes (4 cm); pods ovate, small, papery.

Acacia-Commiphora deciduous dry bushland; 150-1200 m alt.

Arabia.

Distinguished by a recurved small prickle on lower face of rhachis near the apex of each leaf pinna.

A. hebeclada DC. – Icon.: Timberlake & al., o.c.: 73, 71, 1999.

syn.: *A. stolonifera* Burch.; *A. hebeclada* var. *stolonifera* (Burch.) Dinter (both of subsp. **hebeclada**). – Enum. 2: 25, 1992.

Small shrub to 1,5 m tall (subsp. **hebeclada**), or large thicket-forming shrub or small tree to 3 m (subsp. **chobiensis**); branching from the ground, and occasionally from underground stolons; young twigs velvety, epidermis splitting to show red-purplish (not rusty-red as in *A. gerrardii*) underlayer; stipules spinescent, in pairs, straight or hooked, short to long (1,5-6 cm); flowers (yellowish) white, in heads; pods woody, longitudinally striate, tardily dehiscent, sometimes remaining for more than a season.

ACACIA HEBECLADA

On calcium-rich Kalahari sand, usually on clayey deposits in dune slacks, associated with Pleistocene dune fields, often gregarious, forming small low thickets, 950-1050 m alt. (Zimbabwe; subsp. **hebeclada**). – Sandy river banks and islands, sometimes growing semi-submerged on island banks or alluvium, 760-1190 m alt. (subsp. **chobiensis**; restricted to the Zambezi River above Victoria Falls). – Open bushland on sandy soils, in rather dry hilly spots, on the highest ridge of mountains with *Tarchonanthus*, 1000-1215 m alt. (subsp. **tristis**, Angola).

Variable in habit, size of leaves, pubescence of young growth, shape and width of pods; and in habitat.

Caprivi Strip, Namibia, Botswana, S. Africa (subsp. **hebeclada** and subsp. **chobiensis** (O. B. Mill.) A. Schreiber).

Comprises 3 subsp. cited above (subsp. **tristis** A. Schreiber in Angola; a tree with flattened somewhat spreading crown, or shrub, with *narrow pendulous pods*).

Can be confused with *A. gerrardii* and *A. luederitzii*, but pods different.

A. hecatophylla Steud. ex A. Rich.

syn.: *A. catechu* (L. f.) Willd. subsp. *sundra* (Roxb.) Roberty var. *hecatophylla* (Steud. ex A. Rich.) Roberty, p.p. saltem excl. specim. Pappi 392 et Schweinfurth 1940.

Tree to 5(-8) m; bark grey, smooth or longitudinally fissured; stipules not spinescent, soon deciduous; prickles (sometimes absent) spreading or hooked, short, in pairs; flowers yellowish-white, in long spikes (5-12 cm).

Woodland, wooded grassland; solitary on stony hillsides in rock crevices in high-rainfall savanna, woodland with *Combretum collinum*, *C. molle*, *Annona senegalensis*, with many rocky outcrops (S Sudan /Uganda); 600-1700 m alt. (1450-1700 m in Ethiopia).

Record from Botswana very doubtful.

Resembling *A. polyacantha* subsp. *campylacantha* but with broader leaflets and pods.

A. hereroensis Engl. – Icon.: Timberlake & al., o.c.: 75, 1999; N. Smit, Guide Acacias S. Africa: 145, 1999.

syn.: *A. gansbergensis* Schinz; *A. mellei* I. Verdoorn

Shrub (inconspicuous) or sometimes a tree 1-5(-11) m tall; bark grey-brown, fissured; young branchlets puberulous, glandular; stipules not spinescent, soon deciduous; prickles hooked, in sub-opposite pairs, sometimes nearly scattered; leaf petiole with a conspicuous stalked gland; flowers cream, in spikes, appearing after the rains – plant mostly only noticed when in flower; pods leathery, pubescent, glandular, dehiscent.

Acacia bushland with other acacias on red soils derived from schistose goldbelt rocks, often on shallow soils by road cuttings, occasionally on granite; thornveld, on rocky slopes and flats.

Namibia, SE Botswana, N S. Africa.

Probably accidentally introduced in a place NW of Harare; but probably under-recorded (inconspicuous plant). Closely related to *A. caffra* and also similar to *A. karroo*.

ACACIA

A. hockii De Wild.

syn.: Enum. 2: 25, 1992; *A. holstii* Taub., p.p. excl. legumina (= *A. etbaica* subsp. *platycarpa*); *A. seyal* Del. var. *lescrauwaetii* De Wild., var. *seretii* De Wild., var. *kassonionga* De Wild., and var. *multijuga* Schweinf. ex Bak. f.; *A. atacorensis* Aubrév. & Pellegr.; *A. stenocarpa* sensu auctt. mult., non Hochst. ex A. Rich.; *A. seyal* sensu Gilbert & Boutique in Fl. Congo Belge 3: 160, 1952 p. maj. p., non Del.; *A. hebecladoides* sensu Gilbert & Boutique, o.c.: 162, p. p. quoad specim. Liégeois 146, non Harms; “*A. oerfota* sensu Brenan” (cf. Wood in Kew Bull. 37: 453, 1982).

Shrub or tree to 2-6(-12) m tall; geoxylic suffrutex (Vollesen in Nord. J. Bot. 1: 738, 1981); crown flattened; bark not powdery, greenish to red-brown, peeling off in papery layers; young branchlets with reddish bark, not peeling (to show powdery underlayer as in *A. seyal*); stipules spinescent, long, slender, in pairs, “ant-galls” absent; flowers bright yellow, in heads; pods falcate, constricted between the seeds, dehiscent.

In a diverse range of habitats, widespread in the tropics. Deciduous woodland, wooded grassland, thicket; scrub; deciduous and semi-evergreen bushland; on sandstone hills (Burkina Faso); fringing and savanna forests sometimes forming pure thickets, on rocky hills in moister savanna regions (Ghana); grass savanna on loamy ground, *Loudetia arundinacea* grassland with scattered trees of *Terminalia laxiflora*, *T. brownii*, *Pterocarpus lucens*, *Combretum collinum*, *Vitex doniana* on rocky outcrop, also rocky outcrop in cultivations, long-grass woodland with *Terminalia schimperiana*, *Bridelia scleroneura*, *Grewia mollis*, and *Acacia seyal-Combretum* deciduous bushland, and wooded grassplains with *Ziziphus* spp. *Acacia seyal*, *A. senegal* (S Sudan/Uganda); invader of overgrazed grassland (Kenya); 0-2400 m alt. (750-2400 m in Kenya).

Very variable; in particular in internode length, bark colour.

Tropical Arabia.

Has long been confused with *A. seyal* that has powdery inner bark, young twigs densely puberulous and “ant-galls”. Also similar to *A. ehrenbergiana* (leaves with 1-2 pairs of pinnae only, and in drier habitats).

A. horrida (L.) Willd. subsp. **benadirensis** (Chiov.) Hillc. & Brenan; excl. *A. horrida* var. *transvaalensis* Burt Davy (= *A. karroo*).

syn.: *A. benadirensis* Chiov., p.p. quoad specim. cit. e Somalia, Senni 196 and 691.; Enum. 2: 25, 1992.

Shrub 0,5-3,6(-10) m tall, obconical, branching from the base, spreading, sometimes wider than high, ± flat-topped; stipules spinescent, straight, long (9 cm), in pairs, some enlarged basally, not or only slightly constricted basally; flowers cream, in short spikes; pod ± reniform, short, dehiscent.

Deciduous *Acacia-Commiphora* bushland, dry scrub; on clay soils in high-rainfall savanna (S Sudan); dwarf desert shrubland, often on limestone or along drainage lines (Kenya); 1-1700 m alt.

Some variation in hairiness of pods, leaves, branches, inflorescence-rhachides.

Subsp. **horrida** in India.

Closely related to *A. bussei*, differing in habit; *A. bussei* on more sandy soils and in higher-rainfall areas.

ACACIA

A. kamerunensis Gandoger

syn.: Enum. 2: 25, 1992; *A. silvicola* Gilbert & Boutique p. min. p., quoad Lebrun 3197, Gillardin 350, Louis 1236; excl. holotypum.

Scandent shrub or liane to over 5 m tall; stipules not spinescent, deciduous; prickles small, arising from longitudinal bands along the internodes; flowers yellowish-white, in heads.

Lowland rain-forest; gallery forest with *Trichilia emetica* along khor and dense forest (S Sudan); secondary formations, road sides, river sides (Gabon); 600-1190-1220 m alt.

S. Tomé, Bioko / Fernando Poo.

Similar to *A. pentagona*, *A. schweinfurthii*, *A. ciliolata*, *A. montigena*. Formerly included in *A. pennata*.

A. karroo Hayne, incl. var. *transvaalensis* (Burt Davy) Burt Davy – Icon.: Timberlake & al., o.c.: 77, 1999; N. Smit, Guide Acacias S. Africa: 65, 67, 69, 1999.

syn.: Enum. 2: 25, 1992; *A. natalitia* E. Mey.; *A. capensis* (Burm. f.) Burch., nom. rejic.; *A. hirtella* E. Mey., incl. var. *inermis* Walp.; *A. horrida* (L.) Willd. var. *transvaalensis* Burt Davy; *A. inconflagrabilis* Gerstner; *Mimosa reticulata* L., nom. rejic.; *M. capensis* Burm. f., nom. rejic.; *M. leucacantha* Jacq.

Several-stemmed shrub (rarely), or tree 3-8-17(-22) m tall; trunk 20-30(-70) cm Ø; crown rounded or flattened; sometimes a very slender, spindle-like tree, sparsely branched; young branchlets mostly glabrous, greenish, glandular, epidermis flaking off to show dark rusty-red, non-powdery inner layer; stipules spinescent, in pairs, 0,4-7(-10) cm long, sometimes to 25 cm long and distinct to the base; flowers yellow, in numerous heads; pods ± falcate, narrow, constricted between the seeds, hanging in bunches, dehiscent.

In a diverse range of habitats; woodland, wooded grassland, coastal scrub; seashore (island on Mozambique's coastline - ? perhaps another species); often by rivers and in valleys; on clay and loamy soils; often in association with other *Acacia* and *Combretum* spp.; can form dense stands on alluvium along rivers, drainage lines, in disturbed places; also forest edge woodland; aggressive pioneer invading degraded or overgrazed areas; 1-1800 m alt.

Very variable; variation regional.

Namibia, S. Africa, Botswana, Swaziland. – Introduced into Australia where it is becoming a noxious weed (Paynter & al., Austral. Syst. Bot. 16: 81-88, 2003).

ARCHIBALD, S. & W. J. BOND (2003). Growing tall vs growing wide: tree architecture and allometry of *Acacia karroo* in forest, savanna, and arid environments. *Oikos* 102: 3-14.

BOND, W. J. & al. (2001). *Acacia* species turnover in space and time in an African savanna. *J. Biogeogr.* 28: 117-128.

Closely related to *A. seyal*, its ecological counterpart further north.

One of the commonest and most useful acacias in its range. One of the fastest growing species but not long-lived. Tolerant of severe frosts.

ACACIA

A. kirkii Oliv. – Icon.: Timberlake & al., o.c.: 81, 1999.

syn.: *A. verrucifera* Harms, nom. nud. (of subsp. **kirkii** var. **kirkii**). – Enum. 2: 25, 1992.

Tree 2,5-15(-18) m, with spreading arcuate branches, or many-stemmed shrub branching from near the base; crown flat; bark translucent greenish, orange-yellow or grey, papery, peeling off to show greenish underbark; young branchlets purplish, glandular, not revealing yellowish inner layer; stipules spinescent, 0,5-8 cm long, straight, white, in pairs; “ant-galls” absent; leaves clustered, dark green; flowers pinkish-red in bud, cream-white when open, in heads; pods broad, straight, with or without a wart-like projection in the centre of each segment, indehiscent, hanging.

Woodland, wooded grassland, mixed scrub; often in seasonally flooded alluvium by rivers and lakes, forming groves; riverine or ground-water forest, swamp-forest; on nutrient-rich, silty kaolinitic clay to black cracking clays; 1500-1980 m (E. Africa), 900-1070 m (Fl. Zambes. area); 600-1000 m (Angola); subsp. **kirkii**. – Riverine and swamp-forest, in higher rainfall areas; 1140-1370 m (subsp. **mildbraedii**).

Variable in: pubescence of thorns and leaves; width of pods; prominence of the wart-like projections on the pods.

Caprivi Strip, Namibia, Botswana.

Comprises 2 subsp.: – subsp. **mildbraedii** (Harms) Brenan (syn.: *A. semlikiensis* De Wild.); – subsp. **kirkii**: varieties not clearly separated.

Cultivated as an ornamental in Zaire.

A hybrid **A. kirkii** x **A. seyal** reported from Kenya (Machakos area, K4), on grey clay by stream-side in hill country; 1520 m alt.

A. kosiensis P. P. Swartz in M. Coates Palgrave, Trees of Southern Africa, Ed. 3: 286, 2002.

Tree 10-17 m; stems slender, with whitish bark, young stems green to white; inflorescences on short hidden spur-branchlets (not at the end of young branches as in *A. karroo*); fruit constricted between the seeds.

On the coast and on lake shores in high-rainfall areas; forming dense stands with a closed canopy; pioneer plant stabilising dune forests.

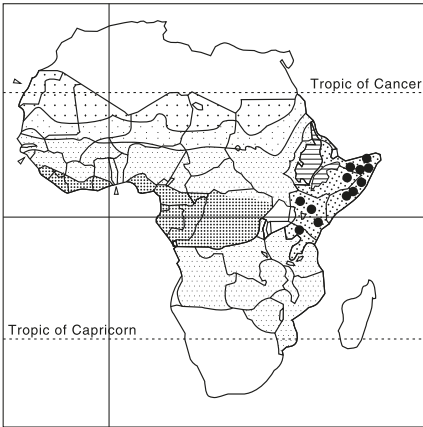
NE S. Africa.

Related to *A. karroo* and *A. xanthophloea*; or is perhaps identical with a species from Madagascar (seeds carried by sea currents).

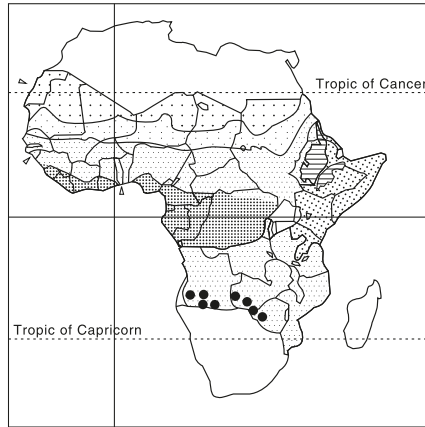
A. kraussiana Meisn. ex Benth. subsp. **kraussiana**, non *A. nilotica* (L.) Willd. ex Del. subsp. *kraussiana* (Benth.) Brenan – Icon.: N. Smit, Guide Acacias S. Africa: 177, 179, 1999.

Scandent shrub or climber to 1-12-15 m tall (visible on the crowns of surrounding vegetation); main stems 5-angular and shoots angular; some branchlets modified into tendrils; stipules not spinescent, deciduous; prickles small, arising from longitudinal bands along the internodes; flowers yellowish-white, in heads borne in panicles on new shoots; pods flat, straight, with swellings over the seeds, tardily dehiscent to indehiscent.

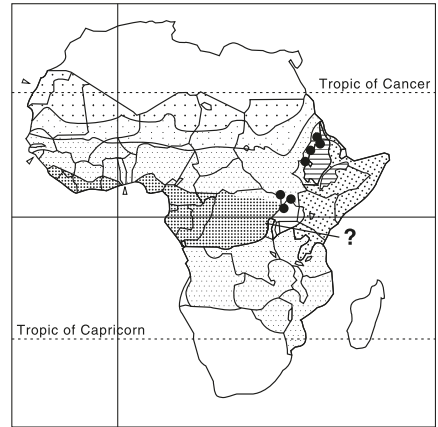
Coastal woodland, bushland, thicket, often near the shore; sand-forest; 0-110 m alt.



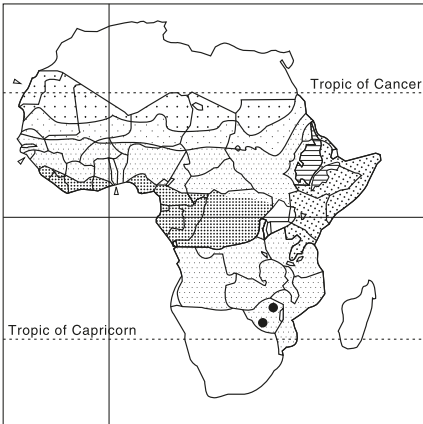
Acacia hamulosa



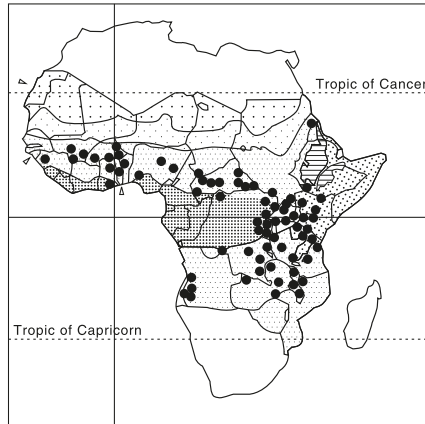
Acacia hebeclada



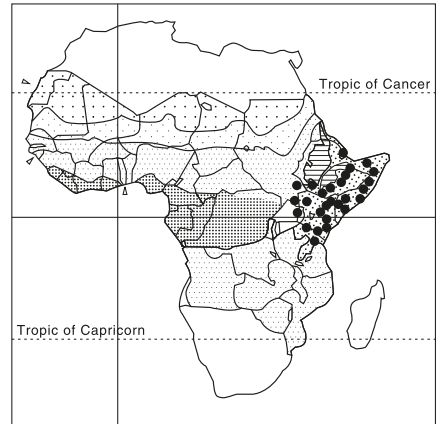
Acacia hecatophylla



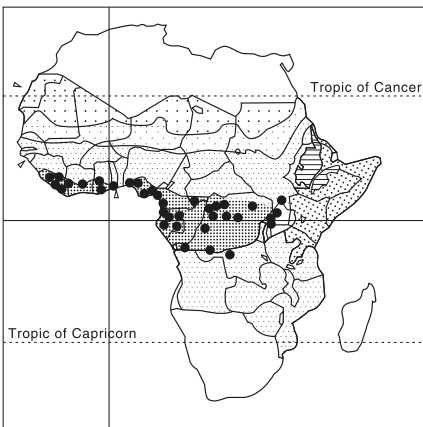
Acacia hereroensis



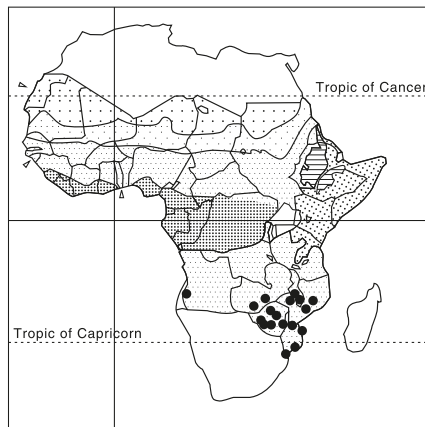
Acacia hockii



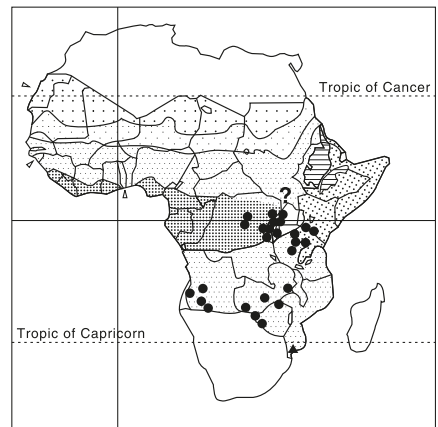
Acacia horrida subsp. *benadirensis*



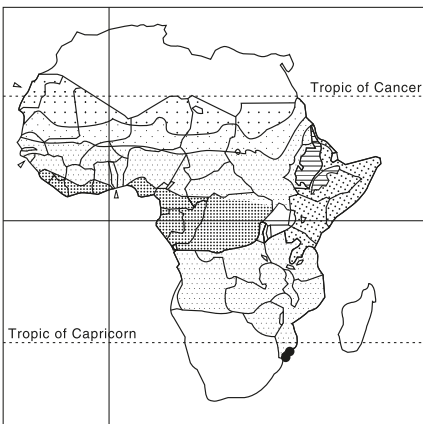
Acacia kamerunensis



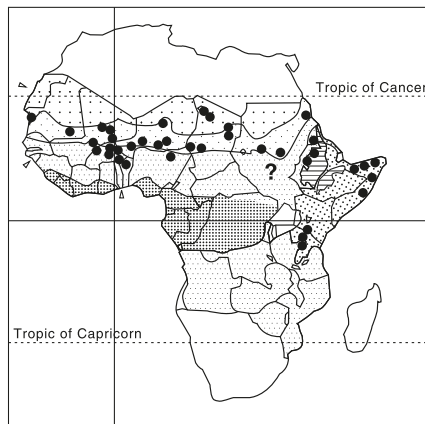
Acacia karroo



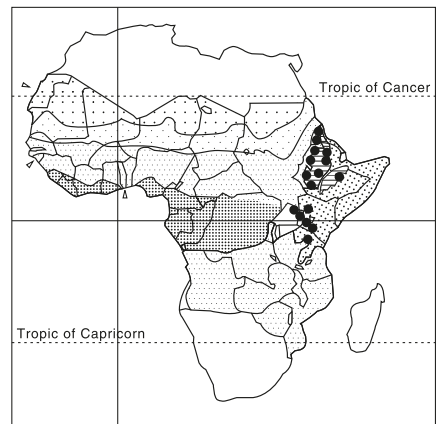
Acacia kirkii ●
Acacia kosiensis ▲



Acacia kraussiana subsp. *kraussiana*



Acacia laeta



Acacia lahai

ACACIA KRAUSSIANA

S. Africa (Natal). – Subsp. **madagascariensis** Villiers & Du Puy in Du Puy & al., Leguminosae Madagascar: 233, 2002, in N Madagascar.

Superficially resembling *Entada spicata*. Similar to *Acacia lujae* (but distribution different).

A. laeta R. Br. ex Benth.

syn.: Enum. 2: 26, 1992; *A. trentiniani* A. Chev.

Shrub or tree 2-6 m tall; stems smooth; bark grey, not flaking; stipules not spinescent, soon deciduous; prickles in pairs (rarely in threes), hooked, black, short; flowers yellowish-white in spikes (5 cm); pods oblong, venose, dehiscent.

On fossil sandy-clayey folds at the extreme limit of changing water flooding (Mali), and in seepage areas (Mauritania); on (silty) slopes of depressions between dunes on packed sand (Niger, Burkina Faso), 1500 m alt. (Air), and in silty depressions (S Chad); deciduous bushland, to 1800 m alt. (Ethiopia); *Acacia-Commiphora* bushland, 240-1350 m alt. (Somalia); *A. mellifera* scrub on clay plains or loamy soils in short grass savanna (C Sudan); dense or open bushland, locally common with *Commiphora merkeri*, *Acacia mellifera* on hard-pan soils in desert thornbush, and with *Commiphora* and *Balanites* on sandy loam, 1200-1680 m (E. Africa).

S Algeria; Egypt, Arabia; Dead Sea region, Israel (Arava Valley).

Morphologically intermediate between *A. mellifera* and *A. senegal*, and probably of hybrid origin (triploid, $2n=39$), but seems to be more closely related to *A. mellifera* (due to back-crossing?). Also similar to *A. gourmaensis*. In habit resembling *A. senegal* but with larger and fewer leaflets. – Similar forms have been reported from SW Zimbabwe on the Limpopo River.

Not in Ivory Coast (localities now in Burkina Faso).

Producing gum arabic (DANTHU, P. & al., Compatibilité de greffage entre quelques Acacias africains... *Bois Forêts Trop.* 258: 50, 1998).

A. lahai Steud. & Hochst. ex Benth.

syn.: *A. fasciculata* R. Br. ex Salt, nom. nud.; *A. saltiana* Steud., nom. nud.

Shrub or tree (0,5-)3-15 m; crown flat; trunk well-defined; bark brown, rough, with longitudinal scales; stipules spinescent, straight, *not enlarged*, to 7 cm long, in pairs; flowers cream, in spikes (2-9 cm long); pods short, falcate, dehiscent.

Upland woodland, wooded grassland, locally common in Kenya where upland forest has disappeared, forming dense woodland, or invading grassland; often thicket-forming (Ethiopia; then a low shrub 0,5-1 m, flowering and fruiting); 1500-2700 m alt.

Related to *A. bussei* and *A. horrida* subsp. *benadirensis* but differs from them by its densely glandular inflorescences, and also growing in higher altitudes.

A. lasiopetala Oliv.

Tree 2-6 m; bark rusty-red; young branchlets yellowish, hairy, epidermis flaking off to show powdery rusty-red underbark; stipules spinescent, straight, short, in pairs; leaves with silky golden indumentum, becoming greyish with age; flowers white, in heads.

Deciduous (*Brachystegia*) woodland on hills, wooded grassland; 1370-1830 m alt.

Related to *A. abyssinica*, *A. pilispina*, *A. rehmanniana*, but pods grey-tomentellous, constricted between the seeds.

ACACIA

A. latistipulata Harms

syn.: ? *A. makondensis* Engl., nom. nud.

Shrub to 6 m tall, scandent, spreading or arborescent; young branchlets densely pubescent, eglandular; stipules not spinescent broad, soon deciduous; prickles scattered along the internodes; leaflets to 48 pairs per pinna; flowers yellowish-white, in heads.

Woodland, evergreen bushland, secondary coastal forest with *Chlorophora* standards; 50-220 m alt. (Fl. Zambes. area); 380-820 m (E. Africa).

Very distinctive species: stipules unusually broad, foliage large.

A. leucospira Brenan

Spreading shrub to 1 m tall, 2 m wide; bark near ground yellow, papery; young branchlets densely white woolly hairy; stipules spinescent, in pairs, straight, spreading, woolly pubescent when young; leaves small, densely woolly; flowers white, in heads; pods short, thick, hard, curved or spirally coiled, dehiscent.

In low-bush vegetation on gypsum or limestone; 210-620 m alt.

Very distinctive species, unlikely to be confused.

A. luederitzii Engl. p.p. quoad specim. Marloth 1328. – Icon.: Timberlake & al., o.c.: 83, 1999; N. Smit, Guide Acacias S. Africa: 113-119, 1999.

syn.: *A. goeringii* Schinz (of var. **luederitzii**).

Shrub branching from near the base, but usually a tree, 1-15 m tall; crown flattened and spreading or \pm rounded; trunk 15-30 (-75) cm \emptyset ; bark very rough, longitudinally fissured on old trunks; young branchlets densely greyish hairy; stipules spinescent, some short and strongly hooked, some elongate, slender, straight 1-7 cm long (var. **luederitzii**), or some inflated (“ant-galls”) to 1,8 cm \emptyset basally (var. **retinens**); flowers yellowish-white, in heads. – If heavily browsed, the lower part of the trees forms a dense bush.

Tree savanna, bush, scrub, thornveld, often associated with *A. erioloba* and other *Acacia* spp., particularly on Kalahari sand; often forming dense impenetrable thickets (var. **retinens**); 700-1070 m alt.

Namibia, Botswana, N and NE S. Africa, Swaziland.

Comprises 2 vars.: – var. **retinens** (Sim) J. Ross & Brenan (syn.: *A. gillettiae* Burt Davy) usually smaller than var. **luederitzii** and with larger inflated spines.

Closely related to *A. reficiens* subsp. *reficiens*, a name which is sometimes used to cover **A. luederitzii**.

Can be confused with *A. gerrardii* (= not on Kalahari sand) in Zimbabwe (only var. **luederitzii** in Zimbabwe).

A. lujae De Wild.

syn.: *A. dewevrei* De Wild. & Th. Durand

Liane; young branchlets glabrous; stipules not spinescent, deciduous; prickles scattered along the internodes, arising from longitudinal bands; leaflets of pinnae large, falcate; flowers yellowish-white, in heads.

Swamp forest, or forest on dry ground.

Closely related to *A. kraussiana* but more robust.

A sterile specimen from Gabon seems to be this species (Florence 1817), fide Villiers, Fl. Gabon 31: 128, 1989.

ACACIA

A. macrostachya Reichenb. ex DC., ? incl. var. *spinossissima* A. Chev.

Shrub, scandent or non-climbing 4-5 m tall, or sometimes a tree 5-15 m; young branchlets densely yellow-rusty-pubescent; stipules not spinescent, soon deciduous; prickles recurved (“rose-like thorns”), scattered along the internodes; leaves large, with up to 56 pairs of leaflets per pinna; flowers cream in long spikes (7-12 cm).

On hard-pan and gravelly soils; “brousse tigrée” on laterite, sometimes on sand or loamy soils (Niger); bushy scrub, wooded savanna on compact sand, and thicket in shallow soil on hard-pan (S Chad); sometimes forming thorny thickets; high-rainfall savanna on red iron-stone soils, sometimes on rocky hillsides (Sudan).

Closely related to *A. ataxacantha* but differing in having pubescent pods and more pinnae pairs and more leaflets per pinna.

Not in Angola (= *A. ataxacantha*).

A. malacocephala Harms

Slender tree 2.5-6 m, often with 2-3 stems; main branches ± horizontal; stipules spinescent, to 5 cm long, in pairs, but a few shorter straight whitish, some fused basally into round blackish “ant-galls” 1.5-3 cm Ø; flowers white, in heads, produced before the leaves late in the dry season and disappearing in the first rains; pods falcate, dehiscent.

Shrub or dwarf-tree grassland, locally gregarious and abundant on grey calcareous soils of flood-plains and valleys; “covers vast expanses of country fringing the Wembere Steppe”; 1060-1100 m alt.

Closely related to *A. mbuluensis*. Sterile material resembling *A. drepanolobium* (flowering during rainy season).

A. manubensis J. H. Ross

Tree to 5 m; bark yellowish, papery, peeling; stipules not spinescent, soon deciduous; prickles short, in pairs; leaves glaucous; flowers? white, in short spikes; mature seeds unknown.

Semi-evergreen bushland on limestone; 900-1340 m alt.

Resembling *A. goetzei* but differs in having divergent leaflets and smaller pods, and from *A. nigrescens* in having more numerous leaflets, and from both these species in having yellowish peeling bark. *A. ankokib*, also producing edible gum, is ecologically distinct and grows at lower altitudes.

A. mbuluensis Brenan

Tree 1.5-10.5 m; crown flattened; bark very dark brown, ribbed; young branchlets densely grey-pubescent; stipules spinescent, some 1 cm long, others 4 cm, some fused at base into black pubescent “ant-galls”; flowers cream, in heads; pods short, falcate, thin, grey-puberulous.

Ecology uncertain; 900-1980 m alt.

Resembling *A. malacocephala*.

[**A. mearnsii** De Wild.] – Black Wattle. – Icon.: Timberlake & al., o.c.: 141, 1992; Dunlop, o.c.: 35, 2002.

syn.: *A. decurrens* (Wendl.) Willd. var. *mollis* auct. non Lindl.; *A. mollissima* auct., non Willd.

Large shrub or small tree 2-15 m tall, unarmed; crown conical or rounded; all parts pubescent; leaves bipinnate, dark green, leaflets very small; flowers yellow in paniced heads; pods ± moniliform, jointed, dehiscing along one margin only.

Native of SE Australia, Tasmania.

ACACIA MEARNsii

Grown for fuelwood, wood products, fibre, tannin. Naturalized in E. Africa, invading disturbed grassland and river banks.

DUNLOP, R. W. (2002). *Acacia mearnsii* De Wild. In: OYEN, L. P. A. & R. H. M. J. LEMMENS, Eds., *Ressources végétales de l'Afrique tropicale. Précurseur*: 33-38. Programme PROTA, Wageningen [translation of: Plant Resources of Tropical Africa. Precursor].

[**A. melanoxylo**n R. Br.] – Australian blackwood. – Icon.: Timberlake & al., o.c.: 143, 1999.

Large tree, unarmed; young branchlets angular; leaves phyllodic, simple; flowers pale yellowish to white in heads; pods oblong, falcate, coiled or spirally twisted, not constricted between the seeds, dehiscent.

Native of SE Australia, Tasmania.

Grown for montane reforestation (timber); becoming an element of indigenous forests in NE-SE Africa.

A. mellifera (Vahl) Benth. – Icon.: Timberlake & al., o.c.: 85, 1999 (= subsp. **detinens**).

bas.: *Mimosa mellifera* Vahl.

syn.: Enum. 2: 26, 1992; *Mimosa unguis-cati* Forssk. 1775, nom. illegit., non L. 1753; *Inga mellifera* (Vahl) Willd.; *Acacia vicioides* Ferr. & Galim. (all of subsp. **mellifera**).

Tree 4-8 (-9) m, multi-stemmed, branching low if main stem present; crown rounded, sometimes reaching the ground, with dense blue-green foliage; or obconical shrub to 1-2(-9) m tall; bark greyish, fissured; young branchlets with greyish smooth bark with conspicuous white lenticels; stipules not spinescent, soon deciduous; prickles hooked, strong, “vicious”, small, blackish, in pairs; flowers cream to white, sweet-scented, attractive to insects, in elongate heads produced before the leaves; pods small, papery, early dehiscent. – Very slow growing.

Deciduous bushland, open bush, dry scrub, often forming thickets; indicator of overgrazing; (40-1200 m in Somalia); on dry hard clay soil plains forming pure stands, or in association with *A. laeta*, *A. senegal*, *A. nubica*, *A. seyal* in clay plains (C Sudan); lowland plain, dominant shrub on stony basement complex and clay soils and formerly cultivated ash soils, often in pure stands (Jebel Marra massif, 1020 m, Sudan); *Acacia* or *Acacia-Commiphora* dry bushland, a common or dominant species, also in dry woodland, *Combretum* wooded grassland, bushed grassland, often on lava (Kenya, 1-1800 m); 1-2500 m alt. – Subsp. **detinens**: scattered distribution, local, nowhere common, in patches of few individuals; in pans or calcareous clayrich depressions on Kalahari sand; preferring calcareous soils; also in sites of old disturbance; sometimes thicket forming (“a vicious plant to get caught in”; Timberlake & al., Zimbabwe); 210-1370 m alt. (Fl. Zambes. area).

Egypt; Namibia, Caprivi Strip, S. Africa, Botswana; SW Arabia.

Comprises 2 subspp.: – subsp. **detinens** (Burch.) Brenan (syn.: *A. tenax* Marloth) with fewer pinnae and larger leaflets, in S part of range; in Tanzania where the 2 subspecies meet, intermediates occur, difficult to refer to with certainty.

A. moggii Thulin & Tardelli

syn.: *A. unispinosa* sensu Chiov., Fl. Somal. 1: 169, 1929, quoad specim. Puccioni & Stefanini 236, non sensu orig. (= *A. senegal*).

ACACIA MOGGII

Shrubby spreading tree to 6 m; stipules not spinescent, deciduous; prickles hooked downwards, short, single; leaves small; flowers pink, in short spikes; pods small, rounded, 1-2-seeded.

Acacia-Commiphora bushland on limestone hills; 150-325 m alt.

Only known from Hiiraan region (Somalia, C2).

A. montigena Brenan

syn.: *A. silvicola* Gilbert & Boutique p.p. quoad specim. Michelson 725, Lebrun 3897; *A. monticola* Brenan & Exell 1957, nom. illegit., non J. M. Black 1937.

Scandent shrub 7.5-30 m tall; young branchlets blackish, fulvous-pubescent, glandular; stipules not spinescent, deciduous; prickles small, recurved, arising from longitudinal bands along the internodes; leaflets 35-46 pairs per pinna; flowers cream, in heads on pyramidal panicles.

Upland rain-forest, riverine forest; 1000-2130 m alt. (1150-2100 in Ethiopia).

Related to *A. pentagona* (pods indehiscent), *A. kamerunensis* (with narrower pods).

A. nebrownii Burt Davy – Icon.: Timberlake & al., o.c.: 89, 1999; N. Smit, Guide Acacias S. Africa: 29-31, 1999.

syn.: *A. rogersii* Burt Davy; *A. glandulifera* Schinz 1900, nom. illegit., non S. Wats. 1890; *A. walteri* Suesseng. 1953, nom. illegit., non Maiden & Blakely

Many-stemmed shrub 1-3 m tall, or slender open tree to 5 m; bark smooth; young branchlets orange-brown to purplish with a grey-translucent peeling epidermis; stipules spinescent, long (6 cm), slender, straight, in pairs; leaves small, clustered in the axils with a single (-2-3) pair(s) of pinnae; flowers bright yellow, in heads; pods small, curved, glandular, dehiscent.

Stunted mopane-*Commiphora* savanna on rocky slopes on fine-grained possibly acid Karroo sediments; or on calcareous clays and floodplains with *A. mellifera* subsp. *detinens*, *Terminalia*; sometimes forming thickets in grassland close to major drainage lines; locally common; 550-910 m alt.

Namibia, Botswana, S. Africa (N Transvaal).

A. negrii Pichi-Serm.

Shrub or tree to 6(-10) m tall; crown umbrella-shaped; epidermis of older branchlets exfoliating in thin yellowish flakes; stipules spinescent, straight, 0.5-8.5 cm long, with a longitudinal furrow above; flowers pinkish-white, in heads; pods oblong, woody, venose, dehiscent, with very small seeds.

Upland wooded grassland; 2000-3100 m alt.

A. nigrescens Oliv., incl. var. *pallens* Benth., var. *pallida* Eyles nom. nud. and var. *nigrescens* (Young). – Icon.: Timberlake & al., o.c.: 90, 1999; N. Smit, Guide Acacias S. Africa: 159-161, 1999.

syn.: *A. brosigii* Harms; *A. perrotii* Warb.; *A. passargei* Harms; *A. pallens* (Benth.) Rolfe; *A. schliebenii* Harms; *Albizia lugardii* N. E. Br.

Tree 4-16-30 m with rounded crown; branches ascending, spreading; young plants with long cylindrical profile; trunk 50-75 cm Ø, beset with large raised knobs with a hooked prickle on top

ACACIA NIGRESCENS

(often absent in old trees), bark fissured sometimes showing a yellowish underbark; young branchlets thin with long distance between nodes; stipules not spinescent, soon deciduous; prickles strongly hooked, in pairs; flowers white, sweetly scented (reddish in bud), in long spikes (1-10 cm).

Woodland, bushland, wooded grassland, often near rivers and drainage lines; rarely on sandy soils, rocky hillsides on shallow soils, on alluvial soils in valleys; occasionally dominant (Zimbabwe); common on soils derived from basalt, gneiss and basement complex, uncommon on granite soils; 240-1160 m alt. (E. Africa); 40-1610 m (Fl. Zambes. area).

Little variable: generally glabrous, but occasionally puberulous to pubescent.

Namibia/Capri Strip, Botswana.

Confusion possible with *A. mellifera*, *A. goetzei*, *A. burkei*, although distinctive (thorns on large knobs of trunk). Sometimes flowering when leafless (confusion possible with *A. galpinii*). – Sterile specimens of *Entada rotundifolia* are similar.

Economically important species (strong timber). Indicator of good ranching country and fertile soils.

A. nilotica (L.) Willd. ex Del., excl. subsp. *adstringens* (Schumacher & Thonn.) Roberty var. *kirkii* (Oliv.) Roberty p.p. (= *A. kirkii*). – Icon.: Timberlake et al., o.c.: 95, 1999.

bas.: *Mimosa nilotica* L.

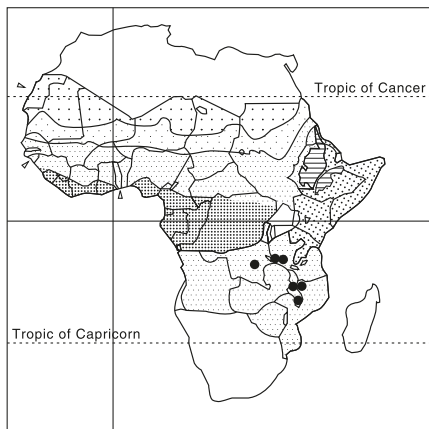
syn.: *Mimosa scorpioides* L.; *M. arabica* Lam.; *Accacia arabica* (Lam.) Willd.; *A. vera* Willd. 1806, nom. illegit., non Garsault 1764; *A. arabica* var. *nilotica* (L.) Benth.; *A. aegyptiaca* Baillon; *A. nilotica* var. *genuina* O. Kuntze and var. *typica* Fiori; *A. scorpioides* (L.) W. F. Wight in adnot. incl. var. *nilotica* (L.) A. Chev. – All of subsp. **nilotica**.

Tree (1, 2-)3-15 m, with flattened or rounded crown; stem short, 20-30 cm Ø, or more; bark longitudinally fissured, neither powdery nor peeling; young branchlets sometimes with glands; stipules spinescent, straight or deflexed, in pairs; flowers bright yellow, in heads; pods indehiscent, very variable in form: margins ± entire to deeply constricted between each seed. – A beautiful tree when flowering.

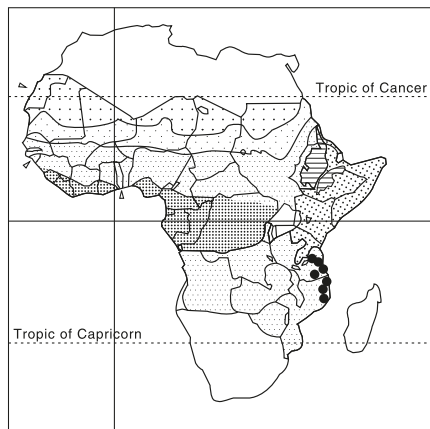
Habitats very variable. Woodland, river banks, 600-1100 m alt. (subsp. **nilotica**, Ethiopia, Sudan). – Wooded grassland, deciduous and semi-evergreen bushland, dry scrub with trees, valley scrub, semi-desert grassland, woody grassland on gravelly soil, forming thorn thickets with *Commiphora africana*, *Grewia* spp., *Vepris* sp., *Xanthoxylum chalybeum*, *Maerua pseudopetalosa*, on termite mounds and other nutrient-rich sites, along drainage lines; 1-2300 m alt. (subsp. **subalata**, subsp. **kraussiana**). – *Acacia* grassland near the coast, also woodland, scrub; 1-50-1700 m alt. (50-1400 m in Somalia, 1100-1700 m in Ethiopia; 1-50 m in Kenya; subsp. **leiocarpa**). – Banks of seasonal rivers, valleys on alluvial light soil, seasonally flooded edges of marshes, wadis and rivers on sandy-loamy soils, sometimes in old cultivations on deep soil; plants can withstand inundation for 3 or more months (subsp. **adstringens**, subsp. **tomentosa**; Mali-Niger-Chad).

Extremely variable in: shape of pods, pubescence of branchlets and pods, presence of glands on branchlets.

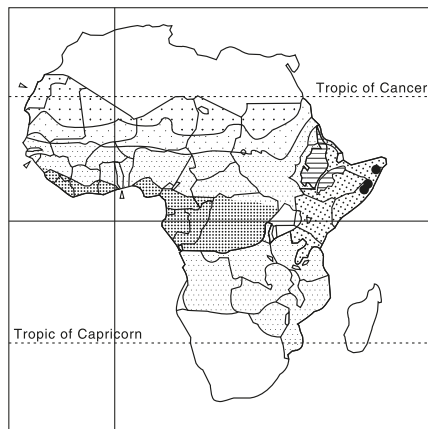
N Africa (Libya; not in Morocco = *A. gummifera* Willd., endemic); Egypt; S. Africa, Namibia, Botswana, Swaziland; Arabia, S Iran, Pakistan, India [subsp. **indica**, subsp. **adstringens**, subsp. **subalata**, subsp. **cupressiformis** (J. L. Stewart) Ali & Faruqui, and subsp. **hemisphaerica** Ali & Faruqui (Pakistan)].



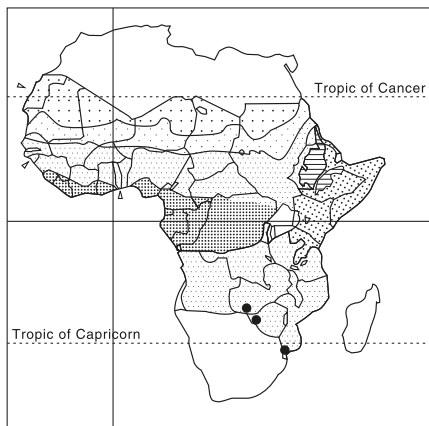
Acacia lasiopetala



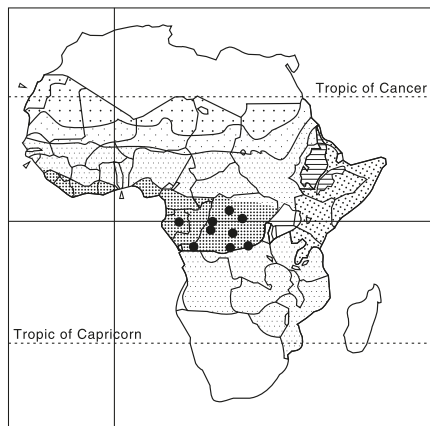
Acacia latistipulata



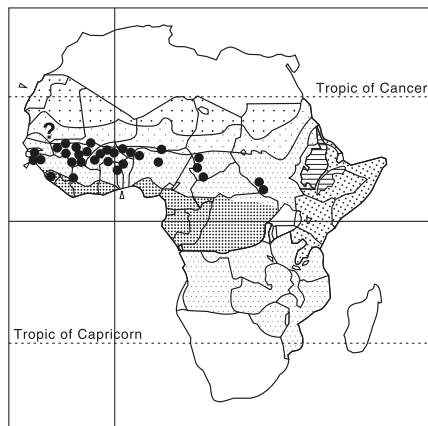
Acacia leucospira



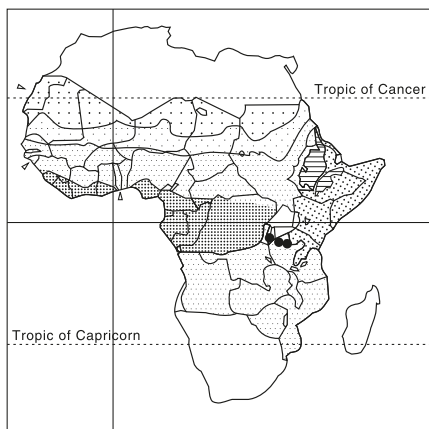
Acacia luederitzii



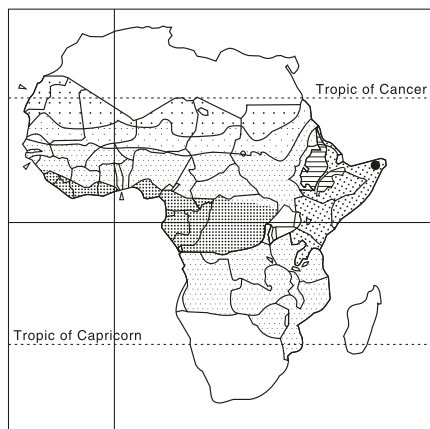
Acacia lujae



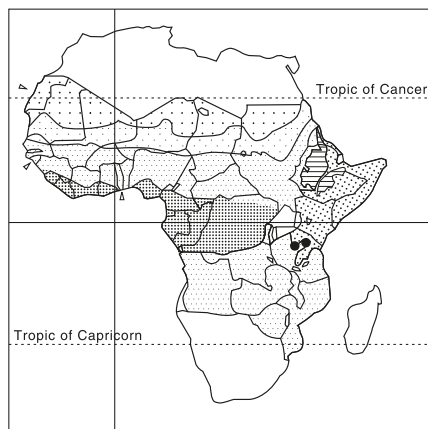
Acacia macrostachya



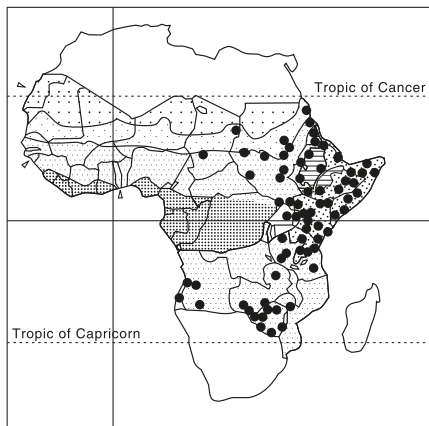
Acacia malacocephala



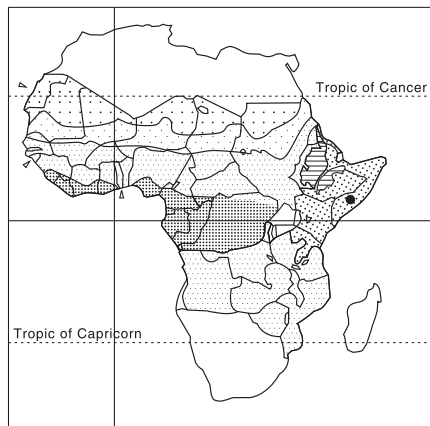
Acacia manubensis



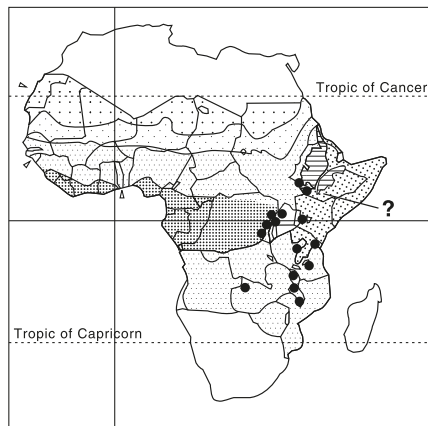
Acacia mbuluensis



Acacia mellifera



Acacia moggii



Acacia montigena

ACACIA NILOTICA

Comprises 7 subspp. in Africa (9 in all): – [subsp. **indica** (Benth.) Brenan native of India only (introduced in tropical Africa, e. g. Ethiopia, Tanzania, Zanzibar; Angola)]; – Subsp. **adstringens** (Schumach. & Thonn.) Roberty [syn.: Enum. 2: 26, 1992; *A. scorpioides* var. *adstringens* (Schumach. & Thonn.) A. Chev.; *A. arabica* var. *adstringens* (Schumach. & Thonn.) Bak. f.; *A. nilotica* var. *adstringens* Chiov.; *A. adstringens* (Schumach. & Thonn.) Berhaut 1954, nom. illegit., non Mart. 1823]; in N part of range; – subsp. **kraussiana** (Benth.) Brenan [syn.: Enum. 2, l.c.; *A. benthamii* Rochebr. 1898, “benthamiana” sphalm.), nom. illegit., non Meisn. 1844]; in S part of range; variable, occupying a diverse range of habitats; often difficult to distinguish from subsp. **subalata**; – subsp. **leiocarpa** Brenan in NE part of range; – subsp. **nilotica**; – subsp. **subalata** (Vatke) Brenan [bas.: *A. subalata* Vatke; syn.: ? *A. taitensis* Vatke], in NC part of range; – subsp. **tomentosa** (Benth.) Brenan [syn.: Enum. 2, l.c.; *A. nebebe* Adans.; *A. neboueb* Baillon], in N part of range.

Subsp. **indica** cultivated, sometimes naturalized; subsp. **adstringens** also introduced as a shade tree; subsp. **subalata** also cultivated and naturalized in SW Madagascar. Used in reforestation, and as field enclosures; pods in tanning (known since Antiquity).

WARDILL, T.J. & al. (2005). The importance of species identity in the biocontrol process: identifying the subspecies of *Acacia nilotica* (Leguminosae: Mimosoideae) by genetic distance and the implications for biological control. *J. Biogeogr.* 32: 2145-2149 [with 2 maps.].

A. ochracea Thulin & A. S. Hassan

Tree to 6 m; crown large, flattened; bark yellowish, flaking; stipules not spinescent; prickles solitary or in threes, hooked downwards; flowers cream in spikes; pods straight, densely pubescent.

Acacia-Commiphora bushland, in shallow soil over limestone; 200-450 m alt.

A. oerfota (Forssk.) Schweinf., incl. var. *nubica* (Benth.) Fiori and var. *erythraea* (Schweinf.) Fiori

bas.: *Mimosa oerfota* Forssk.

syn.: *A. nubica* Benth., incl. var. *erythraea* Schweinf., var. *aethiopica* Schweinf.; *A. gorinii* Chiov.; *A. aucheri* Benth.; *A. pterygocarpa* Hochst. ex Benth.; *A. virchowiana* Vatke & Hildebr. p.p. quoad legumina tantum; *A. merkeri* Harms (all of var. **oerfota**).

Shrub (or small tree) 1-5 m tall, branching from the base, often much spreading; bark green below, whitish-green above; epidermis on young branchlets not peeling; stipules spinescent, straight, in pairs; leaves small; flowers white to greenish, in heads; pods pale brown, coriaceous, narrow, dehiscent, usually with narrow flat wing-like margin (lacking in var. **brevifolia**). – Branches when freshly cut have foetid or garlic smell.

Dry (open) deciduous bushland, dry scrub with trees, semi-desert scrub and bushland; *Balanites aegyptiaca*-*Acacia tortilis* savanna; 0-1600 m alt. (600-1370 m in Ethiopia); dry *Acacia* bushland, often common or locally dominant where overgrazing takes place, *Acacia* grassland, lava crevices, scrub desert (Kenya, 200-1400 m); also in saline soils (var. **brevifolia**, Somalia, 0-1200 m alt.).

Variable in: length of stipular spines, size of leaves, shape of pods.

Egypt; through Arabia east to S Iran; India (M. Singh & A. K. Shrivastava in Ind. J. Forest. 25: 201-204, 2002).

ACACIA OERFOTA

Comprises 2 vars.: – var. **brevifolia** Boulos (syn.: *A. sarcophylla* Chiov.) in Somalia, Socotra, Arabia.

The hybrid “*A. nubica*” x *A. paolii* is recorded from N Kenya, in *Commiphora-Acacia* deciduous bushland, 760 m alt.

A. ogadensis Chiov.

Small tree to 5 m, with whip-like stem; stipules not spinescent, soon deciduous, prickles in threes, the central one hooked downwards, the 2 laterals spreading at right angles to the stem; leaves with 1 pair of pinnae, 2-4 pairs of leaflets; flowers lilac or red, in spikes (5,5 cm); pods straight, densely puberulous, dehiscent.

Bushland on limestone; 160-1000 m alt. (Somalia), c. 500-1250 m (Ethiopia); limestone slopes with *Acacia-Commiphora* bushland, once found (at Ramu, 400-500 m) in Kenya.

A. origena Hunde

syn.: Specimens from Eritrea formerly cited (by Chiovenda) as *A. abyssinica*, and *A. near negrii* (Ross 1979: 136).

Tree 5-11 m; young branchlets pale yellowish-greenish-brown, epidermis on older ones flaking; stipules spinescent, straight, slender; flowers cream, in heads; pods straight, pubescent, glandular, dehiscent.

Upland wooded grassland; 1700-2600 m alt.

Yemen.

Near *A. abyssinica* and *A. negrii*.

A. paolii Chiov.

Spreading shrub 0,5-4,5 m tall with flattened crown, and branching from the base; or sometimes small tree to 5 m; bark dark green, smooth; young branchlets olive-grey-brown, hairy (hairs golden when young); stipules spinescent, straight, 5 cm long, in pairs; leaves spreading-hairy; flowers white, in heads; pods ± falcate, long, narrow, whitish-hairy, dehiscent. – Often leafless when in flower.

Wooded grassland, dry deciduous bush, *Acacia-Commiphora* bushland; short grass savanna; dwarf shrub grassland; often gregarious and locally dominant; often on alluvial or colluvial soils; 100-1250 m alt. (125-300 m in Somalia, Ethiopia).

Variable in type of indumentum, number of leaf pinnae, shape of pods.

Comprises 2 subspp.: – subsp. **paucijuga** Brenan in Kenya, possibly Ethiopia (syn.: *A. sp. B* sensu Brenan in Fl. Trop. E. Afr., Legum.; – Mimos.: 131, 1959). Intermediates between the subspecies in Kenya. According to Beentje (1994: 263), there is no reason to maintain them as separate.

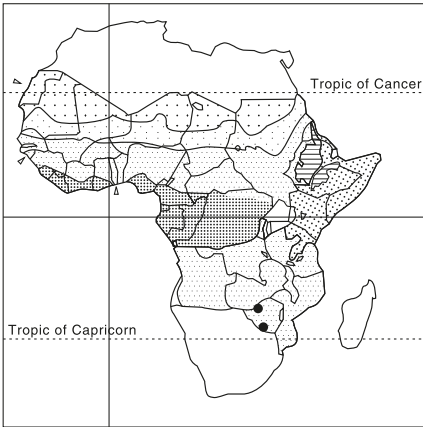
Hybridizes with *A. oerfota* (“nubica”).

Distinctive species by its long narrow white-hairy pods.

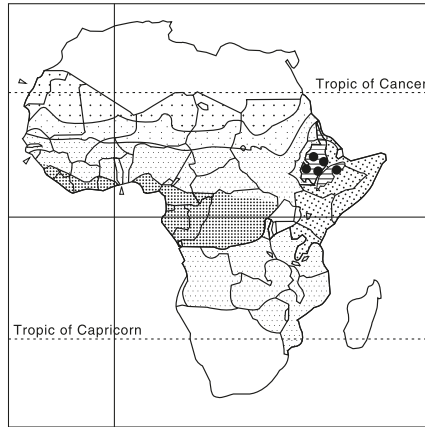
A. pentagona (Schumach.) Hook. f. – Icon.: Timberlake & al., o.c.: 99, 1999.

bas.: *Mimosa pentagona* Schumach.

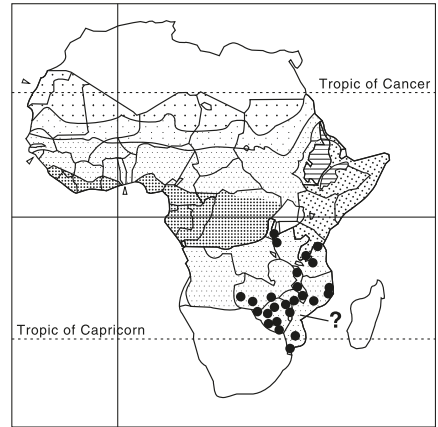
syn.: Enum. 2: 26, 1992; *A. pennata* (L.) Willd. var. *dolichosperma* Oliv.; *A. silvicola* Gilbert & Boutique (in Fl. Congo Belge... 3: 155, 1952 p.p. excl. specim. Louis 123b, 1937 and 9173, Lebrun 3197, Gillardin 350), sed incl. holotypum (Louis 6978), (cf. under *A. kamerunensis*, *A. montigena*); *A. pennata* auctt., non (L.) Willd., e.g. sensu Keay in Fl. W. Trop. Afr., Ed. 2, 1: 500, 1958, p.p. quoad specim. Colenette 10 and Maitland 658.



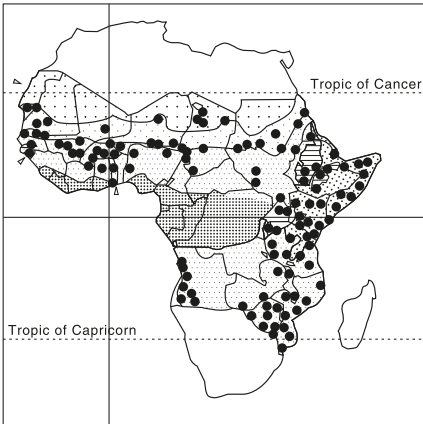
Acacia nebrownii



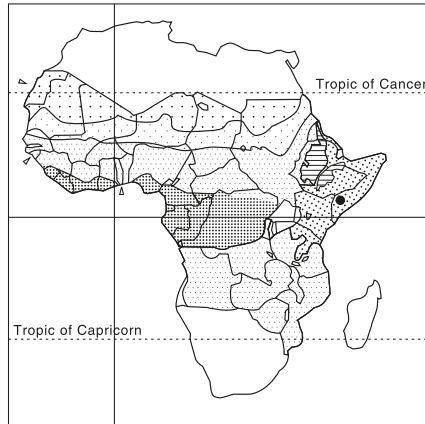
Acacia negrii



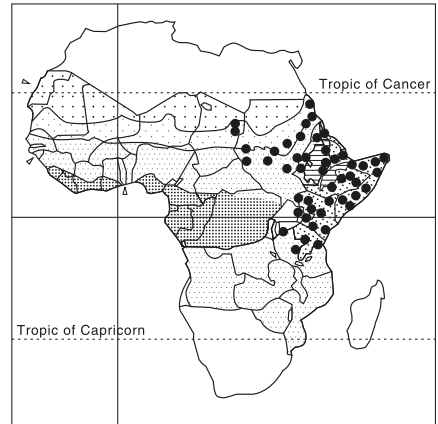
Acacia nigrescens



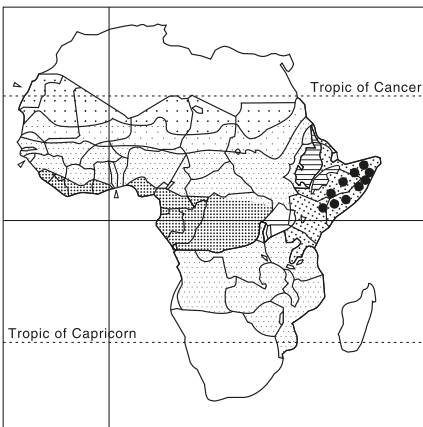
Acacia nilotica



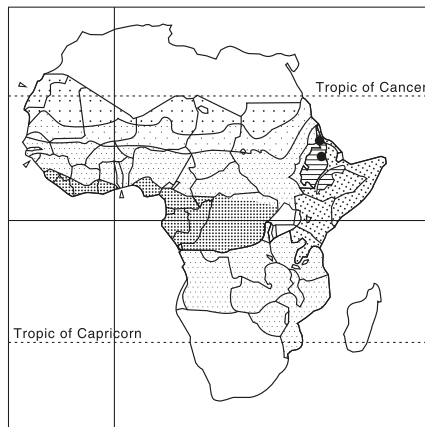
Acacia ochracea



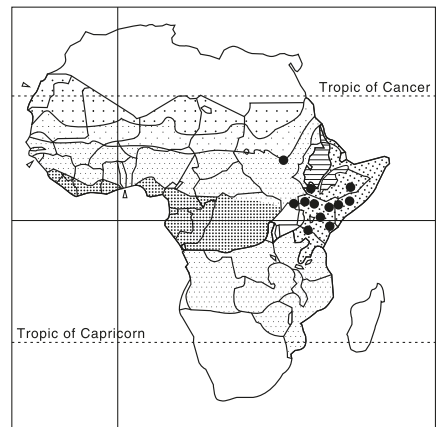
Acacia oerfota (= *A. nubica*)



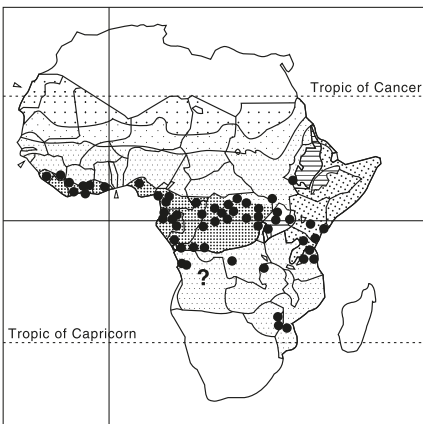
Acacia ogadensis



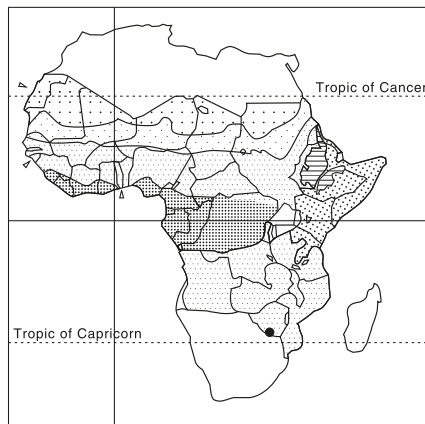
Acacia origena



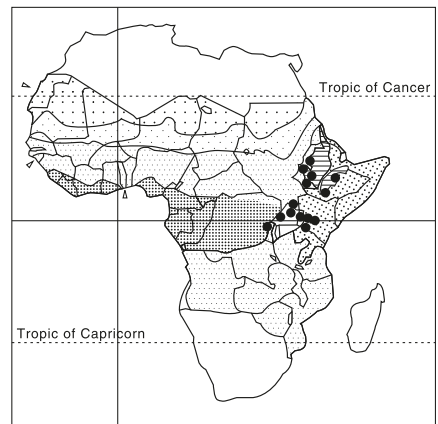
Acacia paolii



Acacia pentagona



Acacia permixta



Acacia persiciflora

ACACIA PENTAGONA

Liane 9-12-30 m tall, or a creeper or scandent shrub in forest undergrowth; stems 5-ribbed, 10-15 cm Ø; young branchlets red-brown to purple, mostly eglandular; stipules not spinescent; prickles small, hooked, arising from longitudinal bands along the internodes; leaves large (25 × 15 cm); flowers cream, in paniced heads; pods large, thick, hard, indehiscent, with thickened margins.

Lowland rain-forest, swamp and riverine forests; in deep shade and in forest clearings; high-rainfall savanna by river banks (S Sudan); evergreen and groundwater forest; secondary formations (Gabon); in very dense thickets or in primary forest, one of the mightiest of the climbers, or decumbent over rocks and decking these, abundant (Angola); 1-1530 m alt.

S. Tomé, Principe; Bioko/Fernando Poo; E and EC Madagascar.

Whithout pods, can be confused with *A. montigena*, *A. kamerunensis*, *A. schweinfurthii*, *A. ciliolata*, *A. taylorii*. Reported not to nodulate or fix nitrogen.

A. permixta Burt Davy, p.p. excl. var. *glabra* Burt Davy (= *A. tenuispina*). – Icon.: Timberlake & al., o.c.: 101, 1999; N. Smit, Guide Acacias S. Africa: 33-35, 1999.

Shrub (1-2)3-3 m tall, often multi-stemmed, or small tree; stems red-brown, unusually thick; young branchlets rusty-red, spreading-hairy with conspicuous white lenticels and red glands, older ones with splitting epidermis to show reddish underlayer; stipules spinescent, long, straight, whitish as if whitewashed, in pairs; leaves yellow-green, small (2 × 2 cm), clustered at nodes; flowers bright yellow in scattered heads; pods small, curved, red-glandular, dehiscent.

Dry rocky hills and ridges on shallow gravelly basaltic soil, sometimes with *Commiphora* (stunted) mopane and *Combretum* shrubs, often on old disturbed land; very localized, forming small clumps (an old introduction in SW Zimbabwe?).

SE Botswana, NE S. Africa.

A. persiciflora Pax

Tree 3-9(-15) m, sometimes flat-crowned; bark brown-yellow-dark grey, rough, scaling off in strips; young branchlets pubescent; stipules not spinescent, soon deciduous; prickles recurved, small, usually in pairs, sometimes absent; young leaves with dense yellow indumentum; flowers with red-purplish calyces and corollas contrasting with the yellowish-white stamen-filaments; pods large, oblong, straight, glandular, dehiscent.

Woodland, wooded grassland with *Combretum molle*, *C. collinum*, *Entada abyssinica*, *Erythrina abyssinica* and *Pennisetum purpureum*, *Hyparrhenia rufa* dominant; wooded grassland with bracken (S Sudan-Uganda); savanna on quartzite soil (E Zaire); tall grass savanna; singly or gregariously; 1220-2130 m alt. (1700-2100 m in Ethiopia).

Related to *A. galpinii*.

A. petrensis Thulin, Kew Bull. 58: 495 (2003). – Icon.: *ibid.*: 497.

Slender tree 2-4 m; crown somewhat flattened to ± rounded; bark yellow-brown, peeling in papery flakes; young branchlets angular, lenticellate, with network-cracking epidermis; stipules not spinescent; prickles in threes, spreading, somewhat hooked, sometimes solitary; leaves small, with 1-2 pairs of pinnae; flowers probably white (in dry state), in spikes; pods oblong, compressed, dehiscent; mature seeds unknown.

ACACIA PETRENSIS

Open bushland-woodland, on limestone slopes, often on rocks and huge boulders; locally common with *Boswellia sacra*; 850-1200 m alt.

Known only from the escarpment facing the Gulf of Aden (Sanaag region, Somalia).

Closely related to *A. ochracea* (S Somalia) and *A. mahrana* Thulin & Gifri (“sister” species from Yemen) of the *A. senegal* complex.

A. pilispina Pichi-Serm.

Shrub or tree (1-)5-15 m tall, with flattened or spreading crown; young branchlets red-brown, densely long grey-hairy (or yellowish), epidermis falling off to show yellow or greenish powdery underbark; stipules spinescent, mostly short, but sometimes to 5 cm long, ± straight, hairy, in pairs; leaves spreading-hairy; flowers cream, in heads.

Wooded grassland, deciduous woodland, on alluvial or colluvial soils on margins of rivers, streams, swamps, edges of river floodplains and grassy valleys (dambos); occasionally on termite mounds in *Brachystegia-Julbernardia* woodland; upland bushland; 1220-3100 m alt.

Variable in width and length of pods and number of leaf pinnae.

A. xanthophloea has a similar powdery yellow underbark on twigs.

[A. podalyriifolia G. Don] – Pearl Acacia, Queensland Wattle. – Icon.: Timberlake & al., o.c.: 143, 1999.

Shrub or small tree to 3-6 m tall; young branchlets and leaves densely pubescent; leaves phyllodic, simple; flowers yellow in panicle heads; pods flattened, dehiscent.

Native of E Australia.

Grown as an ornamental; naturalized locally in Zaire, SE Africa.

A. polyacantha *subsp. campylacantha* (Hochst. ex A. Rich.) Brenan. – Icon.: Timberlake & al., o.c.: 103, 1999.

bas.: *A. campylacantha* Hochst. ex A. Rich.

syn.: Enum. 2: 26, 1992; *A. erythrantha* Steud. ex A. Rich.; *A. caffra* sensu Oliv., F.T.A. 2: 345, 1871, p.p. quoad specim. Angol.; *A. pallens* sensu Steedman, Trees... S. Rhodes.: 14, pl. 8, 1933, non Rolfe

Tree 3,5-20(-25) m; crown open, layered, flatter with age; trunk 50-70 cm Ø and 1,5 m in girth, clear for 10 m or more; bark whitish to yellowish or grey, fissured, peeling off in papery flakes to show whitish underbark; stipules not spinescent; prickles characteristic, hooked, sometimes large and broad-based, in pairs just below each node, also persisting on raised woody bosses on the trunk; young shrubs very thorny, older trees sometimes nearly thornless; leaves large, with small prickles; flowers cream in long (5-12 cm) spikes appearing with the leaves; pods straight, flat, borne in profusion, dehiscing on the tree.

Wooded grassland, deciduous woodland and bushland, open woodland with good grass cover; riverine and ground water forest; forest galleries, fringing forest, often near swamps; borders of forest areas; thickets on gritty, clayey soils; also on poor rocky soil; pioneer species often found in fallow fields, disturbed sites, on red or black clay soils under moderate rainfall conditions; also on alluvial clay soils near watercourses, on vlei margins; occasionally on sandy alluvium; often common or dominant, especially along rivers (S Sudan-Uganda); often in areas with impeded drainage; in rich alluvial valleys with *Faidherbia albida*, *Kigelia*, *Ficus sycomorus*; indicator of fertile soil for tobacco and cotton (E. Africa); weedy and invasive; 0-1830 m alt.

ACACIA POLYACANTHA SUBSP. CAMPYLACANTHA

Some variation occurs in number of pairs of leaf pinnae (6-60), the larger leaves are likely to have 15-20 or more pairs.

S. Africa (Transvaal), Botswana – Subsp. **polyacantha** in India, ? Sri Lanka.

Very fast growing tree, short-lived (30-40 years); readily raised from seed; sensitive to cold and frost. Tree with many uses.

Similar to *A. galpinii*; differs in having a flattened oblong gland at base of petiole. Can be mistaken for *A. sieberiana* at a distance.

A. prasinata Hude

Tree to 6 m; branches spreading, crown rounded; branchlets finely longitudinally ribbed; stipules spinescent, mostly short, sometimes to 4 cm long; leaves sometimes borne on scaly cushion-like short shoots; flowers pale-yellow to whitish, in heads.

Dry woodland, semi-desert bushland, with *A. senegal*, *Balanites*, *Dobera*, in undulating hilly country on thin volcanic soil with sparse ground vegetation; (500-)900-1300 m alt.

Similar to *A. etbaica* (pods), but differs in having larger leaflets, prominently veined on both sides, and longer widely spaced pinnae.

Only known from the Awash Valley (Ethiopia).

A. pseudofistula Harms

syn.: *A. formicarum* sensu B. D. Burtt (J. Ecol. 30: 96, 143, t. 16, photo 29, 1942), non Harms

Shrub or small “columnar” tree with 1-3 main stems, 1,8-6(-9) m tall with horizontal branches all the way up the stem(s); young branchlets grey-puberulous, epidermis flaking off to show rusty-red underbark; stipules spinescent, straight, whitish, in pairs, some basally fused into round blackish “ant-galls”; leaves long feathery, fresh-green; flowers cream, in heads; pods falcate, grey-puberulous, acute at both ends, dehiscent.

Shrub or dwarf-tree grassland, on black valley soils; locally gregarious and abundant; 900-1500 m alt.

Habit of trees influenced by fires, severe fires producing narrow pole-like trees with stubby lateral branches; less severe ones producing irregular bushy trees.

A. pseudonigrescens Brenan & J. H. Ross

Slender tree, unarmed, to 5 m; bark smooth, grey, powdery; stipules not spinescent, soon deciduous, prickles absent; leaves with 1 pair of pinnae and 2 pairs of leaflets per pinna, obliquely obovate, 18-35 × 11-31 mm; flowers yellowish-white, in spikes; pod unknown.

Limestone and gypsum hillocks covered with predominantly succulent shrubs; c. 300 m alt.

Only known from the type (M. G. Gilbert 2129) collected in 1971. May well occur in Somalia.

A. qandalensis Thulin – Icon.: Nord. J. Bot. 18: 514, 1998; Thulin, Fl. Somal. 2: 288, 1999.

syn.: *A. sp.* (1) cited under *A. etbaica* in Thulin, Fl. Somal. 1: 381, 1993.

Slender tree to 4 m, with a distinct trunk; bark brownish-yellow peeling in papery flakes; stipules spinescent, slender, straight; flowers whitish, in pedunculate heads; pods straight, oblong, soon dehiscent.

Open bushland on or among limestone rocks (escarpment); often locally dominant in exposed places; 600-1400 m alt.

ACACIA

A. quintanilhae Torre

Shrub or tree to 4 m tall; stipules spinescent, in pairs, slender, straight or ± curved or deflexed; flowers bright yellow, in solitary or paired heads on long peduncle (2 cm).

Ecology unknown.

Resembling superficially *A. farnesiana* (introduced).

A. reficiens Wawra

syn.: Enum. 2: 27, 1992; *A. uncinata* Engl. 1888, nom. illegit., non Lindl. 1830; *A. luederitzii* Engl. p.p. quoad specim. Marloth 1270, excl. lectotypum. – All of subsp. **reficiens**.

Obconical shrub 1-6(-7) m tall branching from near the base, or tree with flattened or somewhat rounded spreading crown; young branchlets grey or red-brown-purple, sometimes as though white-washed over a reddish background; stipules spinescent, short, strongly hooked, in pairs, or occasionally (subsp. **reficiens**) with a few straight spines to 7 cm long intermixed; flowers cream, in heads. – Rarely flowering when leafless.

Dry scrub, semi-desert scrub with trees; *Acacia-Commiphora* bushland; on silty alkaline soils on river banks in tall grass savanna, open deciduous bushland (S Sudan); dry *Acacia* bushland often associated with *Balanites*, *Grewia* or succulent *Euphorbia*, locally common (Kenya); 50-1450 m alt. (c. 500 m in Ethiopia).

Namibia. Disjunct distribution, similar to that of *A. amythephylla*.

Comprises 2 subspp.: subsp. **misera** (Vatke) Brenan (syn.: *A. stefaninii* Chiov.) in E part of range; subsp. **reficiens** in Angola, Namibia.

Closely related to *A. etbaica* and to *A. luederitzii*. The name *A. reficiens* has sometimes been used to cover *A. luederitzii*.

A. rehmanniana Schinz. – Icon.: Timberlake & al., o.c.: 107, 1999; N. Smit, Guide Acacias S. Africa: 75-77, 1999.

Tree 8-12 m, with spreading rounded or flattened (in old trees) crown, or shrub; stem 15-20 cm Ø; bark conspicuously powdery orange to reddish on young trees and on branches of older ones, dark brown to black on the trunk; young branchlets spreading golden-hairy, the velvety layer splitting up to show orange-rusty red underbark; stipules spinescent, in pairs, long, straight; flowers cream, in peduncled heads.

Wooded grassland, open woodland, bushveld; often near rivers or streams, sometimes on termite mounds; locally common but rarely abundant, often associated with other *Acacia* species; on clay-rich soils, red clays and loams derived from the Basement Complex; if found on sand it is rooted into a clay layer; 910-1520 m alt.

Botswana, S. Africa (Transvaal).

Easily confused with *A. sieberiana*, *A. abyssinica*, both larger trees.

Resistant to some arboricides (unusual!).

Record from S Zambia (Choma) doubtful (fide Timberlake & al., l.c.).

A. robusta Burch. – Icon.: Timberlake & al., o.c.: 109, 113; N. Smit, Guide Acacias S. Africa: 95-101, 1999.

Tree (2-)5-8 m (subsp. **robusta**) to (5-)10-25-30 m (subsp. **usambarensis**) with ascending branches; trunk short to medium-sized, 20-50(-70) cm Ø; crown irregularly rounded (subsp. **clavigera**) or flattened-spreading (subsp. **robusta**); bark grey to blackish, rough,

ACACIA ROBUSTA

fissured; young branchlets eglandular, smooth, *not* flaking off to show rusty-red underbark; stipules spinescent, short, but sometimes to 7-12 cm long (subsp. **robusta**), straight, in pairs; leaves tufted, borne on distinct “cushions”; flowers white, in heads.

Riverine and ground-water forest, riverine woodland, often with other *Acacia* species, but also in stands along larger drainage lines and around pans; on old alluvium in mopane woodland; sometimes as a minor component of dry forest on heavier-textured soils; occasionally forming a woodland of tall spindly trees probably as a result of former clearing, considered as “sacred forests” locally (cf. Timberlake & al., o.c.: 108, 1999); 20-1100 m alt. (frostfree lower altitudes) [subsp. **clavigera**]. – Riverine woodland, wooded grassland, bushland, forest, or on badly drained soil (high ground water level); 0-1450 m alt. (50-500 m in Somalia, 500-1450 m in Ethiopia, 10-250 m in Mozambique) [subsp. **usambarensis**]. – Low open *Acacia* woodland, on deep or stony red clay soils derived from Basement Complex or granite; individuals usually scattered, not clumped; (1070-)1300-? m alt. [subsp. **robusta**].

Very variable in: habit, size and pubescence of leaves, number of leaflets, shape of pods, size and shape of thorns.

Caprivi Strip/Namibia, Botswana, Swaziland, N and E S. Africa.

Comprises 3 subsp. (synonyms, See Enum. 2: 27, 1992): – subsp. **robusta**, a small dense tree with robust branches, large thorns and large woody pods, found at higher altitudes in SE part of range; – subsp. **clavigera** (E. Mey.) Brenan [additional syn.: *A. sambesiaca* Schinz], a tall erect riverine tree with small thorns and long thin, curved pods, occurring at frostfree lower altitudes in CS part of range; – subsp. **usambarensis** (Taub.) Brenan [add. syn.: *A. clavigera* E. Mey. subsp. *usambarensis* (Taub.) Brenan], very similar to subsp. **clavigera** (but with narrower pods) and occurring in similar habitats, found in N and C part of range (their ranges partly overlap). We agree with Timberlake & al. (o.c.: 110) that the latter 2 subsp. are probably best considered as varieties of one subspecies.

Confusions possible between subsp. **clavigera** and *A. gerrardii*, *A. karroo*, *A. grandicornuta*; subsp. **robusta** can be confused with subsp. **clavigera** (but subsp. **robusta** occurs at higher altitudes), and *A. grandicornuta*. – Subsp. **usambarensis** in Somalia has been misidentified in herbaria as *A. elatior* or *A. sieberiana*.

A. royumae Oliv. – Icon.: D. J. Du Puy & al., Leguminosae Madagascar: 240, 230, 2002.

syn.: *A. chrysothrix* Taub.; *A. morondavensis* Drake; *A. macalusoi* Mattei

Tree (10-)15-30 m, deciduous, with the old leaves retained until the new ones start to develop, with openly branched flattened crown; trunk to 1,3 m Ø, bark rough or smooth; young branchlets with short curved yellowish hairs; stipules not spinescent, soon deciduous; prickles blackish, short, straight or slightly curved; flowers yellowish-white, in spikes (6-10 cm long) produced with the new leaves; pods straight, thick, turgid, indehiscent (perhaps water-borne).

Riverine forest and woodland, saline-water swamp forest, on or near the coast; on margins of *Avicennia marina* mangroves, with *Barringtonia racemosa*, with its roots in brackish water; 1-700 m alt. (30-50 m in S Somalia, 1-200 m in Kenya).

Madagascar.

Closely related to *A. burkei*.

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[A. saligna (Labill.) H. L. Wendl.] – Icon.: B. van Wyk & al., Photographic guide to trees of southern Africa: 41, 2000.

bas.: *Mimosa saligna* Labill.

syn.: *Acacia cyanophylla* Lindl.

Unarmed shrub or tree to 10 m tall; leaves phyllodic, simple; flowers bright yellow, in heads; pods ± straight, margins slightly constricted between some of the seeds.

Native of Australia.

Introduced to medium and higher altitudes for reforestation in NE Africa. Seeds also used (floor, animal feed concentrates).

A. schlechteri Harms

? Tree; stipules not spinescent; prickles recurved, short, in pairs; flowers in short spikes; pods unknown.

Ecology unknown.

Known only from the type (Schlechter 11901) collected in 1897. According to J. H. Ross (Consp. Afr. *Acacia* spp.: 82, 1979) it is probably a local variant of *A. goetzei* subsp. *goetzei* and not worthy of formal taxonomic recognition. However, more material is needed from the type locality (Mozambique LM: Ressano Garcia).

A. schweinfurthii Brenan & Exell – Icon.: Timberlake & al., o.c.: 115, 1999; N. Smit, Guide Acacias S. Africa: 185-187, 1999.

syn.: *A. brevispica* Harms var. *schweinfurthii* (Brenan & Exell) Ross & Gordon-Gray; *A. pennata* sensu auctt. s.-afric. p.p., non (L.) Willd. s. str. (“much of what has been called *A. pennata* in tropical Africa is included here”, Ross, Consp. Afr. *Acacia* spp.: 51, 1979).

Scandent shrub to 12-14 m tall or liane to 20 m, climbing up large trees or forming thickets; stems (liane) to 5 cm Ø; or sometimes a small spreading tree; young branchlets olive-green or brown, smooth; stipules not spinescent, deciduous; prickles small, slightly hooked, scattered along the internodes, arising from longitudinal dark bands; leaves large (20x8 cm), with prickles on rachis; flowers white, in paniced heads; pods long (19 cm), large, leathery, indehiscent, transversely plicate.

Riverine woodland and forest and alluvium; sometimes on termite mounds and in woodland away from rivers; on light alluvial soils in high-rainfall savanna and rain-forests along rivers (Sudan); often locally abundant forming impenetrable thickets; 30-1460 m alt.

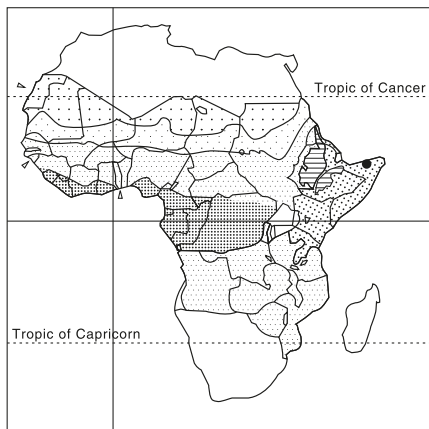
Botswana, S. Africa (Transvaal, Natal).

Comprises 2 vars., but no ecological or geographical differences seem to exist (var. **sericea** Brenan & Exell only with leaflets silky-pubescent beneath). Unlikely to be maintained (fide Timberlake & al., l.c.).

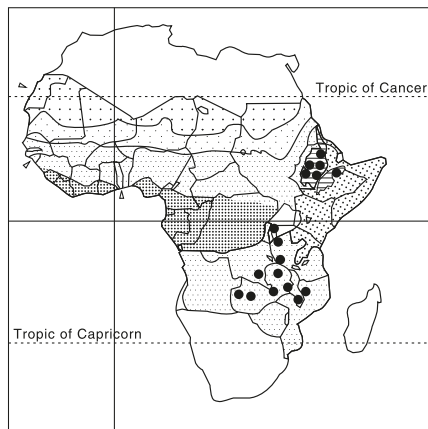
Could be confused with *Pterolobium stellatum* (*Caesalpinaceae*; with striking red winged fruits); also with *Acacia ataxacantha*, or *A. brevispica* subsp. *dregeana*.

A. senegal (L.) Willd. p.p. excl. syn. fere omnibus. – Excluded are: subsp. *glaucophylla* (Steud. ex A. Rich.) Roberty (= *A. asak*), subsp. *senegalensis* Roberty var. *samoryana* (A. Chev.) Roberty (= *A. dudgeonii*), subsp. *mellifera* (Vahl) Roberty (= *A. mellifera*), and var. *leiorhachis* Brenan (= *A. circummarginata*).

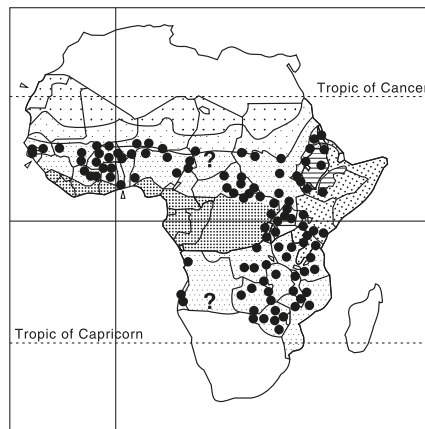
bas.: *Mimosa senegal* L. p.p. excl. syn. fere omnibus.



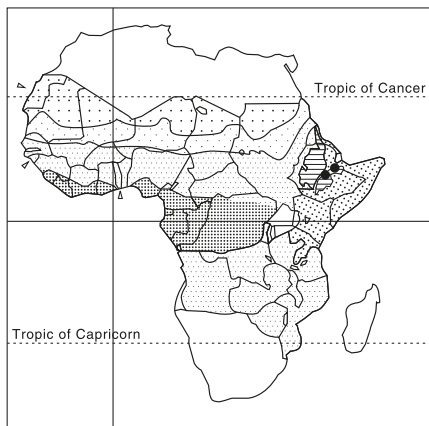
Acacia petrensii



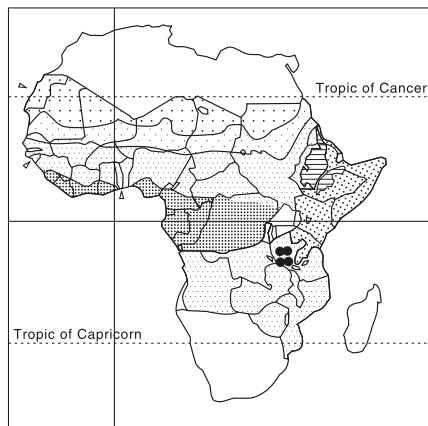
Acacia pilispina



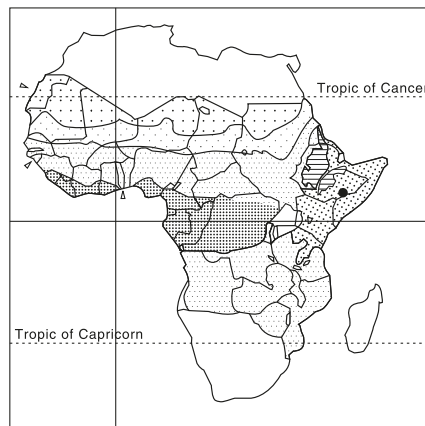
Acacia polyacantha subsp. *campylacantha*



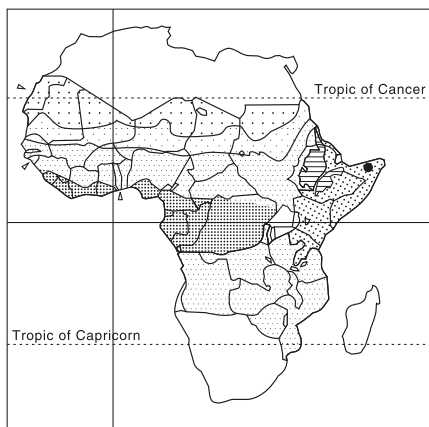
Acacia prasinata



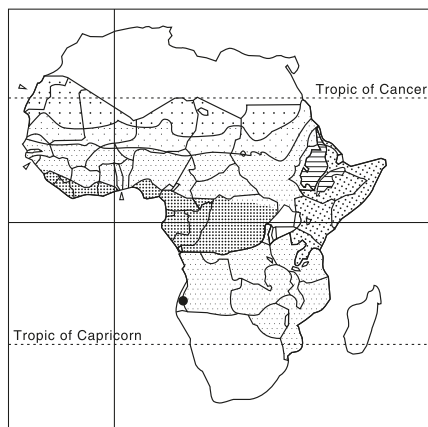
Acacia pseudofistula



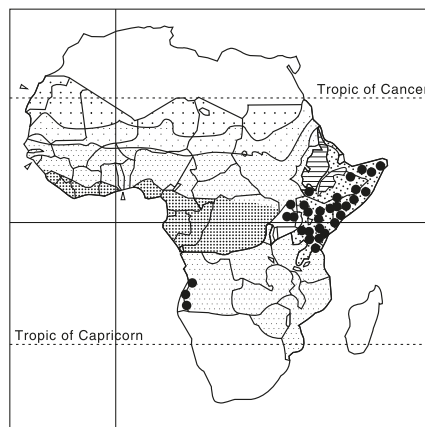
Acacia pseudonigrescens



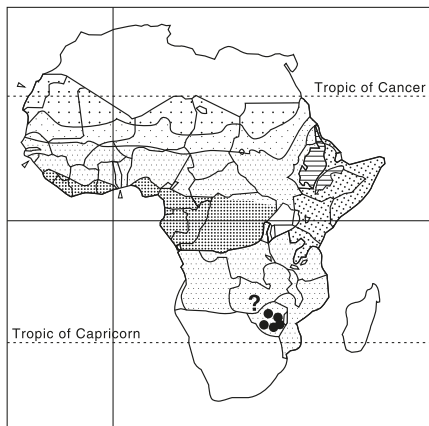
Acacia qandalensis



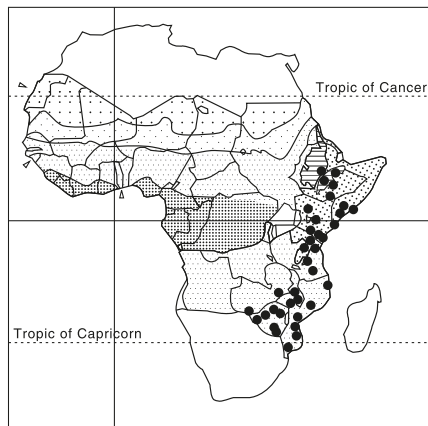
Acacia quintanilhae



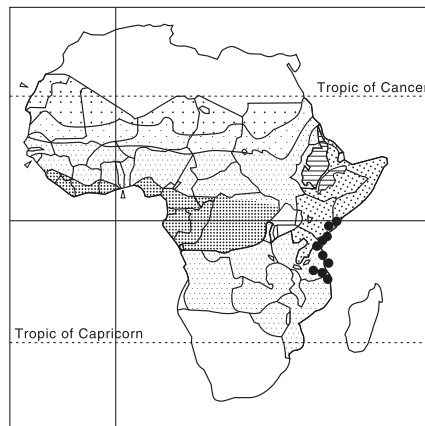
Acacia reficiens



Acacia rehmanniana



Acacia robusta



Acacia royumae

ACACIA SENEGAL

syn.: See under vars. in Enum. 2: 27, 1992; *A. oliveri* Vatke, excl. descr. leguminis; *A. asak* sensu Schweinf. 1896 p.p. tantum quoad specim. Schweinf. 538, non (Forssk.) Willd.; *A. asak* var. *unispinosa* Fiori and *A. unispinosa* (Fiori) Chiov. p.p. excl. specim. Puccioni & Stefanini 236 (= *A. moggii*); ? *A. cufodontii* Chiov.; *A. senegal* var. *rostrata* Brenan; *A. oxysprion* Chiov.; *A. senegal* var. *platysprion* Chiov.; *A. spinosa* Marloth & Engl. 1888, nom. illegit., non E. Mey. 1836; *A. trispinosa* Marloth & Engl. nom. nud. and ex Schinz 1900, nom. illegit., non Stokes 1812; *A. senegal* subsp. *trispinosa* (Stokes) Roberty p.p.; *A. volkii* Suesseng.; *A. senegal* var. *kerensis* Schweinf.; *A. senegal* var. *pseudoglaucophylla* Chiov.; *A. pseudoglaucophylla* (Chiov.) Chiov.; *A. verec* Guill. & Perr. 1832, nom. illegit. (sphalm. “verak” auct.); *A. rupestris* Stocks ex Boiss.; *A. virchowiana* Vatke & Hildebr. p.p. quoad fol. et flor. tantum; *Mimosa senegalensis* Houtt. 1774, nom. illegit., non Forssk. 1775; *A. sp.* near *A. senegal* sensu Ross 1979 (p. 58); *A. sp.* near *A. somalensis* sensu Ross 1979 (p. 64-65). – We here follow Thulin in Fl. Somal. 1: 370, 372, 1993.

Small tree 2-8-10(-15) m, or a low-branching shrub to 5 m tall; crown slightly rounded or flattened, somewhat spreading; bole short, bark greyish, rough, fissured or smooth; branchlets ± glabrous to densely pubescent; stipules not spinescent, soon deciduous; prickles in threes, the central one hooked downwards, the laterals ± curved upwards, or solitary; flowers white or cream, in long spikes (12 cm); pods straight, dehiscent, veined, ± densely pubescent, with rounded to acute apex.

Acacia-Commiphora bushland, wooded grassland, dry scrub; bushland on rocky ground or wadi bottoms; sand dunes (Mali, Niger, Chad); sandy Sahelian soils (Burkina Faso); sometimes forming thickets; on sandy and clay plains in short grass savanna, sometimes in pure stands with *A. mellifera*, locally abundant on the better drained stony basement complex soils in the higher rainfall areas, around termite mounds (Sudan); *Albizia amara* subsp. *sericocephala* woodland; colonizer of abandoned cultivated land; 0-1900 m alt.

Extremely variable species: trees or shrubs branching from near the base (= var. *kerensis*); or prostrate plants 10-15 cm tall growing on cliffs; pods acute or acuminate (= var. *rostrata*); leaves with few pairs of pinnae (= *A. oliveri*, *A. unispinosa*). Variations seem to be continuous, and intermediate forms exist.

Namibia, Botswana, Swaziland, S. Africa (Transvaal, Natal); Pakistan, India.

Grown in Sudan in special “gum gardens” for gum arabic of commerce. Elsewhere collected from wild trees. Also important tree for agroforestry systems in arid and semi-arid areas in NE Africa. Multiplied by seeds, but germination poor.

BOER, E. (2002). *Acacia senegal* (L.) Willd. In: OYEN, L. P. A. & R. H. M. J. LEMMENS, Eds., *Ressources végétales de l’Afrique tropicale. Précurseur*: 38-45. Programme PROTA, Wageningen [with map and illustration].

DIALLO, I. & al. (1998). Biologie florale et pollinisation chez *Acacia senegal* (L.) Willd. *Acta Bot. Gallica* 144: 73-82 (1997).

ICKOWICZ, A. & al. (2005). *Acacia senegal*, arbre fourrager sahélien? *Bois Forêts Trop.* 284: 59-69.

JINDAL, S. K. & MANJIT SINGH (2003). Morphological variability for seed characters in *Acacia senegal*. In: HENRY, A. & al., Eds., *Proceedings of the National Symposium on arid legumes, for food nutrition security and promotion of trade, Hisar, India, 15-16 May 2002. Advances in arid legumes research*: 155-158. Scientific Publishers (India) Jodhpur. [*Seed Abstr.* 26/12: n° 3985, p. 645, 2003.]

MARIMUTHU, R. & al. (2002). Presowing treatment with acid strongly influences germination and seedling growth of gum Arabic. *Agroforestry Today* 13(1-2): 28-29.

ACACIA

A. seyal Del., non *Mimosa sejal* Forssk. 1775 (not an *Acacia*); excl. var. *lescrauwaetii* De Wild., var. *seretii* De Wild., var. *kassonionga* De Wild., and var. *multijuga* Schweinf. ex Bak. f. (all = *A. hockii*).

syn.: Enum. 2: 27, 1992; *A. stenocarpa* Hochst. ex A. Rich.; *A. giraffae* sensu auctt. quoad specim. Sieber 45, non Willd.; *A. flava* (Forssk.) Schweinf. var. *seyal* (Del.) Roberty (all of var. **seyal**).

Tree (2-)3-12(-17) m, loosely branched, with flattened spreading crown; bark on trunk (to 60 cm in girth, 20 cm Ø) smooth, covered with a white to greenish-yellow or orange-red powdery layer disappearing with time to reveal green inner bark; young branchlets ± glabrous, red-glandular, or densely puberulous (W. Africa); epidermis of twigs conspicuously flaking off to show grey or red powdery underbark; stipules spinescent, straight, to 8 cm long, in pairs, sometimes fused basally into bilobed grey-whitish “ant-galls” to 3 cm Ø (var. **fistula**); flowers bright yellow, in pedunculate heads; pods ± falcate, long (to 22 cm), narrow, constricted between the seeds, dehiscent. – Flowers appearing shortly before the new leaves, conspicuous.

Wooded grassland, on dry cracking soils; shrub savanna; forming pure stands on dark clay soils; 1000-2150 m alt. (var. **seyal**; Sudan, Ethiopia, E. Africa); dry bushland, often with *Tarchoanthus*, common, and in grassland or woodland with *Combretum molle*, 550-2200 m (Kenya); between sand dunes, in small seasonally wet depressions, on hard-pan soil covered with silt, silty-loamy banks, cultivations (var. **seyal**; W and N Africa). – *Acacia senegal*-*A. seyal* wooded grassland, deciduous bushland, woodland, nearly always on alluvial or black cotton soils, or semi-desert scrub; 200-2000 m alt. (var. **fistula**, E. Africa).

Variable in colour of bark (also due to grass-fires). “Ant-galls” absent in var. **seyal**.

Algeria; SE Egypt; S Arabia; not in Israel. Records from C and S Somalia seem to be based on *A. zanzibarica*. Not in Centr. Afr. Rep. (= *A. hockii*).

Comprises 2 vars.: – var. **seyal** (“ant-galls” absent) in W, N and E part of range; var. **fistula** (Schweinf.) Oliv. (bas.: *A. fistula* Schweinf.) with 2-lobed “ant-galls” in E part of range, extending into SE.

McALLAN, A. & al. (1993). *Acacia seyal. A handbook for extension workers.* School of Agriculture and Forest Sciences, University of Wales, Bangor. 30 pp.

Can be confused with *A. hockii*. The hybrid var. **fistula** x *A. xanthophloea*, a tall tree with fasciculate flower heads and variable pods, has been recorded from S Malawi.

A. sieberiana DC., excl. subsp. *modesta* (Wall.) Roberty var. *laeta* (R. Br. ex Benth.) Roberty (= *A. laeta*). – Icon.: Timberlake & al., o.c.: 123, 1999; N. Smit, Guide Acacias S. Africa: 79-81, 1999.

syn.: Enum. 2: 27, 1992; *A. sing* Guill. & Perr.; *A. verrugera* Schweinf., incl. var. *africana* Defl. ?, var. *subinermis* A. Chev.; *A. blommaertii* De Wild.; *A. sieberiana* var. *sing* (Guill. & Perr.) Roberty, incl. fa. *eusieberiana* Roberty – All of var. **sieberiana**.

Tree 3-18(-25) m; branches of crown widely spreading (var. **woodi**, var. **villosa**) or ascending (var. **sieberiana**); bole thick, short, to 6 m high and to 2 m in girth, bark greyish- or yellowish-brown, rough, flaking off in small rectangular scales, or sometimes papery, to show yellowish underbark; young branchlets smooth, glabrous (var. **sieberiana**) or ± densely hairy, or with flaking outer layer; stipules spinescent, ± straight, 9(-12) cm long,

ACACIA SIEBERIANA

in pairs; flowers white or pale yellow, in solitary or fascicled heads, very fragrant (“apple blossom”) and melliferous; pods straight, long, narrow, thick-woody, slowly dehiscent.

In a variety of habitats ranging from grassland with scattered trees to open woodland (then being a large spreading tree), often in higher moisture sites (drainage lines, edges of vleis), or occasionally in waterlogged open areas, generally on nutrient-poor sandy soils and adjacent to Miombo woodland; along banks of permanent rivers (var. *sieberiana*; replacing *A. nilotica* on the white Nile banks in Sudan), riverine forest, edges of waterlogged depressions and on termitaria in such, alluvial banks; 0-2200 m alt. [var. *sieberiana*]. – Woodland, wooded grassland, banks of seasonal rivers, alluvial lowland plains, particularly riverine, slope of (laterite) hills (Mali), on sandy-clayey soils; 700-1675 m alt. (Sudan) [var. *villosa*; from W. Africa to W Sudan]. – Wooded grassland, woodland, thornveld, riverine forests on light silty soil (S Sudan), often in river flood-plains, on deep soil or shallow soil overlying shale; in rather dry thickets on hilly ground covered with thin coarsely-sandy soil in company with various Capparidaceae, and on elevated woody places, and dry dense rocky woods, and on barren slopes scattered with flint stones, sandy thickets (Angola; c. 850-1300 m); c. 700-2100 m alt. (1700-2100 m in Ethiopia, 1150-1950 in Kenya; 40-1830 m alt. in Fl. Zambes. area) [var. *woodii*, from Sudan southwards, Angola].

Very variable species, and characters often vary independently: degree of pubescence and colour of indumentum; type of bark on trunk (peeling or not); shape of crown; size of leaflets.

N Namibia, Caprivi Strip, N Botswana, E S. Africa.

Comprises 3 vars., but these are linked by intermediates.: – var. *villosa* A. Chev., from W Africa to W Sudan; – var. *woodii* (Burt Davy) Keay & Brenan [syn.: *Inga nefasia* Hochst. ex A. Rich.; *A. verrugera* Schweinf. fa. *latisiliqua* Harms; *A. katangensis* De Wild.; *A. monga* De Wild.; *A. sieberiana* var. *sing* fa. *nefasia* (Hochst. ex A. Rich.) Roberty; *A. sieberiana* var. *kagerensis* Troupin] in E and S part of range.

Can be confused with *A. rehmanniana*, *A. abyssinica* when young. Among the earliest trees to produce new leaves at the end of the dry season (Sudan), and remaining in leaf late into the dry season.

Plant with many uses. Sometimes planted in villages (Ghana).

A. somalensis Vatke

Shrub to 3 m tall; young branchlets reddish (brown), glabrous; internodes very short; stipules not spinescent, soon deciduous; prickles straight, pointed upwards, but the tip hooked downwards, solitary; leaves small, 1 pair of pinnae with 2(-3) pairs of leaflets each; flowers cream, in spikes (3 cm); pods small, straight, dehiscent.

Semi-desert bushland on gravel and rocky slopes near the coast; 15-150 m alt.

Record from Eritrea uncertain.

A. stuhlmannii Taub. – Icon.: Timberlake & al., o.c.: 127, 1999; N. Smit, Guide Acacias S. Africa: 49-51, 1999.

Low, spreading or obconical shrub, multi-stemmed, or small tree, 0,7-6(-7,5) m tall, flat-topped; bark olive to dark red-brown, sometimes papery and peeling on old stems; young branchlets green-yellow with spreading golden hairs (1,5-3 mm long) and conspicuous pustular lenticels; stipules spinescent, long (4-6 cm), straight, sometimes hairy, in pairs; leaves densely hairy, appear-

ACACIA STUHLMANNII

ing soon after the first rains; flowers white or pink, in axillary heads, sometimes appearing before the leaves; pods small, indehiscent, long yellow-hairy. – Slashed stems with strong garlicky smell.

Wooded grassland, dry bushland in alluvial soil, scrub; often in low-lying areas in heavy alluvial soil; open or dense bushland, frequently on badly drained soils, also near the coast in or near swamps (on mangrove margins also?) (Kenya); 1-1740 m alt. (100-750 m in Somalia; inland E. Africa: 850-1740 m). – “Vlei area in sandveld”; forming stands along drainage lines on silty soils a mixture of basalt and sandstone, sometimes on former irrigated fields, locally dominant in such disturbed places; c. 900 m alt. (Fl. Zambes. area, Zimbabwe).

Variable in N part of range (habit, length of inflorescence peduncle, shape and size of pods), but rather uniform in S part.

E Botswana, S. Africa (Transvaal).

Disjunct distribution: large gap between Tanzania and southern Africa.

A. swazica Burt Davy – Icon.: N. Smit, Guide Acacias S. Africa: 37-39, 1999.

Slender shrub or small tree, often multi-stemmed, 2-3(-4) m tall, with sparse erect branches; main stem transversely wrinkled, with segments of peeling, papery bark varying in colour (brown to yellowish), underbark yellowish; young branchlets often purplish, with red pustular glands, glutinous; stipules spinescent, slender, straight, to 7 cm long, in pairs; leaves glabrous; flowers bright yellow, in heads on glandular peduncles; pods falcate, short, glandular, dehiscent.

In *Combretum apiculatum*-*Acacia-Ozoroa insignis* dry bushveld and mixed scrub, often on boulder strewn slopes or in rocky places.

Swaziland, S. Africa (Transvaal).

A. tanganyikensis Brenan

Tree 5,5-15 m with flattened crown; bark dark grey, corrugated; young branchlets densely pubescent, epidermis often splitting and flaking off in small pieces; stipules not spinescent, soon deciduous; prickles recurved, short, in pairs; flowers (yellowish) white, in long spikes (to 11-18 cm), usually appearing before the new leaves.

Woodland, deciduous bushland and where ground-water is available; 1160-1490 m alt.

Has been misidentified as *A. royumae* (coastal lowland species). Also close to *A. burkei*.

A. taylorii Brenan & Exell

Scrambling shrub to 4,5 m tall; young branchlets greyish, densely pubescent; stipules not spinescent; prickles short, arising from longitudinal bands along the internodes; flowers yellowish-white, in heads; pods long, rather narrow, stiffly papery, somewhat glandular, dehiscent.

Coastal deciduous bushland, on edge of dry watercourse leading down to shore, scrambling over bushes; ± sea-level.

Perhaps only known from the type (Milne-Redhead & Taylor 7588) collected in 1955. Two other gatherings from the same area are doubtful.

ACACIA

A. tephrodermis Brenan

Scandent shrub; young branchlets grey, sparsely puberulous; stipules not spinescent; prickles short, scattered along the internodes; flowers pale green, in heads; pods and seeds unknown.

Coastal area; no ecology given.

Known only from the type (Mgaza 779) collected in 1965. Two other, sterile gatherings are uncertain.

A. tephrophylla – Icon.: Nord. J. Bot. 18: 516-517, 1998; Thulin in Fl. Somal. 2: 289, 1999.

syn.: *A. etbaica*, undescribed species (2), sensu Thulin in Fl. Somal. 1: 381, 1993.

Shrub or tree 1-4 m tall, flat-topped and obconical, with stout spreading branches; bark rough; young branchlets stout, very pale brown; stipules spinescent, short, hooked, tomentose, in pairs; leaves greyish green, tomentose; flowers white in pedunculate heads; pods rather long, short-hairy, soon dehiscent; mature seeds unknown.

In stony rocky places on limestone where it is the dominant woody plant over large areas; 1300-1800 m alt.

Known only from a small area on the Cal Miskaat Range (Somalia). Related to *A. reficiens*, *A. etbaica*.

A. thomasii Harms

Shrub or tree 7-12(-20) m tall, straggling, with elongate whippy branches bearing the flowers; bark brown, flaking; stipules not spinescent, soon deciduous; prickles short, in threes just below nodes, the central one hooked downwards, the laterals ± curved upwards; leaves small; flowers white to pale yellow, in long spikes (9 cm).

Acacia or *Acacia-Commiphora* bushland or dry scrub, occurring in small groups; uncommon; 350-1200 m alt.

MARTINS, D. J. & A. POWYS (2003). Record of seed set in an endemic Kenyan acacia (*Acacia thomasii*). *Nature E. Africa* 33: 2-3.

Distinctive plant in its growth form and large flowers; but resembling *A. ogadensis*; can be confused with *A. circummarginata*. Endemic to Kenya.

A. torrei Brenan

Slender shrub 1-2 m tall; young branchlets with conspicuous dark pustular glands; stipules spinescent, to 5 cm long, straight; flowers bright yellow, in heads on glandular peduncles; pods falcate, glandular, spreading-hairy, dehiscent.

Savanna; gregarious.

Only 2 gatherings known, including the type.

Closely related to *A. borleae* but differing in lacking glands on leaflets, and in having spreading hairs on the pods.

A. tortilis (Forssk.) Hayne – Icon.: Timberlake & al., o.c.: 129 (subsp. **heteracantha**), 133 (subsp. **spirocarpa**), 1999; L. Boullos, Fl. Egypt 1: 367, 1999 (subsp. **raddiana**).

bas.: *Mimosa tortilis* Forssk.

syn.: Enum. 2: 24, 1992; and see under subspp. below.

Tree (1-)4-12-21 m, or sometimes a shrub; crown typically flattened, spreading, sometimes rounded; roots long, deep (sand-binder of dunes); young branchlets glabrous or pubescent; stipules spinescent, in pairs, some short, hooked, mixed with long straight spines to 10 cm long; flowers yellowish-white, in fasci-

ACACIA TORTILIS

cled or solitary heads; pods contorted or spirally coiled, constricted between the seeds, glabrous or tomentose, longitudinally veined, indehiscent or very tardily dehiscent.

Widespread throughout Africa. – Subsp. **tortilis**: Desert wadis, sandy desert and semi-desert plains, dry bushland (usually in water catchment areas in Egypt); up to c. 600 m alt.

– Subsp. **heteracantha**: In various woodland and bushland types in open habitats or disturbed areas (as a pioneer plant); around pans on enriched sandy soils, but also in desert areas on shallow gravelly basalt soils; can be invasive in old cultivations; closely associated with livestock and wildlife (dispersal of seeds) and can withstand heavy browsing pressure from goats (one of the few woody plants, owing to its dense long thorns); 240-1100 m alt.

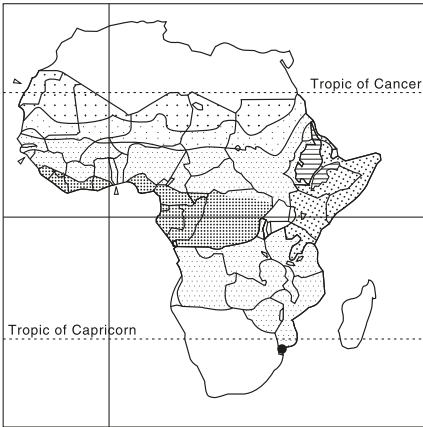
– Subsp. **raddiana**: Lowland deciduous woodland and bushland, widespread in grass savanna along rivers, streams, seasonal valleys and khors on loamy or gravelly soils (Sudan); edges of wadis, in reg depressions, near galb and kedia and their sandy valleys, but less common in their inner part where the plant occurs in sandy places, characteristic on alluviums, common in wadi beds and depressions, thalweg, on sand on sandstone (Mauritania – Mali); very common on loamy-sandy or slightly gravelly soils where the plant is favoured by pasture (Burkina Faso); characteristic plant of the nomade zone on sand (150-400 mm rain p.a.), it is the northernmost acacia in the Sahara and also reaches the latter's most southern parts (0-600 mm rain p.a.); 1-100 m alt.

– Subsp. **spirocarpa**: lowland and medium-altitude deciduous bushland, woodland and wooded grassland; dry bushland, *Acacia* grassland, semi-desert scrub, very often along rivers and luggas, common in places (Kenya); on sandy alluvium associated with larger rivers, often in even-sized stands (due to flooding events), but also as scattered individuals in riparian woodland (Zimbabwe); in same habitat as subsp. **raddiana** but extending its habitat to semi-desert scrub and dry grass savanna, lowland plain in *Acacia mellifera* thorn scrub (Sudan); also a pioneer plant in open disturbed areas; can withstand heavy grazing pressure; 150-1650 m alt.

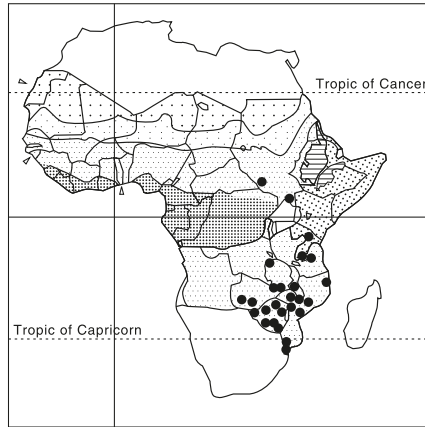
Very variable in: pubescence, presence of glands, shape and size of pods; pubescence of young branchlets and leaves; number of pinnae and number of leaflets per pinna. – See also under Subspecies below.

N Africa from Morocco to Egypt (subsp. **raddiana**, subsp. **tortilis**); Arabia, Israel (subsp. **tortilis**); C Namibia, N Botswana, Swaziland, N S. Africa (subsp. **heteracantha**); Madagascar (subsp. **raddiana**) but probably introduced. – Subsp. **campoptila** (Schweinf.) Boullos, Kew Bull. 50: 336, 1995, in Yemen (bas.: *A. campoptila* Schweinf.).

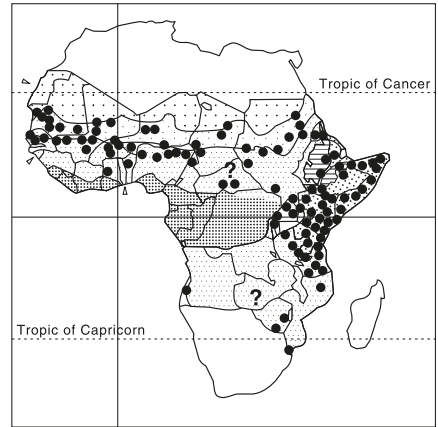
Comprises (in Africa) 4 subspp., and 2 vars. within subsp. **raddiana**: – subsp. **tortilis** [syn.: *A. spirocarpa* Hochst. ex A. Rich. var. *minor* Schweinf.], small tree branched from the base and with flat-topped crown, or small shrub 1-4 m tall, leaves and pods pubescent, pods narrow; in W, N and E parts of range; – subsp. **heteracantha** (Burch.) Brenan [syn.: *A. litakunensis* Burch.; *A. spirocarpoides* Engl.; *A. maras* Engl.], small to medium-sized tree (3-10 m) often with a divided trunk, or a compact bush if browsed, crown rounded, pods narrow, tightly coiled, glabrous, eglandular; in S and SW part of range; – Subsp. **raddiana** (Savi) Brenan [syn.: *A. fasciculata* Guill. & Perr. 1832, nom. illegit., non Kunth 1821, nec *A. fasciculata* R. Br. ex Salt 1814, nom. nud. (= *A. lahai*); all of var. **raddiana**; and *A. fasciculata* var. *pubescens* (A. Chev.) A. Chev.; *A. tortilis* var. *lenticellosa* Chiov., nom. inval.; *A. tortilis* var. *pubescens* Aylmer ex Burt Davy 1930, nom.



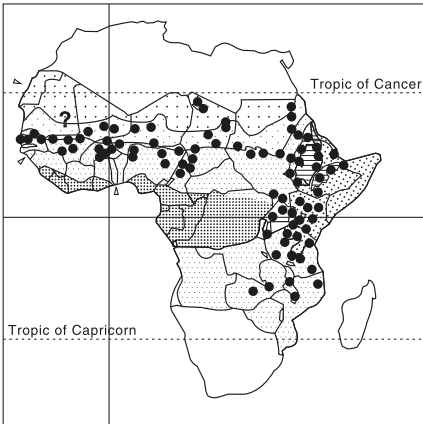
Acacia schlechteri



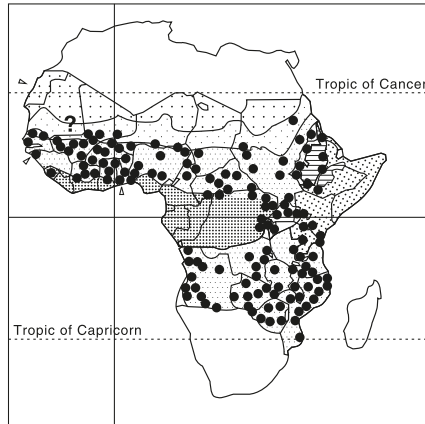
Acacia schweinfurthii



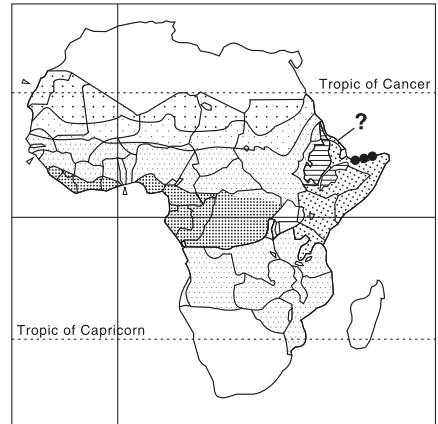
Acacia senegal



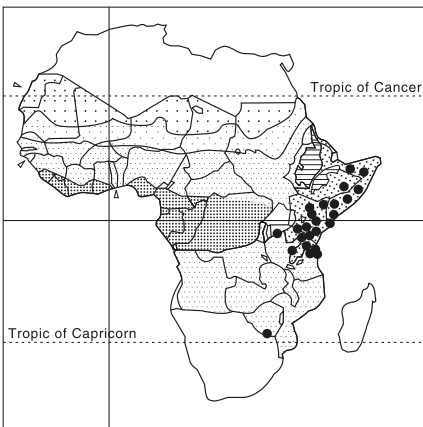
Acacia seyal



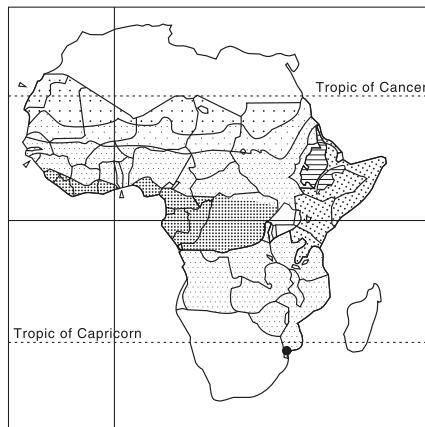
Acacia sieberiana



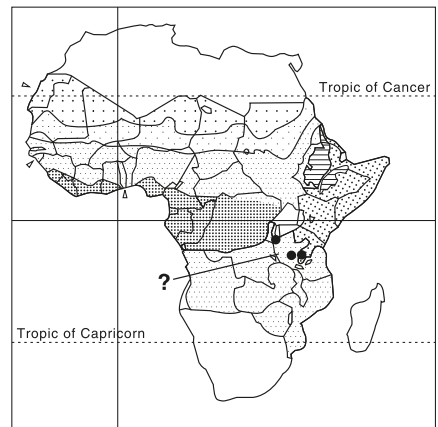
Acacia somalensis



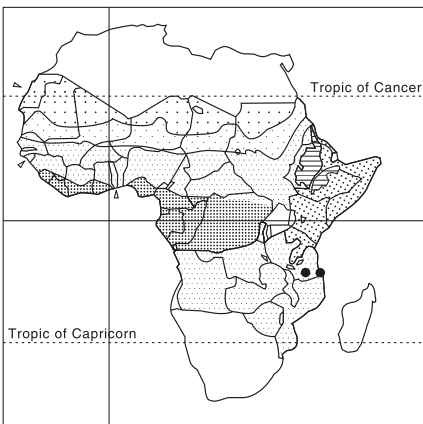
Acacia stuhlmannii



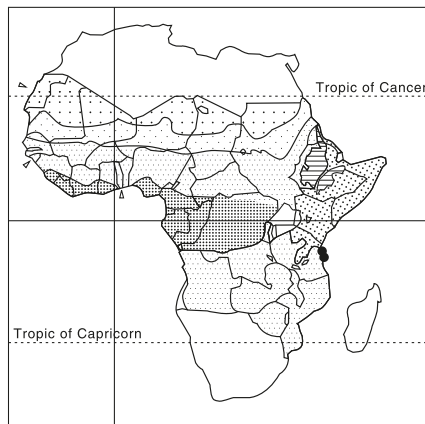
Acacia swazica



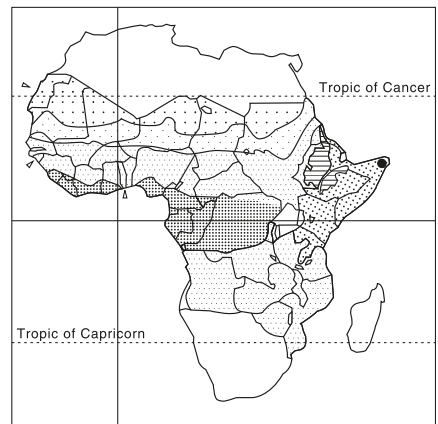
Acacia tanganyikensis



Acacia taylorii



Acacia tephrodermis



Acacia tephrophylla

ACACIA TORTILIS

illegit.; these of var. **pubescens** A. Chev.], tree 7-10(-21) m, not branched from the base, with a distinct trunk and irregular crown but often stunted (browsing), young branchlets, leaves and pods glabrous or tomentellous (var. **pubescens**); in the Sahel zone from Algeria-Senegal to Egypt-Sudan-E Kenya; – subsp. **spirocarpa** (Hochst. ex A. Rich.) Brenan, incl. var. *crinita* Chiov. [syn.: *A. petersiana* Bolle; *A. spirocarpa* var. *major* Schweinf.; *A. spirocarpa*? fa. *pubescens* Terracc.; all of var. **spirocarpa**], medium to large-sized tree to 20 m with a conspicuously flattened umbrella-shaped crown when mature, trunk 30-40(-75) cm Ø, but often a shrub 4-7 m tall, young branchlets pubescent, pods small, long, thin, laxly curved, velvety-hairy, glandular; the most widespread subspecies, in NE, E and S parts of range.

GROUZIS, M. & E. LE FLOC'H, Eds. (2003). *Un arbre au désert, Acacia raddiana*. Institut de Recherche pour le Développement, IRD, Editions, Paris. 313 pp.

GUFU OBA (1998). Effects of excluding goat herbivory on *Acacia tortilis* woodland around pastoralist settlements in northwest Kenya. *Acta Oecol.* 19: 395-404 [subsp. *spirocarpa*].

LOTH, P. E. & al. (2005). Germination strategy of the East African savanna tree *Acacia tortilis*. *J. Trop. Ecol.* 21: 509-517.

Very distinctive species, rarely confused with others with its mixture of long white and short hooked thorns, small tufted leaves (2,5 × 1,5 cm) and minute leaflets, and ± coiled small, rounded pods. However, the subspecies are not always easy to separate from each other, and intermediates occur; in particular very variable in Somalia.

A. tortilis subsp. **raddiana** probably represents the “Tree of Ténére”, now extinct (cf. B. Peyre de Fabrègues & J.-P. Lebrun, Catalogue pl. vascul. Niger: 166-167, 1976; with bibliography), although Aubréville thought it would be *Faidherbia albida*.

A. turnbulliana Brenan

Shrub 0,5-1,5-3 m tall, spreading, often wider (to 3,6 m Ø) than high, branching from or near the base, flat-topped; young branchlets yellowish-green when young, densely hairy, lenticellate; bark peeling on larger branches; stipules spinescent, straight, in pairs; leaves densely pubescent; flowers white (buds white-tomentose), in heads.

Dry scrub; open *Acacia-Commiphora* bush- or wood-land on deep red sandy soils; rare on limestone (near a large ants nest; Kenya); 150-650 m

Related to *A. edgeworthii* (syn.: *A. bricchettiana* Chiov.), and according to Thulin, Fl. Somal. 1: 384, 1993, probably a synonym under *A. edgeworthii* (as a large-flowered and unusually hairy form in NE Kenya, and also used for some Somali material (fide Ross 1979: 141). However, treated as a good species by H. Beentje (Kenya trees, shrubs...: 266, 1994).

A. venosa Hochst. ex Benth.

syn.: Enum. 2: 28, 1992; *A. sanguinea* Hochst. ex A. Rich.; *A. senegal* (L.) Willd. subsp. *glaucophylla* (Steud. ex A. Rich.) Roberty var. *sanguinea* (Hochst. ex A. Rich.) Roberty

Small tree with glabrous young branchlets; bark flaking minutely; stipules not spinescent, soon deciduous; prickles short, recurved, in pairs, sometimes absent; flowers (colour?), but calyx and corolla red or purplish, in spikes.

Woodland, evergreen bushland; 1890-2400 m alt.

Closely related to *A. persiciflora*.

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A. walwalensis Gilliland

Shrub to 3-4 m tall; young branchlets conspicuously lenticellate, glabrous; stipules spinescent, ± straight, 1-2 cm long; leaves small, 2 pairs of pinnae, the lower one much shorter than the upper, few pairs of leaflets per pinna; flowers white, in heads; pods straight or slightly curved, turgid, cylindrical, constricted between the seeds.

Dry bushland, locally frequent (Ethiopia); *Acacia-Commiphora* bushland on sand (Somalia); 150-400 m alt.

A. welwitschii Oliv. – Icon.: Timberlake & al., o.c.: 137, 1999; N. Smit, Guide Acacias S. Africa: 151-153, 1999 [both of subsp. **delagoensis**].

Large tree 3-8-20 m, low-branching, often with spreading crown, lower branches drooping; bark fissured, flaking, grey-brown with a yellowish tinge; trunk 20-30(-40-70) cm Ø; young branchlets glabrous, with pustular lenticels; stipules not spinescent; prickles small, hooked, blackish, in pairs; flowers white, in long terminal spikes (3-13 cm) produced with the leaves.

Woodland at rivers and drainage lines, riverine; on enriched or loamy alluvial soils, locally dominant (Zimbabwe); 45-460 m alt. (subsp. **delagoensis**) – Thickets and small woods at river banks (Angola; subsp. **welwitschii**).

NE S. Africa (subsp. **delagoensis**). – Disjunct species.

Comprises 2 subsp.: – subsp. **delagoensis** (Harms) J. H. Ross & Brenan in E part of range with a wide gap separating it from subsp. **welwitschii** (N Angola) with a different “look”, larger leaflets and longer inflorescences.

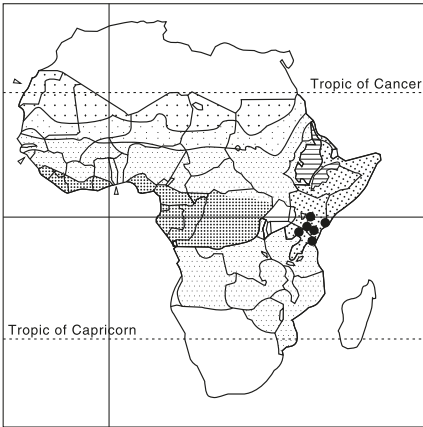
Related to *A. nigrescens*, *A. burkei* and difficult to separate from the latter (appearing in the same area but in different habitats). Also very closely related to *A. goetzei* subsp. *goetzei*, and may hybridize with it.

A. xanthophloea Benth. – “Fever Tree”. – Icon.: Timberlake & al., o.c.: 139, 1999; N. Smit, Guide Acacias S. Africa: 103-105, 1999.

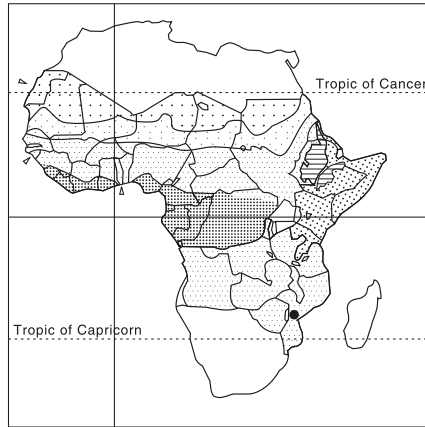
syn.: *A. songwensis* Harms

Tree (5-)10-18-30 m (sometimes emergent above riverine woodland), high-branching; crown open, spreading, rounded or flattened; trunk tall, straight, 30-60 cm Ø; bark smooth, becoming powdery, outer layer soon flaking off to show *lemon yellow* underbark, sometimes with darker flakes remaining; young branchlets yellow; stipules spinescent, 1-9 cm long, white, in pairs; flowers pale yellow, white or purplish in heads on lateral short shoots; pods long, thin, straight, indehiscent, but breaking up transversely into segments on the ground. – Leaves produced later in the season than other acacias. – Sometimes associated with the root parasite *Sarcophyte sanguinea* (*Balanophoraceae*).

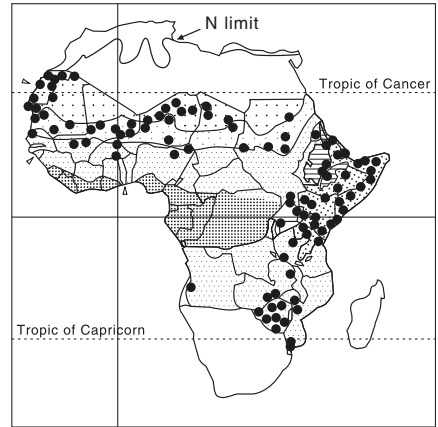
Along river banks, riverine woodland (emergent species), in seasonally flooded areas near rivers, on margins of lakes and pans, in low lying areas with high ground water table; often gregarious, sometimes forming a closed woodland; semi-evergreen bushland, woodland, below the northern face of the main escarpment, near a spring, with accumulation of silt at the surface of the ground, associated with *Rhus retinorrhoea*, *Acokanthera schimperi*, gregarious (N Somalia, c. 1200 m alt.); black cotton soil areas in places with high groundwater level (Kenya; 700-2100 m); 600-2100 m alt. (E. Africa); – lowveld, localized to floodplains close to rivers,



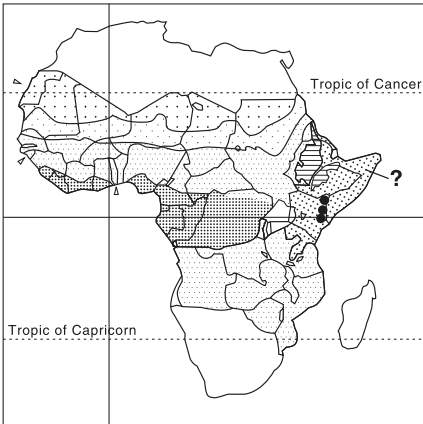
Acacia thomasii



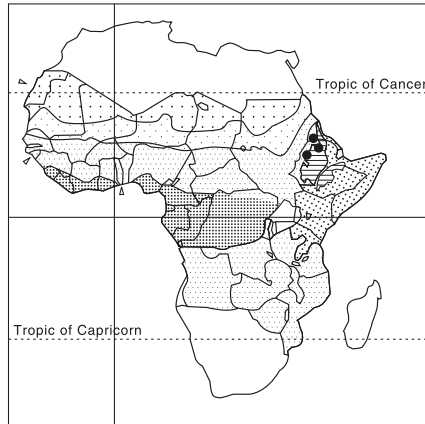
Acacia torrei



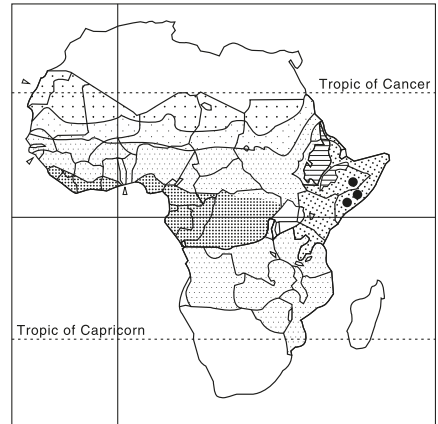
Acacia tortilis



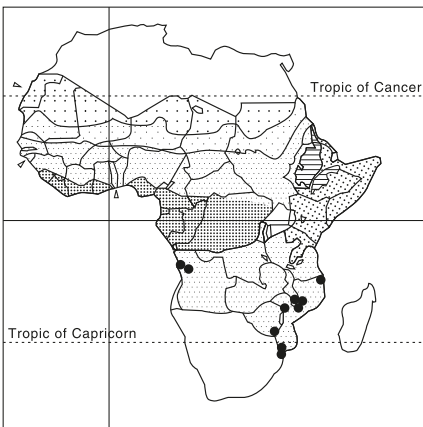
Acacia turnbulliana



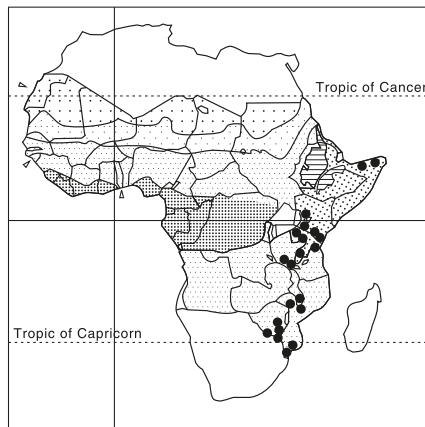
Acacia venosa



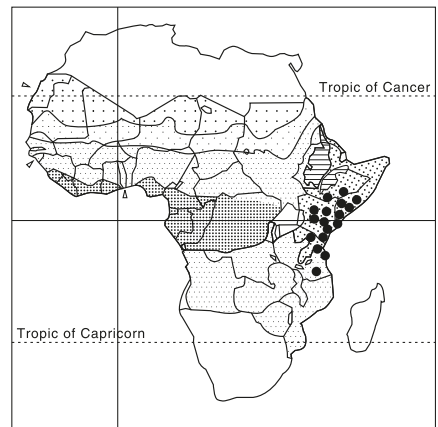
Acacia walwalensis



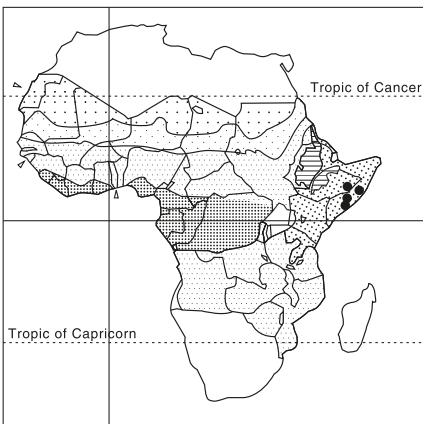
Acacia welwitschii



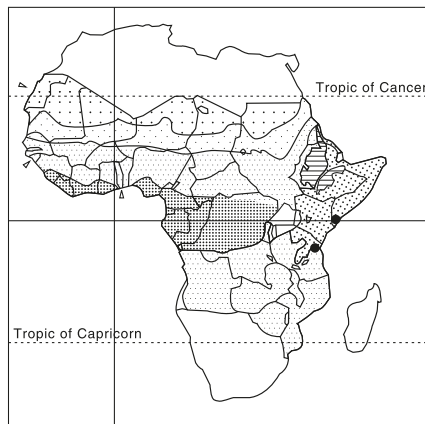
Acacia xanthophloea



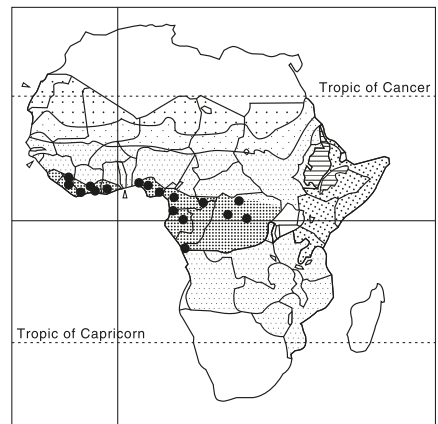
Acacia zanzibarica



Acacia zizyphispina



Adenopodia rotundifolia



Adenopodia sclerata

ACACIA XANTHOPHLOEA

gregarious, usually locally dominant on alluvial black soils, in even-aged stands with lack of young plants (related to episodic flooding events; Zimbabwe); 40-500 m alt. (Fl. Zambes. area).

Variable in flower colour: yellow in S part of range (S of Tanzania), white to pink in the N (Somalia unknown).

Swaziland, NE S. Africa.

Disjunct species: Distance between N Somalia and the nearest localities in N Kenya is c. 1600 km (fide Thulin in Nord. J. Bot. 8: 462, 1989; and map in J. H. Seyani & A. C. Chikuni, Proceed. XIIIth Plen. Meet. AETFAT, Malawi 2: 1106, 1994). Distinctive species: smooth yellow bark, indehiscent pods, riverine habitats; but white-flowered forms akin *A. kirkii*, yellow ones resembling *A. seyal* var. *seyal*.

The hybrid *A. seyal* var. *fistula* x *A. xanthophloea* has been recorded.

A. zanzibarica (S. Moore) Taub.

bas.: *Pithecolobium zanzibaricum* S. Moore

syn.: *Acacia leucacantha* Vatke 1880, nom. illegit., non Bert. ex Sprenger 1826; *A. sennii* Chiov. (both of var. **zanzibarica**).

Tree or shrub 3-9 m tall; crown flat; bark yellowish green or whitish, turning brown and powdery with age; older branchlets with minutely flaking bark; stipules spinescent, straight, to 7 cm long, some basally inflated and fused into deeply bilobed "ant-galls"; flowers bright yellow in heads arranged along short lateral branches; pods linear, falcate or straight, narrow, dehiscent.

Dry scrub deciduous bushland, grassland, edge of semi-desert; also in saline soil; 50-1050 m alt. (50-450 m in Somalia, 300-1000 m in Ethiopia, 500-1050 m in Kenya) [var. **macrophylla**]. – Woodland, wooded grassland; also in saline soil (Somalia); bushland, bushed grassland, often in areas with high groundwater level, river valleys; gregarious in clay soil flats of shallow drainage near the coast, and marginal to saline-water swamp-forest (E. Africa); 0-460(-914) m alt. [var. **zanzibarica**].

Comprises 2 vars.: – var. **zanzibarica**, with wider leaflets, in S part of range, and at lower altitudes.

Var. **microphylla** Brenan is rather similar to *A. seyal* var. *fistula* (also with "ant-galls", yellow flowers, and occurring in the same area). In the absence of flowers, can be confused with *A. burtii* (but with different pods).

A. zizyphispina Chiov.

syn.: *A. impervia* Gilliland

Shrub 2-3 m tall, often with a short trunk 0,3-0,6 m high and then branching; crown flattish or rounded; young branches dark red-brown, ± glabrous; stipules not spinescent, soon deciduous; prickles in threes, the central one strongly hooked downwards, the laterals strongly curved upwards; leaves with few pinnae with 1-2 pairs of large obovate leaflets each; flowers in spikes; pods rounded, compressed, with thin valves, dehiscent.

Acacia-Commiphora dry bushland; 100-700 m alt. (Somalia), c. 800 m (Ethiopia).

Variable in pubescences of leaves and size of pods, the coastal forms differing from inland ones.

ACACIA

SYNONYMS:

Acacia abyssinica Hochst. ex Benth. var. *macroloba* Schweinf. = **Acacia johnwoodii** (in Arabia)

abyssinica sensu auct. = **A. abyssinica** subsp. **calophylla**

abyssinica sensu Schweinf., p.p. = **A. bavazzanoi**

adansonii Guill. & Perr. = **A. nilotica** subsp. **adstringens**

adenostylis Fenzl, nomen nudum = **Dichrostachys cinerea**

adstringens (Schumach. & Thonn.) Berhaut, nom. illegit. = **Acacia nilotica** subsp. **adstringens**

aegyptiaca Baillon = **A. nilotica** subsp. **nilotica**

albida Del., incl. var. *microfoliolata* De Wild., var. *senegalensis* Benth. and var. *variofoliolata* De Wild. = **Faidherbia**

ambigua Hoffmannsegg = ?

amboensis Schinz = **Acacia sieberiana** var. **woodii**

anthelmintica (A. Rich.) Baill. = **Albizia**

arabica (Lam.) Willd. = **Acacia nilotica** subsp. **nilotica**

var. *adansoniana* Dubard = **A. nilotica** subsp. **adstringens**

var. *adansonii* (Guill. & Perr.) A. Chev. = **A. nilotica** subsp. **adstringens**

var. *adstringens* (Schumach. & Thonn.) Bak. f. = **A. nilotica** subsp. **adstringens**

var. *indica* Benth. = **A. nilotica** subsp. **indica**

var. *kraussiana* Benth. = **A. nilotica** subsp. **kraussiana**

var. *nilotica* (L.) Benth. = **A. nilotica** subsp. **nilotica**

var. *tomentosa* Benth. = **A. nilotica** subsp. **tomentosa**

arabica sensu Brenan 1949 = **A. nilotica** subsp. **indica**

arabica sensu Andrews = **A. nilotica** subsp. **tomentosa**

arabica sensu A. Rich. p.p. = **A. abyssinica** subsp. **abyssinica**

"*ariadenia*" (sphalm.) = **A. ataxacantha**

asak (Forssk.) Willd. var. *unispinosa* Fiori p.p. = **A. oliveri**, **A. senegal**

asak sensu Schweinf. p.p. = **A. senegal**

atacorensis Aubrév. & Pellegr. = **A. hockii**

ataxacantha sensu auct., non DC. = **A. polyacantha** subsp. **campylacantha**

ataxacantha sensu P. Sousa = **A. macrostachya**

aucheri Benth. = **A. oerfota** var. **oerfota**

barbertonensis Schweick. = **A. borleae**

benadirensis Chiov. p.p. = **A. horrida** subsp. **benadirensis**

benthamii Rochebr., nom. illegit. = **A. nilotica** subsp. **kraussiana**

bequaertii De Wild. = **A. goetzei** subsp. **goetzei**

beuttiani Giglioli, nomen nudum = ?

blommaertii De Wild. = **A. sieberiana** var. **sieberiana**

boboensis Aubrév., nom. invalid. = **A. hockii**

ACACIA

- brevis* J. B. Gillett unpubl. = **A. hamulosa**
- brevispica* Harms var. *brevispica* = **A. brevispica** subsp. **brevispica**
- var. *dregeana* (Benth.) Ross & Gordon-Gray = **A. brevispica** subsp. **brevispica**
- var. *schweinfurthii* (Brenan & Exell) Ross & Gordon-Gray = **A. schweinfurthii**
- brevispica* sensu Brenan & Exell = **A. brevispica** subsp. **dregeana**
- bricchettiana* Chiov. = **A. edgeworthii**
- brosigii* Harms = **A. nigrescens**
- buchananii* Harms = **A. amythethophylla**
- bussei* Harms ex Sjöstedt var. *benadirensis* Chiov. = **A. horrida** subsp. **benadirensis**
- caffra* (Thunb.) Willd. var. *campylacantha* (Hochst. ex A. Rich.) Aubrév. = **A. polyacantha** subsp. **campylacantha**
- var. *longa* Glover = **A. caffra**
- var. *pechuelii* Kuntze = **A. erubescens**
- var. *rupestris* Sim = **A. ataxacantha**
- var. *tomentosa* sensu Bak. f. p.p. = **A. fleckii**
- caffra* sensu auct. p.p. = **A. polyacantha** subsp. **campylacantha**
- campylacantha* Hochst. ex A. Rich. = **A. polyacantha** subsp. **campylacantha**
- capensis* (Burm. f.) Burch., nom. rejic. = **A. karroo**
- catechu* (L. f.) Willd. subsp. *suma* (Roxb.) Roberty var. *baumii* Roberty = **A. fleckii**
- subsp. *suma* var. *campylacantha* (Hochst. ex A. Rich.) Roberty = **A. polyacantha** subsp. **campylacantha**
- subsp. *suma* var. *erythrantha* (Steud. ex A. Rich.) Roberty = **A. polyacantha** subsp. **campylacantha**
- subsp. *sundra* (Roxb.) Roberty var. *hecatophylla* (Steud. ex A. Rich.) Roberty p.p. = **A. hecatophylla**
- catechu* sensu Harms = **A. fleckii**
- chariensis* A. Chev. = **A. hockii**
- chrysostachys* Sweet, nom. subnud. = **Entada chrysostachys**
- chrysothrix* Taub. = **Acacia rovumae**
- cinerea* Schinz, nom. illegit. = **A. fleckii**
- cinerea* Spr. ? sensu Krauss p.p. = **Dicrostachys cinerea** subsp. **africana**
- clavigera* E. Mey. subsp. *clavigera* = **Acacia robusta** subsp. **clavigera**
- subsp. *clavigera* sensu Von Breitenbach p.p. = **A. grandicornuta**
- subsp. *usambarensis* (Taub.) Brenan = **A. robusta** subsp. **usambarensis**
- coronillaefolia* (Pers.) DC. = **A. gummifera** (Morocco)
- cufodontii* Chiov. = **A. ? senegal**

ACACIA

- cyanophylla* Lindl. = **A. saligna**
- dalzielii* Craib = **A. amythethophylla**
- decurrens* (Wendl.) Willd. var. *mollis* auct. non Lindl. = **A. mearnsii**
- delagoensis* Harms = **A. welwitschii** subsp. **delagoensis**
- dekindtiana* A. Chev. = **A. karroo**
- detinens* Burch. = **A. mellifera** subsp. **detinens**
- dewevrei* De Wild. & Th. Dur. = **A. lujae**
- dulcis* Marloth & Engl. = **A. erubescens**
- eggelingii* Bak. f. = **A. persiciflora**
- ehrenbergii* Nees = **A. ehrenbergiana** Hayne
- elephantina* Burch. = **Elephantorrhiza**
- elephantorrhiza* DC., nom. illegit. = **E. elephantina**
- engleri* Schinz = **Dicrostachys cinerea** subsp. **africana** var. **lugardiae**
- eriadenia* Benth. = **Acacia ataxacantha**
- erioloba* Edgew., non E. Mey., nom. illegit. = **A. edgeworthii**
- erioloba* E. Mey. x *A. haematoxylon* Willd. – cf. under **A. erioloba**
- erythraea* Chiov. = **A. edgeworthii**
- erythrantha* Steud. ex A. Rich. = **A. polyacantha** subsp. **campylacantha**
- etbaica* Schweinf. var. *hirta* A. Chev. = **A. gerrardii** subsp. **gerrardii**
- etbaica* sensu Eggeling & Dale p.p. = **A. elatior** subsp. **turkanae**
- etbaica* sensu Torre = **A. reficiens** subsp. **reficiens**
- fallax* E. Mey. = **A. caffra**
- fasciculata* Guill. & Perr., nom. illegit. = **A. tortilis** subsp. **raddiana**
- var. *pubescens* (A. Chev.) A. Chev. = **A. tortilis** subsp. **raddiana**
- fasciculata* R. Br. ex Salt, nomen nudum = **A. lahai**
- ferox* Benth. p.p. = **A. burkei**
- fistula* Schweinf. = **A. seyal** var. **fistula**
- flava* (Forssk.) Schweinf., nom. illegit. = **A. ehrenbergiana**
- fa. *fistula* (Schweinf.) Roberty = **A. seyal** var. **fistula**
- var. *atacorensis* (Aubrév. & Pellgr.) Aubrév. = **A. hockii**
- var. *ehrenbergiana* (Hayne) Roberty fa. *chariensis* (A. Chev.) Roberty = **A. hockii**
- var. *ehrenbergiana* (Hayne) Roberty fa. *ehrenbergiana* = **A. ehrenbergiana**
- var. *seyal* (Del.) Roberty = **A. seyal** var. **seyal**
- formicarum* Harms = **A. drepanolobium**
- formicarum* sensu B. D. Burtt = **A. pseudofistula**
- gansbergensis* Schinz = **A. hereroensis**

ACACIA

gerrardii Benth. subsp. *negevensis* Zohary = **A. iraqensis** (SW Asia)
 subsp. *negevensis* Zohary var. *najdensis* (Chaudhary) Boulos = **A. pachyceras** var. *najdensis* (in SW Asia)
gillettiae Burt Davy = **A. luederitzii** var. *retinens*
giraffae sensu auct. = **A. seyal**, **A. erioloba**
giraffae Willd. var. *espinosa* Kuntze = **A. erioloba**
glandulifera Schinz, nom. illegit. = **A. nebrownii**
glaucescens Willd. = **A. binervia** (introd.)
glaucophylla Steud. ex A. Rich. and sensu auctt. p.p. = **A. asak**
glaucophylla sensu Brenan = **A. senegal**
glaucophylla sensu A. Chev. = **A. laeta**
gloveri Gilliland = **A. edgeworthii**
goeringii Schinz = **A. luederitzii** var. *luedertitzii*
gorinii Chiov. = **A. oerfota** var. *oerfota*
gossweileri Bak. f. = **A. goetzei** subsp. *microphylla*
gourmaca A. Chev., nomen nudum = **A. gourmaensis**
gummifera Del., nomen nudum, non Willd. = **A. tortilis**
gummifera Willd. – Endemic to Morocco
gyrocarpa Hochst. ex A. Rich. = **Faidherbia albida**
hamulosa sensu Bak. f., non Benth. = **Acacia mellifera**
harmsiana Dinter = **A. kirkii** subsp. *kirkii*
hebeclada DC. var. *stolonifera* (Burch.) Dinter = **A. hebeclada** subsp. *hebeclada*
hebeclada sensu auct. = **A. hebeclada** subsp. *chobiensis*
hebeclada sensu Harms = **A. hebeclada** subsp. *tristis*
hebecladoides Harms = **A. gerrardii** subsp. *gerrardii* var. **gerrardii**
hebecladoides sensu Gilbert & Boutique p.p. = **A. hockii**
hermannii Bak. f. = **A. arenaria**
heteracantha Burch. = **A. tortilis** subsp. *heteracantha*
hirtella E. Mey., incl. var. *inermis* Walp. = **A. karroo**
hirtella sensu Sim = **A. robusta** subsp. *clavigera*
holstii Taub. p.p. = **A. etbaica** subsp. *platycarpa*, **A. hockii**
horrida (L.) Willd. var. *transvaalensis* Burt Davy = **A. karroo**
horrida sensu auct. = **A. karroo**
humifusa Chiov. = **A. edgeworthii**
impervia Gilliland = **A. zizyphispina**
inconflagrabilis Gerstner = **A. karroo**
inermis Marloth = **Albizia anthelmintica**
joachimii Harms = **Acacia goetzei** subsp. *microphylla*
kalachariensis Schinz = **Dichrostachys cinerea** subsp. **africana** var. *setulosa*
kantuffa Poir. = **Pterolobium stellatum** (*Caesalpinaceae*)

ACACIA

katangensis De Wild. = **Acacia sieberiana** var. **woodii**
kinionge De Wild. = **A. goetzei** subsp. *microphylla*
kinionge sensu Brenan = **A. senegal**
kirkii Oliv. var. *intermedia* Brenan = **A. kirkii** subsp. *kirkii* var. **kirkii**
kirkii sensu Gilbert & Boutique p.p. = **A. kirkii** subsp. *kirkii* var. **sublaevis**
kirkii Oliv. x *A. seyal* Del. – See under **A. kirkii**
kwebensis N. E. Br. = **A. erubescens**
lathouwersii Staner = **A. drepanolobium**
latronum (L. f.) Willd. subsp. *benadirensis* (Chiov.) Brenan = **A. horrida** subsp. *benadirensis*
latronum auct. = **A. bussei**
lebbeck (L.) Willd. = **Albizia**
leucacantha Vatke, nom. illegit. = **Acacia zanzibarica** var. **zanzibarica**
litakunensis Burch. = **A. tortilis** subsp. *heteracantha*
longepetiolata Schinz = **A. erubescens**
luederitzii Engl. p.p. = **A. reficiens** subsp. *reficiens*
lugardiae N. E. Br. = **A. ataxacantha**
macalusoi Mattei = **A. royumae**
macrostachya sensu Oliv., non Reichenb. ex DC., p.p. = **A. ataxacantha**
macrothyrsa Harms = **A. amythetophylla**
makondensis Engl., nomen nudum = **A. ? latistipulata**
maras Engl. = **A. tortilis** subsp. *heteracantha*
marlothii Engl. = **Albizia anthelmintica**
mellei i, Verdoorn = **Acacia hereroensis**
merkeri Harms = **A. oerfota** var. *oerfota*
mildbraedii Harms = **A. kirkii** subsp. *mildbraedii*
misera Vatke = **A. reficiens** subsp. *misera*
mollissima auctt., non Willd. = **A. mearnsii**
monga De Wild. = **A. sieberiana** var. **woodii**
monticola Brenan & Exell, nom. illegit. = **A. montigena**
morondavensis Drake = **A. royumae**
mossambicensis Bolle = **Faidherbia albida**
mossambicensis sensu auctt. = **Acacia burkei**
multijuga Meisn. = **A. caffra**
natalitia E. Mey. = **A. karroo**
nebneb Adans. = **A. nilotica** subsp. *tomentosa*
neboueb Baill. = **A. nilotica** subsp. *tomentosa*
nefasia (Hochst. ex A. Rich.) Schweinf. = **A. sieberiana** var. **woodii**
 subsp. *rogeoni* A. Chev. = ?
nervosula Chiov. “nervolusa” = **Albizia obbiadensis**

ACACIA

- nilotica* (L.) Willd. ex Del. subsp. *adansonii* (Guill. & Perr.) Brenan = **Acacia nilotica** subsp. **adstringens**
- subsp. *adstringens* (Schumach. & Thonn.) Roberty var. *adansonii* (Guill. & Perr.) Roberty = **A. nilotica** subsp. **adstringens**
- subsp. *adstringens* var. *adstringens* = **A. nilotica** subsp. **adstringens**
- subsp. *adstringens* var. *kirkii* (Oliv.) Roberty p.p. = **A. kirkii**
- subsp. *eunilotica* Roberty var. *vera* Roberty p.p. = **A. nilotica** subsp. **nilotica**
- var. *adansoniana* (Dubard) A. F. Hill = **A. nilotica** subsp. **adstringens**
- var. *adansonii* (Guill. & Perr.) O. Kuntze = **A. nilotica** subsp. **adstringens**
- var. *adstringens* (Schumach. & Thonn.) Chiov. = **A. nilotica** subsp. **adstringens**
- var. *genuina* O. Kuntze = **A. nilotica** subsp. **nilotica**
- var. *indica* (Benth.) A. F. Hill = **A. nilotica** subsp. **indica**
- var. *kraussiana* (Benth.) A. F. Hill = **A. nilotica** subsp. **kraussiana**
- var. *nilotica* = **A. nilotica** subsp. **nilotica**
- var. *tomentosa* (Benth.) A. F. Hill = **A. nilotica** subsp. **tomentosa**
- var. *tomentosa* sensu Torre p.p. = **A. nilotica** subsp. **indica**
- var. *typica* Fiori = **A. nilotica** subsp. **nilotica**
- nilotica* sensu Andrews = **A. nilotica** subsp. **nilotica**
- nubica* Benth., incl. var. *aethiopica* Schweinf. and var. *erythraea* Schweinf. = **A. oerfota** var. **oerfota**
- “*nubica*“ Benth. x **A. paolii** Chiov. – See under **A. oerfota**
- obbiadensis* Chiov. = **Albizia**
- “*oerfota* sensu Brenan” = **Acacia hockii**
- oliveri* Vatke, excl. descr. legum. = **A. senegal**
- orfota* (Forssk.) Schweinf. = **A. oerfota**
- oxyosprion* Chiov. var. *oxyosprion* = **A. senegal**
- var. *pubescens* Chiov. = **A. circummarginata**
- pallens* (Benth.) Rolfe = **A. nigrescens**
- pallens* sensu Steedman = **A. polyacantha** subsp. **campylacantha**
- pappii* Gandoger = **A. tortilis** subsp. **spirocarpa**
- papyracea* Hochst., nomen nudum = **A. oerfota**
- paradoxa* Chiov., nom. illegit. = **A. hamulosa**
- passargei* Harms = **A. nigrescens**
- pennata* (L.) Willd. var. *dolichosperma* Oliv. = **A. pentagona**
- var. *dregeana* Benth. = **A. brevispica** subsp. **dregeana**
- pennata* sensu auct. p.p. = **A. brevispica**, **A. kamerunensis**, **A. pentagona**, **A. schweinfurthii**

ACACIA

- pentaptera* Welw. = **A. pentagona**
- permixta* Burt Davy var. *glabra* Burt Davy = **A. tenuispina** (in Botswana, S. Africa)
- perrotti* Warb. = **A. nigrescens**
- petersiana* Bolle = **A. tortilis** subsp. **spirocarpa**
- petersiana* Vatke var. ? = **A. etbaica** subsp. **uncinata**
- prorsispinula* Stapf = **A. amythethophylla**
- pruinosa* auct. p.p., non A. Cunn. ex Benth. = **A. schinoides** (introd.)
- pseudoglauca* Chiov., nomen nudum = **A. senegal**
- pseudoglaucophylla* (Chiov.) Chiov. = **A. senegal**
- pseudosocotrana* Chiov. = **A. edgeworthii**
- pterygocarpa* Hochst. ex Benth. = **A. oerfota** var. **oerfota**
- puccioniana* Chiov. = **Dichrostachys kirkii**
- purpurascens* Vatke = **Acacia sieberiana** var. **sieberiana**
- purpurea* Bolle = ?
- raddiana* Savi = **Acacia tortilis** subsp. **raddiana**
- var. *pubescens* (A. Chev.) A. F. Hill = **A. tortilis** subsp. **raddiana** var. **pubescens**
- reticulata* (L.) Willd., nom. rejic. = **A. karroo**
- retinens* Sim = **A. luederitzii** var. **retinens**
- robecchii* Pirotta, nomen nudum = ?
- robusta* sensu auct. non Burch., p.p. = **Acacia karroo**
- rogersii* Burt Davy = **A. nebrownii**
- rostrata* Sim, nom. illegit. = **A. senegal**
- rovumae* sensu B. D. Burt, non Oliv. = **A. tanganyikensis**
- rufobrunnea* N. E. Br. = **A. arenaria**
- rupestris* Stocks ex Boiss. = **A. senegal**
- saccharata* Benth. = **Faidherbia albida**
- sacleuxii* A. Chev. = **Acacia robusta** subsp. **usambarensis**
- saltiana* Steud., nomen nudum = **A. lahai**
- sambesiaca* Schinz = **A. robusta** subsp. **clavigera**
- samoryana* A. Chev. = **A. dudgeonii**
- sanguinea* Hochst. ex A. Rich. = **A. venosa**
- sarcophylla* Chiov. = **A. oerfota** var. **brevifolia**
- schliebenii* Harms = **A. nigrescens**
- scorpioides* (L.) W. F. Wight var. *adstringens* (Schumach. & Thonn.) A. Chev. = **A. nilotica** subsp. **adstringens**
- var. *nilotica* (L.) A. Chev. = **A. nilotica** subsp. **nilotica**
- var. *pubescens* A. Chev. = **A. nilotica** subsp. **tomentosa**
- semlikiensis* De Wild. = **A. kirkii** subsp. **mildbraedii**
- senegal* (L.) Willd. subsp. *glaucophylla* (Steud. ex A. Rich.) Roberty var. *glaucophylla* = **A. asak**
- subsp. *glaucophylla* var. *sanguinea* (Hochst. ex A. Rich.) Roberty = **A. venosa**
- subsp. *glaucophylla* var. *venosa* (Hochst. ex Benth.) Roberty = **A. venosa**

ACACIA SENEGAL

- subsp. *mellifera* (Vahl) Roberty p.p. = **A. mellifera** subsp. **mellifera**
- subsp. *modesta* (Wall.) Roberty var. *laeta* (R. Br. ex Benth.) Roberty = **A. laeta**
- subsp. *modesta* var. *rupestris* (Stocks ex Boiss.) Roberty = **A. senegal**
- subsp. *modesta* var. *triacantha* Roberty = **A. asak**
- subsp. *senegalensis* Roberty var. *samoryana* (A. Chev.) Roberty = **A. dudgeonii**
- subsp. *senegalensis* var. *verek* Roberty = **A. senegal**
- subsp. *trispinosa* (Stokes) Roberty p.p. = **A. senegal**
- var. *leiorhachis* Brenan = **A. circummarginata**
- var. *samoryana* (A. Chev.) Aubrév. = **A. dudgeonii**
- var. *typica* Fiori = **A. senegal**
- senegal* sensu O. B. Miller = **A. galpinii**
- senegal* sensu Wild = **A. ataxacantha**
- sennii* Chiov. = **A. zanzibarica** var. **zanzibarica**
- sericocephala* Fenzl, nomen nudum = **Albizia amara** subsp. **sericocephala**
- seyal* Del. fa. *fistula* (Schweinf.) Cufod. = **Acacia seyal** var. **fistula**
- var. *kassonioga* De Wild. = **A. hockii**
- var. *lescrauwaetii* De Wild. = **A. hockii**
- var. *multijuga* Schweinf. ex Bak. f. = **A. hockii**
- var. *multijuga* sensu O. B. Miller = **A. arenaria**
- var. *seretii* De Wild. = **A. hockii**
- var. *seyal* sensu O. B. Miller = **A. arenaria**
- seyal* sensu A. Chev. = **A. ehrenbergiana**
- seyal* sensu Gilbert & Boutique p.p. = **A. hockii**
- seyal* sensu Sim = **A. karroo**
- sieberiana* DC. subsp. *modesta* (Wall.) Roberty var. *laeta* (R. Br. ex Benth.) Roberty = **A. laeta**
- subsp. *sieberiana* var. *orientalis* Troupin = **A. sieberiana** var. **woodii**
- subsp. *sieberiana* var. *sieberiana* = **A. sieberiana** var. **sieberiana**
- subsp. *vermoesonii* (De Wild.) Troupin var. *vermoesonii* = **A. sieberiana** var. **woodii**
- subsp. *vermoesonii* var. *woodii* (Burt Davy) Keay & Brenan = **A. sieberiana** var. **woodii**
- var. *kagerensis* Troupin = **A. sieberiana** var. **woodii**
- var. *rehmanniana* (Schinz) Roberty = **A. sieberiana** var. **villosa**
- var. *sieberiana* fa. *nefasia* (Hochst. ex A. Rich.) Roberty = **A. sieberiana** var. **woodii**
- var. *sing* (Guill. & Perr.) Roberty, incl. forma *eusieberiana* Roberty = **A. sieberiana** var. **sieberiana**
- var. *sing* fa. *nefasia* (Hochst. ex A. Rich.) Roberty = **A. sieberiana** var. **woodii**

ACACIA SIEBERIANA

- var. *vermoesonii* (De Wild.) Keay & Brenan = **A. sieberiana** var. **woodii**
- sieberiana* sensu Gilbert & Boutique p.p. = **A. sieberiana** var. **sieberiana** and var. **woodii**
- silvicola* Gilbert & Boutique p.p. = **A. kamerunensis**, **A. montigena**, **A. pentagona**, **A. ciliolata**
- simlikiensis* De Wild. = **A. kirkii** subsp. **mildbraedii**
- sing* Guill. & Perr. = **A. sieberiana** var. **sieberiana**
- socotrana* Balf. f. = **A. edgeworthii**
- somalensis* sensu Brenan, non Vatke = **A. senegal**
- songwensis* Harms = **A. xanthophloea**
- sp.* B sensu Brenan = **A. paolii** subsp. **paucijuga**
- sp.* F sensu Brenan = **A. gerrardii** subsp. **gerrardii** var. **gerrardii**
- sp.* 1 sensu F. White = **A. senegal**
- sp.* sensu Oliv. in F.T.A. = **A. andongensis**
- sp.* sensu Schinz = **A. erubescens**
- sp. nov.* sensu B. D. Burt = **A. erythrophloea**
- sp. nov.* sensu Oliv. = **A. goetzei** subsp. **goetzei**
- sp.* near *etbaica* sensu Thulin = **A. qandalensis**
- sp.* near *etbaica* sensu Thulin, Somalia = cf. under **A. erythrophloea** and **A. tephrophylla**
- sp.* near *A. negrii* sensu Ross = **A. origena**
- sp.* near *A. senegal* sensu Ross = **A. senegal**
- sp.* near *A. schweinfurthii* sensu Brenan & Exell = **A. erythrocalyx**
- sp.* near *A. somalensis* sensu Ross = **A. senegal**
- sp.* cf. *stolonifera* sensu Torre p.p. = **A. sieberiana** var. **woodii**
- sp.* aff. *suma* sensu A. Chev. = **A. macrostachya**
- sp.* cf. *uncinata* sensu Torre = **A. reficiens** subsp. **reficiens**
- spinosa* Marloth & Engl., nom. illegit. = **A. senegal**
- spinosa* E. Mey. = **Dichrostachys cinerea** subsp. **africana**
- spirocarpa* Hochst. ex A. Rich. = **Acacia tortilis** subsp. **spirocarpa**
- fa. *pubescens* Terracc. = **A. tortilis** ? subsp. **spirocarpa**
- var. *major* Schweinf. = **A. tortilis** subsp. **spirocarpa**
- var. *minor* Schweinf. = **A. tortilis** subsp. **tortilis**
- spirocarpoides* Engl. = **A. tortilis** subsp. **heteracantha**
- stefaninii* Chiov. = **A. reficiens** subsp. **misera**
- stenocarpa* Hochst. ex A. Rich. = **A. seyal**
- var. *boboensis* Aubrév., nom. invalid. = **A. hockii**
- var. *chariensis* (A. Chev.) Aubrév. = **A. hockii**
- stenocarpa* sensu auctt. = **A. hockii**
- stenocarpa* sensu Robyns p.p. = **A. gerrardii** subsp. **gerrardii**
- stolonifera* Burch. = **A. hebeclada** subsp. **hebeclada**

ACACIA STOLONIFERA

- var. *chobiensis* O. B. Miller = **A. hebeclada** subsp. **cho-
biensis**
- subalata* Vatke = **A. nilotica** subsp. **subalata**
- subtomentosa* De Wild. = **A. gerrardii** subsp. **gerrardii**
- sultani* Chiov. = **A. edgeworthii**
- taitensis* Vatke = **A. ? nilotica** subsp. **subalata**
- tenax* Marloth = **A. mellifera** subsp. **detinens**
- tortilis* (Forssk.) Hayne fa. *raddiana* (Savi) Roberty = **A. tor-
tilis** subsp. **raddiana**
- fa. *spirocarpa* (Hochst. ex A. Rich.) Roberty p.p. =
A. tortilis subsp. **spirocarpa**
- var. *lenticellosa* Chiov., nom. invalid. = **A. tortilis** subsp.
raddiana
- var. *pubescens* Aylmer ex Burt Davy, nom. illegit. =
A. tortilis subsp. **raddiana**
- tortilis* sensu Täckholm = **A. tortilis** subsp. **spirocarpa**
- trentiniani* A. Chev. = **A. laeta**
- triacantha* Hochst. ex A. Rich. = **A. asak**
- trispinosa* Marloth & Engl. ex Schinz, nom. illegit. = **A. sene-
gal**
- tristis* Welw. ex Oliv., nom. illegit. = **A. hebeclada** subsp.
tristis
- ulugurensis* Taub. ex Harms = **A. goetzei** subsp. **microphylla**
- uncinata* Engl., nom. illegit. = **A. reficiens** subsp. **reficiens**
- unispinosa* (Fiori) Chiov. sensu orig. = **A. senegal**
- unispinosa* sensu Chiov. p.p. = **A. moggii**, **A. senegal**
- usambarensis* Taub. = **A. robusta** subsp. **usambarensis**
- vanmeelii* Gilbert & Boutique = **A. goetzei** subsp. **micro-
phylla**
- vera* Willd., nom. illegit. = **A. nilotica** subsp. **nilotica**
- verek* Guill. & Perr., nom. illegit. = **A. senegal**
- vermoeseni* De Wild. = **A. sieberiana** var. **woodii**
- verrucifera* Harms, nomen nudum = **A. kirkii** subsp. **kirkii**
var. **kirkii**
- verrugera* Schweinf. fa. *latisiliqua* Harms = **A. sieberiana**
var. **woodii**
- var. *africana* Defl. = **A. sieberiana** var. **sieberiana**
- var. *subinermis* A. Chev. = **A. sieberiana** var. **sieberiana**
- vicioides* Ferr. & Galim. = **A. mellifera** subsp. **mellifera**
- virchowiana* Vatke & Hildebr. p.p. = **A. oerfota** var. **oerfota**,
A. senegal
- walteri* Suesseng., nom. illegit. = **A. nebrownii**
- wildenowii* Rochebr., nom. nud. = **A. gummifera** (Morocco)
- woodi* Burt Davy = **A. sieberiana** var. **woodii**
- xiphocarpa* Hochst. ex Benth. = **A. abyssinica** subsp.
abyssinica
- zygia* (DC.) Baill. = **Albizia**

ADENOPODIA / 3

Adenopodia rotundifolia (Harms) Brenan

Shrub or tree 6-12 m tall; young branches armed with scattered downwardly hooked prickles to 4mm long, but prickles sometimes sparse and sometimes paired and subopposite.

Deciduous bushland, seasonally flooded; with *Acacia*, *Dobera*, *Salvadora*, *Balanites*; locally common; saline soil indicator; 600-800 m alt.

A. scelerata (A. Chev.) Brenan

Climbing shrub; stems 30-80 cm long, $\pm 7-10$ cm \emptyset at base; branchlets very numerous, slender when young, usually rather densely (sometimes sparsely) armed with deflexed and curved prickles to ± 2 mm long, sometimes with black tips.

Secondary forest; regrowth, fallow areas in rain-forest; savannas around forest; rocky cupola; sometimes forming dense tangles; *Alchorneetum*; 200- ± 950 m alt.

A. schlechteri (Harms) Brenan

Shrub 2-4 m tall, with climbing branches; young branchlets armed with downwardly hooked prickles to 3mm long.

Thickets.

ALBIZIA / 27

Introduced species are cited in Enum. 2: 30, 1992.

KAUR, H. (1997). Morphology and spermoderm pattern in some species of *Albizia* Durazz. (Mimosoideae-Leguminosae). *Phytomorphology* 47: 195-201.

OGUNDIPE, O. T. & O. AKINRINLADE [1998] (1999). Epidermal micromorphology of some species of *Albizia* Durazz. (Mimosaceae). *Phytomorphology* 48: 325-333.

Albizia adianthifolia (Schum.) W. F. Wight

bas.: *Mimosa adianthifolia* Schum.

syn.: *Zygia fastigiata* E. Mey.; *Albizia fastigiata* (E. Mey.) Oliv., incl. var. *chirindensis* Swynnerton ex Bak. f.; *A. chirindensis* (Swynnerton ex Bak. f.) Swynnerton ex Steedman

Tree (2,5-)4-40 m; trunk to 1m \emptyset , slightly buttressed, to 7-12-15 m long in forest; crown flattened; young branchlets densely, rather coarsely and persistently rusty- to fulvous-pubescent; branches dichotomous, fastigiate.

Wide range of habitats (ecotypes may be recognizable). Edge of evergreen forest; rain-forest; deciduous woodland; wooded grassland; mainly in regrowth forest; humid places; fallow land; sometimes abundant; near sea-level-1680 m alt.

Variable plant.

S. Africa.

Comprises 2 vars. – Var. **intermedia** (De Wild. & T. Durand) Villiers (syn.: *A. oliveri* Pellegr.; *A. welwitschii* Oliv. quoad specim. Mann).

Has been confused with *A. gummifera*. Interbreeding may occur with the latter.

ALBIZIA

A. amara (Roxb.) Boiv. (? nom. dub.).

bas.: *Mimosa amara* Roxb.

syn.: *Albizia gracilifolia* Harms

Tree, rarely shrubby, 1,5-12(?15) m, deciduous; crown rounded or flat; young branchlets with rather short dense spreading grey to golden pubescence.

Acacia-Commiphora scrub; wooded grassland; often on or near rocks; woodland with *Sclerocarya* etc.; open woodland with *Acacia seyal*, *Lannea humilis* etc. on sandy soil; wooded *Hyparrhenia* grassland with *Acacia seyal*, *Harrisonia abyssinica*, *Flueggea virosa*, *Grewia villosa*, *Ziziphus* spp. etc.; forming thickets in *Acacia* bushland; *Terminalia* woodland; riparian forest; disaggregated sandstone; common on termite mounds in higher-rainfall areas in Zambia; in Darfur (Sudan) replaces the more mesophytic *Anogeissus leiocarpus* in the erosion cycle on the basement complex hill slopes (fide Wickens); 610-1700 m alt.

Botswana, S. Africa; subsp. **amara** also in India and Sri Lanka.

Comprises 2 subspp.: – subsp. **amara**; subsp. **sericocephala** (Benth.) Brenan (syn.: *A. struthiophylla* Milne-Redh.).

A. anthelmintica Brongn., incl. var. *pubescens* Burt Davy and var. *australis* Bak. f.

syn.: *Besenna anthelmintica* A. Rich. ex Walp.; *Albizia conjugato-pinnata* Vatke; *A. umbalusiana* Sim

Bush or tree 2-9(-12) m tall, deciduous; young branchlets glabrous or sometimes shortly pubescent; twigs often with short divaricate lateral branches.

Dry hillsides; bushland; often in riverine habitats; dry scrub with trees; termite-mound clump-thickets; wooded grassland; ±30-2500 m alt.

Botswana, S. Africa.

A. antunesiana Harms

Tree (1,5-)6-18 m, with spreading branches; young branchlets glabrous or nearly so, or very shortly pubescent; flowers often produced when the tree is leafless.

Deciduous woodland; wooded grassland (*Brachystegia-Julbernardia* and *Stereospermum-Markhamia-Dombeya*); mixed woodland with *Combretum-Terminalia*; plateau miombo; (270)-900-1900 m alt.

Namibia, ? Botswana.

Confused with *A. tanganyicensis* [but has more prominent and raised nerves on the calyx-tube and smaller flowers: calyx (3-)3,5-5,5 mm long, corolla (5-)5,5-11 mm long (not calyx 4-6 mm, corolla 7-11 mm)].

A. aylmeri Hutch.

Tree to 23 m; trunk 2,5 m in girth.

Near rocky hills by streams in tall grass savanna.

At present there is insignificant material of *A. aylmeri* and *A. malacophylla* var. *ugandensis* to determine the range of variation and the final taxonomic status of *A. aylmeri* (fide Wickens, 1976).

ALBIZIA

A. brevifolia Schinz

syn.: *A. rogersii* Burt Davy; *A. parvifolia* Burt Davy

Rounded bush or tree ±3-16 m tall, deciduous; trunk often forking near the base into several to many ascending branches; young branchlets sparsely to rather densely appressed-grey-puberulous.

Usually in rocky places, often basalt and sandstone; mopane woodland; 130-1000 m alt.

S. Africa, Botswana.

A. chevalieri Harms

Shrub or tree 1,5-6(-12) m tall, often branched from the base with trunk 10-30 cm Ø; crown much branched with spreading and drooping branches; bark very grey, corky.

Drier savanna region; sandy soil; clayey-humid sand; alluvial terraces; swampy ground; rocky outcrops; clayey-sandy soil; “tiger bush” (= banded vegetation); sometimes in small clumps.

A. coriaria Welw. ex Oliv.

syn.: *A. poissonii* A. Chev.; *A. katangensis* De Wild.

Tree 6-36 m; bole to 40 cm Ø; crown spreading, flat; bark rough, flaking off; young branchlets puberulous or shortly pubescent, later glabrescent.

Riverine forest and thickets; wooded grassland; gully in open *Combretum* woodland; rocky ground with *Terminalia brownii*, *Lannea*, etc.; 850-1700 m alt.

A. dinklagei (Harms) Harms

bas.: *Mimosa dinklagei* Harms

Tree to 23 m tall; bole 2,7 m in girth, sinuous with short buttresses or none; crown spreading, branching angle 30°-40° only; young twigs and leaf rachis rusty-pubescent.

River banks and damp sites in secondary forests; also coastal savanna; invasive.

A. euryphylla Harms

Shrub ±3 m tall.

“Bush-steppe”.

Only known from the syntype Busse 254 collected in 1900; the specimen Busse 258 probably belongs to this species. More material wanted.

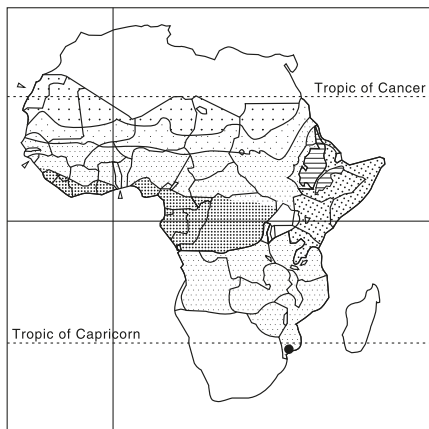
A. ferruginea (Guill. & Perr.) Benth.

bas.: *Inga ferruginea* Guill. & Perr.

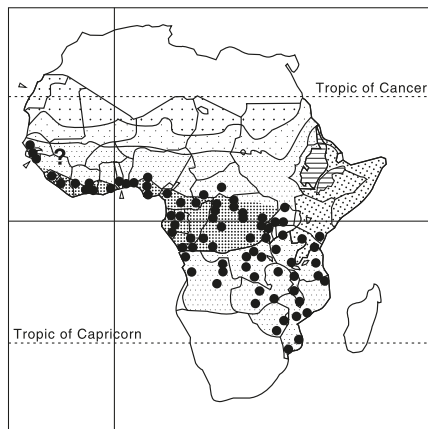
syn.: *Albizia angolensis* Welw. ex Oliv.; *A. corbisieri* De Wild.; *Feuilleea angolensis* (Welw. ex Oliv.) Kuntze

Tree 6-45 m; bole clear to 12 m height, 2,7 m in girth, >1 m Ø; branches flat, spreading; crown rounded; bark rough, flaking; buttresses small or none. Leaves and bark toxic.

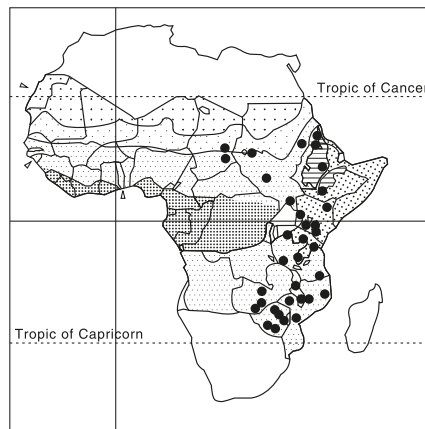
Rain-forest; deciduous or half-deciduous forest; sometimes very abundant; clearings in rain-forest; 525-1220 m alt.



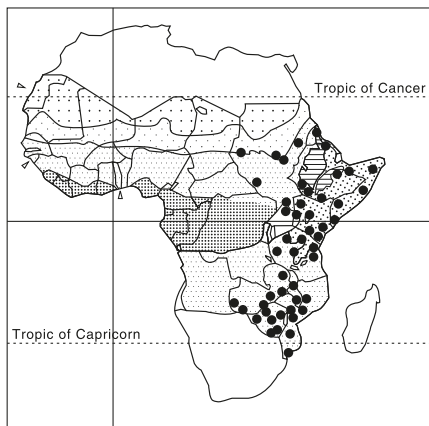
Adenopodia schlechteri



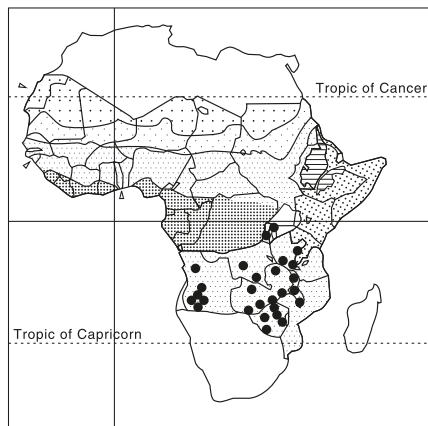
Albizia adianthifolia



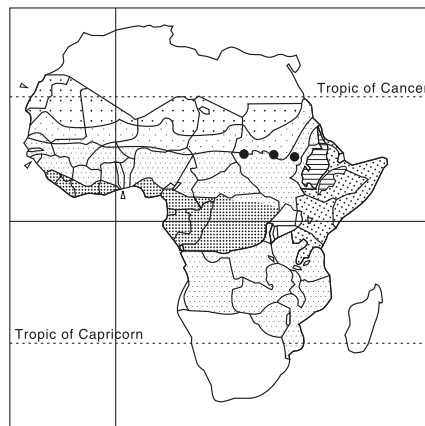
Albizia amara



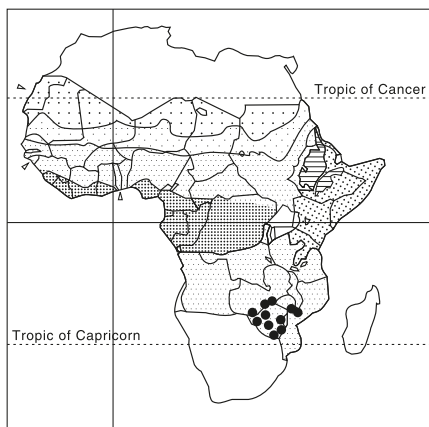
Albizia anthelmintica



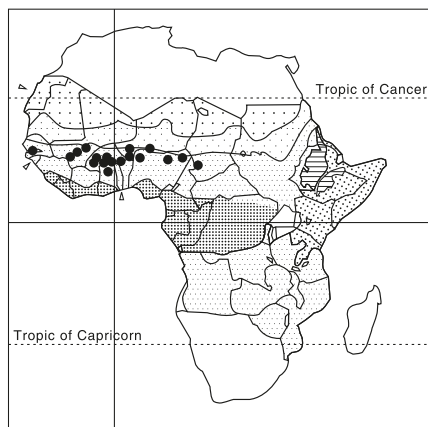
Albizia antunesiana



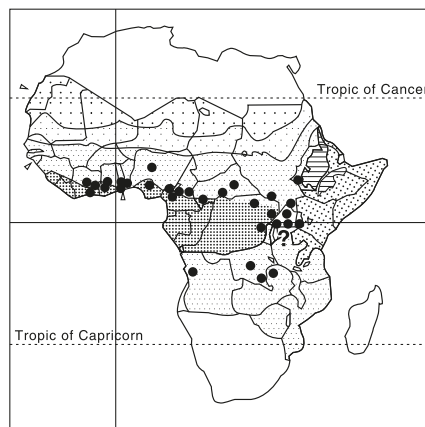
Albizia aylmeri



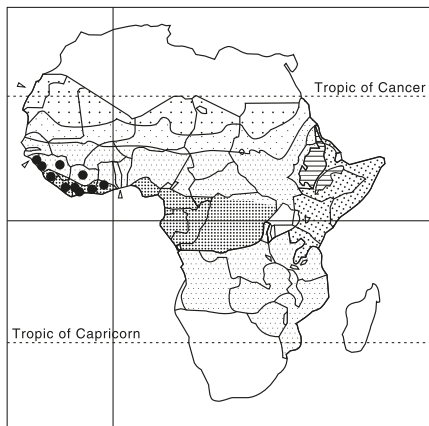
Albizia brevifolia



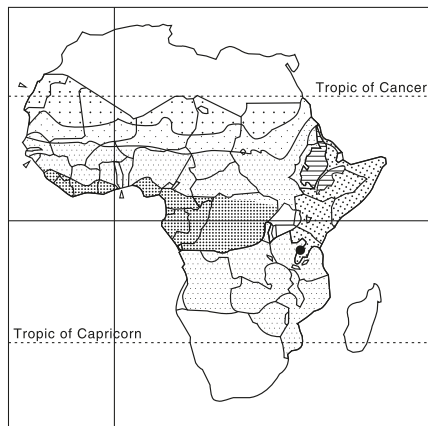
Albizia chevalieri



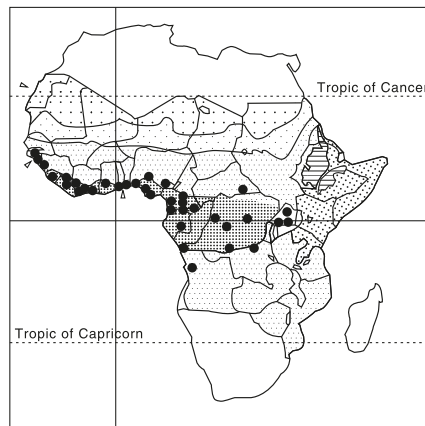
Albizia coriaria



Albizia dinklagei



Albizia euryphylla



Albizia ferruginea

ALBIZIA

A. forbesii Benth. – Icon.: Gomes e Sousa, Dendrol. Moçamb. Estudo Geral 1: tab. 40, 1966.

Tree 2-21 m; bark grey to blackish, thick, rough; young branchlets densely grey-pubescent.

Coastal scrub on white sandy soil; woodland of various sorts; bushland; thickets; sometimes locally common (Mozambique). S. Africa.

A. glaberrima (Schumach. & Thonn.) Benth.

bas.: *Mimosa glaberrima* Schumach. & Thonn.

syn.: *Albizia warneckeii* Harms; *A. eggelingii* Bak. f.; *A. glabrescens* Oliv. var. *angolensis* Bak. f.

Shrub or tree 9-25 m tall; trunk 1,5 m in girth; crown ± flattened; bark smooth, grey or grey-brown; young branchlets usually ± sparingly puberulous or shortly pubescent.

Deciduous forest; coastal plains; forest gallery; occasionally in woodland, perhaps as a relict; 60-1370 m alt.

Comprises 3 vars.

Very similar to *A. zygia* and often confused with it.

A. grandibracteata Taub.

Tree 6-30 m, deciduous with rounded or flat crown; bark smooth or pock-marked at base, lenticels frequently coalescing in vertical rows; young branchlets at first with short dense spreading pubescence brownish when dry, slowly glabrescent.

Rain-forest; riverine forest; grassland; remnant of transitional (riverine) forest dominated by *Rauvolfia caffra*; *Acacia* woodland between large gneiss boulders; near a rivulet in open woodland; tangle near stream; often a forest pioneer; sometimes particularly common in gallery forest; 900-2130 m alt.

A. gummifera (J. F. Gmel.) C. A. Smith p.p., *excl. syn.* *Mimosa adianthifolia*, *Zygia fastigiata* and *Albizia fastigiata*.

bas.: *Sassa gummifera* J. F. Gmel.

syn.: *Inga sassa* Willd.; *Albizia sassa* (Willd.) Chiov.; *A. gummifera* var. *ealaensis* (De Wild.) Brenan; *A. mearnsii* De Wild.; *A. ealaensis* De Wild.

Tree to 30 m; bole 80 cm Ø, slightly buttressed; crown flattened; bark smooth, very rarely rough, grey; young branchlets finely and shortly brownish-pubescent, soon glabrescent and usually deep or blackish-purple, ultimately grey-barked. – Attractive shade tree (ornamental).

One of the dominant species in secondary *Albizia-Croton* forest; rain-forest with *Albizia*, *Macaranga*, *Croton*, *Ocotea*; often a pioneer tree; colonizing thickets and woodland in succession from *Loudetia* grassland to mixed *Podocarpus latifolius* forest; riverine forest; near sea-level to 2440 m alt.

Madagascar.

Closely resembling *A. adianthifolia*.

A. harveyi Fourn.

syn.: *A. pallida* Harv. 1862, non Fourn. 1860; *A. hypoleuca* Oliv., nom. illegit.; *A. pospichilii* Harms

Tree 1,5-15(-20) m, deciduous; crown flat or compressed-rounded; bark grey-brown to blackish, rough, fissured, reticulate; young branchlets with grey to pale-brown (when dry) spreading pubescence.

ALBIZIA HARVEYI

Tree savanna; woodland; dry scrub with trees; bushland; 40-2130 m alt.

Caprivi Strip, Botswana, S. Africa.

A. isenbergiana (A. Rich.) Fourn.

bas.: *Inga isenbergiana* A. Rich.

Tree to 15 m; crown flat or umbrella-shaped; young branchlets densely and rather shortly pubescent.

Termite mounds; stream- and river-banks; wooded grassland; scrub; 1680-2400 m alt.

More material is desirable; oddly discontinuous distribution; ecology imperfectly known in Flora Zambesiaca area.

A. laurentii De Wild.

Tree 5-25 m, with short bole 20-40 cm Ø; crown umbrella-shaped; bark light grey, ±deeply fissured; young branchlets puberulous to glabrous.

Riverine formations; periodically flooded and swampy forests.

A. malacophylla (A. Rich.) Walp.

bas.: *Inga malacophylla* A. Rich.

syn.: *I. quartiniana* A. Rich.; *Albizia quartiniana* (A. Rich.) Walp.; *A. elliptica* Fourn.; *A. pallida* Fourn.

Tree to 6(-12) m; bark rough, pale brown to grey with large irregular flat scales; young branchlets densely grey- to pale brown-pubescent.

Wooded grassland; riverine forest; hillsides with *Combretum collinum* in tall grass savanna; wooded savanna on fine gravel; gravelly sand; 550-2200 m alt.

Comprises 2 vars.

Often cultivated in Niger.

More material is required in order to determine the range of variation and varietal limits (vide *A. aylmeri*).

A. mossamedensis Torre

Tree ±12 m; branchlets soon glabrescent.

Ravine; 1000 m alt.

Only known from the type (Gossweiler 12801).

Near *A. adianthifolia*.

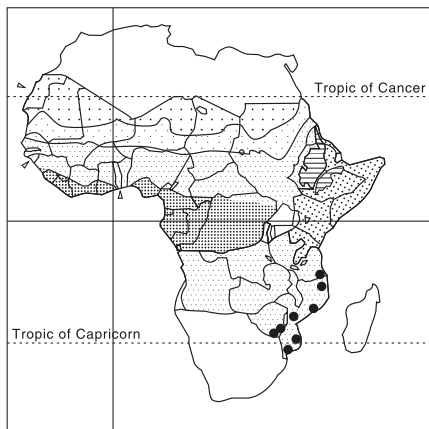
A. obbiadensis (Chiov.) Brenan – Icon.: Chiovenda, Fl. Somala 2: 192, 1932.

syn.: *Acacia nervosula* Chiov.! (*A. nervolusa* sphalm. in fig. 117).

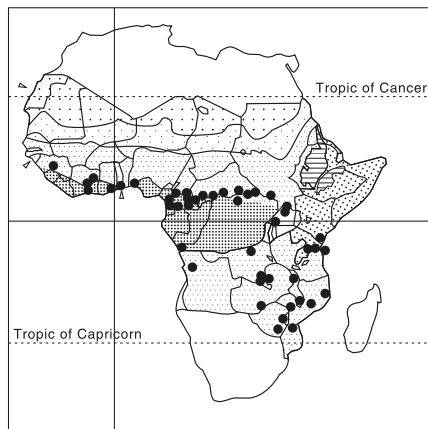
Shrub or tree; young branchlets glabrous or almost so; leaves from spirally and rather closely arranged cushions; colour of flowers unknown (? cream).

Acacia-Commiphora bushland on sand in the coastal zone; 50-275 m alt.

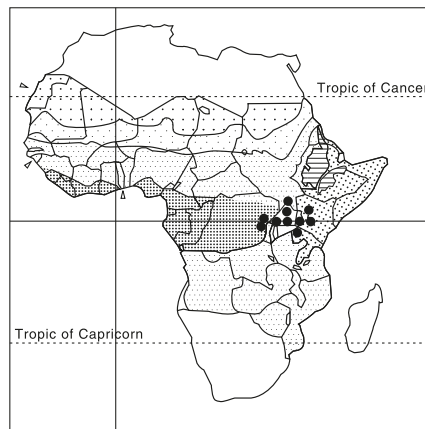
Very distinctive endemic of uncertain affinity.



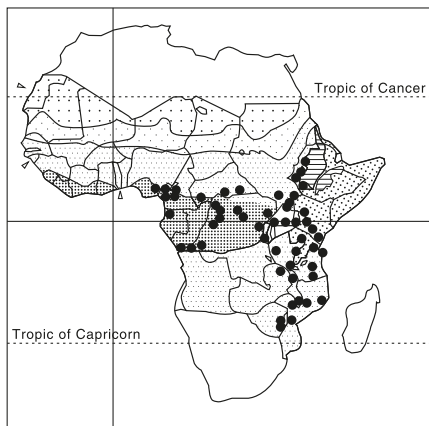
Albizia forbesii



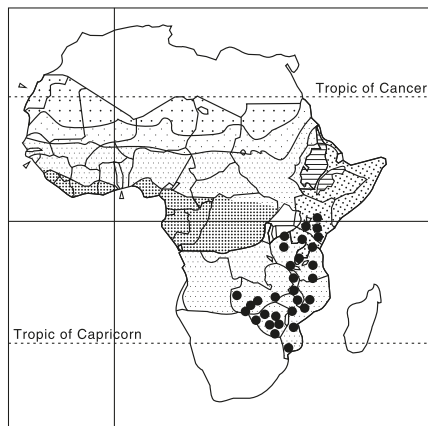
Albizia glaberrima



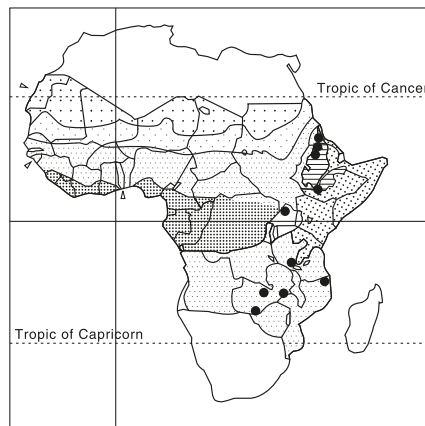
Albizia grandibracteata



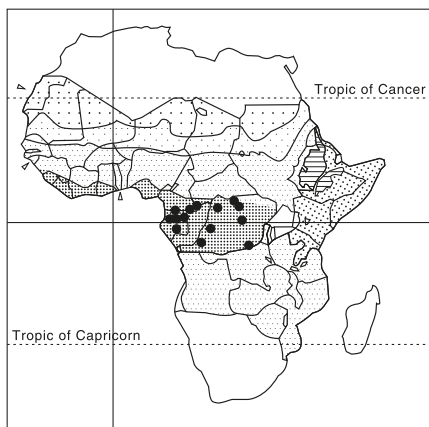
Albizia gummifera



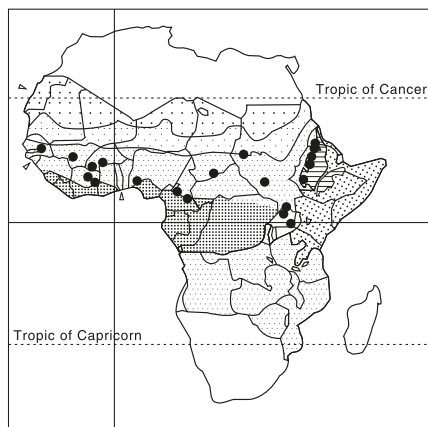
Albizia harveyi



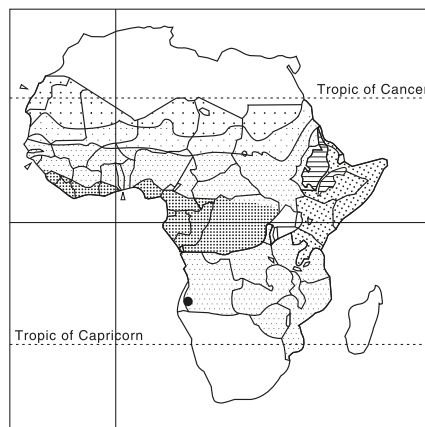
Albizia isenbergiana



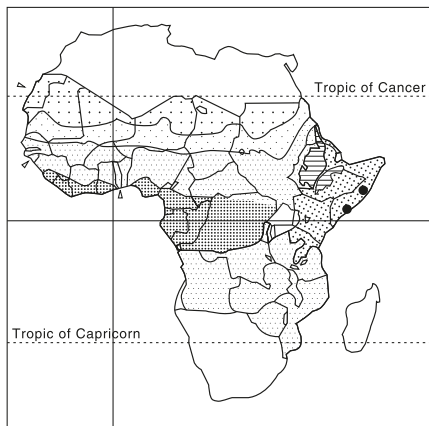
Albizia laurentii



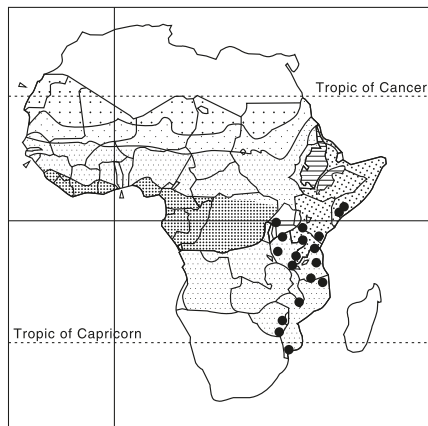
Albizia malacophylla



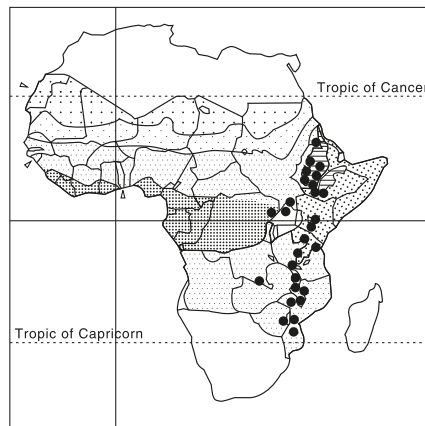
Albizia mossamedensis



Albizia obbiadensis



Albizia petersiana



Albizia schimperiana

ALBIZIA

A. petersiana (Bolle) Oliv.

bas.: *Zygia petersiana* Bolle

Tree, sometimes shrubby, (-2-)3-21 m tall, deciduous; crown rounded or flat; bark smooth unless fire-scarred; young branchlets shortly crisped pubescent to almost glabrous.

Bushland; ground-water forest; riverine forest; termite mounds; ravines in deciduous woodland; scattered but dominant tree on mountain slopes and valleys cleared of forests (Usambaras); 30-1700 m alt.

Comprises 2 subspp.

A. schimperiana Oliv.

Tree 5-23(-30) m; bole branched from near the base; crown flat or not; bark smooth, grey, or sometimes brownish and rough; young branchlets densely, sometimes sparsely, and shortly brown-pubescent (grey to golden in var. **tephrocalyx** Brenan), later glabrescent.

Dry evergreen forest; evergreen bushland; ground-water forest; one of the dominant species in the *Albizia-Croton* forest; rain-forest with *Albizia*, *Macaranga*, *Croton*, *Ocotea*; remnant of transitional (riverine) forest dominated by *Rauvolfia caffra*; savannas; fallow land; 610-2130 m alt.

Comprises 3 vars.

Not in Somalia.

A. tanganyicensis Bak. f.

syn.: *A. lebbeck* (L.) Benth. var. *australis* Burt Davy, nom. nud.

Tree (3-)9-20 m, deciduous and usually flowering when quite leafless; trunk 1,2 m Ø, smooth except at the base where burned, with old bark *peeling off in brown papery pieces*, the young bark creamy-white to ochre-yellow or yellow-green; crown flat or rounded; young branchlets glabrous to pubescent.

Brachystegia-Julbernardia deciduous woodland, especially on rocky hills and outcrops; Kalahari sand (sometimes gregariously); *Acacia-Commiphora* bush on steep rocky bank of wet-season river, locally common; bushland with emergent *Adansonia*, *Delonix regia*, *Erythrina melanacantha*, *Sterculia* sp. on red sandy soil over basement complex; 450-1800 m alt.

Botswana, S. Africa.

Comprises 2 subspp.

A very distinctive species (papery-peeling bark, and seeds $\pm 10-17 \times 8-13$ mm). Confused with *A. antunesiana* without bark or notes about the bark.

A. versicolor Welw. ex Oliv., incl. var. *mossambicensis* Schinz; *A. mossambicensis* Sim 1909, nom. illegit., non Bolle 1861 (= ? *Acacia ataxacantha*).

syn.: *Feuilleea versicolor* (Welw. ex Oliv.) Kuntze

Tree (-3-)5-18(-20) m, deciduous; crown spreading, \pm flat or rounded; bark usually rough, greyish-brown; young branchlets densely rusty-tomentose.

Mixed woodland of various types; wooded savannas; wooded grassland; deciduous woodland and bushland; locally frequent and found throughout the *Brachystegia* area; from probably near sea-level to 1680 m alt.

S. Africa, Botswana.

ALBIZIA VERSICOLOR

Very distinctive species [tomentum usually \pm rust-coloured, and comparatively few and broad leaflets: $14-63(70) \times 12-49(55)$ mm; fig. in Fl. Congo Belge 3: 182, 1952].

A. welwitschii Oliv. – See notes below (under Synonyms).

A. zimmermannii Harms

Tree 6-15 m; crown flat, spreading; bark smooth, finely fissured, grey to grey-brown; young branchlets sparsely to densely rusty-puberulous or -pubescent, sometimes nearly glabrous; indumentum going grey with age.

Riverine forest; secondary bush near rain-forest; evergreen or semi-evergreen bushland; dry forest; granite kopjes; dunes by lake (Nyassa); 430-1130 m alt.

A. zygia (DC.) J. F. Macbr.

bas.: *Inga zygia* DC.

syn.: *Acacia zygia* (DC.) Baill.; *Zygia brownei* Walp.; *Albizia brownei* (Walp.) Oliv.; *Albizia welwitschioides* Schweinf. ex Bak. f.

Tree 4,5-40 m, with cylindrical bole or with small or more developed buttresses, free to 14 m height, to 60-80 cm Ø, 2,4 m in girth; main branches tortuous, widely spreading, to form a circular flattish crown; bark rough or smooth, generally grey, sometimes slightly fissured; young branchlets densely to sparsely clothed with minute crisped pubescence; leaflets very variable in size.

Secondary forests; savannas near forest regions; fringing forests; gully; rocky gorges under shadow; alluvial terraces; marigot banks; rain-forest; wooded grassland; *Combretum* woodland; *Combretum-Lonchocarpus* open woodland; *Loudetia arundinacea* grassland with scattered trees of *Terminalia laxiflora*, *T. brownii*, *Pterocarpus lucens*, *Combretum collinum*, *Vitex doniana* on rocky outcrop; woodland with *Combretum collinum*, *C. molle*, *Annona senegalensis*; 200-1800 m alt.

Bioko/Fernando Poo.

SYNONYMS:

Albizia altissima Hook. f. = **Cathormion**

amaniensis Bak. f. = **Albizia schimperiana** var.

amara sensu Gilbert & Boutique = **A. amara** subsp. **sericocephala**

angolensis Welw. ex Oliv. = **A. ferruginea**

boromoensis Aubrév. & Pellegr. = **A. malacophylla** var. **ugandensis**

brachycalyx Oliv. = **A. petersiana** subsp. **petersiana**

brownei (Walp.) Oliv. = **A. zygia**

chirindensis (Swynnerton ex Bak. f.) Swynnerton ex Steedman = **A. adianthifolia**

conjugato-pinnata Vatke = **A. anthelmintica**

corbisieri De Wild. = **A. ferruginea**

ealaensis De Wild. = **A. gummifera** var.

eggelingii Bak. f. = **A. glaberrima**

elliptica Fourn. = **A. malacophylla**

ALBIZIA

- eriorhachis* Harms = **Cathormion eriorhachis**
- evansii* Burt Davy = **Albizia petersiana** subsp. **evansii**
- fastigiata* (E. Mey.) Oliv., incl. var. *chirindensis* Swynnerton ex Bak. f. = **A. adianthifolia**
- flamignii* De Wild. = **Samanea leptophylla**
- flavovirens* Hoyle = **Samanea saman**
- gillardinii* Gilbert & Boutique = **Albizia grandibracteata**
- glabrescens* Oliv. incl. var. *angolensis* Bak. f. = **A. glaberrima**
- gracilifolia* Harms = **A. amara**
- hypoleuca* Oliv. = **A. harveyi**
- intermedia* De Wild. & T. Durand = **A. adianthifolia** var.
- katangensis* De Wild. = **A. coriaria**
- laevicorticata* Zimm. = **A. gummifera**
- lebbeck* (L.) Benth. var. *australis* Burt Davy = **Albizia tanganyicensis**
- leptophylla* Harms = **Samanea leptophylla**
- letestui* Pellegr. = **Albizia zygia**
- lugardii* N. E. Br. = **Acacia nigrescens**
- maraguensis* Taub. ex Engl. = ? **Albizia schimperiana**
- mearnsii* De Wild. = **Albizia gummifera**
- mossambicensis* Bolle = ? **Acacia ataxacantha**
- mossambicensis* Sim = **Albizia versicolor**
- nyasica* Dunkley = **A. zimmermannii**
- obliquifoliolata* De Wild. = **Cathormion obliquifoliolata**
- ogadensis* (Chiov.) Bak. f. ex Chiov. = **Acacia ogadensis**
- oliveri* Pellegr. nom. inval. = **Albizia adianthifolia** var. **intermedia**
- pallida* Harv., non Fourn. = **A. harveyi**
- pallida* Fourn. = **A. malacophylla**
- parvifolia* Burt Davy = **A. brevifolia**
- passargei* Harms = **Cathormion altissimum**
- poissonii* A. Chev. = **Albizia coriaria**
- pospichilii* Harms = **A. harveyi**
- quartiniana* (A. Rich.) Walp. = **A. malacophylla**
- rhodesica* Burt Davy = **A. tanganyicensis** subsp. **tanganyicensis**
- rhombifolia* Benth. = **Cathormion rhombifolium**
- rogersii* Burt Davy = **Albizia brevifolia**
- saman* (Jacq.) F. v. Muell. = **Samanea saman**
- sassa* (Willd.) Chiov. = **Albizia gummifera**
- sericocephala* Benth. = **A. amara** subsp. **sericocephala**
- sp. prob. *A. zygia* sensu White, Forest Fl. N. Rhod.: 90, 1962 = **Newtonia devredii**
- struthiophylla* Milne-Redh. = **Albizia amara** subsp. **sericocephala**

ALBIZIA

- umbalusiana* Sim = **A. anthelmintica**
- warneckeii* Harms = **A. glaberrima**
- welwitschii* Oliv. quoad p.p. specim. Mann = **A. adianthifolia**
- welwitschii* Oliv. quoad specim. Welwitsch 1770 (excl. fruct.), 1771 are the hybrid **A. intermedia** x **A. zygia** (fide Consp. Fl. Angol. 2: 296, 1954)
- welwitschii* var. *pedicellata* Gilbert & Boutique needs further investigation to determine its final taxonomic status
- welwitschioides* Schweinf. ex Bak. f. = **Albizia zygia**

AMBLYGONOCARPUS / 1

- Amblygonocarpus andongensis** (Welw. ex Oliv.) Exell & Torre
syn.: *Tetrapleura obtusangula* Welw. ex Oliv.; *Amblygonocarpus schweinfurthii* Harms; *A. obtusangulus* (Welw. ex Oliv.) Harms

Tree altogether glabrous 6-25 m; stem to 10 m, slender, straight, to 70 cm Ø; crown spreading and feathery; bark grey-black to black-brown scaling raggedly, leaving red scars; foliage graceful, pale, drooping at tips.

Open forests on sand; sandstone; savanna and rather open grass woodland in moister places; savanna on fine gravel; deciduous woodland of various types; from probably sea-level to 1370 m alt.

Caprivi Strip; Botswana.

(*ARTHROSAMANEA*) = **CATHORMION** and **SAMANEA**

AUBREVILLEA / 2

The fruits of *Aubrevillea* very much resemble those of *Stemonocoleus micranthus* (*Caesalpinaceae*).

Aubrevillea kerstingii (Harms) Pellegr.

bas.: *Piptadenia kerstingii* Harms

Tree to 37 m, with widely spreading branches and umbrella-like crown; bole straight, cylindrical, 2 m in girth, 120 cm Ø, with thin buttresses often forming broadly triangular flanges merging gradually with the twisted widely spreading roots; bark blackish or reddish-brownish, flaking off in large patches.

Small wood of half-deciduous rain-forest; especially characteristic of forest outliers in savanna country; secondary forest; also evergreen forest; 400-1200 m alt.

Resembling *Piptadeniastrum africanum*. Leaves closely resemble those of *Parkia bicolor*.

A. platycarpa Pellegr.

Tree 25-50 m; bole straight or sinuous, irregular, to 100 cm Ø and with 2-3 narrow plank-like buttresses, to 1 m high, spreading to 1-3 m from the base; leaves may be mistaken for *Pentaclethra*; crown dense, rounded.

Closed- to semi-deciduous forest.

CALLIANDRA / 1

Mainly neotropical genus.

Calliandra gilbertii Thulin & Hunde

Much-branched spreading shrub 1-2,5 m tall; branches grey to dark grey-brown with minutely flaking bark, lateral branches diverging at wide angles and becoming \pm spinescent at the ends; young branches pubescent with \pm curved hairs and with some minute purplish glandular bodies particularly near the nodes.

Rich *Acacia-Commiphora* bush or woodland on sandy soil; 70-500 m alt.

The second species of the genus in continental Africa, **C. redacta** (Ross) Thulin & Hunde, occurs in S. Africa near the Namibia border. The distribution of the two African species provides yet another example of the phytogeographical link between the arid zones of northern and southern Africa. In the case of *Calliandra* the link is combined with a neotropical affinity; it is the same with the genera *Turnera* (*Turneraceae*) and *Parkinsonia* (*Caesalpinaceae*). The isolated, narrow distribution in Africa supports the view that these species are of a relic nature.

Calliandra amblyphylla Harms (described from the Cameroons) = **C. falcata** Benth native of N Venezuela on the Caribbean coast and inwards (R. C. Barneby, *Silk Tree*,...III, *Calliandra* in Mem. N. York Bot. Gard. 74/3: 105-108, 1998).

SYNONYM:

Calliandra xylocarpa Sprague = **Bussea** (*Caesalpinaceae*).

CALPOCALYX / 11

Calpocalyx atlanticus Villiers

Tree 7-10 m; trunk to 10 cm \emptyset ; flower unknown.

River banks.

C. aubrevillei Pellegr.

Tree 25(-30) m; bole buttressed to 1,5 m height, or stilt-rooted (on poorly drained soils), free to 18 m and 0,7 m \emptyset , but often curved and then rather soon branched; crown thick.

Rain-forest in valleys and on river banks; very abundant or rather common by places; \pm 700 m alt. (Liberia).

C. brevibracteatus Harms

syn.: *C. macrostachys* Harms; *Piptadenia chevalieri* A. Chev. 1909, non Harms 1909 (= *Tetrapleura chevalieri*).

Tree 15-30 m; bole 0,5-1,2 m \emptyset , straight or sometimes crooked, often fluted, with slight sharp buttresses.

Old secondary forests; rain-forests; sometimes on river banks or road sides; sometimes abundant; plains and low slopes.

Not in Cameroon.

C. brevifolius Villiers

Tree; fruit unknown.

Ecology unknown (? rain-forest).

Only known from the type collected in 1914.

CALPOCALYX

C. cauliflorus Hoyle

Tree to \pm 18(-20) m, deciduous; bole 1,5 m in girth, sometimes fluted, with short sharp buttresses; bark dark, thin, flaking off in old trees; cauliflorous; fruit known! Myrmecophilous (branchlets hollow inhabited by ants). Flowers apparently never terminal among the foliage (vide *C. winkleri*).

Rain-forest. The commonest *Calpocalyx* in SE Nigeria.

C. dinklagei Harms

syn.: *Erythrophloeum dinklagei* Taub., nom. nud.

Shrub or tree 6-15 m tall (-27 m in W Cameroon); bole \pm sinuous, very ramose, 6-25-50 cm \emptyset , with buttresses at the base.

Rain-forest; sometimes very abundant; 1-200 m alt.

Recorded only once from Nigeria.

C. heitzei Pellegr.

Tree; bole straight, to 0,8 m \emptyset , with 4-5 buttresses 10 cm thick at 45° angle.

Coastal forest; sometimes gregarious.

C. klainei Pierre ex Harms

Tree 7-10(-25) m; bole short, slightly fluted, to 30-40 cm \emptyset ; crown umbrella-like, rather open.

Coastal forest in Gabon.

C. letestui Pellegr.

Tree 7 m; trunk \pm 10 cm \emptyset ; fruit unknown.

Mountain (in south central Gabon); also in E part.

C. ngounyensis Pellegr. ("ngouniensis").

Tree with trunk to 0,3 m \emptyset ; fruit unknown.

Coastal forest on clayey-sandy soils; also hollow in forest.

C. winkleri (Harms) Harms

bas.: *Piptadenia winkleri* Harms

Tree to 20 m; flowers among the foliage and also on the stem right down to the ground (vide *C. cauliflorus*); branchlets hollow, inhabited by ants; fruit known!

Rain-forest; 800-1000 m alt.

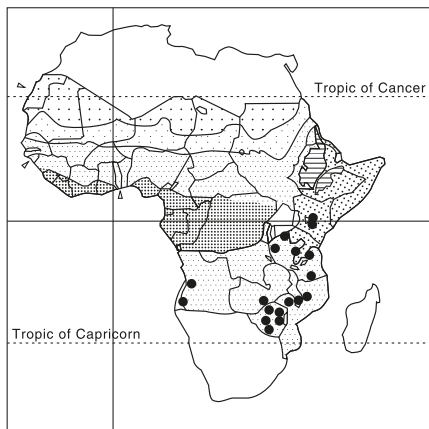
CATHORMION / 4

Cathormion altissimum (Hook. f.) Hutch. & Dandy

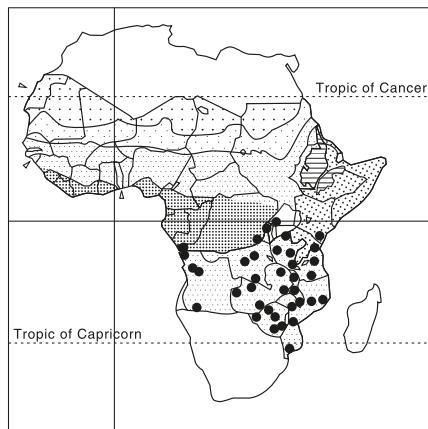
bas.: *Albizia altissima* Hook. f.

syn.: *Pithecellobium altissimum* (Hook. f.) Oliv.

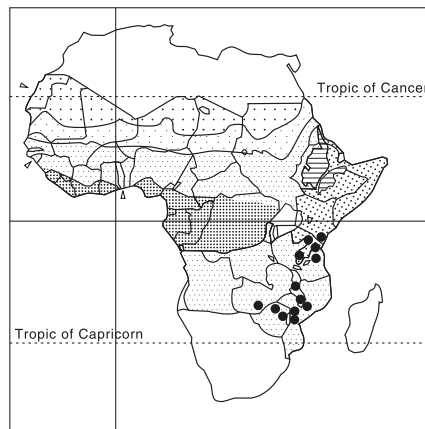
Shrub or tree 5-35 m tall, deciduous; bole short, 1,8 m in girth, 80 cm \emptyset and more, enlarged at the base, knotty or thorny, branching low; unarmed or often spinous on juvenile and sucker shoots; crown flat, spreading; branches drooping (overhanging rivers).



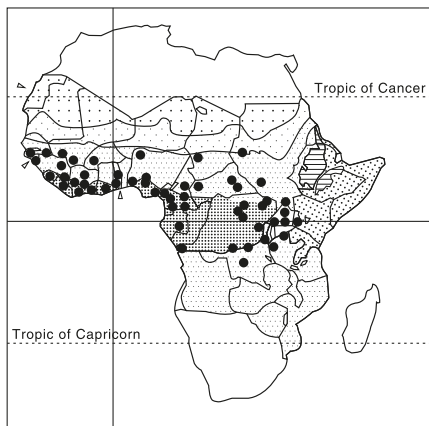
Albizia tanganyicensis



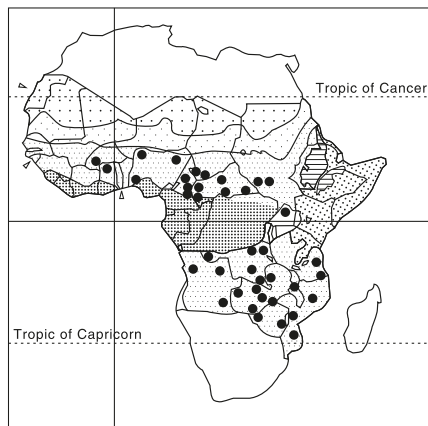
Albizia versicolor



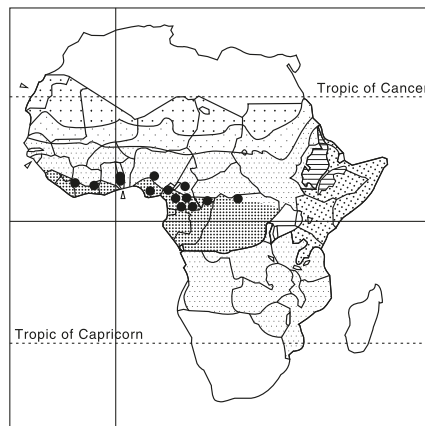
Albizia zimmermannii



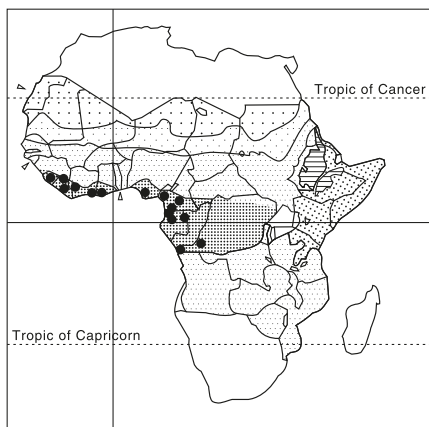
Albizia zygia



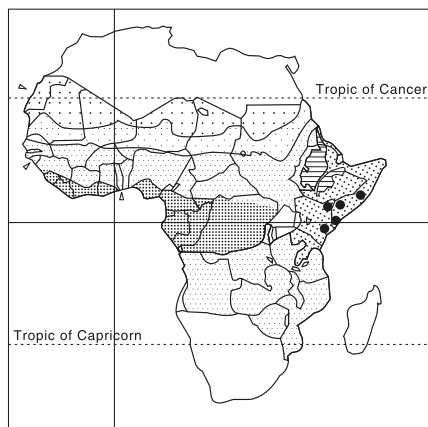
Amblygonocarpus andongensis



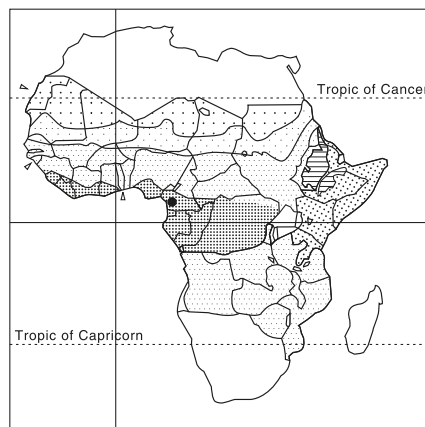
Aubrevillea kerstingii



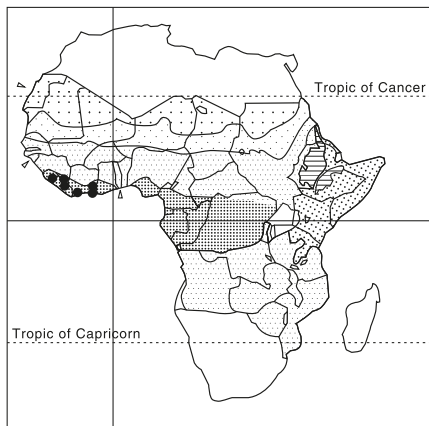
Aubrevillea platycarpa



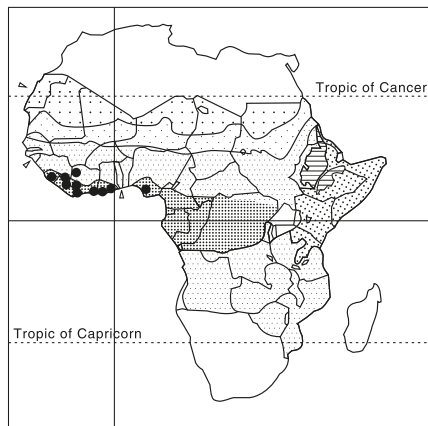
Calliandra gilbertii



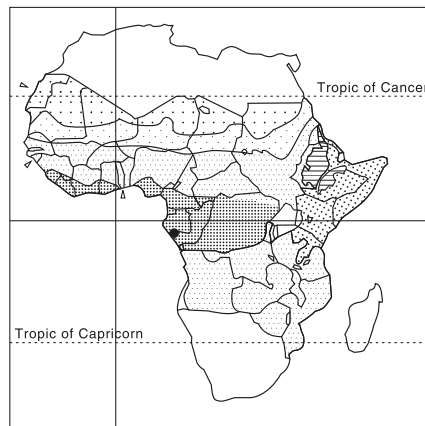
Calpocalyx atlanticus



Calpocalyx aubrevillei



Calpocalyx brevibracteatus



Calpocalyx brevifolius

CATHORMION ALTISSIMUM

Fresh-water swamp-forest; forests (deciduous and secondary) by river banks; riverside tree in the tall evergreen forest; 10-1000 m alt.

Bioko/Fernando Poo.

Comprises 2 vars.

C. eriorhachis (Harms) Dandy

Slender tree 5-9 m; crown spreading, drooping; young branchlets densely short-rusty tomentose; bark greyish, scaly.

Close wooded savanna; in pure stands (Adamaoua, Cameroon); dry forests; frequent on sandstone (Upper Sangha, Centr. Afr. Rep.); to ± 1000-1100 m alt.

C. obliquifoliolatum (De Wild.) Gilbert & Boutique

bas.: *Albizia obliquifoliolata* De Wild.

syn.: *Pithecellobium obliquifoliolatum* (De Wild.) J. Léonard

Tree 25-30 m, with regular crown; bole 5-6 m tall, to 1 m Ø; bark smooth, greyish.

Riparian forest vegetation.

C. rhombifolium (Benth.) Hutch. & Dandy

Tree to 8-10 m tall.

Swamp forest; river banks.

Congo Brazzaville?

CYLICODISCUS / 1

Cylicodiscus gabunensis Harms

syn.: *Cyrtoxiphus staudtii* Harms

Tree to 60 m; bole straight, cylindrical, clear to 24 m high, >2 m Ø, 11 m in girth, swollen at the base, sometimes slightly fluted (short buttresses); armed with brown thorns in the sapling stage and may be mistaken for a species of *Fagara*; crown flat-tish, wide-spreading and fairly open; fruit to 75-90 cm long.

Evergreen and deciduous forest; sometimes common; 400-450 m alt.

SYNONYMS:

Cylicodiscus battiscombei Bak. f. = **Newtonia paucijuga paucijugus** (Harms) Verdc. = **N. paucijuga**

(DESMANTHUS)

SYNONYMS:

Desmanthus divergens Willd. = **Dichrostachys cinerea** subsp. **africana** var. **africana**

leptostachys DC. p.p. = same as above, and **D. cinerea** subsp. **platycarpa** var. **occidentalis**

nutans (Pers.) DC. = **D. cinerea** subsp. **africana** var. **africana**

trichostachys DC. = same as for *nutans* above

DICHROSTACHYS / 2

HUGHES, C. E. & al. (2003). Relationships among genera of the informal Dichrostachys and Leucaena groups (Mimosoideae) inferred from nuclear ribosomal ITS sequences. In: KLITGAARD, B. B. & A. BRUNEAU, Eds., *Advances in Legume Systematics, part 10, Higher Level Systematics*: 221-238. Royal Botanic Gardens, Kew.

LUCKOW, M. (1997). Generic Relationships in the Dichrostachys Group (Leguminosae: Mimosoideae) Evidence from Chloroplast DNA Restriction Sites and Morphology. *Syst. Bot.* 22: 189-199.

DICHROSTACHYS

Dichrostachys cinerea (L.) Wight & Arn.

bas.: *Mimosa cinerea* L.

syn.: *M. glomerata* Forssk.; *M. nutans* Pers.; *Dichrostachys nutans* (Pers.) Benth., incl. var. *grandifolia* Lanza; *D. glomerata* (Forssk.) Chiov., incl. var. *grandifolia* (Lanza) Bak. f. and subsp. *glomerata*.

Shrub or tree 1-8(-12) m tall, sometimes suckering and thicket-forming or ever scandent, with rough bark and armed with spines terminating short lateral spreading twigs which often bear leaves and flowers; young branchlets ± pubescent; bole irregular, short, sometimes twisted, to 25 cm Ø.

Comprises 7 subspp. in tropical Africa. The infraspecific taxa of **D. cinerea** are primarily geographical, but there can be little doubt that some of them are ecologically distinct also. The total range of ecological tolerance is very great; near sealevel to 2000 m alt. Subsp. **cinerea**: the diversity of habitat and altitude suggests that this subsp. may be an aggregate of ecotypes; experimental cultivation is needed. Some forms are particular in evergreen bushland on the coast of East Africa (scandent form); – subsp. **africana** Brenan & Brummitt var. **lugardiae**: in association with baobab and mopane; – subsp. **africana** var. **setulosa** (Welw. ex Oliv.) Brenan & Brummitt: drier sandy soils away from mbugas, with more rounded and flatter form; – subsp. **argillicola** Brenan & Brummitt var. **hirtipes** Brenan & Brummitt: restricted to clayey dark brown or black valley soils (in mbugas), with more upright and less spreading form; – subsp. **nyassana** (Taub.) Brenan: *Brachystegia-Julbernardia*, *Combretum* deciduous woodland; wooded grassland; – subsp. **platycarpa** (Welw.) Brenan & Brummitt: more open parts of rain- and swamp-forest and of grassland derived from forest.

Very variable.

Cape Verde Islands; Botswana, S. Africa, Namibia; Comoro Islands; Arabia: SW Saudi Arabia, NW and E Yemen; only once recorded from Dhofar and Oman. – Subsp. **cinerea**: India, Sri Lanka; subsp. **burmana** Brenan & Brummitt: Burma; – subsp. **malesiana** Brenan & Brummitt: Thailand to the southern Indonesian Islands and northern Australia.

Infraspecific taxa of **D. cinerea** in tropical Africa:

subsp. **africana** Brenan & Brummitt

var. **africana**

syn.: *Mimosa sanguinea* Bruce; *Desmanthus divergens* Willd.; *Mimosa nutans* Pers.; *Desmanthus nutans* (Pers.) DC.; *D. trichostachys* DC.; *D. leptostachys* DC. p.p.; *Cailliea dichrostachys* Guill. & Perr., incl. var. *leptostachys* (DC.) Guill. & Perr.; *Dichrostachys nutans* (Pers.) Benth., incl. var. *grandifolia* Lanza; *D. trichostachys* (DC.)? Hochst. in sched. Schimper 704; *Piptadenia stenadenia* Griseb.; *Cailliea nutans* (Pers.) Skeels; *Dichrostachys glomerata* (Forssk.) Chiov. var. *grandifolia* (Lanza) Bak. f.

var. **karamojensis** Brenan & Brummitt

var. **lugardiae** (N. E. Br.) Brenan & Brummitt

bas.: *Dichrostachys lugardiae* N. E. Br.

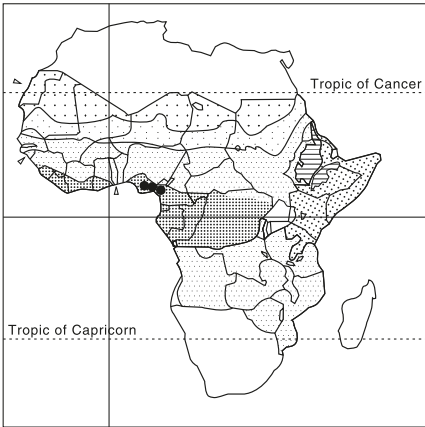
syn.: *Acacia engleri* Schinz; *Dichrostachys arborea* N. E. Br.

var. **plurijuga** Brenan & Brummitt

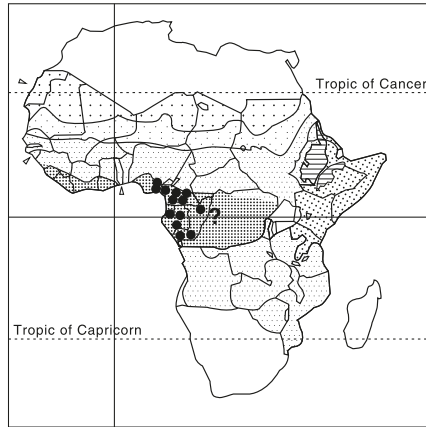
var. **pubescens** Brenan & Brummitt

var. **tanganyikensis** Brenan & Brummitt

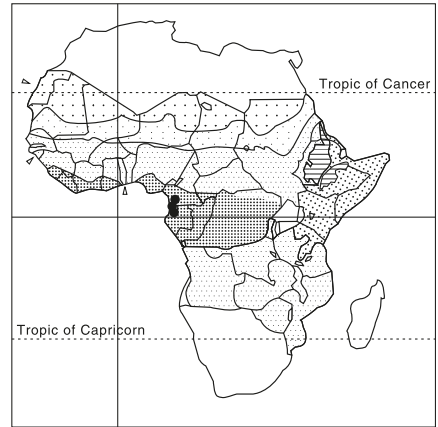
var. **setulosa** (Welw. ex Oliv.) Brenan & Brummitt



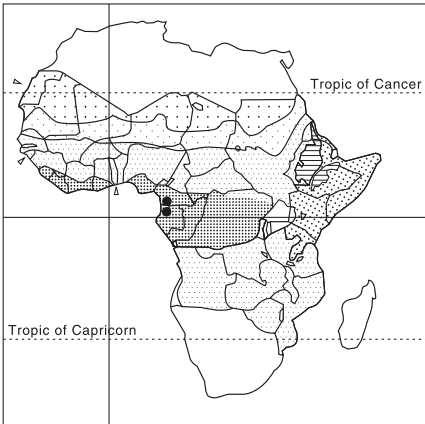
Calpocalyx cauliflorus



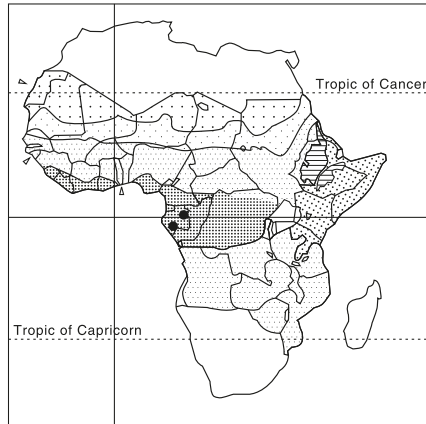
Calpocalyx dinklagei



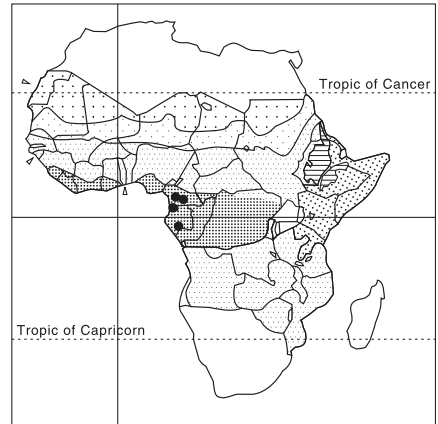
Calpocalyx heitzei



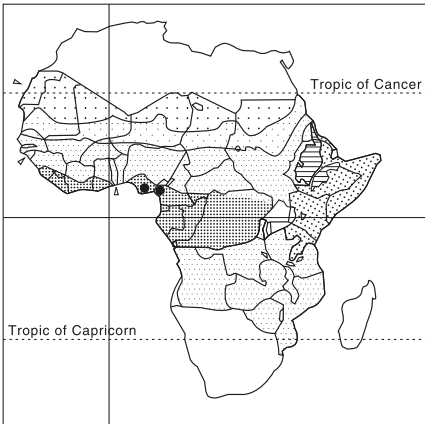
Calpocalyx klainei



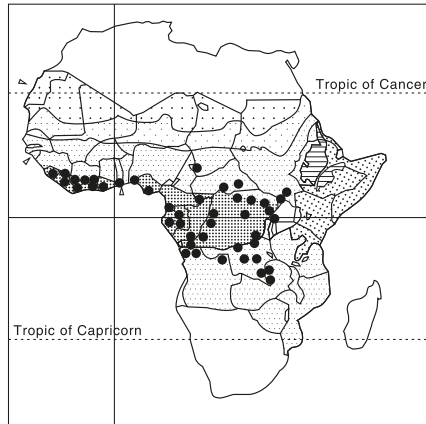
Calpocalyx letestui



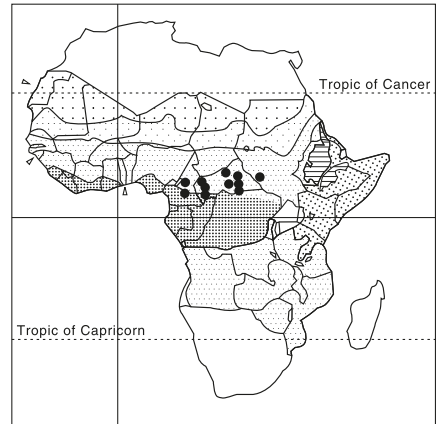
Calpocalyx ngounyensis



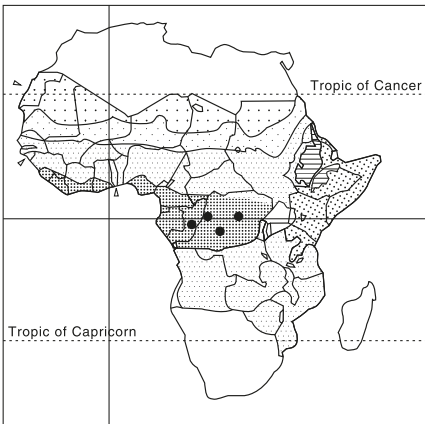
Calpocalyx winkleri



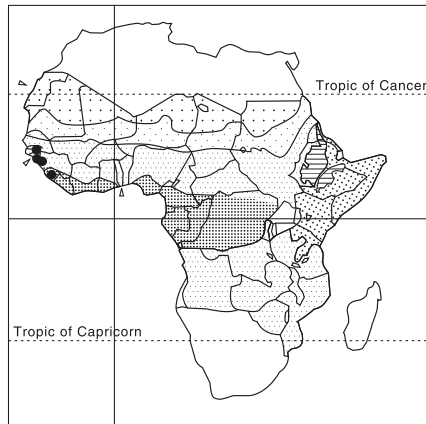
Cathormion altissimum



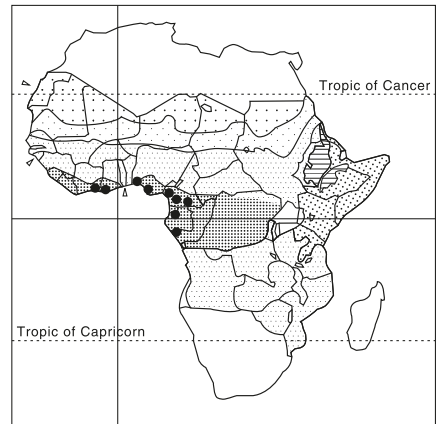
Cathormion eriorachis



Cathormion obliquifoliolatum



Cathormion rhombifolium



Cylicodiscus gabunensis

DICHROSTACHYS CINEREA

bas.: *Dichrostachys nutans* (Pers.) Benth. var. *setulosa* Welw. ex Oliv.

syn.: *Acacia kalachariensis* Schinz

subsp. **argillicola** Brenan & Brummitt

var. **argillicola**

var. **hirtipes** Brenan & Brummitt

subsp. **cinerea**

subsp. **forbesii** (Benth.) Brenan & Brummitt

bas.: *Dichrostachys forbesii* Benth.

subsp. **keniensis** Brenan & Brummitt

subsp. **nyassana** (Taub.) Brenan

bas.: *Dichrostachys nyassana* Taub.

syn.: *D. major* Sim; *D. glomerata* (Forssk.) Chiov.

subsp. *nyassana* (Taub.) Brenan

subsp. **platycarpa** (Welw. ex Bull) Brenan & Brummitt

bas.: *Dichrostachys platycarpa* Welw. ex Bull

syn.: *Cailliea platycarpa* (Welw. ex Bull) Macbr.

var. **platycarpa**

var. **occidentalis** Brenan & Brummitt

syn.: *Desmanthus leptostachys* DC. p.p. quoad syntypum Sierra Leone Smeathman; *Mimosa bicolor* Schumach. & Thonn.

Some intermediates between infraspecific taxa are known (vide Bol. Soc. Brot., Sér. 2, 39: 61-115, 1965).

Note: On Linnaeus' use of *Mimosa cinerea* (1753 and 1763), see Taxon 54: 1097, 2005 (proposal 1615 to reject *M. cinerea* L., sp. 10).

D. kirkii Benth. – Icon.: Chioventa, Resultati Sci. Miss. Stefanini-Paoli 1: tab. 8 B, 1916.

syn.: *D. benadirensis* Chiov.

Shrub or tree, armed with spines terminating short lateral twigs.

Acacia-Commiphora bushland, usually on sandy soil; 10-700 m alt.

Very variable (See Nord. J. Bot. 8: 459-460, 1989).

SYNONYMS:

Dichrostachys arborea N. E. Br. = **D. cinerea** subsp. **africana** var. **lugardiae**

benadirensis Chiov. = **D. kirkii**

forbesii Benth. = **D. cinerea** subsp. **africana** var. **forbesii**

glomerata (Forssk.) Chiov., incl. var. *grandifolia* (Lanza) Bak. f. and subsp. *glomerata* = **D. cinerea** subsp. **africana** var. **africana**

subsp. *nyassana* (Taub.) Brenan = **D. cinerea** subsp. **nyassana**

lugardiae N. E. Br. = **D. cinerea** subsp. **africana** var. **lugardiae**

major Sim = **D. cinerea** subsp. **nyassana**

nutans (Pers.) Benth., incl. var. *grandifolia* Lanza = **D. cinerea** subsp. **africana** var. **africana**

DICHROSTACHYS NUTANS

var. *setulosa* Welw. ex Oliv. = **D. cinerea** subsp. **africana** var. **setulosa**

nyassana Taub. = **D. cinerea** subsp. **nyassana**

platycarpa Welw. ex Bull = **D. cinerea** subsp. **platycarpa**

sp. B sensu Brenan in F.T.E.A. = **Calliandra gilbertii**

trichostachys (DC.) ? Hochst. in sched. = **Dichrostachys cinerea** subsp. **africana** var. **africana**

ELEPHANTORRHIZA / 4

Plants with enormous roots, which extend to a considerable depth into the ground (>1,8 m for young plants). "The underground root systems of each species need to be investigated as they may provide useful additional means of distinguishing some of the species" (Ross, 1974).

Elephantorrhiza burkei Benth.; D. May in Plant Life 22: 28-30, 2000.

syn.: *E. elephantina* (Burch.) Skeels var. *burkei* (Benth.) Merr.

Shrub or tree usually 1-6 m tall, occasionally 0,3 m, but then with stems distinctly woody and branched and the inflorescences normally on lateral shoots of the current season; with occasional tiny simple leaves like bracts; normal leaves 2-pinnate; bark dark grey to reddish.

Usually in rocky places, in woodland and grassland; ± 970-1370 m alt.

Botswana, S. Africa.

E. elephantina (Burch.) Skeels; D. May, l.c. (fig.).

bas.: *Acacia elephantina* Burch.

syn.: *A. elephantorrhiza* DC.; *Elephantorrhiza burchellii* Benth., nom. illegit.

Suffrutex producing at ground level – at the woody end of a ± elongate rhizome – annual herbaceous stems ± 20-60 cm tall; aerial stems usually unbranched except for inflorescence; racemes on lower part of stem only; leaves as in *E. burkei*.

Grassland; open *Acacia-Combretum* scrub; sometimes gregarious; 1060-1360 m alt.

Leaflets very variable.

Botswana, S. Africa.

E. goetzei (Harms) Harms

bas.: *Piptadenia goetzei* Harms

probable syn.: *Elephantorrhiza petersiana* Bolle (type now destroyed: Peters s.n., Mozambique, Sena).

Shrub or tree 1-4(-7) m tall, often multi-stemmed, deciduous; bark dark dull brown or red. Facultative geoxylic suffrutex (fide Vollesen in Nord. J. Bot. 1: 738, 1981).

Woodland of various types: *Brachystegia-Julbernardia*, *Brachystegia-Acacia*, *Pterocarpus-Albizia*, *Acacia-Combretum*, *Colophospermum mopane*, etc.; *Combretum* scrub on alluvial soil; often but not always in rocky places; sometimes at edge of rocky outcrops on hillside; 120-1460 m alt. (See Bol. Soc. Brot., Sér. 2, 39: 189-191, 1965).

ELEPHANTORRHIZA GOETZEI

Botswana, S. Africa; Angola?

Comprises 2 subspp.: – subsp. **goetzei** [syn.: *E. rubescens* Gibbs; *E. sp.* sensu Torre, Consp. Fl. Angol. 2: 263, 1956]; – subsp. **lata** Brenan & Brummitt [syn.: *E. sp.* 1 sensu White, Forest Fl. N. Rhodes.: 91, 1962].

Probably the only shrubby species in the genus which frequently produces its flowers when the plant is leafless.

E. suffruticosa Schinz

Branched shrub or tree 1-6 m tall; bark grey-brown to dark or reddish-brown.

Woodland; *Acacia* grassland; sometimes, at least, among rocks; 1050-2130 m alt. – More precise information is needed about the ecology.

Namibia.

SYNONYM:

Elephantorrhiza pubescens Phillips = **Entada abyssinica**

ENTADA / 18

Fruits of *Entada* are among the longest that exist (1-2 m long × 8-15 cm wide).

CROUCH, N. & R. SYMMONDS (1999). Teasing back the testa of the intindili. The mysterious Entada sea beans in local custom and cultivation. *Plant Life* 21: 26-27.

Entada abyssinica Steud. ex A. Rich., incl. var. *intermedia* Fiori and var. *microphylla* Oliv .

syn.: *Pusaetha abyssinica* Steud. ex A. Rich.; *Gigalobium abyssinicum* (Steud. ex A. Rich.) Hiern, incl. var. *microphylla* (Oliv.) Hiern; *Elephantorrhiza pubescens* Phillips

Tree 2,7-10(-15) m, low-branching; crown spreading, flat or rounded (leafless in dry season).

Wooded grassland or woodland of various sorts: *Brachystegia-Julbernardia*, *Combretum*, *Baikiaea*, *Acacia*, etc.; scrub; sometimes common in savanna on moist soils; marigot banks; hollows; edge of cultivation; stony hillside; wooded grassland with *Combretum molle*, *C. collinum*, *Erythrina abyssinica*, the grasses *Pennisetum purpureum*, *Hyparrhenia rufa* dominant; savannas; wooded thickets; sometimes abundant; very mixed open woods with *Protea* spp., *Eugenia* spp., *Combretaceae*, etc.; secondary woods with tall bushes; 60-2290 m alt.

Hybrids with *E. africana* are known.

E. africana Guill. & Perr.

syn.: *E. sudanica* Schweinf., excl. var. *pubescens* Jum. & H. Perrier (= *E. chrysostachys*) and excl. var. *pauciflora* De Wild. (= *E. mannii*); *Pusaetha africana* (Schweinf.) O. Kuntze; *Entadopsis sudanica* (Schweinf.) Gilbert & Bouquet; *Entada ubanguiensis* De Wild.

Shrub or straggling tree 1,2-10 m tall, usually with very rough bark; often ramose from the base; crown wide.

ENTADA AFRICANA

Savanna subject to fires; degraded regrowths; wooded scrub in flooded hollow; marigot banks; sometimes rather frequent or very common; deep sandy soils; ± rocky soils; wooded savannas; open wooded grassland; 450-1100 m alt.

E. arenaria Schinz; Bothalia 11: 126, 1973.

Suffrutex with stout woody rhizome producing erect annual stems 5-100 cm tall.

Grassland and woodland with *Brachystegia* or with *Baikiaea-Burkea* on Kalahari sand; ± 1200 m alt.

Namibia.

Comprises 2 subspp.

E. bacillaris F. White

syn.: *A. nana* Harms var. *pubescens* R. E. Fries

Shrub 1,2-1,8 m tall with simple or slightly ramose, virgate stems; young parts clothed with a spreading golden or grey indumentum.

Rocky hills on shore of lake clothed with *Brachystegia longifolia* and tall grass; woodland with *Brachystegia longifolia*, *Swartzia*, *Anisophyllea*, etc. on shallow rocky soil; escarpment with *Brachystegia* woodland; sometimes on sandy soil; 840-1740 m alt.

Comprises 2 vars.

E. camerunensis Villiers

Woody liane with stems to 15 cm Ø at the base, or sarmentous shrub; stem successively bifurcate, forming large tangles.

Gallery forest; on scrub in savannas at the edges of forests.

E. chrysostachys (Benth.) Drake

bas.: *Adenanthera chrysostachys* Benth.

syn.: *Acacia chrysostachys* Sweet, nom. subnud.; *Entada kirkii* Oliv.; *Piptadenia chrysostachys* (Benth.) Benth.; *P. boiviniana* Baill.; *P. greveana* Baill.; *P. grandidieri* Baill.; *P. flabellata* Baill.; *Entada sudanica* Schweinf. var. *pubescens* Jum. & H. Perrier; *E. boiviniana* (Baill.) Drake

Shrub or climber to ± 12 m tall; trunk to 20 cm Ø, often twisted.

Large rocks by river rapids; *Colophospermum mopane* woodland; 40-160 m alt.

Madagascar, Comoro Isl. – Perhaps in Pemba Isl. and Tanzania.

E. dolichorachis Brenan

Herb from a woody rootstock with erect annual stems *though abbreviated* 1-10 cm tall, shortly tomentose or densely pubescent when young; *immensely* elongate leaves which trail along the ground (petiole 5-33 cm long, leaf-rachis 15-90 cm long).

Brachystegia microphylla woodland on consolidated scree on ridge by the roadside with *Uapaca robynsii*, *Monotes*, *Pari-nari bequaertii*, *Cryptosepalum*; riverbank in sandy open spaces among rocks and scattered trees; ground floor of dambo margin; 780-1620 m alt.

ENTADA

E. gigas (L.) Fawcett & Rendle

bas.: *Mimosa gigas* L.

syn.: *Entada scandens* (L.) Benth. subsp. *planoseminata* De Wild. and subsp. *umbonata* De Wild.

Liane to 30 m tall; stem 10 cm Ø; rachis of leaves ending in a forked tendril; pods *gigantic* (0,4-1,2 m long × 7,5-12 cm wide), twisted into a single or double lax spiral, with the sides also often twisted.

Fringing forest by rivers (locally common); forest edges; 500-1650 m alt.

Bioko/Fernando Poo (reported as *E. scandens*); West Indies, Central America, Colombia. – Distribution derived from drifting seeds (vide C. R. Gunn & J. V. Dennis, World Guide to Tropical Drift Seeds and Fruits, 1999).

Planted as a fetish tree near Gabonese villages.

Similar to *E. rheedei* (seeds indistinguishable).

Uncertain in Tanzania; collected once in Kenya.

E. hockii De Wild.

? Suffrutex with branches ± 18 cm long; fruit unknown.

Forest edges.

Only known from the type (poor specimen) collected in 1911.

Near *E. bacillaris*.

E. leptostachya Harms

Climbing shrub or tree 3-10 m tall; occasionally erect.

Dry scrub with trees; *Acacia-Commiphora* woodland and bushland; to 230-1520 m alt.

E. mannii (Oliv.) Tisserant

bas.: *Piptadenia? mannii* Oliv.

syn.: *Entada sudanica* Schweinf. var. *pauciflora* De Wild.; *E. bequaertii* De Wild.

Liane, often very sarmentous; stems 2-15-30 m long, 8-15 cm Ø; sometimes arborescent (Cameroon).

Forest edges; streamside forest; rocky hills in forest regions; humid places; pool and ravine sides; regrowth; 0-525 m alt.

Bioko/Fernando Poo.

E. mossambicensis Torre

Suberect shrub, branched from the base, 1-2 m tall; roots fasciculate, thick, fusiform, 20-30 × 4 cm; leaflets very numerous (40-138 pairs), small (3-5 × 0,75 mm).

Ecology unknown.

E. nudiflora Brenan

Slender woody climber to 3 m tall; leafless while flowering.

Deciduous thicket and scrub; *Brachystegia allenii* woodland; often on rocky hillsides; sometimes on sandy soil; dry gritty soil in long grass at side of track; very dry mushitu; in loam on steep bank in deep shade; 840-910 m alt.

ENTADA

E. phaneroneura Brenan

Frutex with stems to 12 m long, scandent; young stems slender, longitudinally sulcate; rachis of leaves ending in a circinate appendix.

Wooded savanna with *Bauhinia-Acacia*; forest with *Strychnos potatorum*; xerophilous thickets with *Capparis tomentosa*; 800 m alt.

E. rheedei Spreng. (January-May 1825); Plantlife 21: 26-27, 1999.

syn.: *Adenantha gogo* Blanco; *Entada monostachya* DC.; *Mimosa entada* L.; *Entada cirrhosa* Raf.; *E. schefferi* Ridley

Liane to 75 m long with very stout stem; rachis of leaves ending in a forked tendril; plant profusely leafy; pods enormous, straight, very woody, flat, to 2 m long × 15 cm wide.

Rain-forest; fringing forest; evergreen bushland in *Chlorophora-Albizia* woodland; near sea-level to ± 600 m alt.

Bioko/Fernando Poo; S. Africa. – From India to China, the Philippines, Guam and N Australia.

With drifting seeds (cf. above under *E. gigas*).

E. spinescens Brenan

Slender woody climber to 3,6 m tall or more, unarmed except the spinescent stipules; young branchlets often flexuous.

Fairly frequent in *Commiphora-Cordyla* thicket; broken thicket on side of escarpment; sometimes very local; over trees on brown soil in deciduous scrub, not common; 910-1220 m alt.

E. stuhlmannii (Taub.) Harms

bas.: *Pusaetha stuhlmannii* Taub.

Slender woody climber, said to have a tuberous root; young branches often flexuous; mature seeds unknown.

Coastal scrub; deciduous bushland; scattered-tree grassland; 15-1600 m alt.

E. wahlbergii Harv.

syn.: *Pusaetha wahlbergii* (Harv.) O. Kuntze

Slender woody climber to 3 m tall or more; young branchlets flexuous or very zigzag.

Wooded grassland; open forest in hard-pan hollow area; woodland; especially associated with riverine forest; dry forest on sand; savannas; 610-1070 m alt.

S. Africa.

Entada spicata (E. Mey.) Druce from S. Africa may well occur in the southern part of Mozambique (See map in Bothalia 11: 125, 1973).

SYNONYMS:

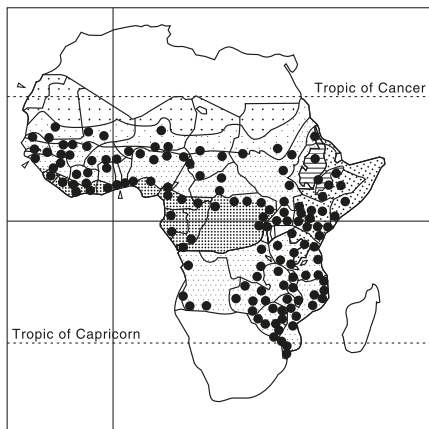
Entada bequaertii De Wild. = **E. mannii**

boiviniana (Baill.) Drake = **E. chrysostachys**

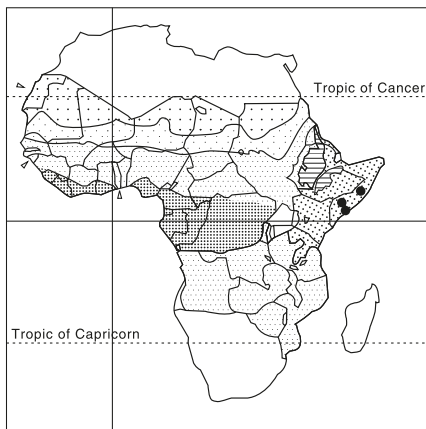
cirrhosa Raf. = **E. rheedei**

claessensii De Wild. = **Pseudoprosopis claessensii**

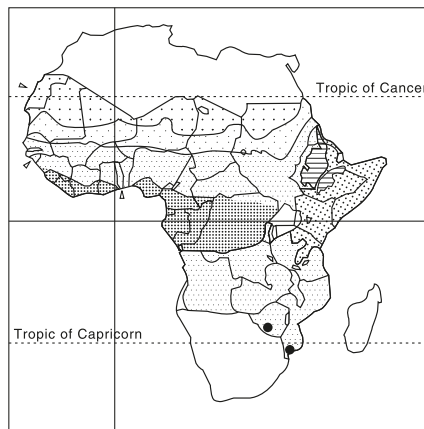
coulteria Roberty = **Prosopis africana**



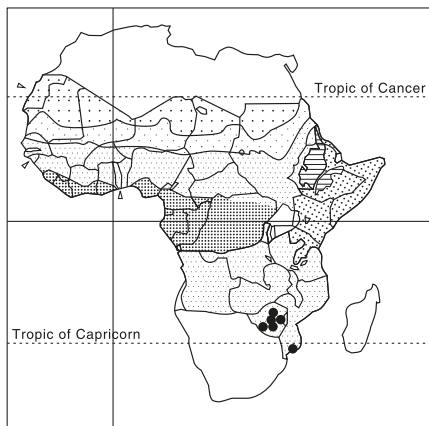
Dichrostachys cinerea



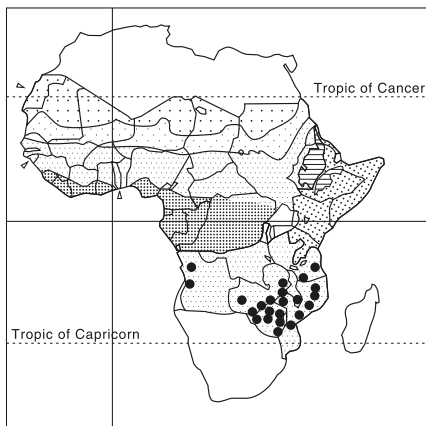
Dichrostachys kirkii



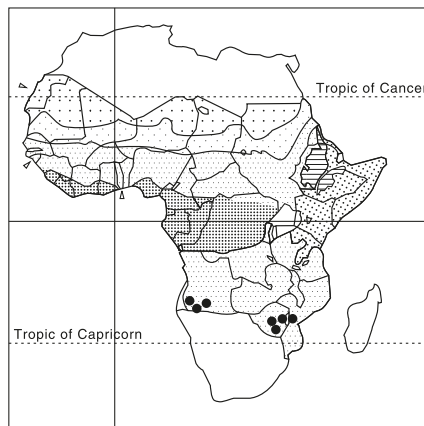
Elephantorrhiza burkei



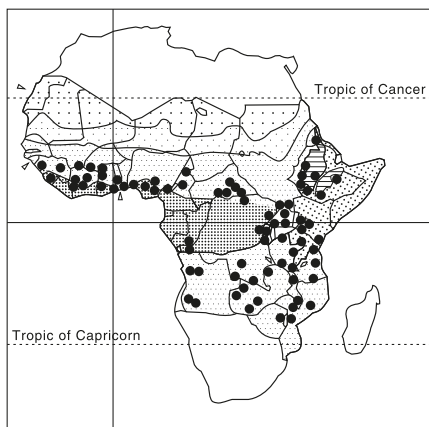
Elephantorrhiza elephantina



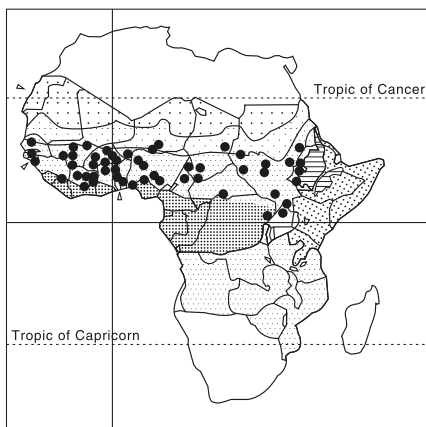
Elephantorrhiza goetzei



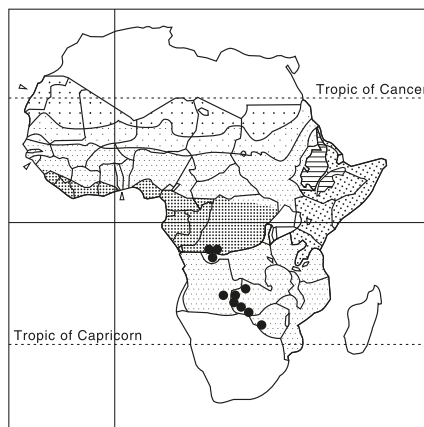
Elephantorrhiza suffruticosa



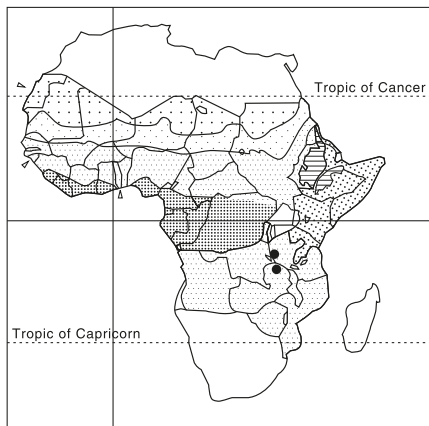
Entada abyssinica



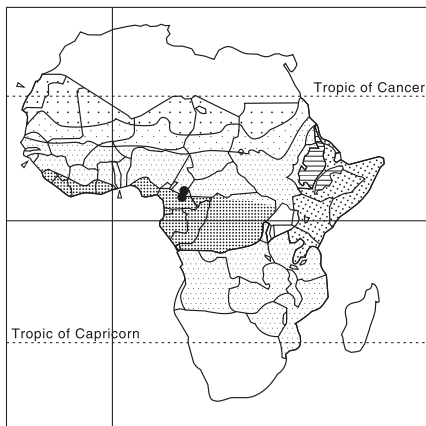
Entada africana



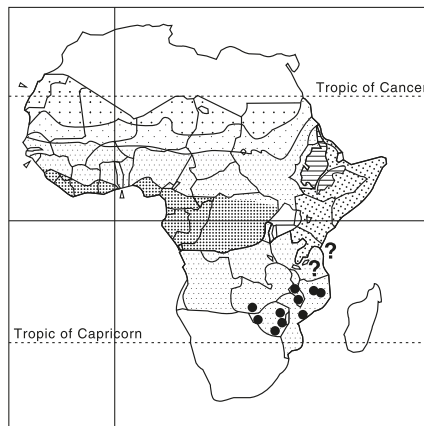
Entada arenaria



Entada bacillaris



Entada camerunensis



Entada chrysostachys

ENTADA

- ? *duparquetiana* Baill. = **Newtonia duparquetiana**
- flexuosa* Hutch. & Dalz. = **Entada wahlbergii**
- gigas* auct., non Fawcett & Rendle, e.g. Gilbert & Boutique
= **E. rheedei**
- gogo* (Blanco) I. M. Johnst. = **E. rheedei**
- "*juliflora* (DC.) Roberty" = **Prosopis juliflora**
- kirkii* Oliv. = **Entada chrysostachys**
- monostachya* DC. = **E. rheedei**
- nana* Harms = **Entada arenaria** subsp. **arenaria**
subsp. *microcarpa* Brenan = **E. arenaria** subsp. **microcarpa**
var. *pubescens* R. E. Fr. = **E. bacillaris**
- phaseoloides* auctt., non (L.) Merrill = **E. rheedei**
- planoseminata* (De Wild.) Gilbert & Boutique = **E. gigas**
- pursaetha* DC. = **E. rheedei**
- rotundifolia* Harms = **Adenopodia**
- scandens* (L.) Benth. subsp. *planoseminata* De Wild. and
subsp. *umbonata* De Wild. = **Entada gigas**
- scelerata* A. Chev. = **Adenopodia**
- schefferi* Ridley = **Entada rheedei**
- schlechteri* (Harms) Harms = **Adenopodia**
- sp. 1 sensu White, Forest Fl. N. Rhod. = **Entada dolichorachis**
- sp. 2 sensu White, o. c. = **E. arenaria** subsp. **microcarpa**
- sudanica* Schweinf. s. str. = **E. africana**
var. *pauciflora* De Wild. = **E. mannii**
var. *pubescens* Jum. & H. Perrier = **E. chrysostachys**
- sudanica* auctt. = **E. chrysostachys**
- suffruticosa* Vatke = **Mimosa**
- tetraptera* (Schumach. & Thonn.) Roberty = **Tetrapleura tetraptera**
- ubanguiensis* De Wild. = **Entada africana**
- umbonata* (De Wild.) Gilbert & Boutique = **E. gigas**
- wahlbergii* auctt., non Harv., p.p. = **E. nudiflora**

FAIDHERBIA / 1

- BERNARD, C. (2002). *Faidherbia albida* (Delile) A. Chev. In: OYEN, L. P. A. & R. H. M. J. LEMMENS, Eds., *Ressources végétales de l'Afrique tropicale. Précurseur*: 95-100. [Traduction de: Plant Resources of Tropical Africa. Precursor. 2002] Programme PROTA, Wageningen.
- DANGASUK, O. G. & al. (1997). Genetic variation in seed and seedling traits in 12 African provenances of *Faidherbia albida* (Del.) A. Chev. at Lodwar, Kenya. *Agroforestry Systems* 37(2): 133-141 [*Seed Abstr.* 21(4): n° 1052, 1998].
- GASSAMA-DIA, Y. K. & al. (2003). Reproductive biology of *Faidherbia albida* (Del.) A. Chev. *Silva Fenn.* 37: 429-436.
- HARRIS, S. A. & al. (1997). Isozyme variation in *Faidherbia albida* (Leguminosae, Mimosoideae). *Pl. Syst. Evol.* 207: 119-132.

FAIDHERBIA

- IBRAHIM, A. M. (1996). *Genetic variation in Faidherbia albida: Implications for conservation of genetic resources and tree improvement*. Thesis, Department of Plant Biology, University of Helsinki (Tropical Forestry Reports), Finland. 86 pp.
- IBRAHIM, A. M. & al. (1997). Seed and seedling variation amongst provenances in *Faidherbia albida*. In Special issue: Regeneration success and early growth of forest stands. Selected and edited papers from the IUFRO conference on modelling regeneration success and early growth of forest stands, held in Copenhagen, Denmark, 10-13 June 1996 [edited by Skovsgaard, J. P. & J. K. Vanclay]. *Forest Ecology and Management* (1997) 97 (2): 197-205 [*Seed Abstr.* 21: n° 2459, 1998].
- MONTAGNE, P. (1996). Protection de la régénération naturelle de *Faidherbia albida*. In: PELTIER, R., Ed., *Les parcs à Faidherbia*: 283-295.
- MÜLLER, J. V. (2005). See under *Acacia* p. 16.
- PELTIER, R., Ed. (1996). *Les parcs à Faidherbia*. CIRAD-Forêt (coll. Cahiers Scientifiques 12), Service Publications, Montpellier. 311 pp.

Faidherbia albida (Del.) A. Chev.

syn.: *Acacia saccharata* Benth.; *A. mossambicensis* Bolle; *A. albida* Del. var. *senegalensis* Benth., var. *microfoliolata* De Wild. and var. *variofoliolata* De Wild.; *A. gyrocarpa* Hochst. ex A. Rich.; *Prosopis? kirkii* Oliv.

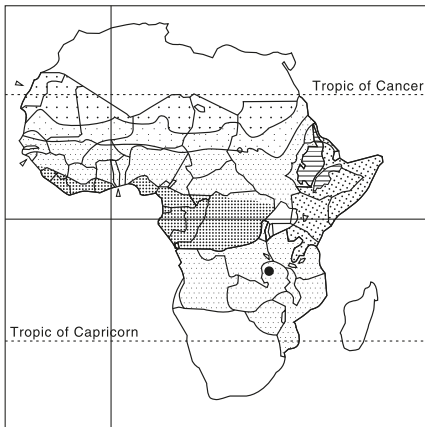
Tree 6-30 m; mature trees with rounded crown and spreading branches; juvenile trees with markedly zigzag and appressed branches, besom-like in habit; bole straight to about a third of the overall height, 80-100 cm Ø; trunk usually solitary, either with slight buttresses or non-buttressed; multi-stemmed forms either due to trunk coppicing or root suckering, and then usually shrub-like; bark brown to dull grey, rough and cork-like, deeply fissured and scaly; branches reddish-brown to white; new shoots smooth, markedly zigzag, mealy-white and fissured to expose a green underbark; stipules spinescent, paired, straight, to 1,5(-2,3) cm long, white to grey with brown base; flowers yellowish white, in spikes; pods falcate or curled into circular coils.

Wide range of habitats from the fringing vegetation on alluvial soils of perennial or seasonal watercourses to open savanna woodland and cultivated lands; occurs singly or gregariously and may either dominate the community or be an occasional constituent (for more detailed information, See: Ross, Bol. Soc. Brot., Sér. 2, 40: 189-190, 1966; Wickens, Kew Bull. 23: 188-191, 1969); 0-2500 m alt. – Antropogenic characters: common around villages and old and present areas of cultivation; when bush is cleared for agriculture it is left standing.

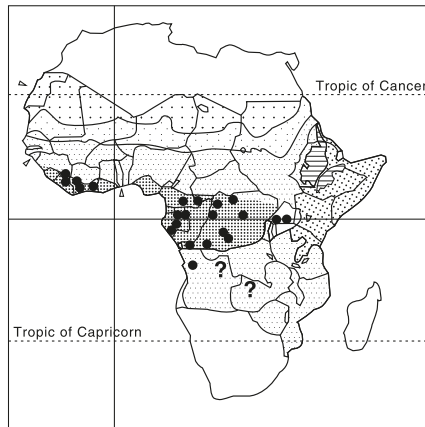
Namibia, Caprivi Strip, S. Africa; Morocco (Jebel Ouarkiz: 28°40' N × 8°35' W), S Algeria, Egypt (See Candollea 41: 184-190, 1986). – Introduced into Libya (Serdeles: one tree seen from 1822 to 1957, and probably after; rigorously protected as a marabout), Cape Verde Islands, Ascension Island.

Sometimes grown as a hedge, and as a shade-tree for coffee, peppers and yams.

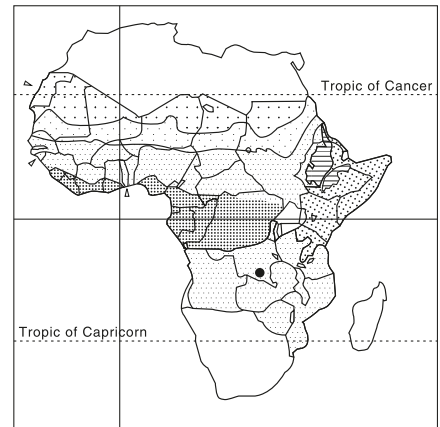
Faidherbia sheds its leaves at the start of the rainy season, putting on new foliage when the dry season starts; this phenomenon is very rare amongst the African arborescent flora (e.g. *Salix subserrata* on Jebel Marra, Sudan; *Celtis africana*, *Ficus vasta* in Ethiopia).



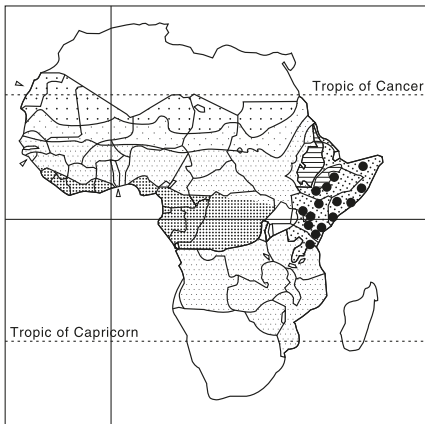
Entada dolichorachis



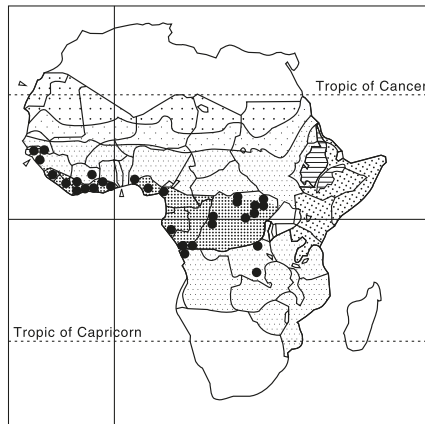
Entada gigas



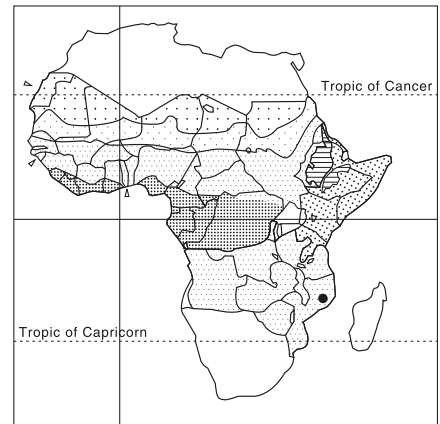
Entada hockii



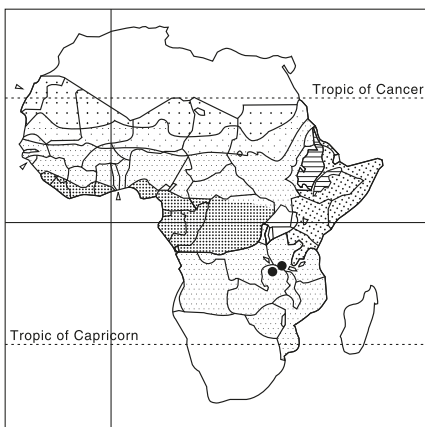
Entada leptostachya



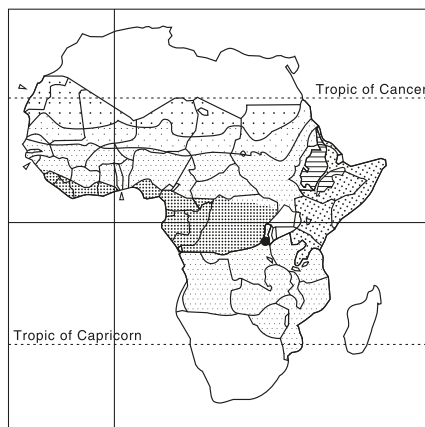
Entada mannii



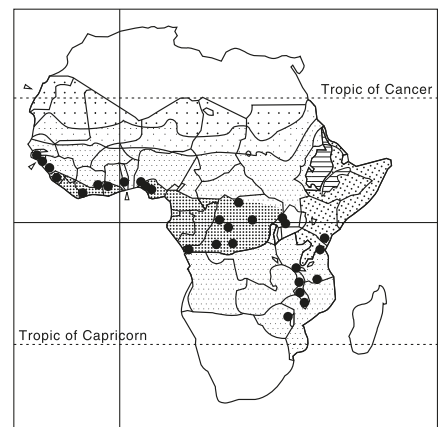
Entada mossambicensis



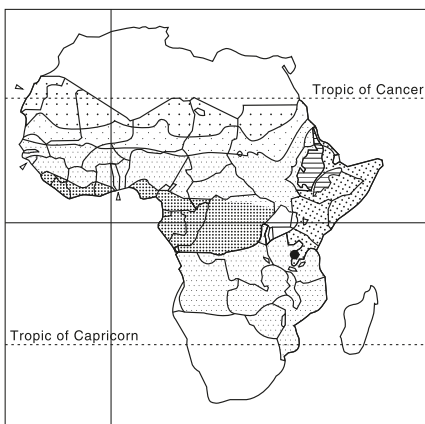
Entada nudiflora



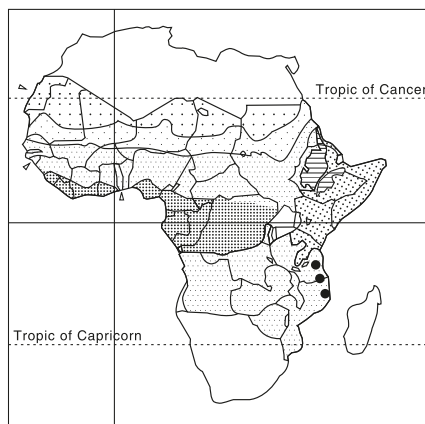
Entada phanoneura



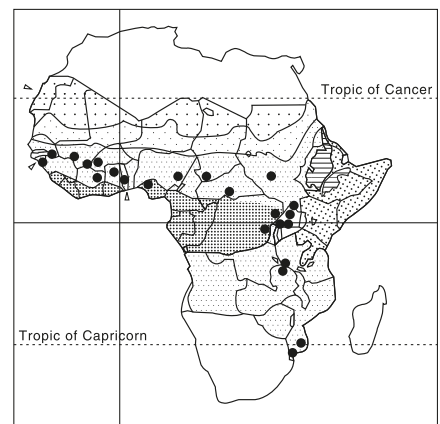
Entada rheedei



Entada spinescens



Entada stuhlmannii



Entada wahlbergii

FILLAEOPSIS / 1

Fillaeopsis discophora Harms – Icon.: Bot. Jahrb. Syst. 26: tab. 6, 1899.

Tree 10-15-35-40 m, evergreen, with slightly sinuous bole to 7 m long, 0,6-1,5 m Ø, lobed at the base; strongly branched with widely spreading branches; young shoots, seeds and bark of roots with strong onion-like distinctive smell; fruit 22-55 cm long, 10-18 cm wide. Resembling *Cylicodiscus gabunensis*.

Rain-forest.

(INGA)

Inga “*altissima*” (Oliv.) Roberty” = **Cathormion altissimum**

ferruginea Guill. & Perr. = **Albizia ferruginea**

glaberrima (Schumach. & Thonn.) Roberty = **A. glaberrima**

isenbergiana A. Rich. = **A. isenbergiana**

malacophylla A. Rich. = **A. malacophylla**

mellifera (Vahl) Willd. = **A. mellifera** subsp. **mellifera**

nefasia Hochst. ex A. Rich. = **A. sieberiana** var. **woodii**

quartiniana A. Rich. = **A. malacophylla**

sassa Willd. = **A. gummifera**

senegalensis DC. = ? **Parkia biglobosa**

zygia DC. = **Albizia zygia**

MIMOSA / 4

A genus about 508 species 90% of which are American; the rest in Africa, Madagascar, and Asia.

FLORES-CRUZ, M. & al. (2004). Taxonomic significance of leaflet anatomy in *Mimosa* series *Quadrivalves* (Leguminosae, Mimosoideae). *Syst. Bot.* 29: 892-902.

Mimosa busseana Harms

Scandent shrub 1,5-2 m tall; stems shortly pubescent and densely armed with downwardly hooked prickles to 2,5 mm long.

Secondary deciduous bushland; pale yellow sands; 280-340 m alt.

M. mossambicensis Brenan

Climber with slender, ± appressed-pubescent, slowly glabrescent stems sparsely to densely armed with downwardly hooked prickles to 2,5 mm long.

Among trees on river-banks.

MIMOSA

M. pigra L. with a conserved type: Barbosa & Lemos 7999; Verdcourt in *Taxon* 38: 522, 1989; *ibid.* 42: 695, 1993; Barneby, Reflections on typifications and application of the names *Mimosa pigra* L. and *M. asperata* L. (Mimosaceae) in the Davis and Hedge Festschrift [Kit Tan (Ed.)]: 137, 1989.

syn.: *M. asperata* L.

Shrub 0,6-3(-4,5) m tall, sometimes scandent or rambling; stems armed with broad-based prickles to 7 mm long, also usually ± appressed-setose; leaves sensitive.

Swamps; especially along rivers and lake-shores; on sandy- or alluvial soils; forming dense thickets; 2-2000 m alt.

Very common in the Paleotropics and Americas (from tropical Mexico and Cuba S to N Peru and NE Argentina).

EL GHAZALI, G. E. B. & al. (1997). Intra-specific pollen polymorphism in *Mimosa pigra* (Mimosaceae). *Grana* 36: 279-283.

Well-known widespread invasive species which is currently causing major land-use problems in several countries such as Australia and Thailand; a major pest. But also considered one of the endangered species in Egypt (See Feddes Repert. 110: 219-224, 1999, for reproductive ecology in this country).

M. suffruticosa (Vatke) Drake

syn.: *M. decurrens* Boj. ex Benth. 1875, non Wendl. 1798, nom. illegit.; *Entada suffruticosa* Vatke

Shrub or arborescent shrub; stems glabrous or very nearly so, very sparingly armed with upcurved prickles ± 2,5 mm long.

Ecology unknown in tropical Africa (Zanzibar, without locality). Sandy soils in Madagascar; possibly in Réunion.

SYNONYMS:

Mimosa adianthifolia Schum. = **Albizia**

adstringens Schumach. & Thonn. = **Acacia nilotica** subsp.

amara Roxb. = **Albizia**

arabica Lam. = **Acacia nilotica** subsp. **nilotica**

arabica sensu auctt. = **A. nilotica** subsp. **indica**

asak Forssk. = **Acacia**

asperata L. = **Mimosa pigra**

bicolor Schumach. & Thonn. = **Dichrostachys cinerea** subsp. **platycarpa** var. **occidentalis**

biglobosa Jacq. = **Parkia**

bracaatinga Hoehne = **Mimosa scabrella** (intr.)

caffra Thunb. = **Acacia**

capensis Burm. f., nom. rejic. = **Acacia karroo**

cinerea L. = **Dichrostachys**

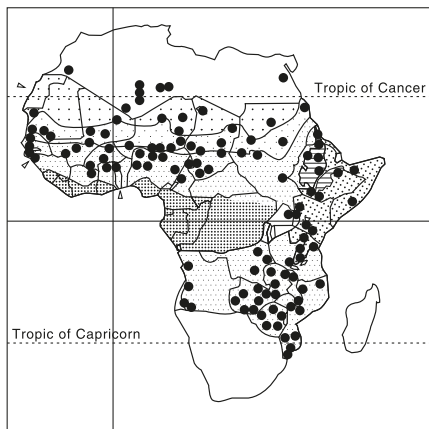
coronillaefolia Pers. = **Acacia gummifera**

decurrens Boj. ex Benth., non Wendl. = **Mimosa suffruticosa**

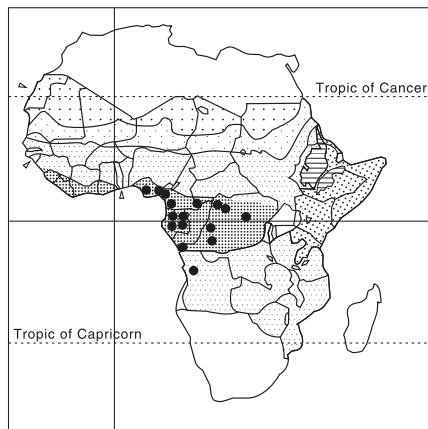
dinklagei Harms = **Albizia**

entada L. = **Entada rheedei**

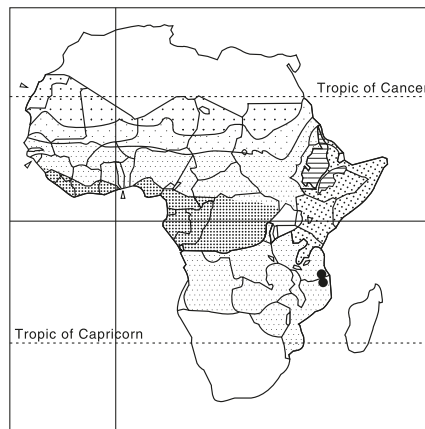
farnesiana L. = **Acacia**



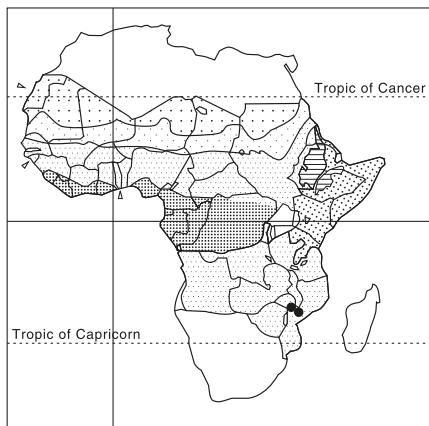
Faidherbia albida



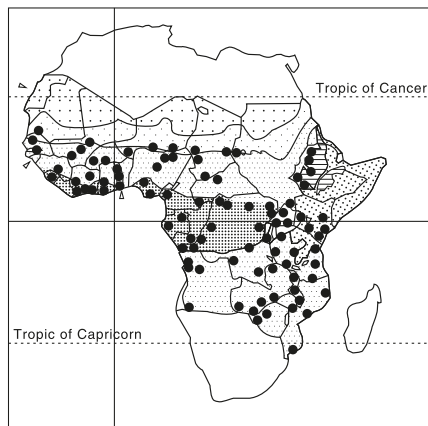
Fillaeopsis discophora



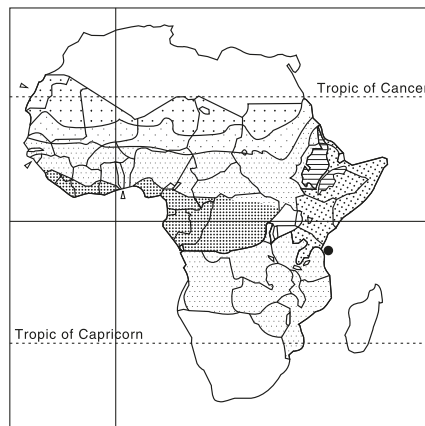
Mimosa busseana



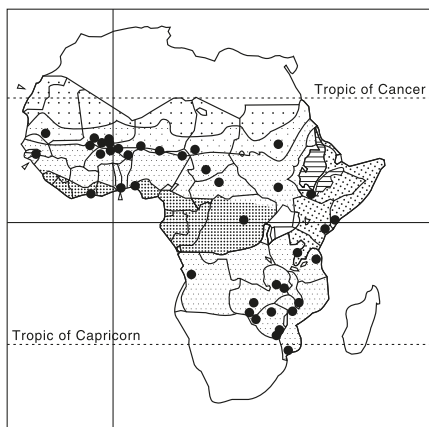
Mimosa mossambicensis



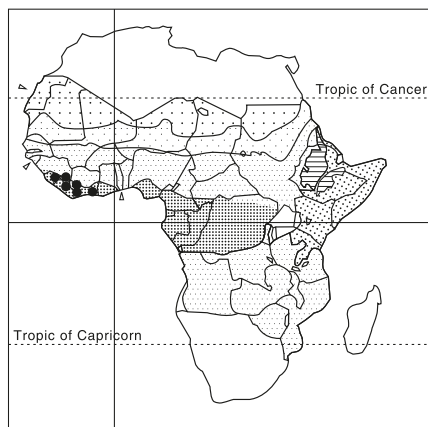
Mimosa pigra



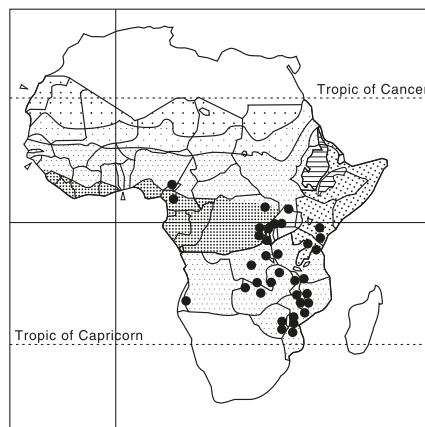
Mimosa suffruticosa



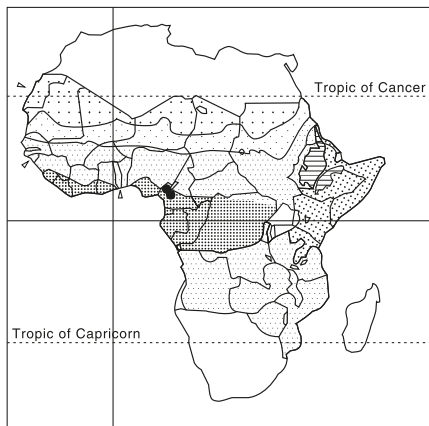
Neptunia oleracea



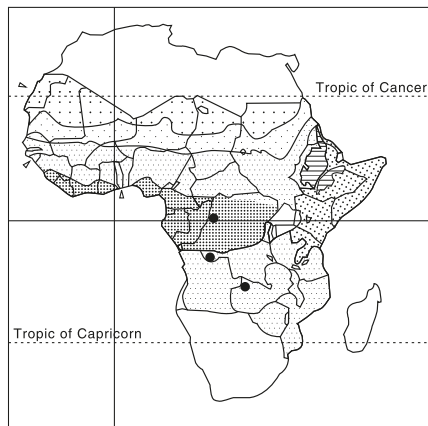
Newtonia aubrevillei



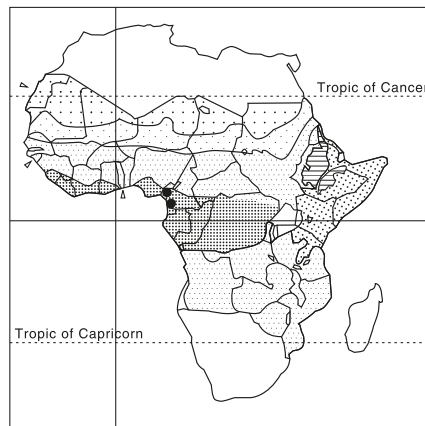
Newtonia buchananii



Newtonia camerunensis



Newtonia devredii



Newtonia duncanthomasii

MIMOSA

- flava* Forssk. = **Acacia ehrenbergiana**
- gigas* L. = **Entada**
- glaberrima* Schumach. & Thonn. = **Albizia**
- glomerata* Forssk. = **Dichrostachys cinerea**
- gummifera* (Willd.) Brouss. ex Poir. = **Acacia gummifera**
- gummifera* Forssk., nom. nud. = **A. tortilis**
- horrida* L. = **A. horrida**
- kantuffa* DC. = **Pterolobium stellatum** (*Caesalpinaceae*)
- latronum* L. f. = **Acacia horrida**
- leucacantha* Jacq. = **A. karroo**
- mellifera* Vahl = **A. mellifera**
- nilotica* L. = **A. nilotica**
- nilotica* sensu Burm. f. = **A. karroo**
- nilotica* sensu Thunb. = **A. nilotica** subsp. **kraussiana**
- nutans* Pers. = **Dichrostachys cinerea** subsp. **africana** var. **africana**
- oerfota* Forssk. = **Acacia oerfota**
- pentagona* Schumach. = **A. pentagona**
- prostrata* Lam. p.p. = **Neptunia oleracea**
- reticulata* L., nom. rejic. = **Acacia karroo**
- saligna* Labill. = **A. saligna**
- sanguinea* Bruce = **Dichrostachys cinerea** subsp. **africana** var. **africana**
- scorpioides* L. = **Acacia nilotica** subsp. **nilotica**
- senegal* L. = **A. senegal**
- senegalensis* Forssk. = **A. hamulosa**
- senegalensis* Houtt. = **A. senegal**
- stellata* Forssk. non Lour. = **Pterolobium stellatum** (*Caesalpinaceae*)
- stuhlmannii* Harms = **Mimosa bimucronata** (intr.)
- taxifolia* Persoon = **Parkia biglobosa**
- tortilis* Forssk. = **Acacia tortilis**
- unguis-cati* Forssk., non L. = **A. mellifera**
- violacea* Bolle, non Bonpl. ex Tenore = **Mimosa mossanbicensis**

NEPTUNIA / 1

Neptunia oleracea Lour.; Windler, Austral. J. Bot. 14: 379-420, 1966. – Icon.: C. D. K. Cook, Aquat. Wetland Pl. South. Afr.: 137, 2004.

syn.: *Mimosa prostrata* Lam., excl. β *M. natans* L. f., nom. illegit.; *Neptunia prostrata* (Lam.) Baill.; *Desmanthus stolonifer* DC.; *Neptunia stolonifera* (DC.) Guill. & Perr.; *N. natans* (L. f.) Druce

NEPTUNIA OLERACEA

Perennial, usually aquatic herb or prostrate near the water's edge; stems rarely branched, with aerenchyma, usually floating on the surface of water often forming floating mats with other plants, swollen, hollow and rooting especially at nodes, to 1,5 m long, glabrous or rarely puberulous when young; leaves very sensitive.

In and by fresh water of pools, lakes and swamps; warm, slow-moving or stagnant waters; able to tolerate seasonal drying; muddy-clayey soil; edges of rice-fields; 10-1220 m alt.

Tropics of Old and New Worlds (Africa, Asia, Central and South America). Becoming a troublesome weed in W. Africa.

NEPTONIA / 15

Neptunia aubrevillei (Pellegr.) Keay, excl. subsp. *lasiantha* Brennan & Brummitt (= *N. devredii*).

Tree to 20-33 m; bole 40-90 cm Ø, ± tortuous or straight, with large thin flanging buttresses at the base or steep butt flares to 6 m high, sometimes spreading into surface roots.

Evergreen forest, usually fringing; swamp forest; secondary forest; 350-1000 m alt.

Leaves confused with those of *Albizia zygia* and *Tetrapleura chevalieri*.

N. buchananii (Bak. f.) Gilbert & Boutique

bas.: *Piptadenia buchananii* Bak. f.

syn.: *P. lujae* De Wild.

Tree 10-40 m; bole 1,5 m Ø, slightly buttressed (buttresses wing-shaped) at base; branches wide-spreading; crown flat-topped.

Evergreen rain-forest; often by streams, rivers and lakes; groundwater and swamp forest; 600-2300 m alt.

Resembling *Piptadeniastrum africanum*.

Threatened by extinction in disturbed areas of Tanzania (F. A. Mrema & M. Nummelin in J. E. Afric. Nat. Hist. 87: 327-338, 1998).

N. camerunensis Villiers; Y. Harvey & al., Plants Bali Ngemba..., Cameroon: 65-66, 105, 2004.

Tree with short bole to 50 cm Ø, wide-mouthed, fluted at the base; flowers unknown?

Forest with *Albizia gummifera*, *Carapa grandiflora*, *Syzygium staudtii*, *Prunus africana*; forest patches in grassland; 1600-2030 m alt.

It was last seen in 1974; and feared extinct until rediscovered in three small populations in April 2002 near Mt Oku (Kew Sci. 22: 4, 2002).

N. devredii Gilbert & Boutique

Tree 25 m; fruit unknown.

Swampy forest; edge of rain-forest.

When sterile, confusion possible with *Cathormion obliquifoliatum* (See Bull. Soc. Roy. Bot. Belg. 90: 308, 1958).

NEWTONIA

N. duncanthomasii Mackinder & Cheek – Icon.: Kew Bull. 58: 450, 2003.

Evergreen tree 8-25(-40) m; bole \pm 19 m tall, 70 cm \varnothing at breast height (bole and dbh measurements from a 25 m tall tree), cylindrical, sometimes slightly buttressed at the base, buttresses absent, or when present, 4-5, each 30(-60) cm high, rounded, \pm 15 cm or more wide.

Gregarious, coppicing; ridges and hilltops with *Allanblackia monticola*, *Santiria trimera*, *Zenkerella citrina*, *Chionanthus mannii*, *Syzygium staudtii*; (770-)1000-1500(-1800) m alt.

Near-threatened (numerous widespread logging concessions); in its niche the species is common and often dominant, and regeneration levels are high.

N. duparquetiana (Baill.) Keay

syn.: *Newtonia insignis* Baill.; *Piptadenia insignis* (Baill.) Bak. f.

Tree 20-30 m; bole straight, 80-100 cm \varnothing , buttressed at the base; sometimes with one or a few stilt-roots; root flanges well developed at the base of the bole; crown spreading.

Evergreen forest; sandy grounds; granite; ferruginous soils; 200-1350 m alt.

N. elliotii (Harms) Keay

Tree to 12 m.

River banks.

Can be confused with *Cylicodiscus gabunensis*.

N. erlangeri (Harms) Brenan

Tree 6-20 m, with a spreading crown; anthers *without* an apical gland.

Riverine woodland; semi-evergreen bushland; ground-water forest; *Euphorbia* bushland and thickets; \pm 50 m alt.

N. glandulifera (Pellegr.) Gilbert & Boutique

Tree to 40 m; bole 20-25 m, 1,5 m \varnothing , with small buttresses at the base; anthers *without* an apical gland.

Evergreen forest.

N. grandifolia Villiers

Tree; flowers unknown; pod to 50 cm long.

Evergreen forest.

N. griffoniana (Baill.) Bak. f.

bas.: *Pentaclethra griffoniana* Baill.

Tree 25-35 m; bole to 0,7-0,8 m \varnothing with buttresses at the base (? old specimens).

Evergreen forest.

Not in Cabinda (= *Pseudoprosopis gillettii*).

Two specimens of Zenker 205 are known: that of December, 1912 = *Pentaclethra macropylla*; the other one of June, 1913 is *Newtonia griffoniana*.

NEWTONIA

N. hildebrandtii (Vatke) Torre

Tree to 25 m; anthers *without* an apical gland.

Riverine forests; dry areas with high water-table, associated with *Faidherbia albida*, *Acacia polyacantha* subsp. *campylacantha*, *Dobera*; also in bushland; 120-1500 m alt.

S. Africa.

Comprises 2 vars.

N. leucocarpa (Harms) Gilbert & Boutique

Tree to 45 m; bole \pm 10 m high, \pm 1 m \varnothing ; buttresses at the base, to 2 m high, wing-shaped, erect; crown open, flat.

Secondary forests.

Confused with *Piptadeniastrum africanum*.

N. paucijuga (Harms) Brenan

syn.: *Cylicodiscus battiscombei* Bak. f.

Tree to 30 m; pods 23-60 cm long; anthers *without* an apical gland.

Rain-forest; riverine forest; 75-300 m alt.

N. scandens Villiers

Liane to 20 m long (the only liane in the genus).

Lake sides?

SYNONYMS:

Newtonia aubrevillei (Pellegr.) Keay var. *lasiantha* Brenan & Brummitt = **Newtonia devredii**

insignis Baill. = **N. duparquetiana**

klainei Pierre ex Harms = **N. griffoniana**

zenkeri Harms = **N. griffoniana**

PARKIA / 3

HOPKINS, H. C. F. (1998). Bat pollination and taxonomy in *Parkia* (Leguminosae: Mimosoideae). In: HOPKINS, H. C. F. & al., *The biological monograph*: 31-55. The Board of Trustees of the Royal Botanic Gardens, Kew.

Parkia bicolor A. Chev., incl. var. *agboensis* (A. Chev.) Hagos & De Wit

syn.: *P. agboensis* A. Chev.

Tree 10-30(-45) m, with cylindrical bole, 5-11 m high and more, 40-90(-120) cm \varnothing , rather straight or \pm crooked with wing-shaped buttresses at the base; crown broad, rather flat; bark reddish-brown, scaly; freshly cut wood stains a knife-blade (steel) blue, with foetid smell; peduncle of the inflorescence to 32 cm long; leaves to 40 cm long; pod (18-)23,5-40 cm long.

Rain-forest; often abundant on river banks; very frequent in dense forest; penetrates deep into the savanna region along marshy valleys and gallery forests; *Guibourtia*-forest subject to flooding; marsh forest; half-deciduous forest with *Cynometra alexandri*,

PARKIA BICOLOR

Grossera multinervis, *Strombosia grandifolia*, *Staudtia gabonensis*; old forest with *Khaya*, *Piptadeniastrum*, *Berlinia*, *Fagara*; deciduous forest on an at that time seemingly bone-dry slope near granitic outcrops; 800 (? and less)-1300 m alt.

P. biglobosa (Jacq.) R. Br. ex G. Don; S. Pettersson & J. T. Knudsen in Bot. J. Linn. Soc. 135: 97-106, 2001; Z. Teklehaimanot & al. in Trees 13: 96-102, 1998.

bas.: *Mimosa biglobosa* Jacq.

syn.: *Inga biglobosa* (Jacq.) Willd.; ? *Mimosa taxifolia* Perseon; ? *Inga senegalensis* DC.

Tree 9-15-30 m; bole 3,7 m in girth or more; crown wide-spreading, flat-topped; foliage dark; not buttressed.

Savannas; sandy ground; hollows; among *Borassus*; savanna forest.

Not in the Caribbean Islands except perhaps in Martinique at the time of Jacquin and in Santo Domingo (P. de Beauvois). Perhaps in Guyana (Bentham, 1875).

McALLAN, A. & al. (1996). *Parkia globosa*, the Dawadawa tree (nèrè) and *Vitellaria paradoxa*, the shea butter tree (karité). A handbook for extension workers. School of Agriculture and Forest Sciences, University of Wales, Bangor. 30 pp.

SINA, S. & S. A. TRAORÉ (2002). *Parkia biglobosa* (Jacq.) R. Br. ex G. Don. In: OYEN, L. P. A. & R. H. M. J. LEMMENS, Eds., *Ressources végétales de l'Afrique tropicale. Précurseur*: 126-130. [Traduction de: Plant Resources of Tropical Africa. Precursor. 2002.] Programme PROTA, Wageningen.

Not in Zaire (= *P. bicolor*); Chad? – In Annobón (remarkable; fide M. Estrella & al., Checklist Mimosoideae Equat. Guinea, in Belg. J. Bot 138: 16, 2005).

P. filicoidea Welw. ex Oliv.

syn.: *P. hildebrandtii* Harms

Tree 8-30(-35) m; bole 0,6-1,2 m Ø, often narrowly buttressed to 3 m height; crown rather open, finally flat; branches patent; peduncle of the inflorescence 9-35 cm long; pod 33-66 cm long.

Often observed along lakes, watercourses; primary marsh forest; ombrophilous, dry forest; primary forest on firm ground with *Scorodophloeus zenkeri*; savanna; forest with *Cynometra alexandri*, *Julbernardia seretii*, *Staudtia gabonensis*; alluvial soil in gallery forest with *Khaya*; sometimes on termite mounds; evergreen secondary forest with *Ceiba*, *Cola gigantea*, *Chlorophora*, *Antiaris*, *Ximenia americana*, *Afrormosia laxiflora*; forest gallery on rocky soil; 130-1370 m alt.

Not in Central African Rep. (= *P. biglobosa*).

PENTACLETHRA / 2

Pentaclethra eetveldeana De Wild. & Th. Durand

Tree 15-30 m; crown dense, ± spreading, dome-like; bole generally sinuous, 90 cm Ø.

Disturbed forests; 800 m alt. (? and less).

P. macrophylla Benth.

Evergreen tree 15-36 m; bole ± sinuous, 40-100 cm Ø, 6 m in girth, tending to branch low; buttresses low or to 3 m high, blunt, or absent; pods to 65 cm long, strongly elastic (resembling those of *Physostigma venenosum*, *Papilionaceae*).

Disturbed forests; closed forest; river banks; common; dominant in secondary forest, and left as a “standard” tree when forest is cleared for farming (fide Irvine); coastal savanna (prefers the vicinity of water and is often found beside creeks and rivers); 400-750 m alt.

Bioco/Fernando Poo, São Tomé, Príncipe, Annobón.

Often cultivated.

Not in Mombasa, Kenya (= *Parkia filicoidea*).

Tree vegetatively similar to, and confused with, *Parkia* and *Albizia adianthifolia*.

(PIPTADENIA)

Piptadenia africana Hook. f. = **Piptadeniastrum**

aubrevillei Pellegr. = **Newtonia**

bequaertii De Wild. = **Pseudoprosopis**

boiviniana Baill. = **Entada chrysostachys**

buchananii Bak. f. = **Newtonia**

chevalieri A. Chev. = **Calpocalyx brevibracteata**

chevalieri Harms = **Tetrapleura**

chrysostachys (Benth.) Benth. = **Entada**

claessensii De Wild. = **Pseudoprosopis uncinata**

duparquetiana (Baill.) Pellegr. = **Newtonia**

ellistrii Harms = **Newtonia**

erlangeri Harms = **Newtonia**

flabellata Baill. = **Entada chrysostachys**

“*gabunensis* (Taub.) Roberty” = **Cylicodiscus**

glandulifera Pellegr. = **Newtonia**

goetzei Harms = **Elephantorrhiza**

grandidieri Baill. = **Entada chrysostachys**

greveana Baill. = **Entada chrysostachys**

griffoniana (Baill.) Bak. f. = **Newtonia**

hildebrandtii Vatke = **Newtonia**

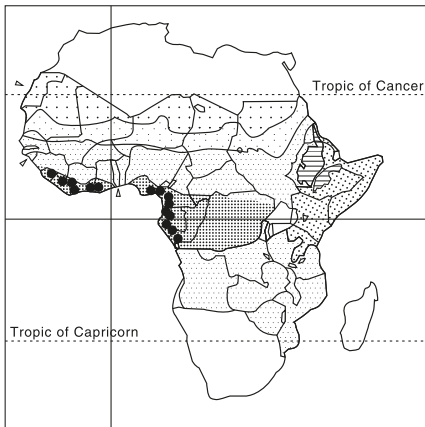
insignis (Baill.) Bak. f. = **Newtonia duparquetiana**

kerstingii Harms = **Aubrevillea**

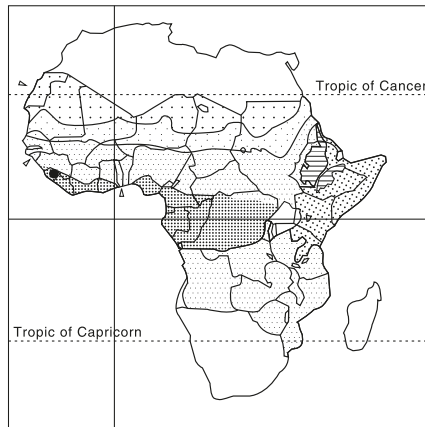
klaineana Pierre ex A. Chev. = **Newtonia griffoniana**

leucocarpa Harms = **Newtonia**

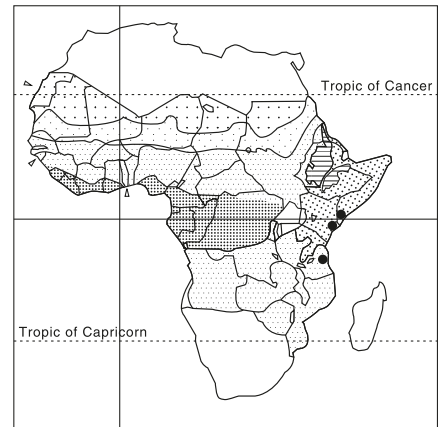
lujae De Wild. = **Newtonia buchananii**



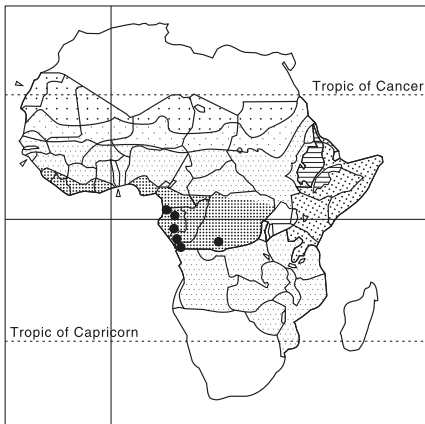
Newtonia duparquetiana



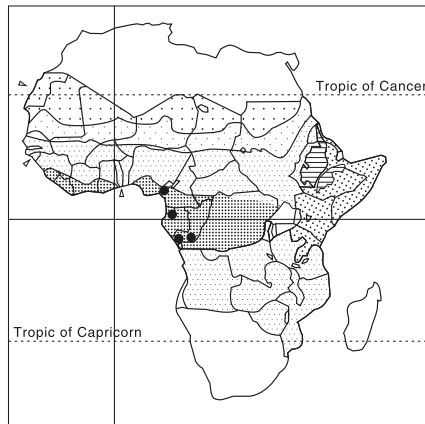
Newtonia elliotii



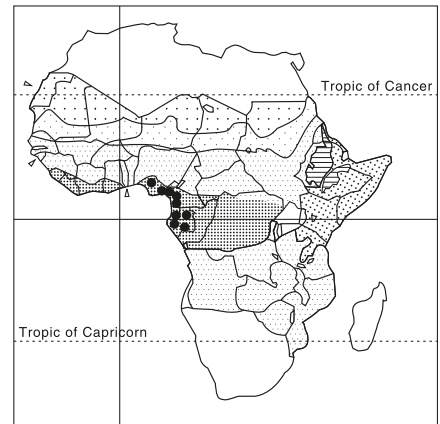
Newtonia erlangeri



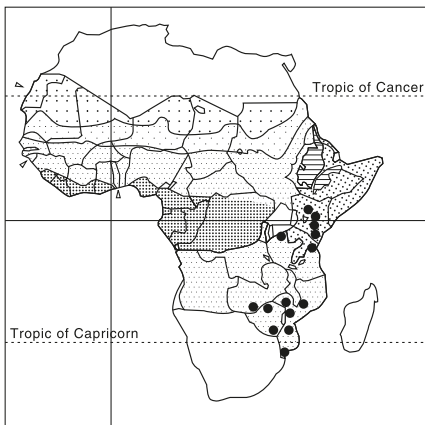
Newtonia glandulifera



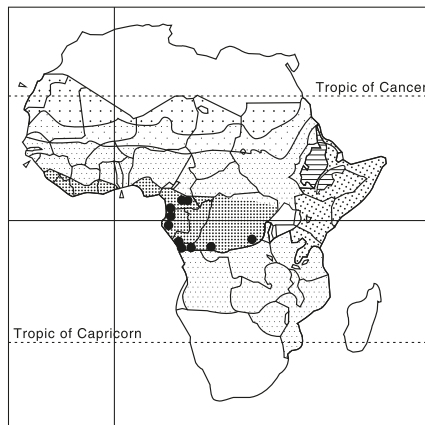
Newtonia grandifolia



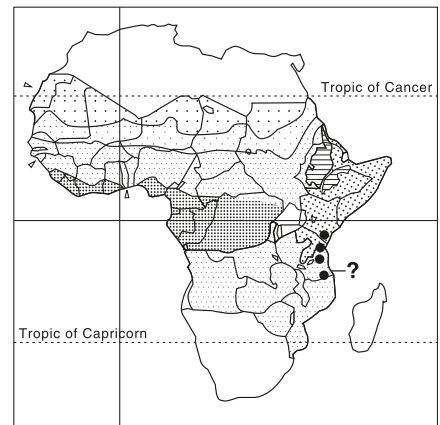
Newtonia griffoniana



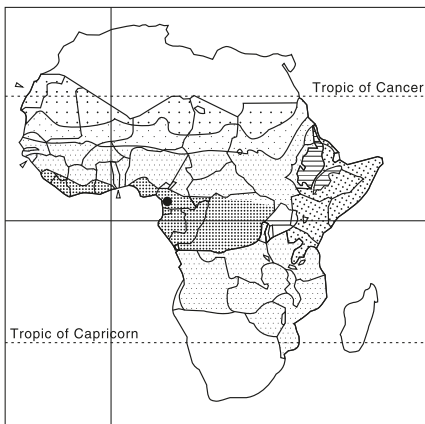
Newtonia hildebrandtii



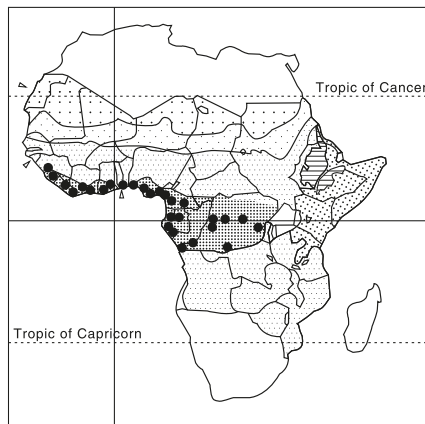
Newtonia leucocarpa



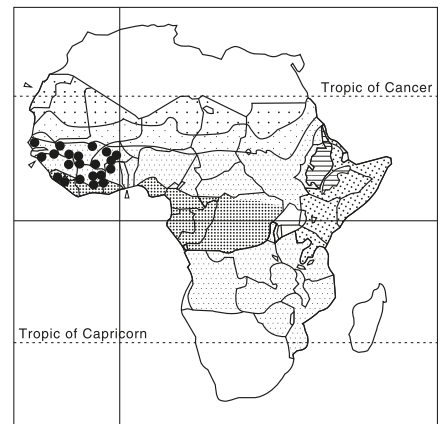
Newtonia paucijuga



Newtonia scandens



Parkia bicolor



Parkia biglobosa

PIPTADENIA

mannii Oliv. = **Entada**?

neo-claessensii De Wild. = **Pseudoprosopis claessensii**

paucijuga Harms = **Newtonia**

schlechteri Harms = **Adenopodia**

stenadenia Griseb. = **Dichrostachys cinerea** subsp. **africana**
var. **africana**

unijuga Pierre ex A. Chev. = **Newtonia duparquetiana**

winkleri Harms = **Calpocalyx**

zenkeri (Harms) Pellegr. = **Newtonia griffoniana**

PIPTADENIASTRUM / 1

Piptadeniastrum africanum (Hook. f.) Brenan

Tree 5-50 m; bole straight, cylindrical to 20 m above buttresses before branching, 1,8-3 m Ø, but often slightly sinuous and forked at a lower level; buttresses well-developed, thin, sharp, often branched, to 4,5-8 m high and extending on the ground into many widespread plank-roots to 6 m apart; crown formed by steeply ascending heavy branches, rounded in young trees, flat and spreading in tall trees; foliage fine, fern-like; pods 17-36 cm long.

Evergreen and semi-deciduous forest, rain-forest, secondary forest, riverine forest; sometimes common; deep moist soils; near sea-level to 1220 m alt. (See Mitt. Inst. Allg. Bot. Hamburg 23 b: 853-870, 1990).

Bioko/Fernando Poo.

Confused with *Samanea dinklagei* and *Parkia biglobosa*.

(PITHECELLOBIUM)

Pithecellobium altissimum (Hook. f.) Oliv. = **Cathormion**

dinklagei (Harms) Harms = **Albizia**

erriorachis (Harms) Harms = **Cathormion**

glaberrimum (Schumach. & Thonn.) Aubrév. p.p. = **Albizia glaberrima** and **Cathormion rhombifolium**

obliquifoliolatum (De Wild.) J. Léonard = **Cathormion**

stuhlmannii Taub. = ? **C. altissimum**

PROSOPIS / 1

Prosopis africana (Guill. & Perr.) Taub.

bas.: *Coulteria? africana* Guill. & Perr.

syn.: *Prosopis? oblonga* Benth.; *P. lanceolata* Benth.

Tree 4,5-12(-21) m; bole clean, cylindrical, straight, to 60 cm Ø, unbuttressed in forest, or low-branching, slightly buttressed in open sites.

Wooded grassland; abandoned cultivations; sometimes abundant, never gregarious; clearings in half-dry forest; savannas; on fine gravels; hollows; on very deep sand; laterite; to 1220 m alt.

PROSOPIS AFRICANA

AGBOOLA, D. A. (2004). *Prosopis africana* (Mimosaceae): Stem, roots, and seeds in the economy of the savanna areas of Nigeria. *Econ. Bot.* 58 (Suppl.): S34-S42.

Fastgrowing, and one of the most valuable agroforestry trees [Tchoundjeu, Z., in *Agroforestry Today* 9(2): 18-20, 1997].

SYNONYMS:

Prosopis fischeri Taub. = **Pseudoprosopis**

kirkii Oliv. = ? **Faidherbia albida**

PSEUDOPROSOPIS / 7

Pseudoprosopis bampsiana Lisowski

Liane with woody branches, longitudinally striate; ? also shrub or tree.

Remains of forest gallery in a wooded savanna on sandstone hardpan along river; with *Fleuridora felicis*, *Chrysobalanus icaco*, *Ficus congensis*, *Anthostema senegalensis*, *Memecylon blakeoides*, etc.

Near *P. euryphylla*.

P. claessensii (De Wild.) Gilbert & Boutique

syn.: *Piptadenia bequaertii* De Wild.; *P. neo-claessensii* De Wild.

Liane or shrub, old stems often with longitudinal stripes alternately maroon and clear.

Rain-forest, along rivers or roads; sometimes on rocky ground.

P. euryphylla Harms

Scandent shrub or tree 3-8 m tall; older branchlets longitudinally striate.

Evergreen thickets on sand or sandy loam; 100-790 m alt.

Comprises 2 subspp.

P. fischeri (Taub.) Harms

bas.: *Prosopis fischeri* Taub.

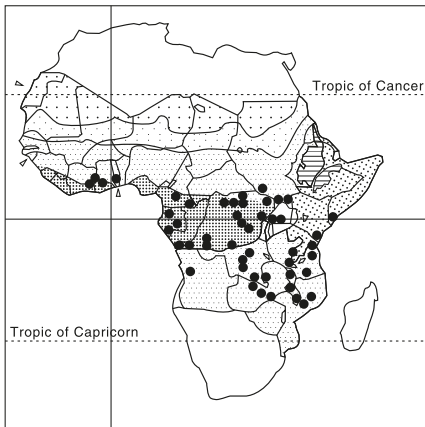
Much-branched, deciduous shrub or spreading tree 3-6 m tall with weak, slender, arching branches, forming coppice, said sometimes to scramble; older branchlets longitudinally striate.

Deciduous thornless thickets; on sand with *Burttia*, *Combretum*; 760-1320 m alt.

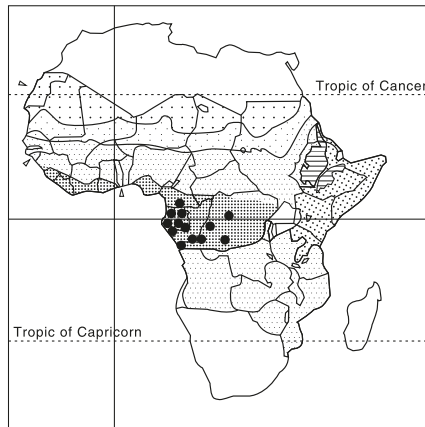
P. gillettii (De Wild.) Villiers

Liane or sarmentose shrub (? small tree) with ± twining hooks; old stems sometimes with longitudinal stripes alternately clear and dark; inflorescence to 54 cm long.

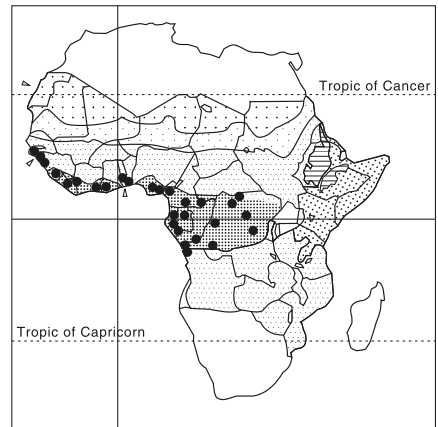
Rain-forest; locally abundant.



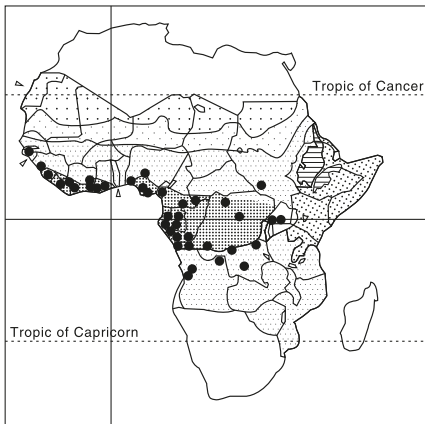
Parkia filicoidea



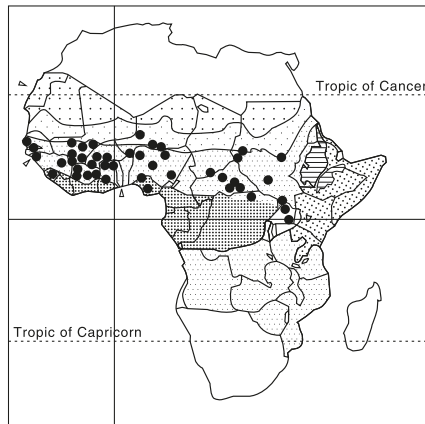
Pentaclethra eetveldeana



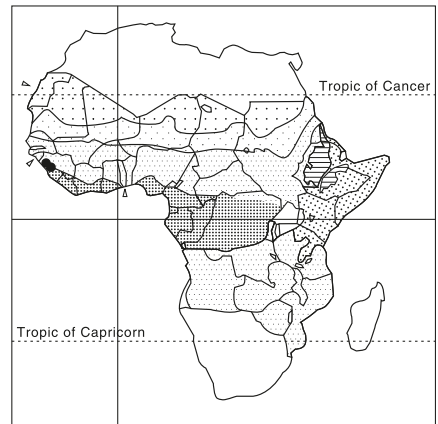
Pentaclethra macrophylla



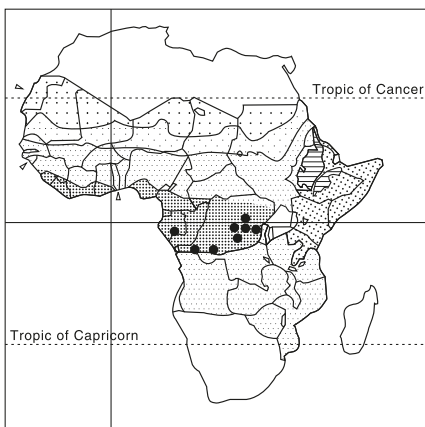
Piptadeniastrum africanum



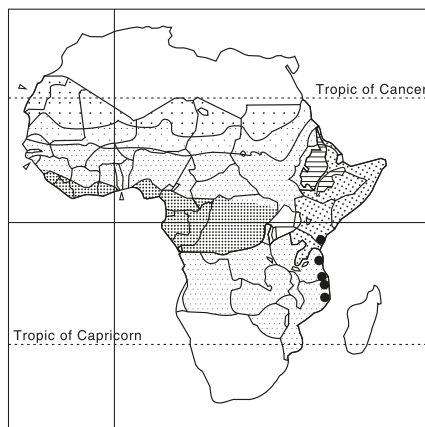
Prosopis africana



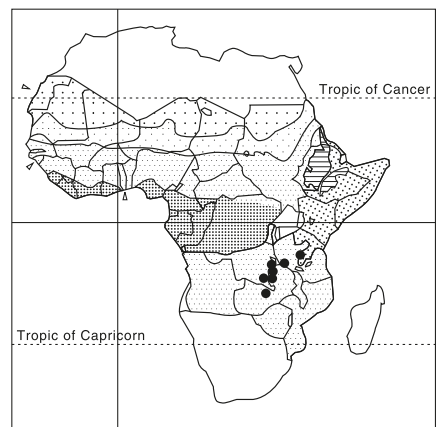
Pseudoprosopis bampsiana



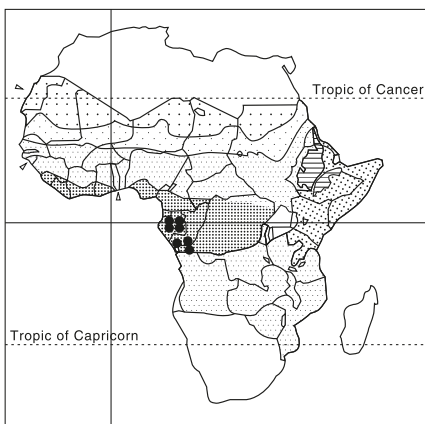
Pseudoprosopis claessensii



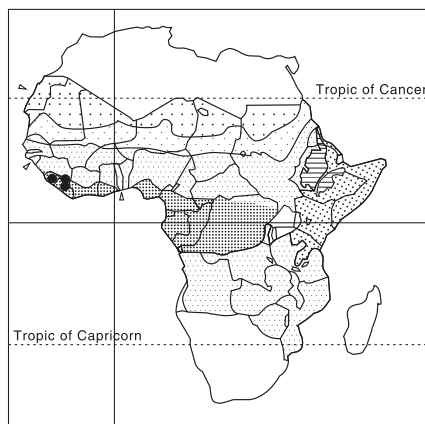
Pseudoprosopis euryphylla



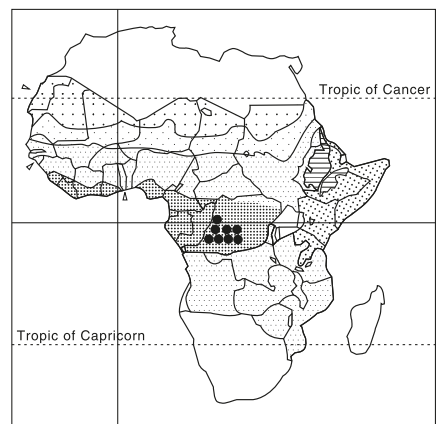
Pseudoprosopis fischeri



Pseudoprosopis gilleti



Pseudoprosopis sericea



Pseudoprosopis uncinata

PSEUDOPROSOPIS

P. sericea (Hutch. & Dalziel) Brenan

Woody liane to 6 m long; stems angular, hexagonal or pentagonal in cross-section, with longitudinal stripes alternately clear and dark; mature fruit known!

Edge of rain-forest; in undergrowth of secondary formations; to \pm 1000 m alt.

P. uncinata Evrard

Liane with hooks; stem longitudinally striate, to 2-3 cm \emptyset .

Rain-forest.

SAMANEA / 1

Samanea leptophylla (Harms) Brenan & Brummitt

bas.: *Albizia leptophylla* Harms

syn.: *Albizia flamignii* De Wild.; *Arthrosamanea leptophylla* (Harms) Gilbert & Boutique, incl. var. *guineensis* Gilbert & Boutique; *Samanea guineensis* (Gilbert & Boutique) Brenan & Brummitt; *Cathormion leptophyllum* (Harms) Keay, incl. var. *guineense* (Gilbert & Boutique) Gilbert & Boutique, and incl. subsp. *guineense* (Gilbert & Boutique) Cavaco; *Samanea* sp. 1 sensu White, Forest Fl. N. Rhod.: 94, 1962.

Tree 10-30 m; crown flat-topped \pm 6 m \emptyset ; bole 1,25 m \emptyset , widening and gnarled at the base, with wing-like buttresses 2-4 m high. Edge of forest; along watercourses; evergreen fringing forest.

TETRAPLEURA / 2

Tetrapleura chevalieri (Harms) Bak. f.

bas.: *Piptadenia chevalieri* Harms 1909, non A. Chev. 1909 (= *Calpocalyx brevibracteatus*).

syn.: *Erythrophleum purpurascens* A. Chev.

Tree 15-20 m; fruit 15 cm long or more, each valve with a longitudinal wing-like rather fleshy ridge \pm 2 cm broad.

Scattered in rain-forest; rare.

Similar to *T. tetraptera*.

T. tetraptera (Schumach. & Thonn.) Taub.

bas.: *Adenanthera tetraptera* Schumach. & Thonn.

syn.: *Tetrapleura thonningii* Benth., nom. illegit.

Tree 6-36 m; bole straight, cylindrical, \pm 0,5-1,2 m \emptyset , 3 m in girth or more, sometimes with short wing-like buttresses at the base; foliage fern-like, dark green; fruit 12-25 cm long, similar to that of *T. chevalieri*.

Scattered in rain-forest and at forest edges; fringing forest; regrowth; cultivated ground; with *Chrysophyllum albidum*, *Cola gigantea*, *Erythrophleum suaveolens*, *Alstonia boonei*, *Parinari excelsa*, *Milicia excelsa*; 80-1220 m alt.

São Tomé.

SYNONYM:

Tetrapleura obtusangula Welw. ex Oliv. = **Amblygonocarpus andongensis**

XYLIA / 6

Xylia africana Harms – Icon.: Bot. Jahrb. Syst. 40: 21, 1908.

Tree 5-15(-20) m tall.

Probably woodland; \pm 150-300 m alt.

X. evansii Hutch. – Icon.: Aubréville, Fl. Forest. Côte-d'Ivoire, Ed. 2: 207, 1959.

Tree 28(-35) m; bole straight, free to 9-18 m, 2 m in girth, $>$ 0,8 m \emptyset , with small wing-like buttresses; bark often deep red; branches spreading.

Rain-forest; mixed deciduous and half-deciduous forests; on well-drained alluvial ground; along small watercourses; scattered; 500-600 m alt. (Mts Nimba).

X. ghesquierei Robyns; M. A. Mandango & A. Lubini in J. H. Seyani & A. C. Chikuni, Eds., Proceedings of the XIIIth Plenary Meeting of A.E.T.F.A.T., Zomba, Malawi, 2-11 April 1991, 1: 603-606. National Herbarium and Botanic Gardens of Malawi, Zomba.

Tree to 30 m, with narrow and open crown; bole to 20 m high and 60 cm \emptyset , sometimes \pm sinuous, fluted with buttresses at the base, to 1,5 m high.

Old secondary forest with *Uapaca guineensis*; disturbed rain-forest with *Scorodophloeus zenkeri*; regrowth with *Harungana madagascariensis*; disturbed rain-forest with *Cynometra hancei*; rain-forest with *Pericopsis elata*, *Parinari excelsa* subsp. *holstii*; wooded fallow land with *Vernonia amygdalina*.

X. mendoncae Torre

Tree 4-7 m.

Brachystegia woodland.

Only known from the type collected in 1944.

X. schliebenii Harms

Tree 12-18 m; pod unknown.

Bushland; 260 m alt.

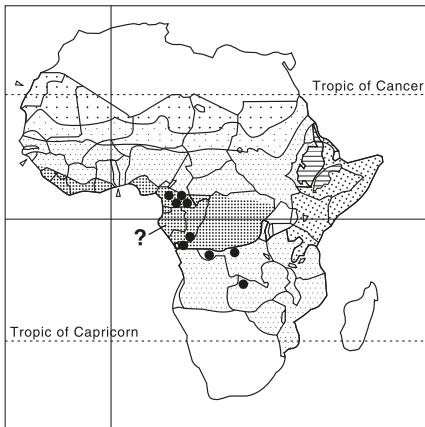
Only known from the type collected in 1934. More material is required to clarify its relationship to *X. africana*.

X. torreana Brenan

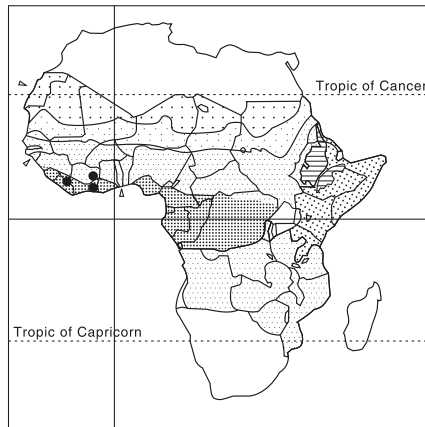
Much-branched tree 6-15 m, with ovoid crown.

Deciduous woodland sometimes (? always) with *Colophospermum mopane*; alluvial soils near river; sometimes abundant; dry sandy soil; 80-300 m alt.

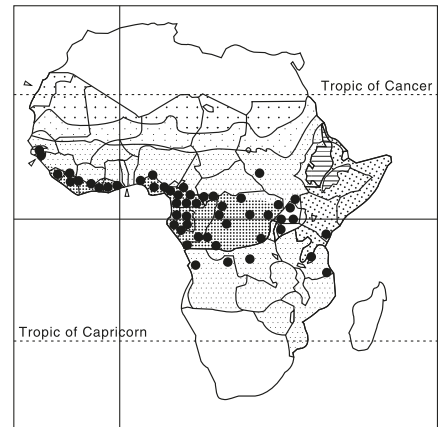
S. Africa.



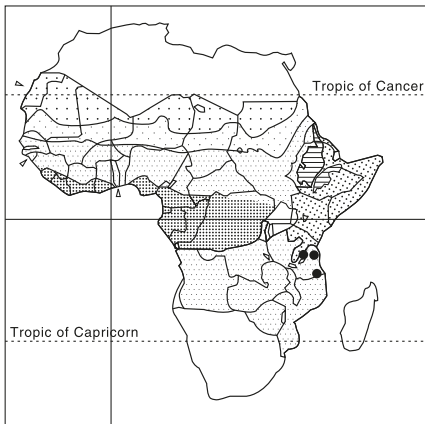
Samanea leptophylla



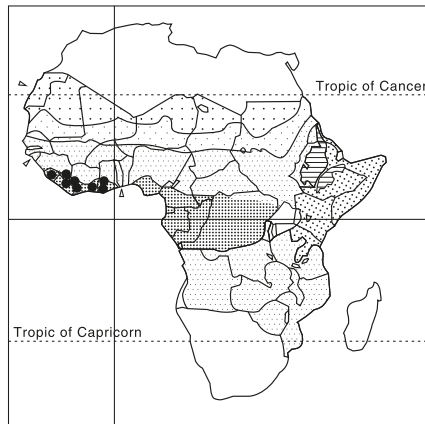
Tetrapleura chevalieri



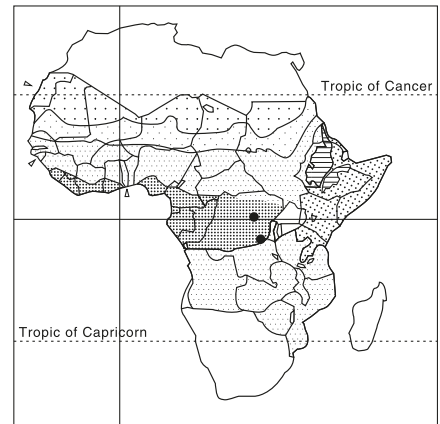
Tetrapleura tetraptera



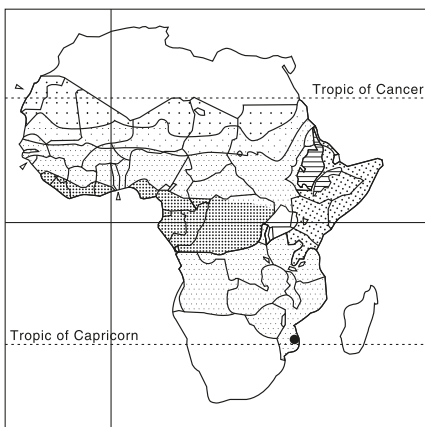
Xylocarpus africana



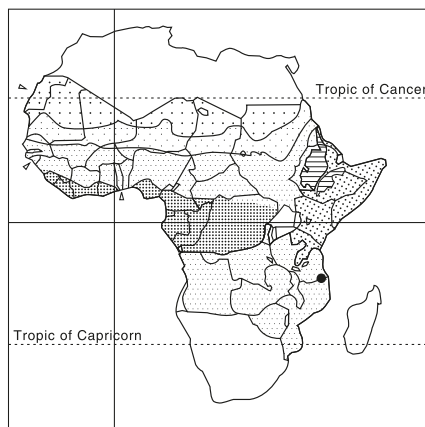
Xylocarpus evansii



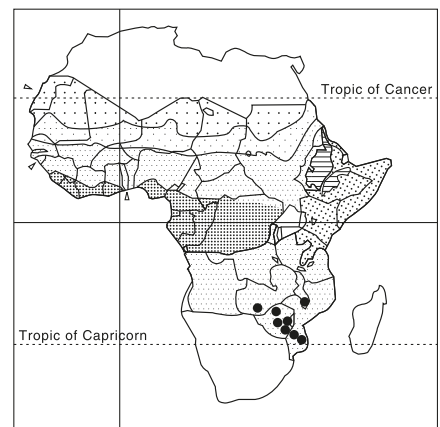
Xylocarpus ghesquierii



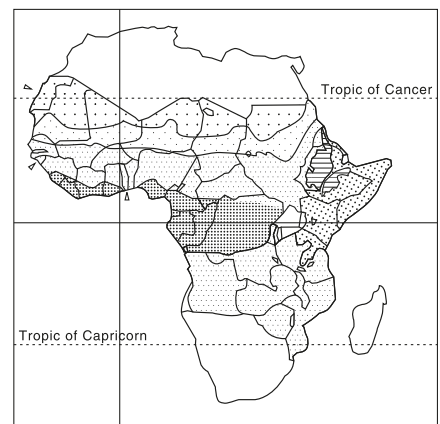
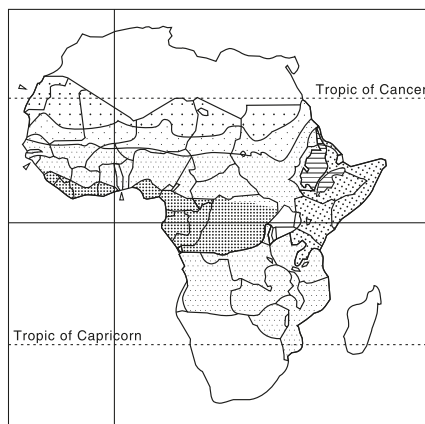
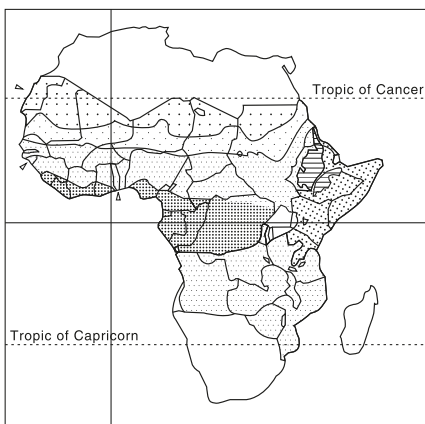
Xylocarpus mendoncae



Xylocarpus schliebenii



Xylocarpus torreana



CAESALPINIACEAE / 84 g./ 501 spp.

(Tribe *Swartzieae* is included here: *Bobgunnia* [= *Swartzia*] and *Cordyla*).

In this family the plants with the longest fruits within *Leguminosae* are found: *Cassia sieberiana* and *Gilbertiodendron splendidum*.

A few genera seem to be poorly known (and under-collected), in particular: *Anthonotha*, *Cynometra*, *Gilbertiodendron* and *Hymenostegia*. For certain species of these genera there are no records on habit, fruits or ecology, and several of them are known only from the type collection. The latter is also true for a number of *Cassia* s.l.

However, since our list was compiled a certain number of these taxa have been found again and our statements are wrong. New species have also been added.

Summary of our lack of knowledge for *Caesalpinioideae*:

no habit: 2 spp. (= <1%; *Anthonotha*);

no flower: 2 spp. (= <1%; *Afzelia peturei*, *Bussea xylocarpa*); and incomplete flower (or only bud) in further 4 spp. (*Baikiaea ghesquiereana*, *Dialium kasaiense*, *Guibourtia*, *Odoniodendron*);

no fruit: 52 (+4) spp. (= c. 10%), and no ripe fruit in further 11 spp. (= c. 2%);

no seeds: 9 (+1) spp. (= c. 1%; in particular *Bikinia*);

no ecology: 27 (+5) spp. (= c. 6%; in particular *Anthonotha*, *Gilbertiodendron*, *Hymenostegia*);

only type known: 40 (+1) spp. (= c. 8%; in particular *Anthonotha*, *Cassia* s.l., *Didelotia*, *Gilbertiodendron*, *Hymenostegia*);

only 2 collections known: 3 spp. (*Afzelia*, *Anthonotha*, *Cryptosepalum*).

* * *

GENERAL BIBLIOGRAPHY (see also under Leguminosae p. 14-15):

- BANKS, H. & P. GASSON (2000). Pollen morphology and wood anatomy of the *Crudia* group (Leguminosae, Caesalpinioideae, Detarieae). *Bot. J. Linn. Soc.* 134: 19-59.
- BANKS, H. & B. B. KLITGAARD (2000). Palynological contribution to the systematics of detarioid legumes (Leguminosae: Caesalpinioideae). *In: HERENDEEN, P. S. & A. BRUNEAU, Eds., Advances in Legume Systematics* 9: 79-106.
- BANKS, H. & al. (2003). Pollen and the systematics of tribes Caesalpinieae and Cassieae (Caesalpinioideae: Leguminosae). *In: KLITGAARD, B. B. & A. BRUNEAU, Eds., Advances in Legume Systematics* 10. *Higher Level Systematics*: 95-122.
- BRUNEAU, A. & al. (2000). Phylogenetic relationships in tribes Macrobodieae and Detarieae as inferred from chloroplast trnL intron sequences. *In: HERENDEEN, P. S. & A. BRUNEAU, o. c.*: 121-149.
- BRUNEAU, A. & al. (2001). Phylogenetic relationships in the Caesalpinioideae (Leguminosae) as inferred from chloroplast trnL intron sequences. *Syst. Bot.* 26: 487-514.
- FOUGÈRE-DANEZAN, M. & al. (2003). Phylogenetic relationships in resin-producing Detarieae inferred from molecular data and preliminary results for a biogeographic hypothesis. *In: KLITGAARD, B. B. & A. BRUNEAU, o. c.*: 161-180.
- GASSON, P. & al. (2003). Wood anatomy of Caesalpinioideae. *In: KLITGAARD, B. B. & A. BRUNEAU, o. c.*: 63-93.
- HASTON, E. M. & al. (2003). A phylogenetic investigation of the Peltophorum group (Caesalpinieae: Leguminosae). *In: KLITGAARD, B. B. & A. BRUNEAU, o. c.*: 149-159.

HERENDEEN, P. S. (2000). Structural evolution in the Caesalpinioideae (Leguminosae). *In: HERENDEEN, P. S. & A. BRUNEAU, o. c.*: 45-64.

HERENDEEN, P. S. & al. (2003). Phylogenetic relationships in caesalpinioid legumes: A preliminary analysis based on morphological and molecular data. *In: KLITGAARD, B. B. & A. BRUNEAU, o. c.*: 37-62.

IRELAND, H. & al. (2000). Molecular systematics of the Swartzieae. *In: HERENDEEN, P. S. & A. BRUNEAU, o. c.*: 217-231.

LEWIS, G. P. & al. (2000). Progress in understanding the reproductive biology of the Caesalpinioideae (Leguminosae). *In: HERENDEEN, P. S. & A. BRUNEAU, o. c.*: 65-78.

PENNINGTON, R. T. & al. (2000). New insights into the floral evolution of basal Papilionoideae from molecular phylogenies. *In: HERENDEEN, P. S. & A. BRUNEAU, o. c.*: 233-248.

SCHRIRE, B. (2000). See under Leguminosae p. 15.

SIMPSON, B. B. & al. (2003). Progress towards resolving the relationships of the Caesalpinia group (Caesalpinieae: Caesalpinioideae: Leguminosae). *In: KLITGAARD, B. B. & A. BRUNEAU, o. c.*: 123-148.

TUCKER, S. C. (2000). Organ loss in Detarioid and other leguminous flowers, and the possibility of salvatory evolution. *In: HERENDEEN, P. S. & A. BRUNEAU, o. c.*: 107-120.

TUCKER, S. C. (2002). Comparative floral ontogeny in Detarieae (Leguminosae: Caesalpinioideae). 1. Radially symmetrical taxa lacking organ suppression. *Amer. J. Bot.* 89: 875-887.

TUCKER, S. C. (2002). Comparative floral ontogeny in Detarieae (Leguminosae: Caesalpinioideae). 2. Zygomorphic taxa with petal and stamen suppression. *Amer. J. Bot.* 89: 888-907.

SIMPSON, B. B. & al. (2003). Progress towards resolving the relationships of the Caesalpinia group (Caesalpinieae: Caesalpinioideae: Leguminosae). *In: KLITGAARD, B. B. & A. BRUNEAU, o. c.*: 123-148.

WIERINGA, J. J. & G. Y. F. GERVAIS (2003). Phylogenetic analyses of combined morphological and molecular data sets on the Aphanocalyx-Bikinia-Tetraberlinia Group (Leguminosae, Caesalpinioideae, Detarieae s.l.). *In: KLITGAARD, B. B. & A. BRUNEAU, o. c.*: 181-196.

ADENOLOBUS / 2

Adenolobus garipensis (E. Mey.) Torre & Hillcoat – Icon.: B. & P. van Wyk, Field guide to trees of Southern Africa: 373, 1998.

Erect shrub or tree 1,5-4 m tall; branchlets long and slender, virgate-sarmentose.

In tall thickets along banks of river; sometimes abundant; 500 m alt.

As in *A. pechuelii*, both glandular and eglandular plants occur, but there seems to be no clear-cut correlation with distribution (see map in Kew Bull. 31: 402, 1976); the pod varies remarkably in its surface; it seems clearly preferable not to give taxonomic recognition to the glandular and eglandular variants (o. c.: 404).

Namibia, S. Africa (extreme NW Cape Province).

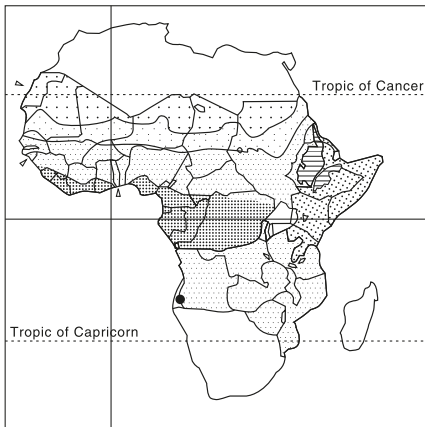
A. pechuelii (Kuntze) Torre & Hillcoat subsp. **mossamedensis** (Torre & Hillcoat) Brummitt & J. Ross – Icon.: Consp. Fl. Angol. 2: 197, 1954.

syn.: *Bauhinia marlothii* Engl.

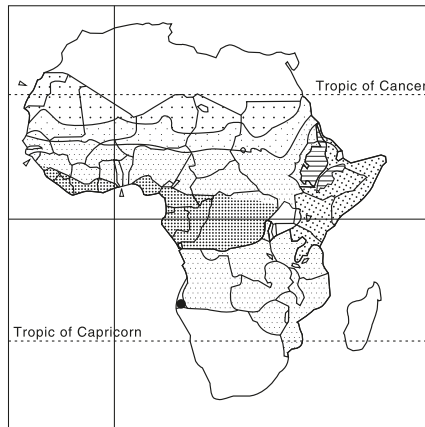
Prostrate or spreading to erect shrub, divaricate-ramose, 50-150 cm tall; stalked glands absent (subsp. **pechuelii** with glands).

Valley in desert; 70 m alt.

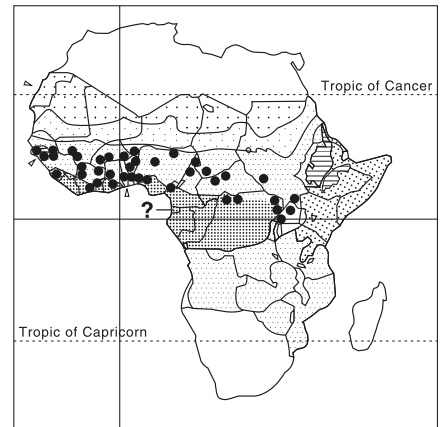
Botswana, Namibia (subsp. **pechuelii**).



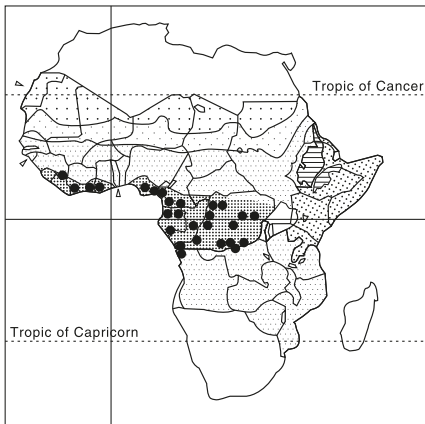
Adenolobus garipensis



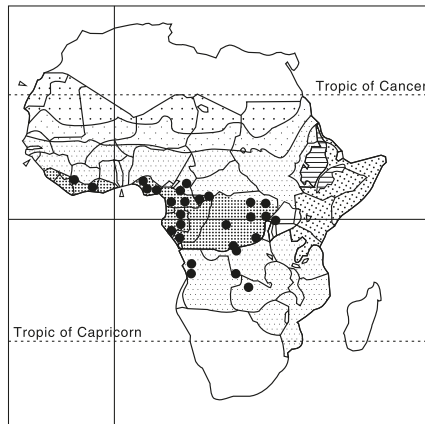
Adenolobus pechuelii



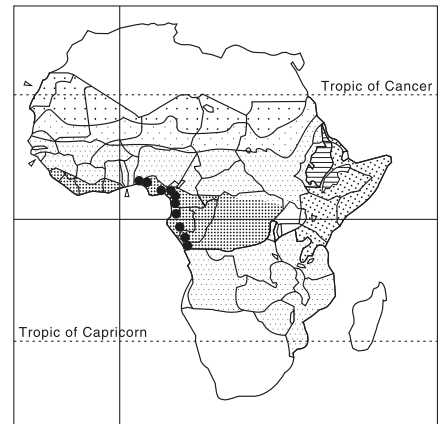
Afzelia africana



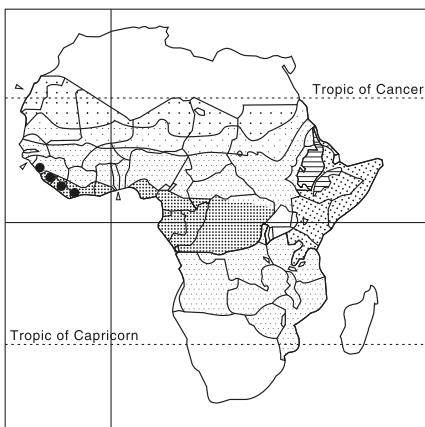
Afzelia bella



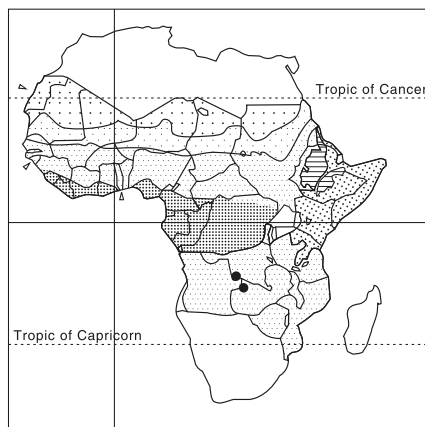
Afzelia bipindensis



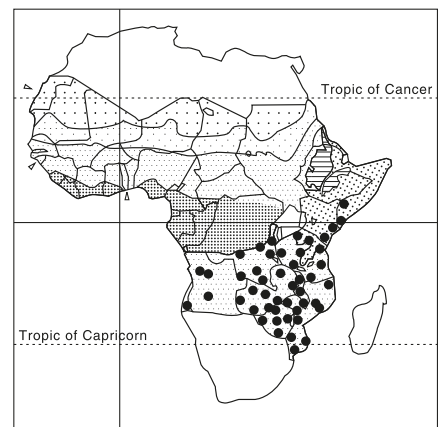
Afzelia pachyloba



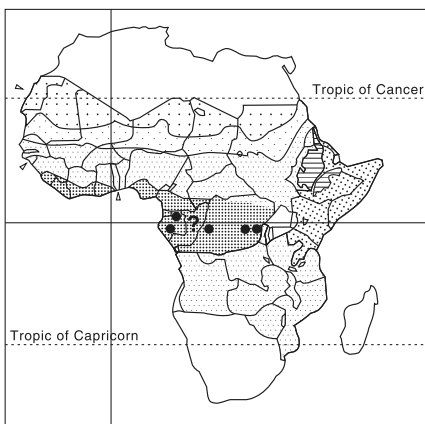
Afzelia parviflora



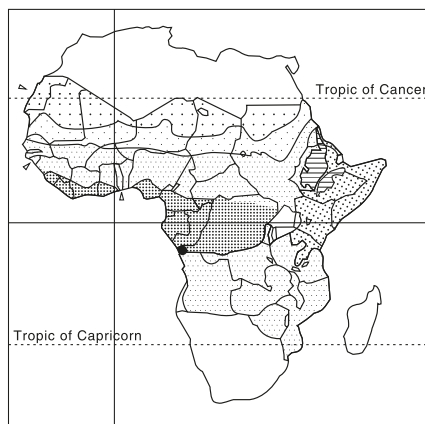
Afzelia peturei



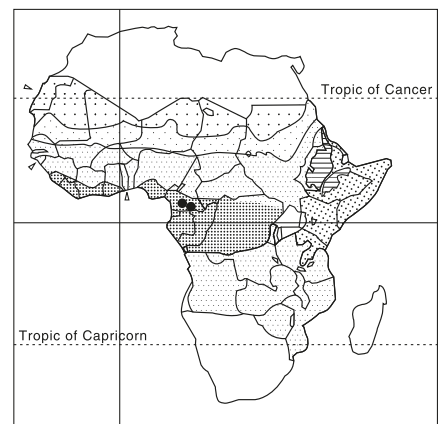
Afzelia quanzensis



Anthonotha acuminata



Anthonotha brevii



Anthonotha cladantha

AFZELIA / 7

Afzelia africana Smith ex Pers. – African mahogany or oak.

syn.: *Intsia africana* (Pers.) O. Kuntze; *Pahudia africana* (Pers.) Prain

Tree 6-35 m, with flat or rounded crown; bole to 3 m in girth, buttressed.

Rocky woodland with *Combretum collinum*, *C. molle*, *Annona senegalensis*; rocky hillside, bare rock; wooded grassland; gully; large river banks; gallery forest; also on dry ground; alluvial grounds; hard-pan crevices; semi-deciduous rain-forests; rather common by places; 700 (and less?)-1370 m alt.

Endangered in Benin (high exploitation) fide B. Sinsin & al. in Biodiversity & Conserv. 13: 1555-1570, 2004.

A. bella Harms – Icon.: Aubréville, Flore Forest. C. I., Ed. 2, 1: 265, 1959.

Shrub 2-5 m tall, or small tree to 11 m tall, with stem 5-10 cm Ø (var. **bella**); or larger tree 15-25(-35) m tall with spreading crown and cylindrical bole 6-7 m long and to 1 m Ø (var. **gracilior**).

Secondary wooded formations; firm-ground forests; more rare in flooded or gallery forests; (var. **bella**) in understorey of forest; 1-800 m alt.

Comprises 3 vars.: – var. **bella**; var. **gracilior** Keay (syn.: *A. microcarpa* A. Chev., nom. nud.); var. **glabra** Aubrév.

Handsome shade tree with attractive white flowers streaked red. Not in Uganda (= *A. bipindensis*).

A. bipindensis Harms

syn.: *Afzelia bequaertii* De Wild.

Tree 15-40 m; bole 10-23 m long, 40-140 cm Ø, rounded or fluted at base; buttresses short, less than 1 m.

Forests on firm ground; gallery forest or forest patches in savanna; rain-forest; ±900 m alt.

A. pachyloba Harms – Icon.: Rev. Bot. Appl. Agric. Trop. 19: 485, 487, 1939.

syn.: *A. brieyi* De Wild.; *A. zenkeri* Harms; *A. caudata* Hoyle

Tree 20-35 m, with cylindrical straight bole 20-25 m long, 60-80 cm Ø, sometimes sinuous with thin buttresses at base.

Secondary forest; clearings.

A. parviflora (Vahl) Hepper – Icon.: Aubréville, Flore Forest. C. I., Ed. 2, 1: 267, 1959, sub *A. bracteata* T. Vogel

syn.: *Pahudia bracteata* (T. Vogel) Prain

Tree to 15 m, with spreading crown.

Usually by streams.

A. peturei De Wild. – Icon.: Bull. Séances Inst. Roy. Colon. Belge 6(1): pl. I, III, 1935.

Tree 10-20 m, with straight cylindrical bole 6-11 m long, 50-75 cm Ø; flowers unknown; fruit kidney-shaped (not so in similar *A. quanzenis*).

Humid, swampy gallery forests; patch of ± 20 rather distant trees. Known from the type collected in 1934 and a specimen from Zambia (Mutimushi 3377).

AFZELIA

A. quanzenis Welw. (“cuanzenis” auctt.). – Pod Mahogany.
syn.: *Intsia quanzenis* (Welw.) O. Kuntze; *Afzelia petersiana* Klotzsch; *A. attenuata* Klotzsch; *Pahudia quanzenis* (Welw.) Prain

Shrub or tree 1,5-35 m tall with irregular bole 4-12 m long, 10-50(-100) cm Ø, and very spreading crown, sometimes flattish. Habit of *Ceratonia siliqua*.

Thickets; woodland; dry evergreen forest; sand forest; open forests with *Brachystegia*; sandy, running, deep, relatively dry soils; termite mounds; semi-evergreen forest; riverine woodland; also around inselbergs; with *Phoenix spinosa* and *Combretum* sp.; 0-1350 m alt.

Botswana; S. Africa, Caprivi Strip.

IZIDINE, S. & al. (2003). Maputaland's Licuati forest and thicket: botanical exploration of the coastal plain south of Maputo Bay, with an emphasis on the Licuati Forest Reserve. *Veld & Flora* 89: 56-61 [p. 57 on this forest reserve created in 1943 to ensure sustainable harvesting of this species, i.e. pod-mahogany].

SYNONYM:

Afzelia bijuga (Colebr.) A. Gray, non (Willd.) Spreng. = **Intsia**

ANTHONOTHA / 27

syn.: *Isomacrolobium* Aubrév. & Pellegr.; *Leonardendron* Aubrév.

LÉONARD, J. (1996). Les délimitations des genres chez les Caesalpinioideae africaines (Detarieae et Amherstieae) (1957-1994). In: MAESEN, L. J. G. van der & al., Eds., *The Biodiversity of African Plants*: 443-455. Kluwer Academic Publishers, Dordrecht, etc.

Anthonotha acuminata (De Wild.) J. Léonard

bas.: *Macrolobium acuminatum* De Wild.

Tree 6-8 m.

Forest on firm ground.

Perhaps only a variant of *A. macrophylla*.

A. brieyi (De Wild.) J. Léonard

bas.: *Macrolobium brieyi* De Wild.

Tree 6-12 m; bole 20-60 cm Ø.

Ecology unknown.

A. cladantha (Harms) J. Léonard, *Genera des Cynometreae...*: photo. 20 opposite to p. 218, 1957 (Mém. Acad. Roy. Belg., Sciences 30).

bas.: *Macrolobium cladanthum* Harms

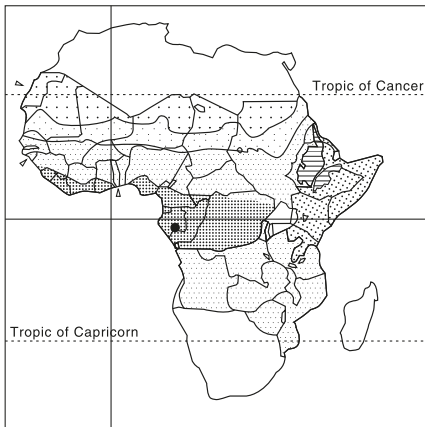
Rather tall tree with irregular dense crown; inflorescences short borne on the branches; petals 6-7 mm long.

Forest District: Hilly land.

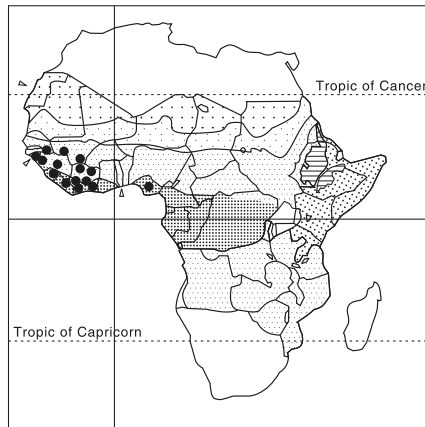
Known from the destroyed type (Mildbraed 8008) collected in 1914, and also from a drawing of this type, and from the sterile specimen Mildbraed 8933.

Near *A. ferruginea*, *A. lamprophylla*, *A. pellegrinii*.

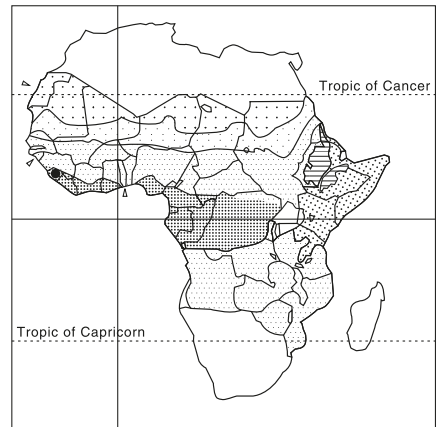
Not in Gabon.



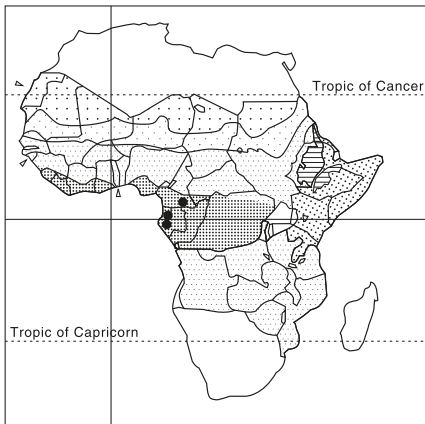
Anthonotha conchyliphora



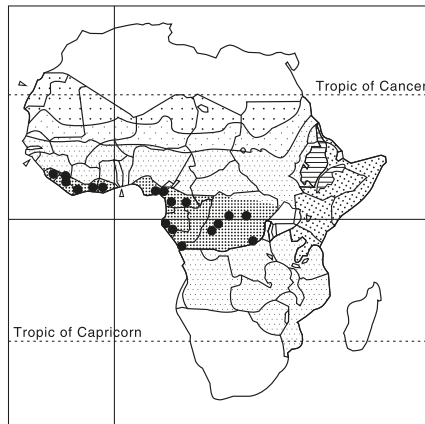
Anthonotha crassifolia



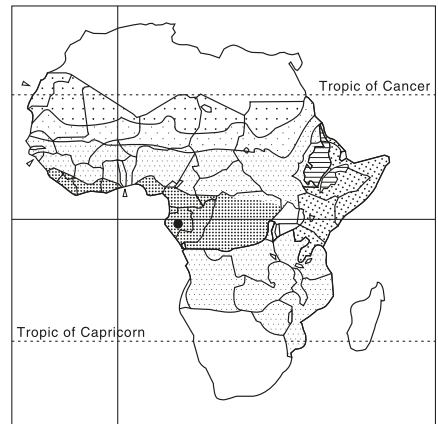
Anthonotha elongata



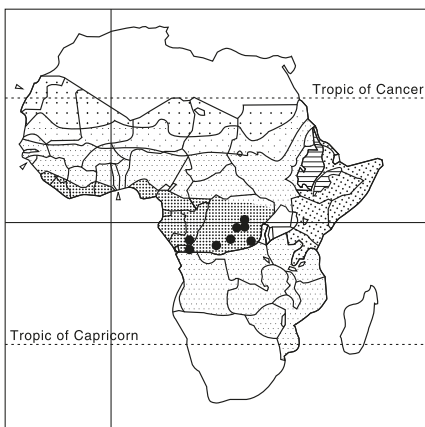
Anthonotha ferruginea



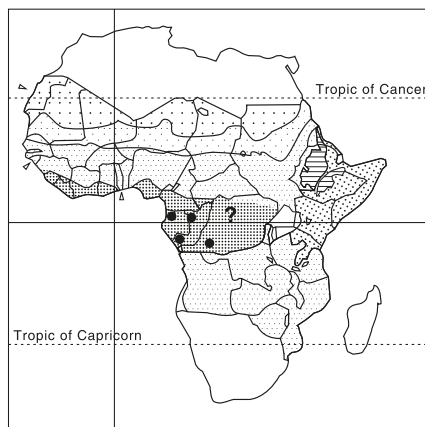
Anthonotha fragrans



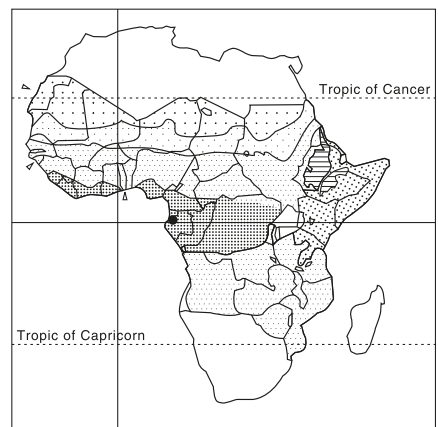
Anthonotha gabunensis



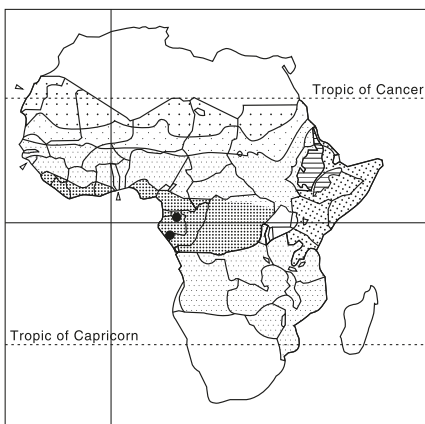
Anthonotha gillettii



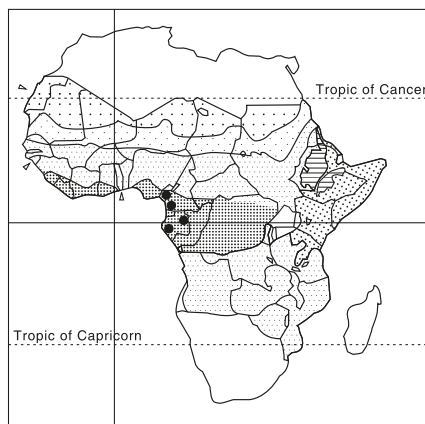
Anthonotha graciliflora



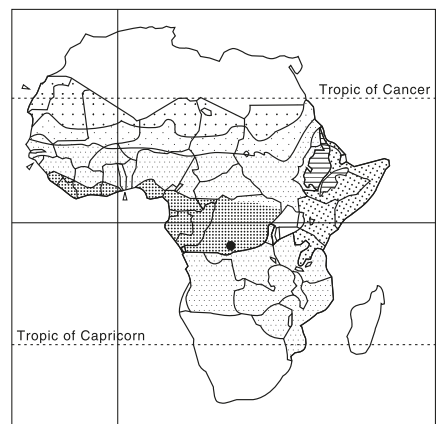
Anthonotha hallei



Anthonotha isopetala



Anthonotha lamprophylla



Anthonotha lebrunii

ANTHONOTHA

A. conchyliophora (Pellegr.) J. Léonard

bas.: *Macrolobium conchyliophorum* Pellegr.

syn.: *Isomacrolobium conchyliophorum* (Pellegr.) Aubrév. & Pellegr.; *Englerodendron conchyliophorum* (Pellegr.) Breteler, cf. Sosef & al., Check-list Gabon:218, 2006.

Tree 12-15 m, with slender branches; ripe fruit unknown?

Forest; 52-450 m alt.

A. crassifolia (Baill.) J. Léonard

syn.: *Macrolobium crassifolium* (Baill.) J. Léonard

Tree to 25 m, or shrub, with irregular bole; crown much branched, irregular.

Transition forest, savanna woodland; to 1300 m alt. (Mt. Nimba).

A. elongata (Hutch.) J. Léonard

bas.: *Macrolobium elongatum* Hutch.

syn.: *Isomacrolobium elongatum* (Hutch.) Aubrév. & Pellegr.

Small branching tree; fruit unknown.

Ecology unknown.

Only known from the type.

A. ferruginea (Harms) J. Léonard

bas.: *Macrolobium ferrugineum* Harms

Tree with buttresses; bole slightly sinuous to >1 m Ø; main branches sinuous.

Ecology unknown (forest?).

A. fragrans (Bak. f.) Exell & Hillcoat

bas.: *Macrolobium fragrans* Bak. f.

syn.: *Macrolobium chrysophylloides* Hutch. & Dalziel

Tree 20-40 m, with straight cylindrical bole 12-21 m long, 60-130 cm Ø; base fluted but without or with only small buttresses.

Rain-forest; never abundant; firm-ground forests; 1-800 m alt.

A. gabunensis J. Léonard

syn.: *Leonardendron gabunense* (J. Léonard) Aubrév.; *Isomacrolobium gabunense* (J. Léonard) Aubrév. & Pellegr.; *Englerodendron gabunense* (J. Léonard) Breteler, cf. Sosef & al., Check-list Gabon: 218, 2006.

Habit and fruit unknown? (only few specimens known); woody plant.

Ecology unknown?

A. gillettii (De Wild.) J. Léonard

bas.: *Macrolobium gillettii* De Wild.

Tree 6-20 m; bole 15-40 cm Ø.

Firm-ground forests; sometimes in swampy forests; also in gallery forest.

A. graciliflora (Harms) J. Léonard – Icon.: Champluvier & Dowsett-Lemaire in Syst. Geogr. Pl. 69: 17, 1999.

bas.: *Macrolobium graciliflorum* Harms

syn.: *Isomacrolobium graciliflorum* (Harms) Aubrév. & Pellegr.

Small tree to 8 m; trunk 15-30 cm Ø, sometimes branched in clumps at 1 m height; crown forming a closed vault; fruit pendant, 1 cm large at base, 1.5 cm at tip.

ANTHONOTHA GRACILIFLORA

Riverine, seasonally inundated forest on sandy-clayey soil, one of the dominant species of the understorey.

In Gabon fide Sosef & al., Check-list, l.c. (*Isomacrolobium*).

A. hallei (Aubrév.) J. Léonard

bas.: *Isomacrolobium hallei* Aubrév.

Very ramose shrub 2 m tall; fruit unknown.

River sides; 5-650 m alt. (Gabon; under *Isomacrolobium*).

A. isopetala (Harms) J. Léonard

bas.: *Macrolobium isopetalum* Harms

syn.: *Isomacrolobium isopetalum* (Harms) Aubrév. & Pellegr.

Tree 3-6 m, branched from near the base; with irregular bole and dense crown; fruit unknown.

Rain-forest (Gabon; under *Isomacrolobium*).

A. lamprophylla (Harms) J. Léonard

bas.: *Macrolobium lamprophyllum* Harms

Shrub or tree to 10-12 m tall; trunk crooked, 30-80 cm Ø.

Probably in forest; locally abundant.

A. lebrunii (J. Léonard) J. Léonard – Icon.: Bull. Jard. Bot. Etat, Bruxelles 22: 187, 1952.

bas.: *Macrolobium lebrunii* J. Léonard

syn.: *Isomacrolobium lebrunii* (J. Léonard) Aubrév. & Pellegr.

Tree ± 15 m; fruit unknown.

Forest.

Only known from the type collected in 1932.

A. leptorrhachis (Harms) J. Léonard

bas.: *Macrolobium leptorrhachis* Harms s. str.

syn.: *Isomacrolobium leptorrhachis* (Harms) Aubrév. & Pellegr.

Shrub 3-6 m tall, or tree to ± 15 m; cauliflorous.

Rain-forest; 1-200 m alt.

A. macrophylla P. Beauv.

syn.: *Vouapa macrophylla* (P. Beauv.) Baill., incl. var. *heudelotiana* Baill.; *Macrolobium macrophyllum* (P. Beauv.) J. F. Macbr., incl. var. *heudelotianum* (Baill.) Bak. f.; *M. palisoti* Benth., excl. specim. Welwitsch, but incl. var. *heudelotianum* (Baill.) A. Chev.; *M. heudelotianum* (Baill.) Aubrév.

Shrub or tree 4-12-20-30 m tall, often multi-stemmed, branching from near the base; stem 10-40 cm Ø, 60 cm in girth, sometimes widening at base; often with a straggling habit. – Has a capacity for abundant regeneration.

Secondary formations; gallery forest, riversides; with *Elaeis guineensis* at edge of rice-field; with *Raphia*; deciduous forest; coastal closed forest; 1-700 m alt. – Sometimes very common (Zaire: Selenge).

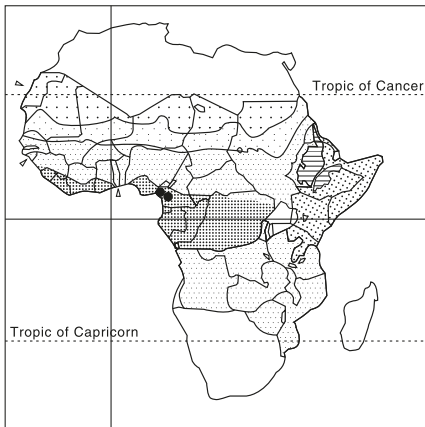
A. nigerica (Bak. f.) J. Léonard

syn.: *Isomacrolobium nigericum* (Bak. f.) Aubrév. & Pellegr.

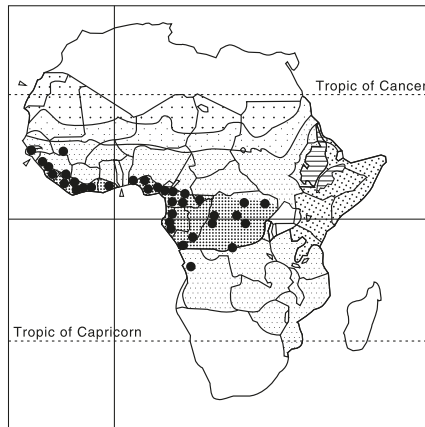
Macrolobium nigericum (Bak. f.) J. Léonard

Small tree.

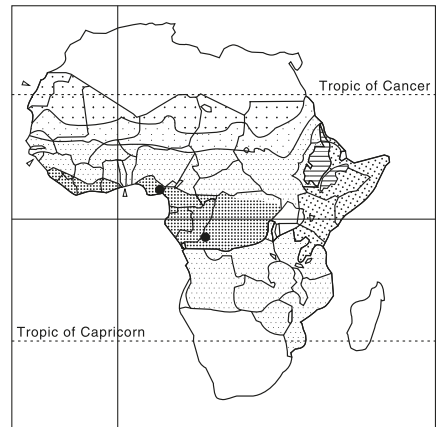
Humid wooded gallery forest.



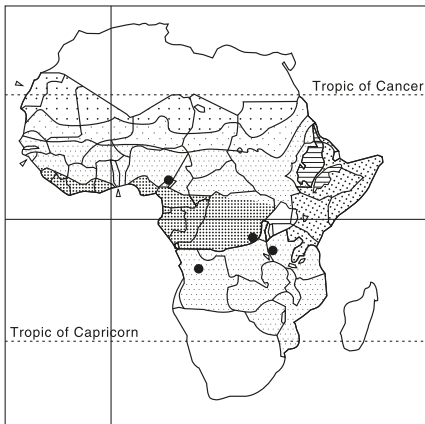
Anthonotha leptorrhachis



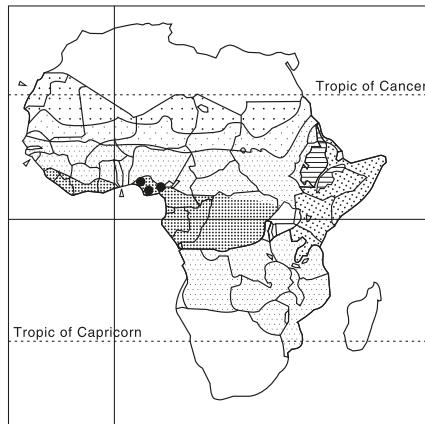
Anthonotha macrophylla



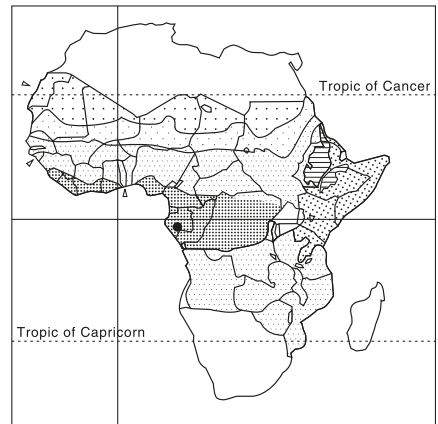
Anthonotha nigerica



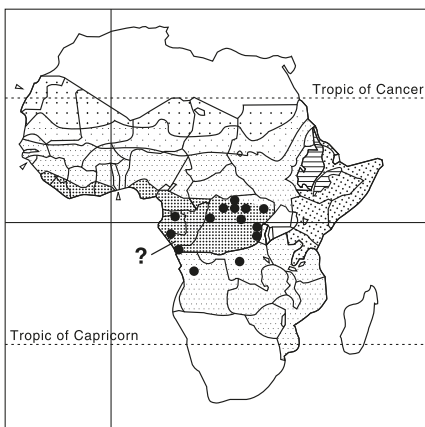
Anthonotha noldeae



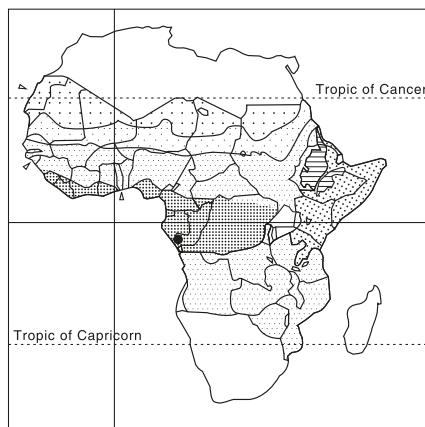
Anthonotha obanensis



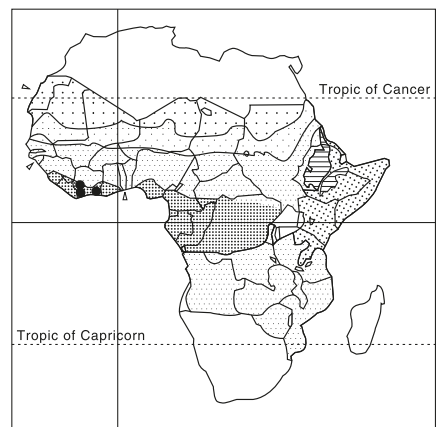
Anthonotha pellegrinii



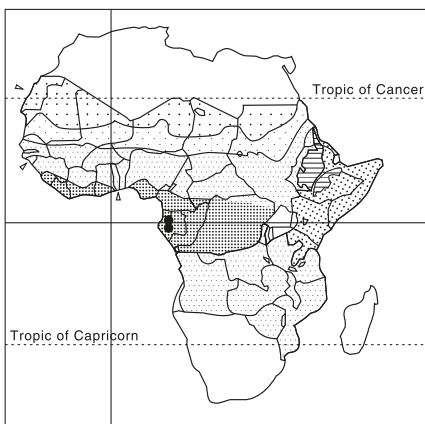
Anthonotha pynaertii



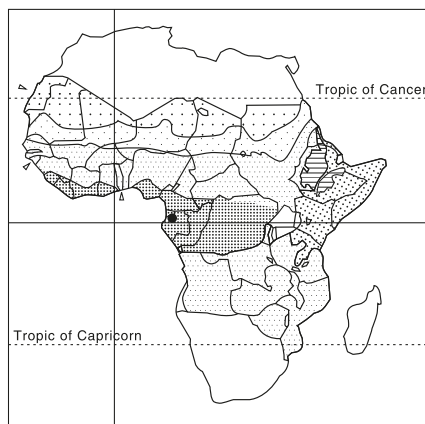
Anthonotha sargosii



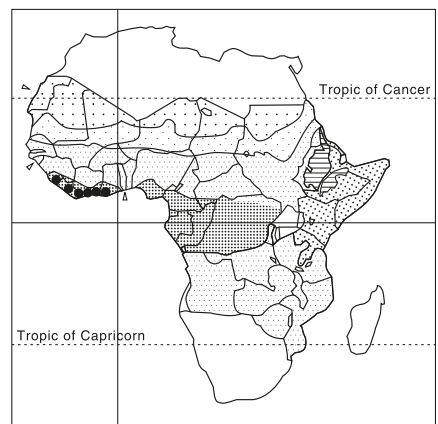
Anthonotha sassandraensis



Anthonotha stipulacea



Anthonotha trunciflora



Anthonotha vignei

ANTHONOTHA

A. noldeae (Rossberg) Exell & Hillc.

bas.: *Macrolobium noldeae* Rossberg

Tree to 15-25 m, with dense round crown and cylindrical bole.

Rain-forest; riversides; 1200-2130 m alt.

A. obanensis (Bak. f.) J. Léonard

bas.: *Macrolobium obanense* Bak. f.

syn.: *Isomacrolobium obanense* (Bak. f.) Aubrév. & Pellegr.

Tree to 10 m; inflorescences arising from short shoots on the older branches.

Forest.

A. pellegrinii Aubrév.

syn.: *Macrolobium cladanthum* sensu Pellegrin, Les Legumin. Gabon: 46-47, 1948, quoad specim. Le Testu 6496, non Harms

Habit and fruit unknown; probably woody plant.

Forest?

Known from very few collections.

A. pynaertii (De Wild.) Exell & Hillcoat

bas.: *Macrolobium pynaertii* De Wild.

syn.: *Macrolobium malchairii* De Wild.; *M. bonnivairii* De Wild.

Tree 7-20 m, with bole 2-6 m long, 25-80 cm Ø; inflorescences very short, spherical, on the older branches.

Firm-ground forests; old clearings (rather common); rare in fringing and swampy forests. – Sometimes common (Zaire: Eala).

Very near *A. macrophylla*.

A. sargosii (Pellegr.) J. Léonard

bas.: *Englerodendron sargosii* Pellegr.

syn.: *Isomacrolobium sargosii* (Pellegr.) Aubrév. & Pellegr.

Tree; ripe fruit unknown.

Ecology unknown.

Only known from the type.

Near *A. isopetala*.

A. sassandraensis Aubrév. & Pellegr.

Small tree, ramose from near the base, with irregular bole 10-20 cm Ø.

Low damp sites in forest and small woods in savanna.

A. stipulacea (Benth.) J. Léonard

bas.: *Macrolobium stipulaceum* Benth.

syn.: *Vouapa stipulacea* (Benth.) Taub.

Shrub 6-8 m tall; stipules 6-8 cm long on the young branchlets. Riparian.

A. trunciflora (Harms) J. Léonard

bas.: *Macrolobium trunciflorum* Harms

Tree; panicle fasciculate on the trunk, with rhachis <10 cm long; fruit unknown.

Ecology?; 5-500 m alt. (Gabon).

ANTHONOTHA

A. vignei Hoyle

syn.: *Isomacrolobium vignei* (Hoyle) Aubrév. & Pellegr.

Tree to 25 m; bole to 40 cm Ø; crown spreading.

River banks in closed forest.

The following specimens from Ivory Coast need revision: Aubréville 89, 412, 631, 1190, 1685.

APHANOCALYX / 14

syn.: *Monopetalanthus* Harms

KITE, G. C. & J. J. WIERINGA (2003). Hydroxypipicolonic acids and hydroxyprolines as chemical characters in *Aphanocalyx*, *Bikinia* and *Tetraberlinia* (Leguminosae: Caesalpinioideae): support for the segregation of *Monopetalanthus*. *Biochem. Syst. Ecol.* 31: 279-292.

LÉONARD, J. & J.-L. DOUCET (1997). Description des plantules de quatre Caesalpiniaées Africaines. *Bull. Jard. Bot. Natl. Belgique* 66: 213-221 [vide p. 214-216].

TUCKER, S. C. (2000). Evolutionary loss of sepals and/or petals in detarioid legume taxa *Aphanocalyx*, *Brachystegia*, and *Monopetalanthus* (Leguminosae: Caesalpinioideae). *Amer. J. Bot.* 87: 608-624.

WIERINGA, J. J. (1999). *Monopetalanthus* exit. A systematic study of *Aphanocalyx*, *Bikinia*, *Icuria*, *Michelsonia* and *Tetraberlinia* (Leguminosae, Caesalpinioideae). *Wagen. Agricult. Univ. Papers* 99-4; 320 pp.

Aphanocalyx cynometroides Oliv. – Icon.: Wieringa (1999): 119.

Tree 8-45 m; crown irregular to hemispherical, but not very wide; bole cylindrical to contorted, branchless for to at least 17 m, DBH 50-130 cm; base with narrow but often long reaching buttresses to 2(-3) m high.

Solitary or gregarious tree, sometimes becoming dominant. Usually in dryland, rarely riverine forest; clayish, rarely sandy soils; isolated hill tops; hill sides, valley or flat terrain; 200-1600 m alt.

A. djumaensis (De Wild.) J. Léonard

Shrub or tree 6-20(-35) m tall; crown usually irregular and overhanging rivers; bole usually irregular and contorted, occasionally cylindrical, DBH 15-100 cm, base cylindrical; large trees with small buttresses.

Often gregarious, usually on riverbanks; *Gilbertiodendron dewevrei* forest; in areas where inundation levels may reach more than 50 cm; 25-500 m alt.

A. hedinii (A. Chev.) Wieringa

bas.: *Cynometra hedinii* A. Chev.

syn.: *Monopetalanthus hedinii* (A. Chev.) Aubrév.

Tree to at least 35 m; bole branchless for at least 15 m; bole above the plank roots to 3,3 m Ø.

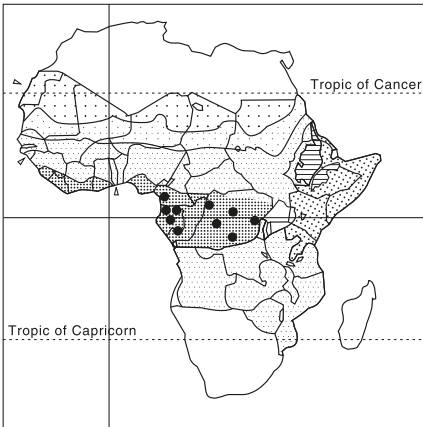
Rain-forest in dryland; in clusters; 0-200 m alt.

Occurs very locally in three small areas; it has not been collected recently, only in 1927, 1950, 1952, 1953. Probably severely threatened if not extinct.

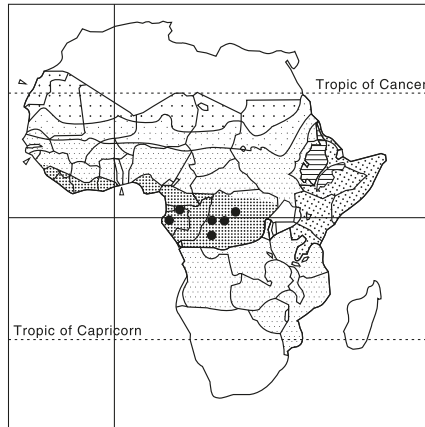
A. heitzii (Pellegr.) Wieringa

bas.: *Monopetalanthus heitzii* Pellegr.

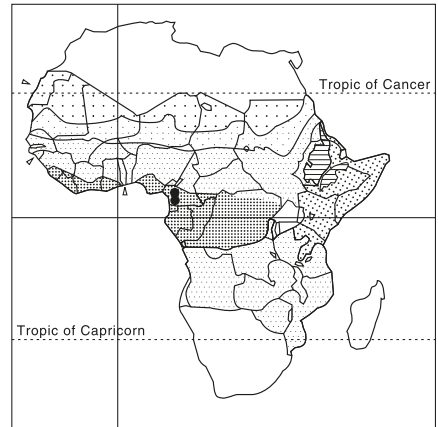
Tree to 45 m; crown hemispherical; bole cylindrical, branchless for to 25 m, to 2 m Ø above buttresses; base of large trees often with thick plank roots, these to 4 m high and 4,5 m wide.



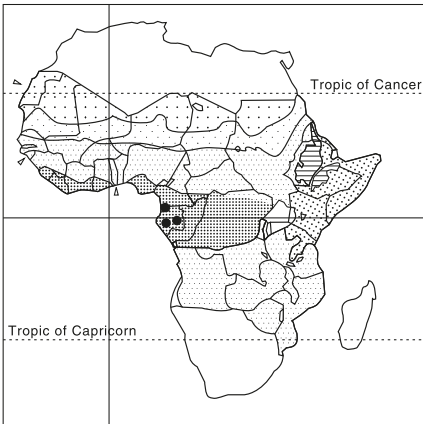
Aphanocalyx cynometroides



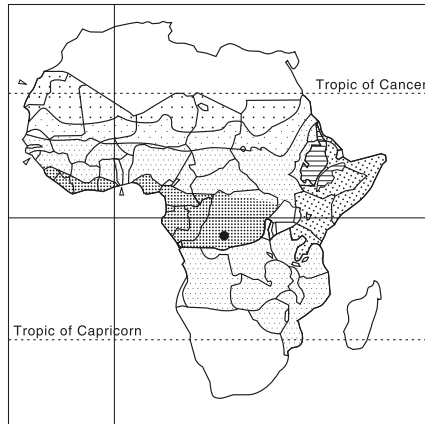
Aphanocalyx djumaensis



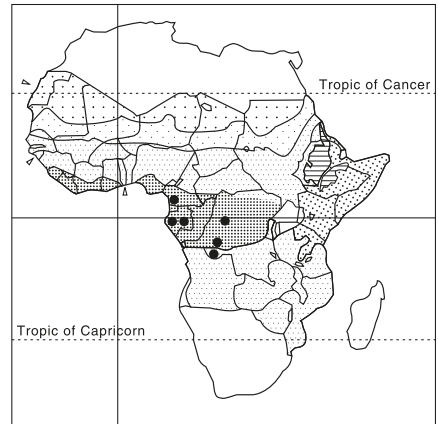
Aphanocalyx hedinii



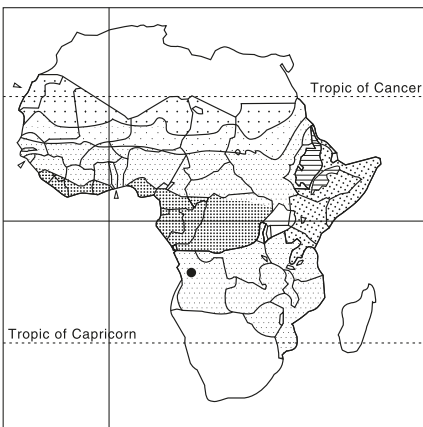
Aphanocalyx heitzii



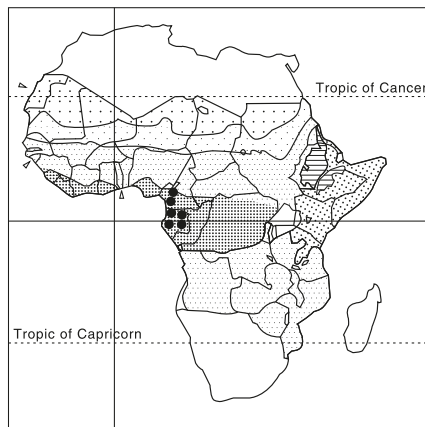
Aphanocalyx jenseniae



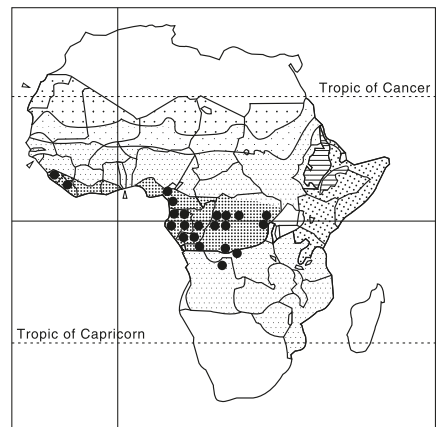
Aphanocalyx ledermannii



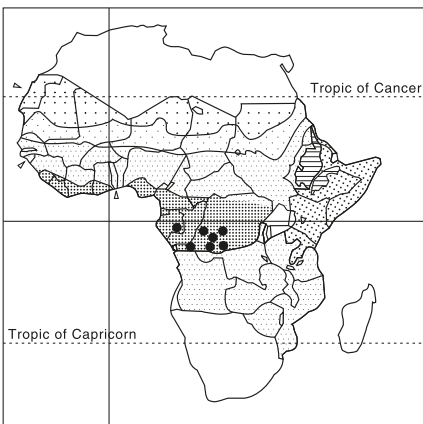
Aphanocalyx libellula



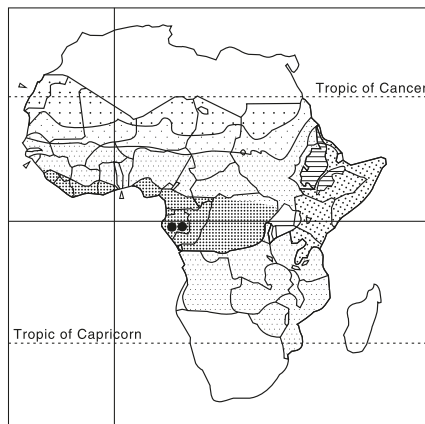
Aphanocalyx margininervatus



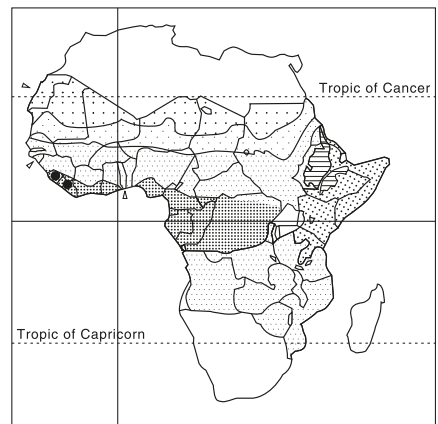
Aphanocalyx microphyllus



Aphanocalyx obscurus



Aphanocalyx pectinatus



Aphanocalyx pteridophyllus

APHANOCALYX HEITZII

Primary and older secondary dryland rain-forest; sometimes reaching the forest-savanna margin; usually in clusters of \pm 5 trees; 0-200(-500) m alt.

A. jenseniae (Gram) Wieringa

bas.: *Monopetalanthus jenseniae* Gram

Tree to 20 m, with a flat crown; fruit unknown.

Forest edge (collection label).

Only known from the type collected in 1923; also in Gabon?

A. ledermannii (Harms) Wieringa

bas.: *Monopetalanthus ledermannii* Harms

Tree 10-40 m; crown irregular or hemispherical; bole cylindrical, sometimes a little contorted, branchless for to 15 m, DBH to 70 cm; base often with rather thin buttresses to 1,5 m high and 1 m wide, rarely transformed into stilt roots.

Scattered in riverine forest or forest on slopes close to riverine forest; sometimes several individuals growing fairly close together; fine sandy or loamy soils; in Gabon this fine sand was often remarkably white and apparently nutrient-poor.

A. libellula Wieringa

Tree 8-10 m, with a globose crown; fruit unknown.

Forms a rather dense gallery along a river; \pm 400 m alt.

Only known from the type collected in 1971.

The shape and position of the leaflets are reminiscent of dragonfly wings.

A. margininervatus J. Léonard – Icon.: Bull. Jard. Bot. Natl. Belgique 66: 215, 1997.

Tree 8-40 m; branches comparatively high up the bole, crown compact; bole cylindrical, contorted or channalled, DBH to 70 cm; base sometimes slightly inflated or with relatively thick to 0,5 m wide and to 1,5(-3) m high buttresses.

Primary dryland rain-forest; rarely in riverine forest on riverbanks; clay soils; 0-650 m alt.

Probably not in Congo-Brazzaville (= *A. cynometroides*, Sita 3516).

A. microphyllus (Harms) Wieringa

Tree 7-45 m; crown hemispherical or irregular; bole often contorted but sometimes cylindrical, branchless for to 15 m, DBH 10-100(-160) cm; base of large trees often with rather thin, sometimes branching buttresses or plank roots (or even stilt roots?), these 2(-6) m high and 3(-8) m wide.

Primary and older secondary, dryland rain- or semi-deciduous forests; sometimes reaching the forest-edge; swampy to riverine rain-forest; also in savanna areas in forest gallery; usually sandy soils; 0-1500 m alt. (subsp. **microphyllus**). – Subsp. **compactus**: gregarious; single dominant forest of vast extension in slightly rolling areas; some secondary forests might consist completely of this subspecies; also on rocky terrain; only in riverine forest in drier areas with semi-deciduous forest; 0-300(-500) m alt.

Comprises 2 subspp.: – **microphyllus**; – **compactus** (Hutch. ex Lane-Poole) Wieringa (bas.: *Monopetalanthus compactus* Hutch. ex Lane-Poole).

APHANOCALYX

A. obscurus Wieringa

Tree (12-)14-25 m; crown hemispherical or irregular; bole straight or contorted, DBH 30-120 cm; base sometimes with buttresses.

Often gregarious, usually in riverine forest (characteristic); more rarely in dryland plateau forest; sandy soils; dominating in secondary forest with *Piptadenia africana*, *Millettia laurentii*.

A. pectinatus (A. Chev.) Wieringa

bas.: *Monopetalanthus pectinatus* A. Chev.

Tree at least to 20 m; bole in young trees cylindrical, irregular when mature but cylindrical at base, DBH to at least 30 cm; fruit unknown.

Primary rain-forest; probably not “exclusively riverine” as claims Aubréville; 300-840 m alt.

Probably not in Congo-Brazzaville (= *A. microphyllus*, Sita 4933).

Very similar to *A. obscurus*.

A. pteridophyllus (Harms) Wieringa

bas.: *Monopetalanthus pteridophyllus* Harms

Tree 6-30 m, often overhanging when along a river; crown broad, but irregular due to early branching of trunk; bole DBH to 45 (-75) cm, sometimes with small buttresses.

Riverine forest; sandy soils; also in small groups in evergreen (dryland?) forest; 0-150 m alt.

A. richardsiae (J. Léonard) Wieringa – Icon.: Léonard, Genera des Cynometreae.: photo 22 opposite to p. 258, 1957 (Mém. Acad. Roy. Belg., Sci. 30).

bas.: *Monopetalanthus richardsiae* J. Léonard

syn.: *M. leonardii* Devred & Bamps

Shrub or tree 3-25 m tall; crown large, spreading; bole contorted, branchless for to 3 m (or more?), DBH 20-65 cm; base with small buttresses.

Along rivers and permanent streams in savanna; often gregarious and dominant in riverine forests or becoming co-dominant next to *Syzygium* sp.; also in dryland forest with *Julbernardia seretii*, *Staudtia gabonensis*, *Cynometra alexandri*, *Grossera multinervis*; 700-1500 m alt.

Distribution area similar to that of *Tessmannia burttii*.

Without bracts and pods not distinguishable from *A. djumaensis*.

A. trapnellii (J. Léonard) Wieringa

bas.: *Monopetalanthus trapnellii* J. Léonard

Tree 8-20 m, with spreading crown and cylindrical bole, DBH to 60 cm.

Gallery forest; 800-1500 m alt.

Probably also in SW Tanzania near the Zambian border.

AUGOUARDIA / 1

Augouardia letestui Pellegr. – Icon.: Pellegrin, Flore du Mayumbé 1: pl. 10, 1924; White & Abernethy, Guide végétation Lopé: 174, 1996.

Tree to 20 m with numerous trunks; fruit known: pod 14 \times 5 cm!; leaves confused with those of *Dialium soyauxii*.

Forest.

BAIKIAEA / 4

Baikiaea ghesquiereana J. Léonard – Icon.: Bull. Jard. Bot. Etat, Bruxelles 21: 131, 1951.

Tree; open flowers and pods unknown.

Open miombo (*Brachystegia* woodland); ± 300 m alt.

Only known from the type collected in 1903.

B. insignis Benth.

Tree 5-34 m; bole 3,5-20 m long to first branching, 20-100 cm Ø; buttresses none or slight; flowers very large: petals to 21 × 11 cm (6-11,5 × 3,5-7 cm in subsp. **minor**).

Rain-forest; periodically flooded riparian formations with *Uapaca heudelotii*, *Irvingia smithii*; gallery forest; firm ground and mountain forest; also in swampy forests; 1-1800 m alt.

Bioko / Fernando Poo.

Comprises 2 subspp.: – subsp. **insignis**; – subsp. **minor** (Oliv.) J. Léonard (syn.: *B. suzannae* Ghesq., incl. var. *ripicola* Ghesq.; *B. zenkeri* Harms; *B. fragrantissima* Bak. f.).

Sometimes planted as an avenue tree because of its handsome flowers.

B. plurijuga Harms – Zambesi Redwood, African Teak.

Semi-deciduous tree 6-20(-25) m tall, much-branched, with erect, cylindrical trunk; crown spreading, rounded: wood hard, dark reddish.

Kalahari sands; slope along river; dominant in deep sand, sometimes with *Pterocarpus antunesii* or *Acacia giraffae*; open woodland with *Guibourtia*, *Ricinodendron*, *Brachystegia spiciformis*, *Pterocarpus angolensis*, *Burkea*; easily killed by fierce fires; 900-1200 m alt.

Botswana, Caprivi Strip, Namibia.

B. robynsii Ghesq. – Icon.: White & Abernethy, Guide végétation Lopé: 26, 27, 1996.

Tree 8-20 m; bole 30-50 cm Ø, very ramose from 2 m.

Riparian forests.

Very decorative at flowering time.

SYNONYMS:

Baikiaea anomala Micheli = **Tessmannia**

eminii Taubert = **Baikiaea insignis** subsp. **minor**

fragrantissima Baker f. = **B. insignis** subsp. **minor**

lescrauwaetii De Wild. = ? **Tessmannia**

minor Oliver = **Baikiaea insignis** subsp. **minor**

suzannae Ghesq., incl. var. *ripicola* Ghesq. = **B. insignis** subsp. **minor**

zenkeri Harms = **B. insignis** subsp. **minor**

BAPHIOPSIS / 1**Baphiopsis parviflora** Bak.

syn.: *B. stuhlmannii* Taub.; *Baphia radcliffei* Bak. f.

Shrub or tree 2,5-15 m tall, often leaning, sprawling or horizontal.

Swamp- and rain-forest in understorey; coastal thicket on sand; 1130-1310 m alt. (and less?).

KITE, G. C. (2003). Taxonomic significance of the trihydroxypipelic acid 'BR1' in *Baphiopsis parviflora* (Leguminosae). *Biochem. Syst. Ecol.* 31: 45-50.

BAUHINIA / 14

LAI, M. & al. (1997). Polymorphism for the Presence of the rpL2 Intron in Chloroplast Genomes of *Bauhinia* (Leguminosae). *Syst. Bot.* 22: 519-528.

PONOMARENKO, S. F. & M. E. PAVLOVA (2003). Seed structure in genus *Bauhinia* L. (fam. Fabaceae Lindl.) in the context of taxonomy. *Biol. Bull.* 2003(4): 438-446.

SEETHARAM, Y. N. & K. KOTRESHA (1998). Foliar venation of some species of *Bauhinia* L. and *Hardwickia binata* Roxb. (Caesalpinioideae). *Phytomorphology* 48: 51-59.

Bauhinia buscalionii Mattei

Shrub, sometimes scandent, to 3 m tall.

Bushland on sand, usually on coastal dunes; to ±100 m alt.

Perhaps a form of *B. tomentosa* from which it differs only in the solitary very shortly pedicelled flowers and the more crisped indumentum.

B. ellenbeckii Harms

syn.: *B. somalensis* Pichi-Serm. & Roti-Michel.

Shrub or tree to 3 m tall.

Dry woodland and scrub; semi-evergreen bushland; often on limestone; 260-1750 m alt. (vide Webbia 13: 147-148, 1957).

S Yemen (Hadramaut).

B. exellii Torre & Hillc.

Rhizomatous subshrub 50-80 cm tall.

Subxerophilous forest; 1230 m alt.

B. galpinii N. E. Br.

syn.: *B. punctata* Bolle; *Perlebia galpinii* (N. E. Br.) A. Schmitz

Shrub 1-4 m or scrambling to 5 m or more.

River banks; woodland; termite mounds; sand veld; to 1370 m alt.

S. Africa, Swaziland.

Also widely cultivated (ornamental).

B. kalantha Harms

Shrub to ±3 m tall.

Deciduous thickets; 600-960 m alt.

B. leucantha Thulin

Shrub to ±3 m tall.

Acacia-Commiphora bushland on limestone or red sand; ±160-300 m alt.

BAUHINIA

B. loeseneriana Harms – Icon.: Kew Bull. 47: 760, 1992.

Tree to 6 m.

Understorey of closed lowland forest; the canopy is at 20-25 m; there is no distinct stratification below the canopy, but there is a rich community of smaller trees (5-15 m tall), shrubs (1-5 m tall) and scandent shrubs and climbers; also shady, dense brushwood (presumably riverine forest); on deep white sandy soils; 600-700 m alt. (for more details see Kew Bull. 47: 760-764, 1992).

A distinctive species quite different from *B. mombassae* and endemic of the rich Zanzibar-Inhambane Regional Mosaic.

B. mendoncae Torre & Hillc.

syn.: *Perlebia mendoncae* (Torre & Hillc.) A. Schmitz

Shrub 0,5-3 m tall branched from the base.

Kalahari sands; mavunda with *Cryptosepalum pseudotaxus*; fire-climax scrub; 900-1300 m alt.

Similar to *B. petersiana* subsp. *macrantha*.

B. mombassae Vatke

Small shrub; size unknown; seeds unknown.

Riverbanks.

Only known from four not good gatherings; endangered (fide Beentje, Kenya trees, shrubs..., 1994).

B. petersiana Bolle

syn.: *Perlebia petersiana* (Bolle) A. Schmitz

Shrublet (0,3-1m), shrub or tree 3-10 m tall; sometimes semi-climber or climber with tendrils.

Woodland; wooded grassland; Kalahari sands; *Baikiaea mutemwa*; abandoned cultivations; fire-climax scrub communities where it is often co-dominant with *Baphia obovata*; escarpment miombo; termite mounds; 30-1830 m alt.

Botswana, S. Africa, Caprivi Strip.

Comprises 2 subspp. (only overlapping in the area of Victoria Falls, otherwise geographically distinct).

B. rufescens Lam.

syn.: *Piliostigma rufescens* (Lam.) Benth.

Much branched (scandent) shrub or tree 4-15 m tall; branchlets often armed with pointed short lateral shoots.

Wooded savanna; edge of seasonal ponds; riverbanks; at the base of dunes; sandy, humid soils; also on laterite and rocky soils; sand on sandstone; sandy clayey soils; sometimes in pure stands (Ennedi); to 900-1020 m alt. in Darfour.

Algeria (Tin Zaouaten).

Sometimes grown for ornament; can be trained to make a good hedge. Good camel fodder.

B. taitensis Taub.

Shrub to ±2 m tall.

Deciduous bushland; ? dry scrub with trees; 330-610 m alt.

B. tomentosa L., incl. var. *glabrata* Hook. f.

syn.: *B. volkensis* Taub.; *B. wituensis* Harms; *B. mucora* Bolle; *B. pubescens* DC.; *Causenia tomentosa* (L.) Rafin.; *Pauletia tomentosa* (L.) A. Schmitz; *Alvesia bauhinioides* Welw.

BAUHINIA TOMENTOSA

Shrub or tree 1-8 m tall, scrambling, much branched, with slender twigs; flowers large, yellow, decorative.

Near dry lowland and riverine forests; wooded grassland; deciduous bushland; coastal bushland; thickets in poor soils on sandy hills; 0-1520 (?-2130) m alt.

Variable species.

S. Africa; Asia.

Also grown for ornament; also good as a hedge plant.

B. urbaniana Schinz

Shrub 1-3 m tall, often multistemmed, with slender branches; sometimes scrambling to 5 m.

Open thickets; *Baikiaea-Copaifera* bush; *Julbernardia paniculata-Cryptosepalum* woodland; Kalahari sand; c. 900-1050 m alt.

Namibia, Botswana.

SYNONYMS:

Bauhinia abyssinica A. Rich. = **Piliostigma thonningii**

argentea Chiov., non (de Wit) Cusset = **Tylosema**

bainesii Schinz = **T. esculentum**

benzoin Kotschy = **Piliostigma reticulatum**

bequaertii De Wild., incl. var. *hockii* De Wild. = **Tylosema fassoglense**

burkeana (Benth.) Harv. = **T. esculentum**

cissoides Oliv. = **T. fassoglense**

esculenta Burch. = **T. esculentum**

fassoglensis Schweinf. = **Tylosema**

garipensis E. Meyer = **Adenolobus**

glabra A. Chev. = **Piliostigma reticulatum**

glauca A. Chev. = **P. reticulatum**

gossweileri Baker f. = **Gigasiphon**

humifusa Pichi-Serm. & Roti-Michel. = **Tylosema**

kirkii Oliver = **Tylosema fassoglense**

macrantha Oliver = **Bauhinia petersiana** subsp.

macrosiphon Harms = **Gigasiphon**

marlothii Engl. = **Adenolobus pechuelii**

mossamedensis (Torre & Hillc.) Cusset = **Adenolobus pechuelii**

mucora Bolle = **Bauhinia tomentosa**

pechuelii Kuntze = **Adenolobus**

subsp. *serpae* (Ficalho & Hiern) Brummitt & J. Ross = **Bauhinia petersiana** subsp. *macrantha*

pubescens DC. = **B. tomentosa**

punctata Bolle = **B. galpinii**

reticulata DC. = **Piliostigma**

serpae Ficalho & Hiern = **Bauhinia petersiana** subsp. *macrantha*

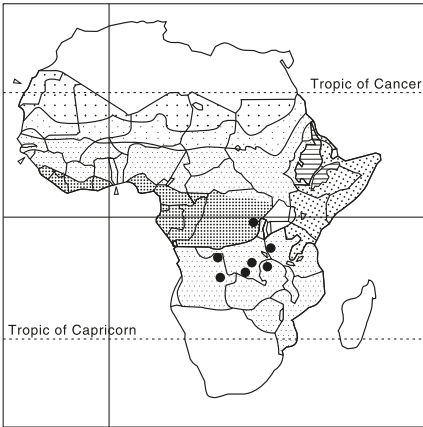
somalensis Pichi-Serm. & Roti-Michel. = **B. ellenbeckii**

thonningii Schumach. = **Piliostigma**

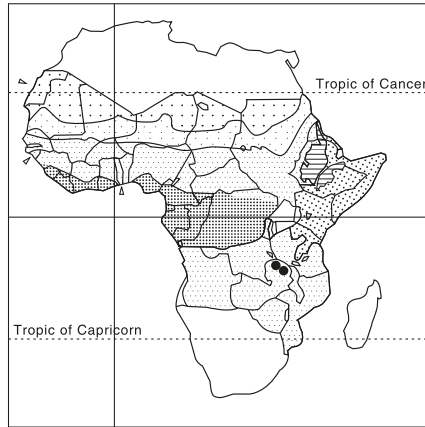
volkensis Taubert = **Bauhinia tomentosa**

welwitschii Oliv. = **Tylosema fassoglense**

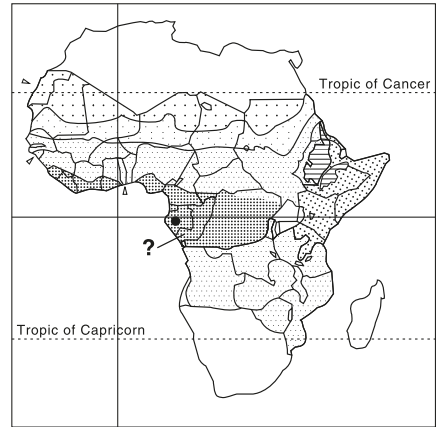
wituensis Harms = **Bauhinia tomentosa**



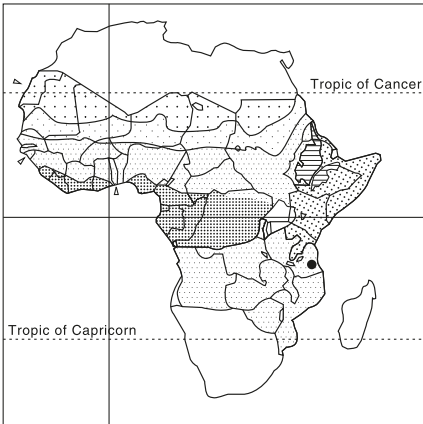
Aphanocalyx richardsiae



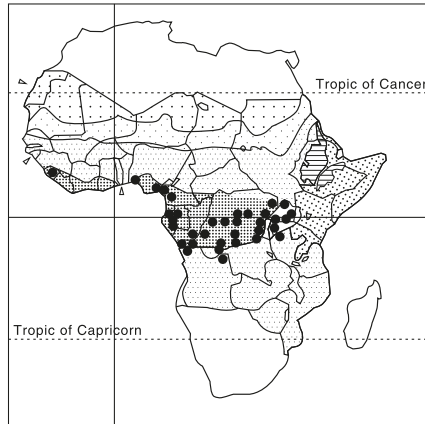
Aphanocalyx trapnellii



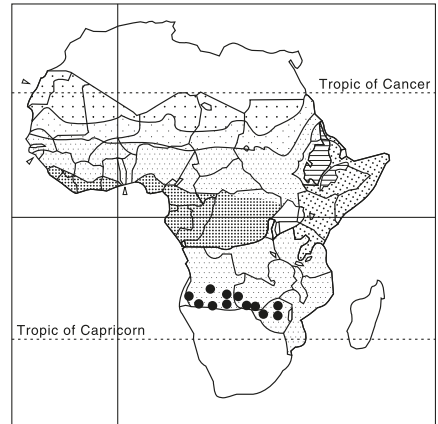
Augouardia letestui



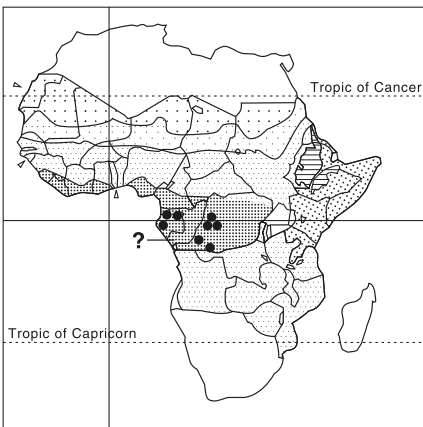
Baikiaea ghesquiereana



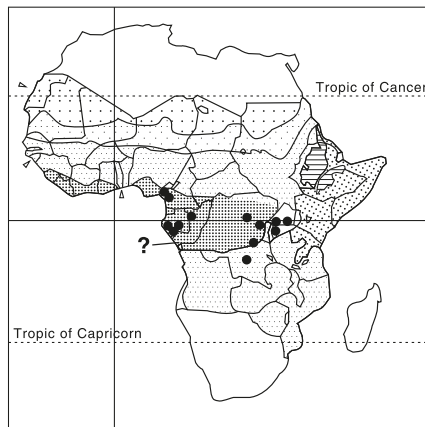
Baikiaea insignis



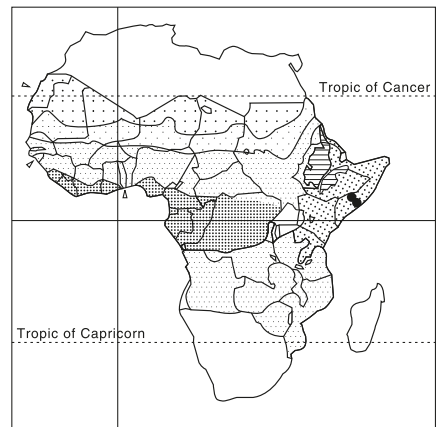
Baikiaea plurijuga



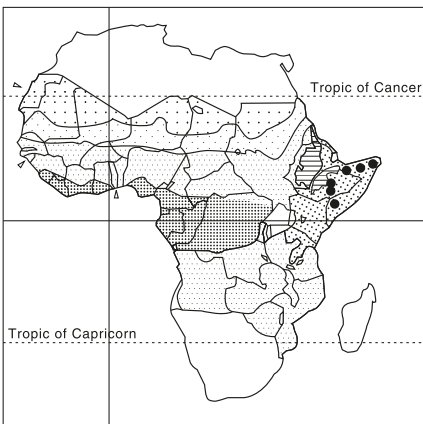
Baikiaea robynzii



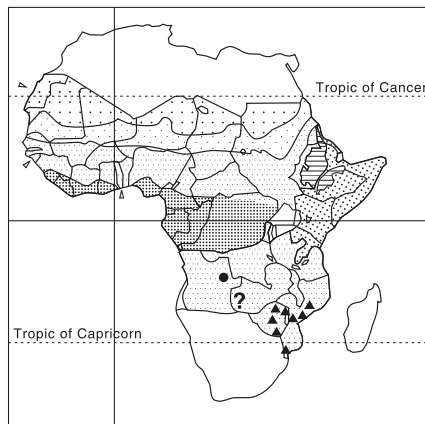
Baphiopsis parviflora



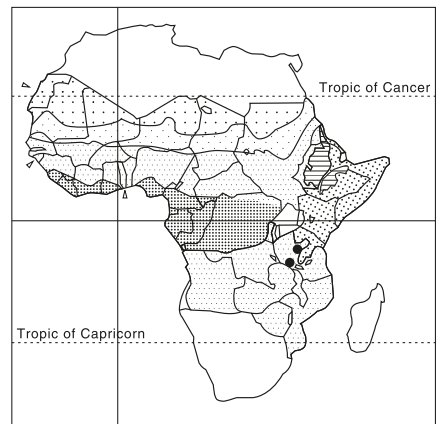
Bauhinia buscalionii



Bauhinia ellenbeckii



Bauhinia exellii ●
Bauhinia galpinii ▲ ?



Bauhinia kalantha

BERLINIA / 16

MACKINDER, B. A. (2000). The monophyly and taxonomic position of *Berlinia* Hook. f. (Leguminosae-Caesalpinioideae): a preliminary study. In: HERENDEEN, P. S. & A. BRUNEAU, Eds., *Advances in Legume Systematics* 9: 151-163. Royal Botanic Gardens, Kew.

MACKINDER, B. A. (2002). Further systematic studies in *Berlinia* (Leguminosae, Caesalpinioideae, Detarieae sensu lato). *Syst. Geogr. Pl.* 71: 433-441.

Berlinia auriculata Benth.

syn.: *Westia auriculata* (Benth.) J. F. Macbr.; *Berlinia klaineana* Pierre ex Bak.

Undershrub, shrub (bushy) or tree to 9 m tall with low spreading crown; fruit unknown.

Swampy places in forest; frequent on shores in Gabon, cap Esté-rias, also shores of Kribi in Cameroon.

B. bracteosa Benth.

syn.: *B. mayumbensis* De Wild.; *B. platycarpa* Pierre ex De Wild.; *Westia bracteosa* (Benth.) J. F. Macbr.

Tree 25-35 m; with broad or globulous crown; bole short, deformed, 1 m Ø; sometimes with weak buttresses at base.

Humid bottoms; river banks; gregarious but in stands; swampy forest; disturbed forest; forest edges in savanna.

Bioko / Fernando Poo.

Not in Ivory Coast.

B. bruneelii (De Wild.) Torre & Hillc.

Tree 10-15 m.

Swampy forests; riversides; gallery forest; swampy steppe; to 1100 m alt. in Angola.

B. confusa Hoyle

Tree to 40 m, with straight cylindrical bole (to 23 m long) and >2 m in girth and hemispherical crown; sometimes crooked or fluted, low-branching.

Damp places in high forest; sometimes gregarious; banks of rivers and lagoons; valley bottoms.

Sometimes grown as a shade tree for coffee.

Similar in habit: *Triplisomeris explicans*.

B. congolensis (Bak. f.) Keay

syn.: *B. acuminata* Soland. in Bak. f., non Soland. ex Hook. f. & Benth.

Shrub or tree 10-35 m tall.

Swampy ground by rivers; to 700-750 m alt. in Angola.

B. coriacea Keay

Shrub or tree to 12 m tall; trunk up to 30 cm Ø; crown spreading. Marshy places.

B. craibiana Bak. f.

syn.: *B. preussii* De Wild.

Tree to ± 40 m, with bole to 80 cm Ø, slightly buttressed; or bushy undershrub or shrub.

Riversides; swampy ground; gallery forest; swamp edges; 1-200 m alt.

BERLINIA CRAIBIANA

According to D. Champluvier & F. Dowsett-Lemaire in *Syst. Geogr. Pl.* 69: 18, 1999, *B. giorgii* var. *gilletii* is synonymous.

B. giorgii De Wild. – Icon.: *Bull. Jard. Bot. Etat, Bruxelles* 20: 297, 1950.

Tree 5-18 m, with straight bole and dense crown; flowering shoots 7-10 mm Ø.

Wooded savanna on plateau; mabwati forests; gallery forest; dry forests; savanna, riversides; 900-1400 m alt.

Comprises 4 vars.: – for var. **gilletii** (De Wild.) Hauman, See under *B. craibiana* above; – var. **giorgii**; var. **gossweileri** Bak. f.; var. **pubescens** (De Wild.) Hauman; var. **vernica** Hauman.

B. grandiflora (Vahl) Hutch. & Dalziel, *excl.* var. *bruneelii* (De Wild.) Hauman (= *B. bruneelii*) and var. *smeathmannii* Hauman (= *B. congolensis*).

bas.: *Westia grandiflora* Vahl

syn.: *B. heudelotiana* Baill. var. *foliosa* Bak. f.; *B. acuminata* Soland. ex Hook. f. var. *heudelotiana* (Baill.) Oliv.; *B. laurentii* De Wild.

Spreading tree to 20 m with bole 60 cm Ø; or shrub 4-5 m tall, ramose from the base; crown dense, rounded, dark green; flowering shoots 5-6 mm Ø; flowers very fragrant, large, conspicuous.

Fringing forest; flooded rain-forest; swampy and wet places; disturbed forests; vegetation with *Terminalia*; sometimes abundant in gallery forest; to 915 m alt. in W Cameroon (Bamenda).

Comprises 2 vars.

Complex species in need of revision.

B. hollandii Hutch. & Dalziel

Tree 6-9 m.

Forest.

B. lundensis Torre & Hillc.

Tree 8 m; ripe fruit unknown.

? Riverine vegetation; 700 m alt.

Only known from the type.

B. occidentalis Keay

Tree to 25 m; (? or shrub).

Forest (? or low bush); in the most humid or perhaps swampy grounds; in stands.

B. orientalis Brenan

Tree 6-20 m, with glabrous branchlets; conspicuous when flowering.

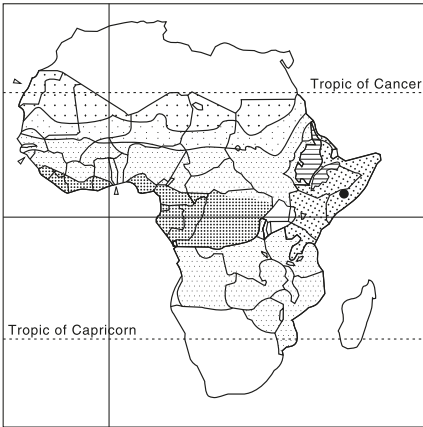
Reddish sandy loam in thicket community; light yellow sandy loams in thicket; sometimes very common, gregarious over considerable stretches of land not far inland from the coast; also scattered; woodland; sandy-argillous yellowish soil; open coastal forest on sandy clay soils; sandy soil (grey or yellowish); 10-450 m alt.

B. sapinii De Wild.

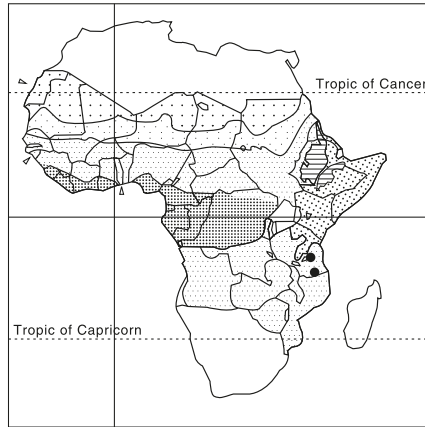
syn.: *B. delevoyi* De Wild.

Shrub or tree with flowering shoots 5 mm Ø.

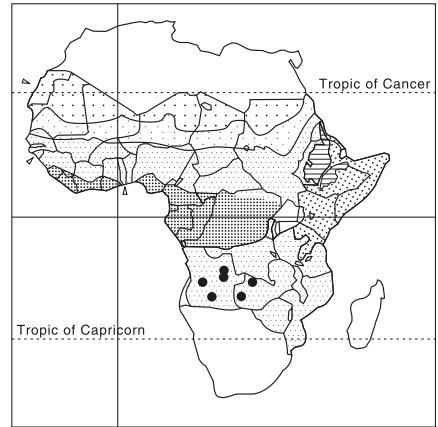
Savanna; sides of brooks in the high plains; streamsides.



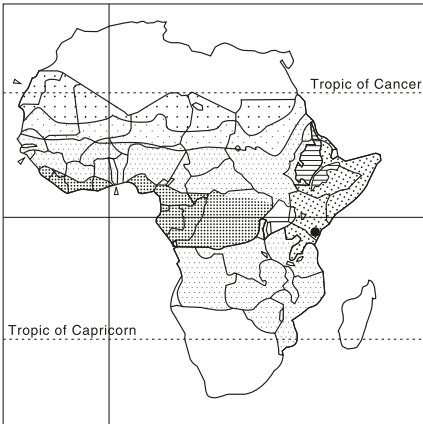
Bauhinia leucantha



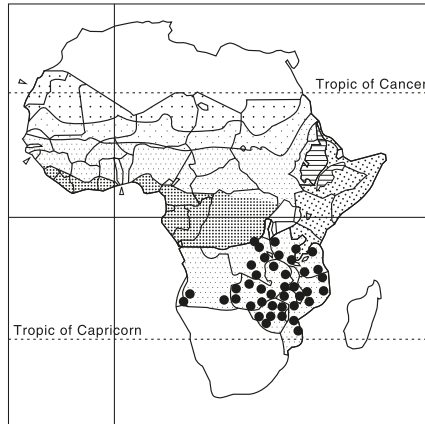
Bauhinia loeseneriana



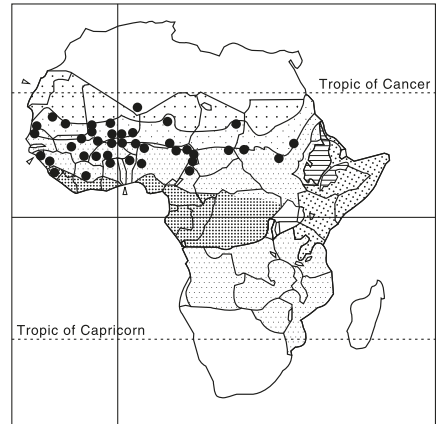
Bauhinia mendoncae



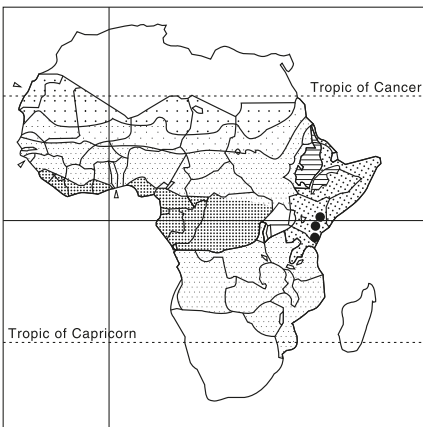
Bauhinia mombassae



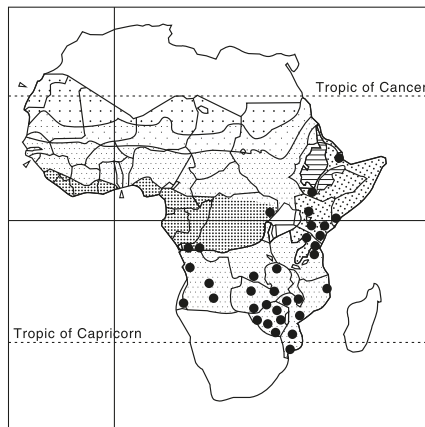
Bauhinia petersiana



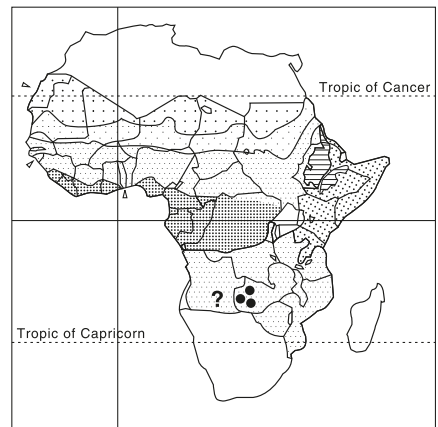
Bauhinia rufescens



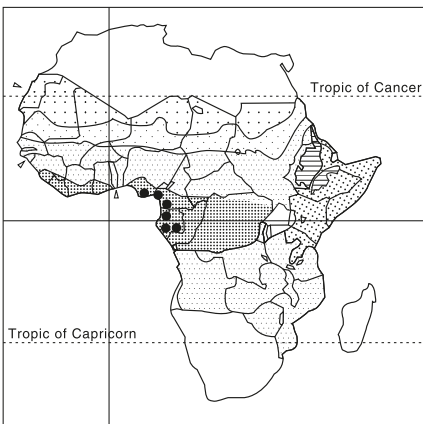
Bauhinia taitensis



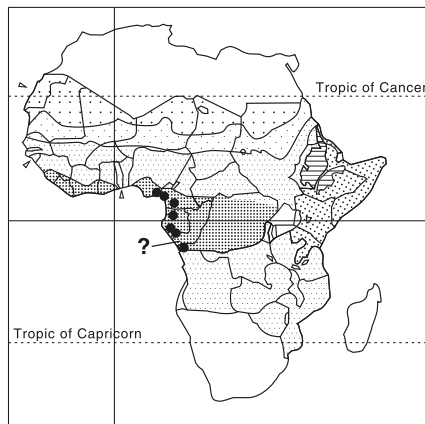
Bauhinia tomentosa



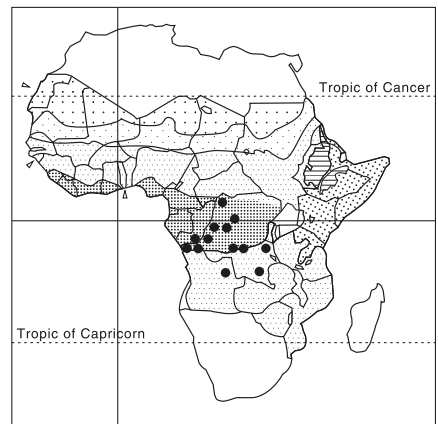
Bauhinia urbaniana



Berlinia auriculata



Berlinia bracteosa



Berlinia bruneelii

BERLINIA

B. tomentella Keay

syn.: *B. acuminata* var. *velutina* A. Chev. ex Bak. f.

Tree to 15 m.

Wet places; riversides.

B. viridicans Bak. f.

Tree 5-18 m, with very ramose branches; flowering shoots 3-4 mm Ø with inflated nodes.

Rain-forests; common along water-courses.

SYNONYMS:

Berlinia acuminata Soland. in Bak. f., non Soland. ex Hook. f. & Benth. = **Berlinia congolensis**

var. *pubescens* De Wild. = **B. giorgii** var.

acuminata Soland. ex Hook. f. var. *heudelotiana* (Baill.) Oliv. = **B. grandiflora**

var. *velutina* A. Chev. ex Bak. f. = **B. tomentella**.

angolensis Welw. ex Benth. = **Isoberlinia**

auriculata sensu Aubrév., non Benth.

= **Berlinia tomentella**

auriculata sensu Brenan = **B. orientalis**

baumii Harms = **Julbernardia paniculata**

bifoliolata Harms = **Tetraberlinia**

bifurcata (A. Chev.) Troupin = **Microberlinia bisulcata**

bisulcata (A. Chev.) Troupin = **M. bisulcata**

bracteosa sensu Aubrév. = **Berlinia occidentalis**

brazzavillensis (A. Chev.) Troupin = **Microberlinia**

brieyi De Wild. = **Julbernardia**

abrae De Wild. = **Berlinia giorgii**

chevalieri De Wild. = **Isoberlinia doka**

dalzielii (Craib & Stapf) Baker f. = **I. tomentosa**

delevoyi De Wild. = **Berlinia sapinii**

densiflora Bak. f. = **Isoberlinia angolensis** var.

doka (Craib & Stapf) Bak. f. = **I. doka**

eminii Taubert = **Julbernardia globiflora**

gilletii De Wild. = **Berlinia giorgii** var.

giorgii De Wild. var. *gossweileri* (Bak. f.) Troupin

= **B. giorgii** var. *giorgii*

globiflora (Benth.) Harms = **Julbernardia**

grandiflora var. *bruneelii* (De Wild.) Hauman = **Berlinia bruneelii**

var. *smeathmannii* Hauman = **B. congolensis**

heudelotiana Baill. = **B. grandiflora**

var. *congolensis* Bak. f. = **B. congolensis**

var. *foliosa* Bak. f. = **B. grandiflora**

ivorensis A. Chev. = **Gilbertiodendron**

kerstingii Harms = **Isoberlinia doka**

klaineana Pierre ex Bak. = **Berlinia auriculata**

klanei Pierre ex Harms = **Librevillea**

laurentii De Wild. = **Berlinia grandiflora**

ledermannii Harms, incl. var. *dolichopoda* Harms = **Julbernardia seretii**

magnistipulata Harms = **Julbernardia**

mayumbensis De Wild. = **Berlinia bracteosa**

BERLINIA

mengei De Wild. = **Pseudomacrolobium**

micrantha Harms = **Odoniodendron**

niembaensis De Wild. = **Isoberlinia angolensis**
var. **niembaensis**

paniculata Benth. = **Julbernardia**

var. *ferruginea* Benth. = **J. ? paniculata**

var. *glabrior* Oliv. = **J. paniculata**

var. *gossweileri* Bak. f. = **J. gossweileri**

platycarpa Pierre ex De Wild. = **Berlinia bracteosa**

polyphylla Harms = **Tetraberlinia**

preussii De Wild. = **Berlinia craibiana**

scheffleri Harms = **Isoberlinia**

seretii De Wild. = **Julbernardia**

splendida A. Chev. ex Hutch. & Dalziel

= **Gilbertiodendron**

stipulacea Benth. = **Gilbertiodendron**

stolzii Harms = **Isoberlinia angolensis** var. **leiocalyx**

tomentosa Harms = **I. tomentosa**

verdickii De Wild. = **I. tomentosa**

BIKINIA / 10

syn.: *Monopetalanthus* auct. plur., non Harms

KITE, G. C. & J. J. WIERINGA (2003). See under **Aphanocalyx** p. 86.

WIERINGA, J. J. (2003). Searching for cryptic species in Bikinia and its delimitation with *Tetraberlinia* using AFLP's (Leguminosae-Caesalpinioideae). In: SEBSEBE DEMISSEW & al., Eds., *XVIIth AETFAT Congress 21-26 September 2003 : Abstracts*: 109-110. Addis Ababa University Press.

Bikinia aciculifera Wieringa

Tree to 45 m; crown hemispherical to rather irregular; bole cylindrical, to at least 25 m tall, to 165 cm Ø; base with large buttresses to 2,5 m high and radiating to 8 m; pod poorly known; seeds unknown.

Canopy species or emergent of primary rain-forest; at the bottom of a valley close to a small stream; also on hill-side or almost at the summit; gregarious in groups to ±10 individuals; probably prefers dryland forest; ±200 m alt.

B. breynei (Bamps) Wieringa

bas.: *Monopetalanthus breynei* Bamps

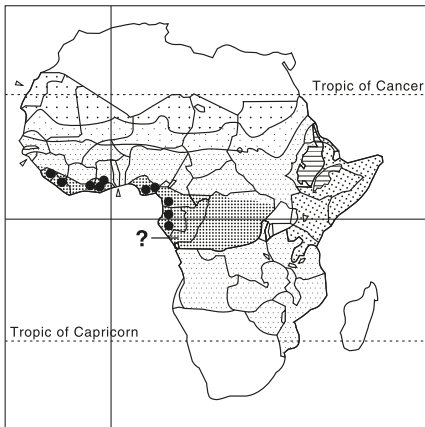
Tree 15-45 m; bole cylindrical, branchless for to at least 15 m, DBH to more than 2 m; base sometimes with small feet.

Abundant and dominant around lake Ngaenke (Zaire), alternating with *Gilbertiodendron breynei* stands, in the narrow strip of forest around the lake; regeneration very abundant; in Gabon in dryland forest (some scattered large trees).

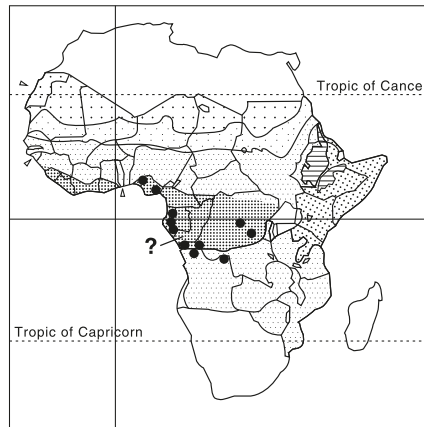
B. congensis Wieringa

Tree to 30 m; crown hemispherical; bole to 10 m tall, DBH to 1 m; base with small, to 1 m high, buttresses.

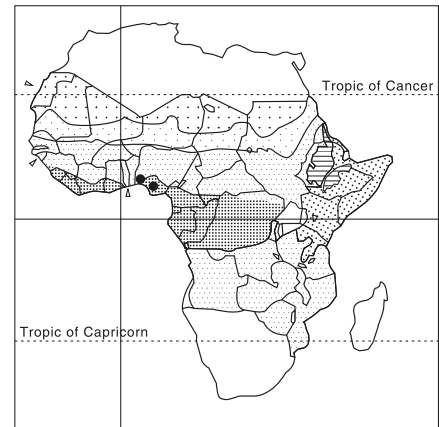
Riverine and dryland rain-forest; gregarious; probably 200-600 m alt.



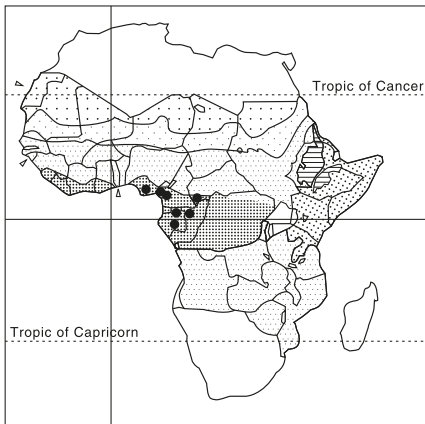
Berlinia confusa



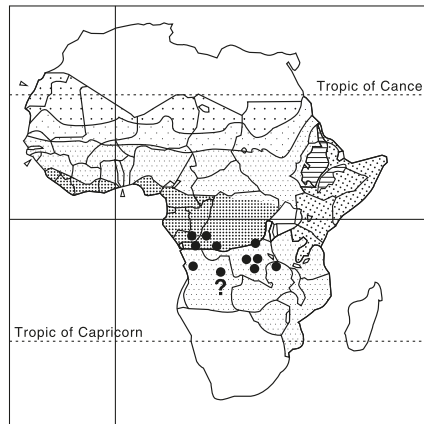
Berlinia congolensis



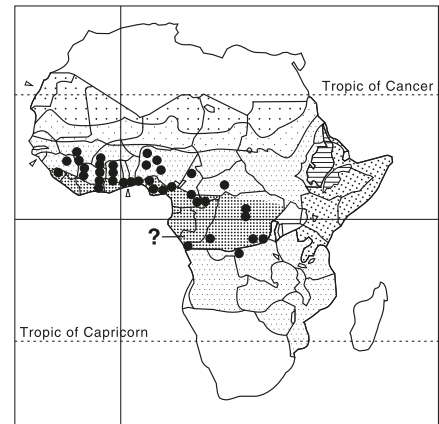
Berlinia coriacea



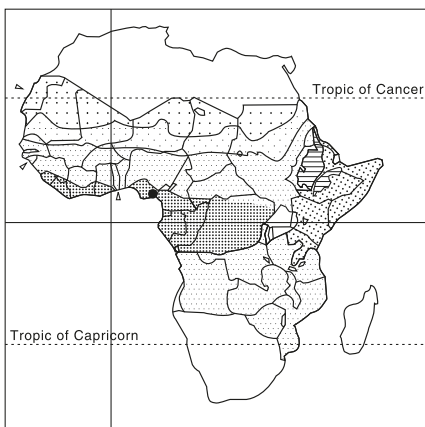
Berlinia craibiana



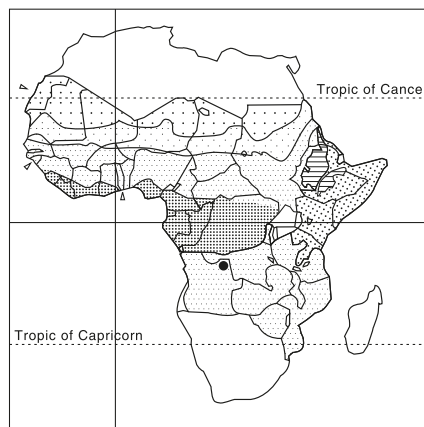
Berlinia giorgii



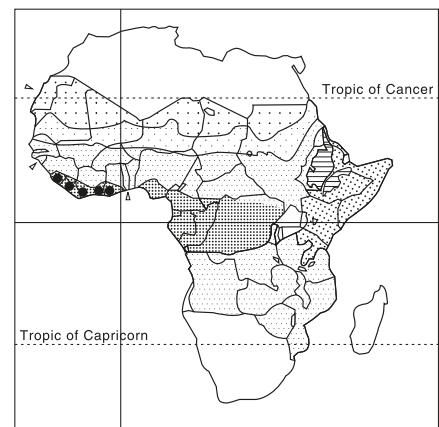
Berlinia grandiflora



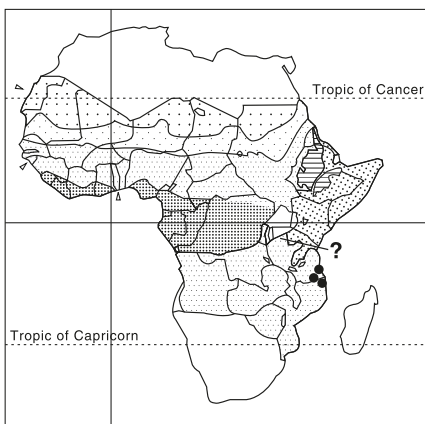
Berlinia hollandii



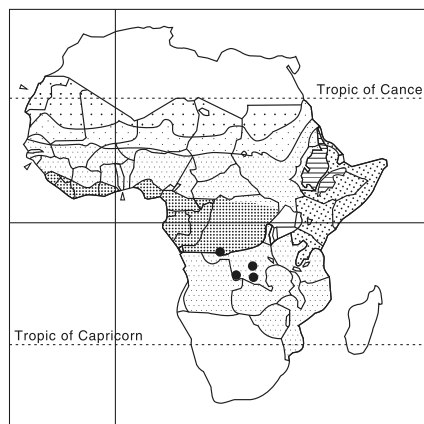
Berlinia lundensis



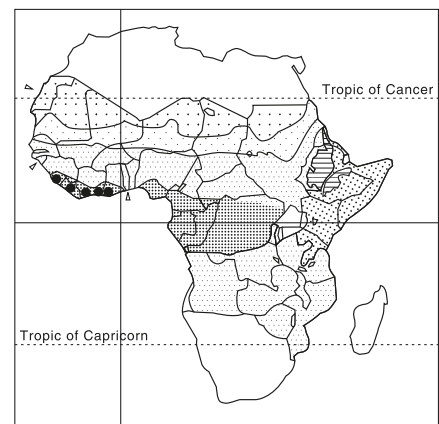
Berlinia occidentalis



Berlinia orientalis



Berlinia sapinii



Berlinia tomentella

BIKINIA

B. coriacea (Morel ex Aubrév.) Wieringa

bas.: *Monopetalanthus coriaceus* Morel ex Aubrév.

Tree to 53 m; crown broad, hemispherical; bole cylindrical, to 26 m tall (probably even more), to 1 m Ø; base with to 2 m high buttresses; seeds unknown.

Emergent of dryland rain-forest; solitary or also in important stands; ± 300 m alt.

B. durandii (F. Hallé & Normand) Wieringa

bas.: *Monopetalanthus durandii* F. Hallé & Normand

Tree to ± 60 m; crown usually narrow and irregular; bole cylindrical, to ± 30 m long, to 1,3 m Ø; base with small or rather broad to 2,5 m high buttresses, that may radiate several metres.

Canopy tree of dryland rain-forest; usually growing in groups of ±10 mature trees; 180-600 m alt.

B. evrardii (Bamps) Wieringa

bas.: *Monopetalanthus evrardii* Bamps

Tree to 50 m, with hemispherical crown; bole cylindrical, to at least 20 m long, DBH to 2 m; base with feet or small buttresses to 1 m high.

Canopy tree often found in the transition from periodically inundated riverine forest to dryland (hill-side) forest; also in real dryland forest on top of hill; gregarious or solitary; *Gilbertiodendron dewevrei* forest; 150-550 m alt.

B. grisea Wieringa

Tree to 50 m; crown hemispherical or irregularly so; bole cylindrical, branchless for to 30 m, DBH to 2 m; base with 2 m high broad buttresses; seeds insufficiently known.

Primary dryland rain-forest; 200-650 m alt.

B. letestui (Pellegr.) Wieringa

bas.: *Monopetalanthus letestui* Pellegr.

Tree to 55 m; crown hemispherical; bole cylindrical, branchless for to 30 m, DBH to 2(-2,6) m; base with to 2 m high broad buttresses.

Canopy tree of primary and old secondary dryland rain-forest; usually in small clusters of less than 10 mature trees; hill forests, hill sides and level places; steep slope; 0-900 m alt.

Comprises 2 subspp.: – subsp. **letestui**; subsp. **mayumbensis** Wieringa (ripe fruit and seeds unknown).

B. media Wieringa

Tree to 30(-?40) m; crown irregular; bole cylindrical, branchless for to ± 20 m, DBH to 1 m; base with small feet to 1 m high, maybe also with larger buttresses to 2 m high and 4 m long.

(Sub-)canopy tree of primary and old secondary dryland rain-forest; solitary or in 3-tree groups; 200-900 m alt.

B. pellegrinii (A. Chev.) Wieringa – Icon.: Progress Rep. Natl. Herb. Nederland 2002: 66 (2003).

bas.: *Monopetalanthus pellegrinii* A. Chev.

Tree to 50 m; crown hemispherical; bole cylindrical, branchless for to 30 m, DBH to 2 m; base with ±1 m high broad buttresses that continue horizontally for to 10 m; seeds insufficiently known.

BIKINIA PELLEGRINII

Canopy tree of primary dryland rain-forest; in small clusters of less than 10 mature trees; also in larger stands; in “Taches de *Monopetalanthus pellegrinii*” sensu Letouzey 1985 (but only for the Mbalmayo-Ebolowa region); 0-900 m alt.

BOBGUNNIA / 2

syn.: *Swartzia* Schreber sect. *Fistuloides* Benth. of tribe *Swartzieae*; sometimes placed in *Fabaceae*.

Bobgunnia fistuloides (Harms) J. H. Kirkbride & Wiersema

bas.: *Swartzia fistuloides* Harms

Tree 7-25 m or more; bole slightly tortuous, >2 m in girth, 6-60 cm Ø.

Dense moist forests; deciduous forest; 390-500 m alt.

B. madagascariensis (Desv.) J. H. Kirkbride & Wiersema; Dumoulin in La Salicaire 42: 18-19, 2002 (with 2 figs.).

bas.: *Swartzia madagascariensis* Desv.

Shrub or tree 2-10(-15) m, bushy, multitemmed or with a single trunk 15-40 cm Ø, bole to 7 m long before branching; fruits 6-30 × 1,3-1,8 cm, rather like those of *Cassia sieberana*.

Savanna; dry forest; deciduous woodland (*Julbernardia-Brachystegia*); wooded grassland; gravelly zone and colluvium; sandy-clayey deep soil; open sandy woods mixed with species of *Protea*, *Eugenia*, *Combretaceae*; very scattered, rarely abundant; 50-2000 m alt.

Caprivi Strip, Botswana. – Does not occur in Madagascar!

A powerful fungicide recently discovered in the roots (Kew, Autumn 2000: 6, 2000).

BRACHYSTEGIA / 29

One of the most difficult genera of the tropical African flora. Hence the maps we present here can be criticized.

BURTT DAVY, J. (1923). A revision of *Brachystegia*. *Bull. Misc. Inform. Kew* 4: 129-163.

CHIKUNI, A. (1997). Pollen morphology in *Brachystegia* Benth. (Leguminosae-Caesalpinioideae). *Oxford Pl. Syst. (OPS)* 5: 6-7 [showing that *B. cynometroides* differs from the other species; pollen incl. *Julbernardia*, *Librevillea* and *Monopetalanthus*].

CHIKUNI, A. C. C. (1998). *A taxonomic study of Brachystegia Benth. (Caesalpinioideae-Leguminosae)*. Thesis Ph. D., Faculty of Biological Sciences, University of Oxford, Wolfson College. VII + 292 pp.

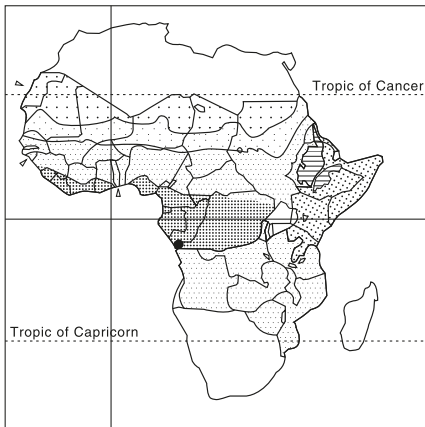
CHIKUNI, A. C. C. (2003). Interspecific hybridization; a source of taxonomic problems in *Brachystegia* Benth. (Caesalpinioideae-Leguminosae). In: SEBEBE DEMISSEW et al., Eds., *XVIIth AETFAT Congress 21-26 September 2003: Abstracts*: 15-16. Addis Ababa University Press.

COATES PALGRAVE, M. (1998). Miombo woodland: definition and characteristic species. *Plantlife* 18: 33-35.

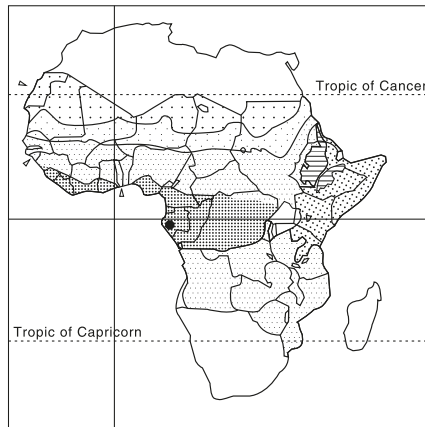
Brachystegia allenii Hutch. & Burtt Davy, incl. var. *giorgii* (De Wild.) Hoyle (bas.: *B. giorgii* De Wild.).

syn.: *B. pruinosa* De Wild.; *B. schliebenii* Harms

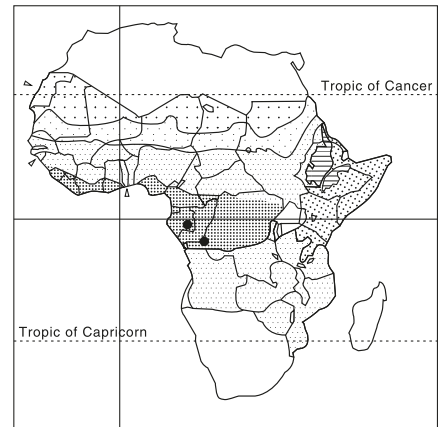
Tree 3-15(-20) m; crown rounded; trunk to 50 cm Ø; bark fissured longitudinally, often coarsely reticulate, flaking in thick rectangular scales.



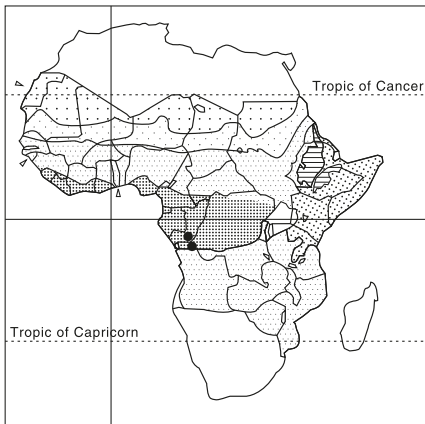
Berlinia viridicans



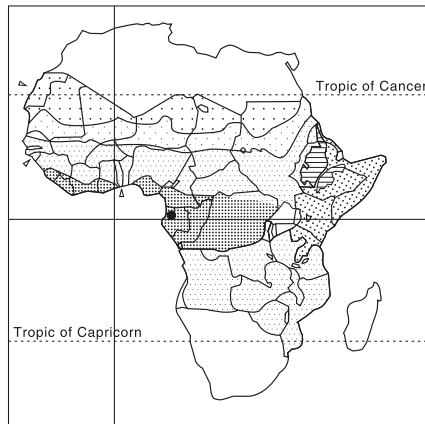
Bikinia aciculifera



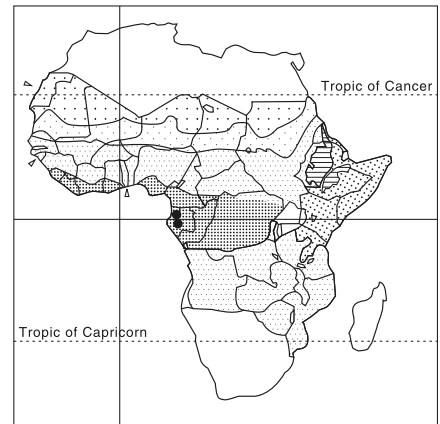
Bikinia breynei



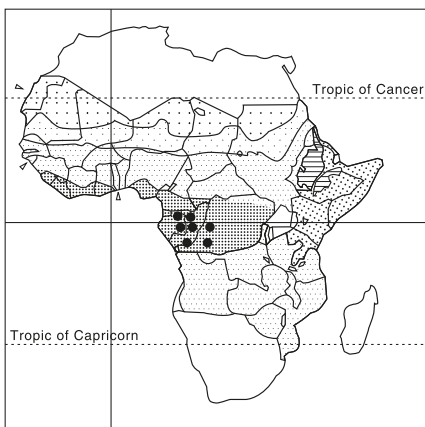
Bikinia congensis



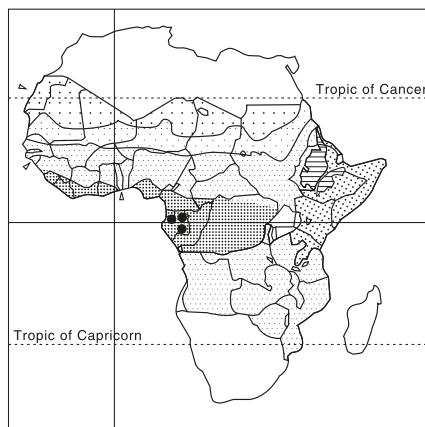
Bikinia coriacea



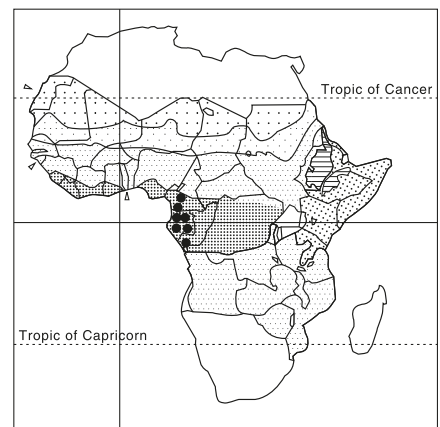
Bikinia durandii



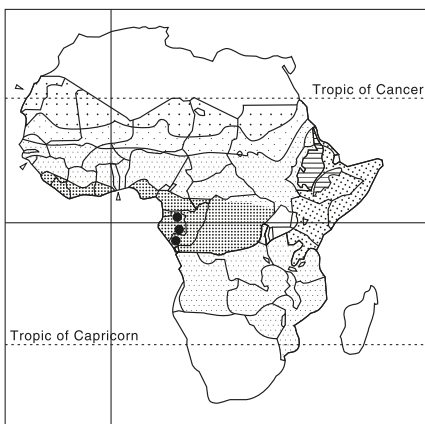
Bikinia evrardii



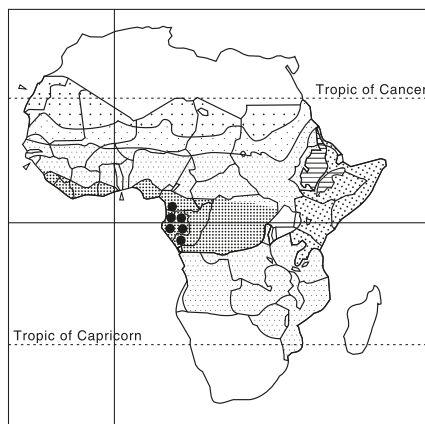
Bikinia grisea



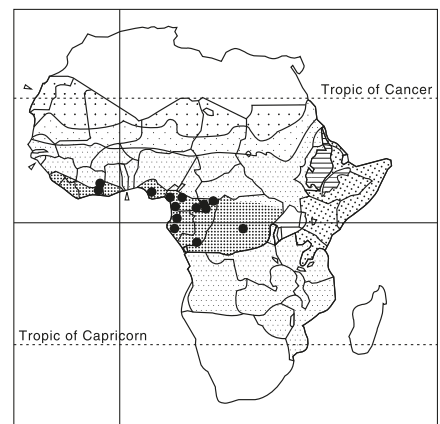
Bikinia letestui



Bikinia media



Bikinia pellegrinii



Bobgunnia (Swartzia) fistuloides

BRACHYSTEGIA ALLENI

Deciduous woodland; dry wooded savanna (miombo); locally dominant on well drained sites (more rarely on poorly drained sandy soils); typical of hot, dry rocky escarpments around lakes; also on sandy slopes; usually in pure stands below *B. bussei* and *B. boehmii*, less often in mixture with these and other species (*Julbernardia globiflora*); 0-1400 m alt.

B. angustistipulata De Wild.

Tree 2.5-6 m, with gnarled habit and few-branched crown, flat-topped; foliage pendulous in loose bunches.

Deciduous woodland; sandy soils; seems to favour ill-drained soils below hills or wet sites close to drainage-lines with *Acacia*, *Combretum* or *Terminalia* and *Isoberlinia angolensis*, or in patches in *Julbernardia globiflora*-*Brachystegia boehmii* woodland; gregarious and local, evidently rare; 900-1525 m alt.

Rather inadequately known from few, scattered localities.

B. bakeriana Hutch. & Burt Davy, incl. var. *pubescens* Hutch. & Burt Davy ex Bak. f. – Icon.: Consp. Fl. Angol. 2(1): 227 fig. 12, 13, 1954.

syn.: *B. obliqua* Hutch. & Burt Davy; *B. gairdnerae* Hutch. & Burt Davy

Deciduous shrub 2-6(-10) m tall, often coppicing, less often a slender tree to 6 m tall; rarely taller (to 12 m), stem DBH 12 cm; crown ± flat-topped or umbrella-shaped; branches slender, almost horizontal, ± 1.5 cm thick.

Kalahari sands; river banks; sporadic, forming dense thickets over shrubby *Copaifera baumiana*, *Paropsia*, *Chrysophyllum* spp., etc.; rarely with *Brachystegia spiciformis* or in degraded *Cryptosepalum mavunda*; indicates good sites for cultivation; 900-1400 m alt.

B. boehmii Taub., incl. var. *katangensis* (De Wild.) Hoyle (bas.: *B. katangensis* De Wild.).

syn.: *B. flagristipulata* Taub.; *B. filiformis* Hutch. & Burt Davy; *B. ferruginea* De Wild., and var. *angustifoliolata* De Wild., var. *interrupta* De Wild., var. *quarrei* De Wild., var. *robysii* De Wild.; *B. malengensis* De Wild.; *B. woodiana* Harms; *B. hopkinsii* Suss.

Tree (2.5-)5-15(-25) m tall; DBH 20-30(-80) cm; crown flat-topped, spreading often stag-headed, with few, heavy, ascending branches and stout, often sparse, thick, short branchlets; foliage long, pendulous, in tufts.

Open forests, deciduous woodland; typically on paler, poorer, shallow, alluvial soils; notably on poorly drained, ± flat or shallow sites, especially over schists, quartzites and leached crystalline limestones, ironstone; common on reddish rocky soils; often forming zones on lower parts of escarpments, valley slopes; ridges, hills; usually in pure stands but commonly associated with *Julbernardia globiflora*, *Uapaca kirkiana* and often with other species; exceptionally resistant to elimination by fire and cultivation on poor plateau soils; locally dominant; 150-1700 m alt.

Botswana.

B. bussei Harms – Icon.: Fl. Trop. E. Afr., Legum. Caesalpin.: 160, 1967.

Tree 6-20(-?30) m tall, usually reported as slender (trunk rarely to 50 cm Ø); bark smooth, flaking in large thin irregular scales; crown ovoid or rounded or flattish and denser, rather loose, usually narrow, thin and open; branches slender, ascending but with pendant apex; foliage pendulous.

BRACHYSTEGIA BUSSEI

Deciduous woodland; typical on poor, dry, steep or overdrained, rocky slopes; notably coarse soils from quartzites, schists, granite; sometimes on heavy reddish soils; sandy clay soils; widespread; locally common with *B. microphylla*, *B. utilis* or *B. boehmii* and *Julbernardia globiflora*; also local and usually pure dominant; often in stands resembling Ash plantations; wooded savannas; dry open forests; rarely with *B. spiciformis*; 240-1700 m alt.

Sterile specimens can be confused with *B. spiciformis*.

B. cynometroides Harms

Tree 35(-50) m; bole short, deformed, tortuous or sinuous 10-15 m long and 2 m Ø; crown spreading, open or loose; buttressed.

Rain-forest; abundant in stands; riverine forests on edge of mangroves; 1-200 m alt.

B. eurycoma Harms – Icon.: Keay, Trees of Nigeria, Ed. 2: 215, 1989.

Tree to 37 m, with large flat crown and vague buttresses; bole irregular, usually branching low down, to 8 m in girth; with huge twisted widely spreading branches.

Common on stream-banks, open woodland, high forest; often with *Strombosia santolinoides*; 500-1150 m alt.

B. floribunda Benth. – Icon.: Consp. Fl. Angol. 2(1): 227, 1954.

syn.: *B. polyantha* Harms; *B. nchangensis* Greenway

Tree (4-)6-12(-15) m; bole 25-50 cm DBH; crown at first thin, narrow, erect-branched, finally spreading and irregularly rounded; leaves pendulous, fluttering in the slightest breeze.

Deciduous woodland; usually a pure dominant, or codominant with *B. spiciformis*, *B. longifolia*, *Julbernardia paniculata*, *Faurea saligna*, *Uapaca*, less often with *B. boehmii*, *Julbernardia globiflora* or *Isoberlinia angolensis*; often over large areas on high plateaux; typically on rather fertile orange and red soils on high plateaux, rocky hill slopes and scarps; less often on pale poorer soils; 700-2075 m alt. (mainly above 1200 m).

B. gossweileri Hutch. & Burt Davy – Icon.: White, Forest Fl. North. Rhod.: 103, 1962.

Tree 6-10(-24) m; bole straight and high or forked and short, to 40-60 cm Ø; bark deeply or shallowly fissured longitudinally, flaking in thick irregular scales; crown very spreading, flat-topped, sometimes very broad with ascending branches, horizontal at the apex; branchlets numerous, slender, horizontal to pendulous.

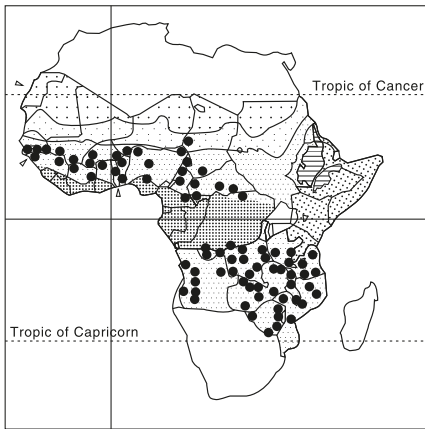
Shallow lateritic soils over ironstone or rock near dambo edges; locally frequent, often gregarious; also scattered, often in undertorey, in poor plateau woodland, mainly with *B. boehmii*, *Uapaca pilosa*, *U. kirkiana*, *B. floribunda*, *B. spiciformis*, *B. taxifolia*; to 1700 m alt.

B. kennedyi Hoyle

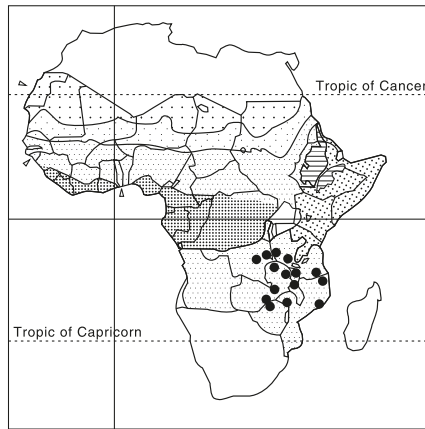
Tree 30-50 (or more) m; bole 1-2 m Ø, 7 m in girth above buttresses at 5 m from the ground; bole straight, cylindrical, unbranched for 9-18 m.

Remnant patches of high forest; older regrowth forest; deciduous forest; widely distributed in evergreen rain-forest with rainfall at least 1260 mm p.a. (S Nigeria).

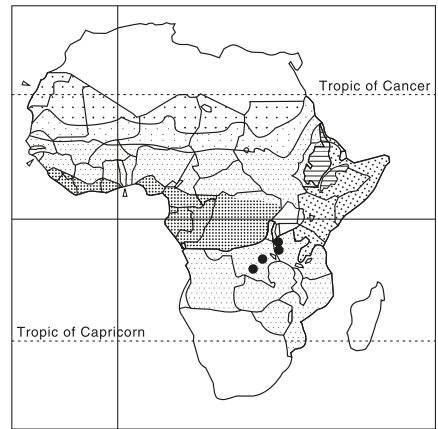
Closely resembling *Daniellia ogea*.



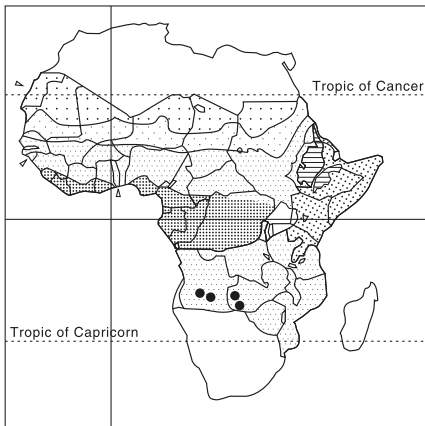
Bobgunnia (Swartzia) madagascariensis



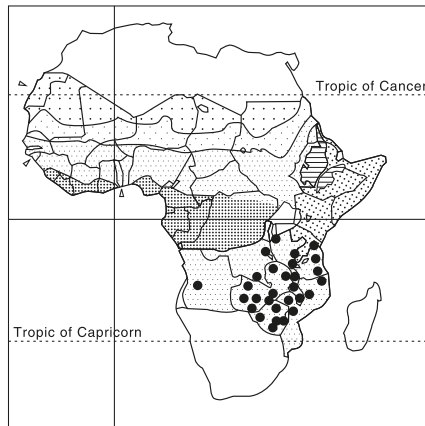
Brachystegia allenii



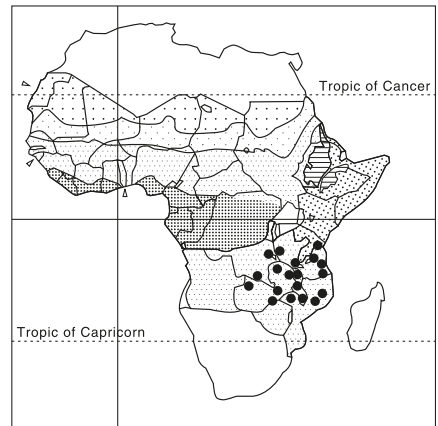
Brachystegia angustistipulata



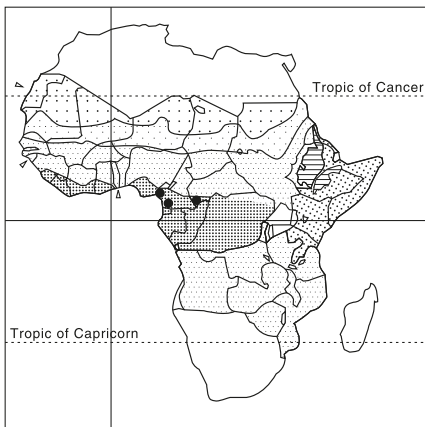
Brachystegia bakeriana



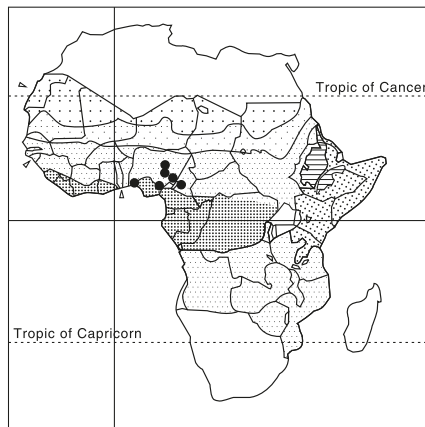
Brachystegia boehmii



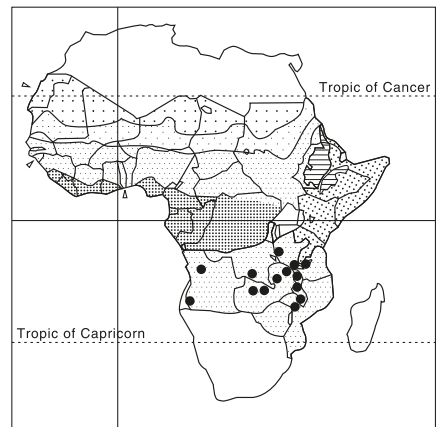
Brachystegia bussei



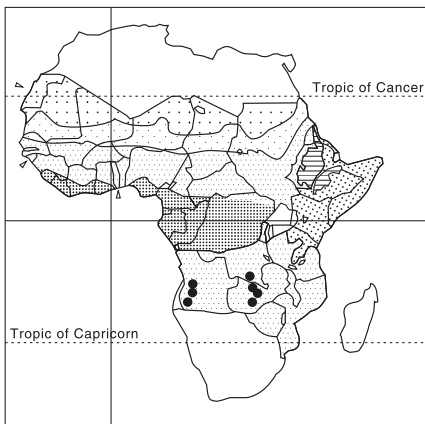
Brachystegia cynometroides



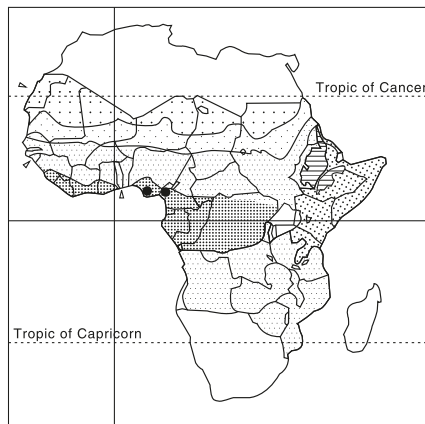
Brachystegia eurycoma



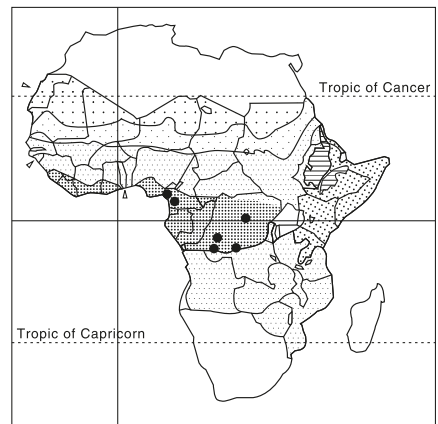
Brachystegia floribunda



Brachystegia gossweileri



Brachystegia kennedyi



Brachystegia laurentii

BRACHYSTEGIA

B. laurentii (De Wild.) Louis ex Hoyle

bas.: *Macrolobium laurentii* De Wild.

Tree 18-45 m, with straight bole, cylindrical, 25 m tall and 1,5 m Ø with insignificant buttresses; crown very broad, dense; young branches pendulous.

Semi-deciduous dry primary plateau forests on clay soils; dry forest on mountain slopes; riversides; locally common near water; very gregarious; in pure stands to 20 trees by hectare; *Brachystegia laurentii* forest (See R. Germain & C. Evrard, Etude écol. & phytosoc. forêt à Brachystegia laurentii; Publ. Inst. Natl. Etude Agron. Congo Belge, Sér. Sci. 67, 1956); ± 500 m alt.

B. leonensis Hutch. & Burt Davy

Tree to 45 m; bole 1,2-2 m Ø; with thick, heavy buttresses (or not) to 1,8 m; bole well-formed, straight, cylindrical, to 30 m long to the first branches; crown moderately sized with ascending branches, fairly open; twigs drooping.

Ridges and valleys near water of evergreen rain-forest; sometimes locally abundant; upper rocky hill slopes; open woodlands; 200-500 m alt.

Confused with *Erythrophleum guineense*, *Didelotia idae*.

B. longifolia Benth., incl. var. *parviflora* (Benth.) Topham – Icon.: Hook. Ic. Pl. 14: 1359, 1881.

syn.: *B. goetzei* Harms; *B. holtzii* Harms; *B. glaberrima* R. E. Fries; *B. apertifolia* Burt Davy & Hutch.; *B. bournei* Greenway; *B. falcato-appendiculata* De Wild.; *B. homblei* De Wild.; *B. luishiensis* De Wild.; *B. longifoliolata* De Wild.; *B. welwitschii* Taub.

Tree (2-)4-15(-30) m, often stunted by exposure; bole straight, generally deeply grooved or with conspicuous bosses; crown rounded to obconical or flat; main branching suberect to spreading; branchlets spreading in bunched systems with foliage usually rather pendulous in loose tufts.

Deciduous woodland; widely dominant or co-dominant in the southern half of Tanzania, especially the highlands; typically on lower hill-slopes and rolling plateau country bordering seasonally wet open plains, “mbugos”, “dambos”; on and below granite hills; on acid, sandy to red or orange soils; alone or with other *Brachystegia* species; Kalahari sands, sandy clay soils, reddish leached soils, sandy brown soils; 200-2000 m alt.

B. manga De Wild. – Icon.: White, Forest Fl. North. Rhod. : 110, 1962.

syn.: *B. burttii* Hoyle & C. H. N. Jackson, angl. tantum, 1940; Burt 1942.

Tree (4-)7-12(-20) m, with straight cylindrical bole, 15-35-60-80 cm Ø; foliage usually branched; crown rounded or ± flattened, rather dense, with few divaricate or irregular branches; bark shallowly fissured longitudinally or coarsely reticulate, flaking in thick rectangular scales.

Deciduous woodland, locally dominant; often over wide areas on dry aspects of escarpments; typically on over-drained rocky hills and slopes, notably Rift walls, more rarely on sandy loams of valley slopes; usually occurring pure, less often with *B. spiciformis*, *B. allenii*, *B. microphylla* or *Julbernardia globiflora*; also with *B. longifolia*; 45-1830 m alt.

BRACHYSTEGIA

B. michelmorei Hoyle – Icon.: Kew Bull. 54: 157, 158, 1999.

syn.: *B. sp.* near *russelliae*, sensu White & Hoyle in White, Forest Flora North. Rhod.: 117, 1962; *B. astlei* Hoyle & Brummitt

Suffrutex with stems 10-30(-45) cm tall from a very woody root-stock.

Locally common in open woodland with *B. longifolia* and *Cryptosepalum*; near stream or source; 1200-1700 m alt. – Narrow endemic with an area of <500 km².

B. microphylla Harms – Icon.: B. & P. van Wyk, Field Guide Trees South. Afr.: 421, 1998.

syn.: *B. tamarindoides* Benth. subsp. *microphylla* (Welw. ex Benth.) Chikuni; *B. microphylla* Harms; *B. fischeri* Taub.; *B. reticulata* Hutch. & Burt Davy; *B. glaucescens* Hutch. & Burt Davy; *B. robynsii* De Wild.; *B. pectinata* Sim; *B. letestui* De Wild.

Semi-evergreen tree 4-20(-40) m; bole DBH 0,5-1,5 m; crown flat-topped, light, often like a Cedar; main branches ascending, others divaricate, spreading; branchlets numerous, slender, bearing feathery sprays of delicate fern-like foliage; bark flaking like a *Platanus* and exposing large, orange and yellow patches.

Deciduous woodland; widespread but mainly local, typically as a pure dominant on crests and summits of rocky hills and escarpments, especially on granite; mixed with *B. spiciformis* or *B. bussei* and *B. utilis*, *Faurea*, *Protea*, etc.; sandy loams; leached reddish soils; 300-2200 m alt.

Treated as a subspecies of *B. tamarindoides* in Fl. Zambes.

B. mildbraedii Harms

syn.: *B. nzang* Pellegr.; *Cynometra pachycarpa* A. Chev.

Tree 30-35 m; with very broad crown; bole straight, cylindrical, 90 cm Ø, with heavily fluted base.

Rain-forest, on rocky slopes in mountain ranges (common); -300-1000 m alt.

B. nigerica Hoyle & A. P. D. Jones

Tree to 36 m; with dense spreading crown; bole 4 m in girth, unbuttressed, to 1 m Ø.

High wet forest areas; gregarious near water (stream valley); deciduous woodland; hill slopes.

B. oblonga Sim – Type: Sim 21108!

Tree 10-20 m; bole 30-50 cm Ø; crown flat-topped. – Inflorescence known!

Deciduous woodlands, coastal areas; 20-50 m alt.

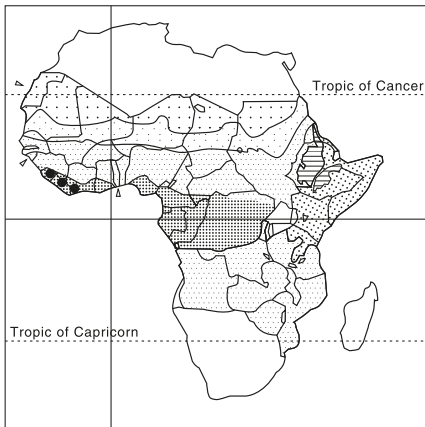
Different from *B. boehmii*.

B. puberula Hutch. & Burt Davy

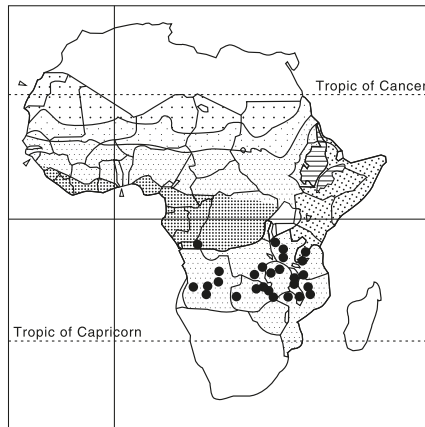
Tree 6(-?12) m, with spreading crown; branches at a wide angle; bark reticulately fissured.

Poor Kalahari sands, and schistose or siliceous rocky ridges; sandy loams on margins of Kalahari sands; dambo edges; locally dominant or evidently rare, local and gregarious; 990-2000 m alt.

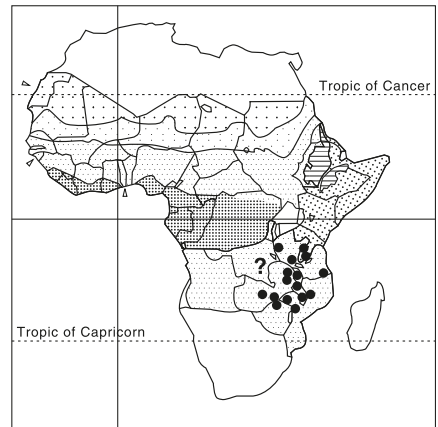
Imperfectly known.



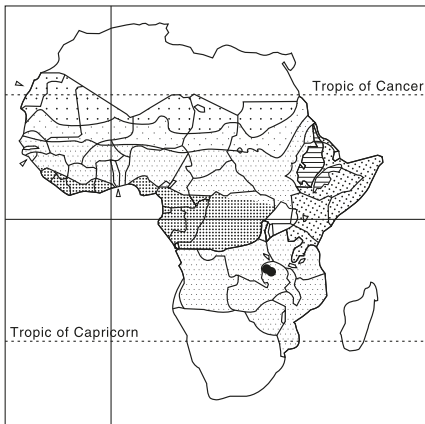
Brachystegia leonensis



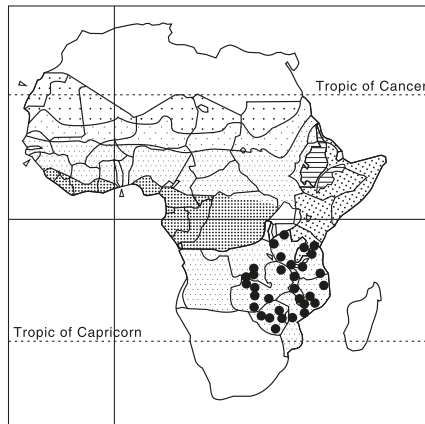
Brachystegia longifolia



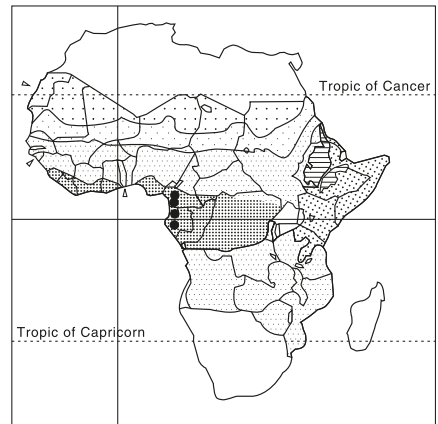
Brachystegia manga



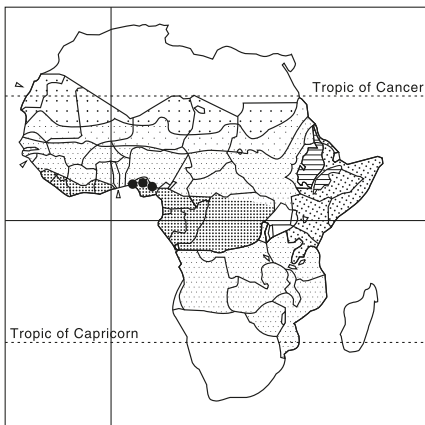
Brachystegia michelmorei



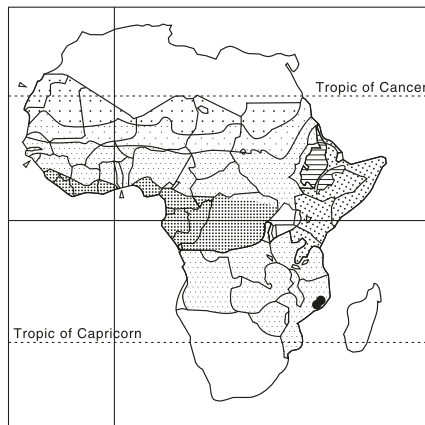
Brachystegia microphylla



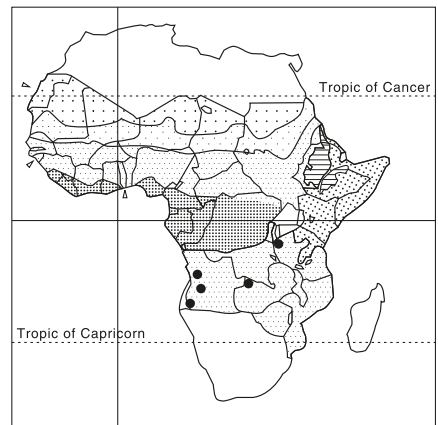
Brachystegia mildbraedii



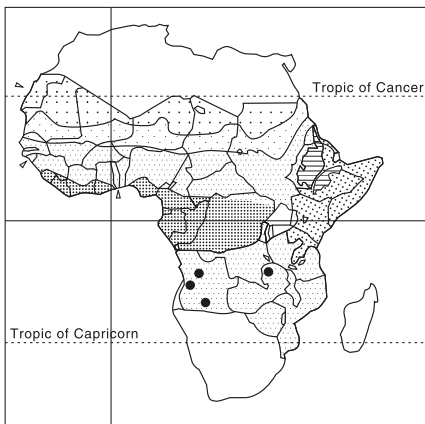
Brachystegia nigerica



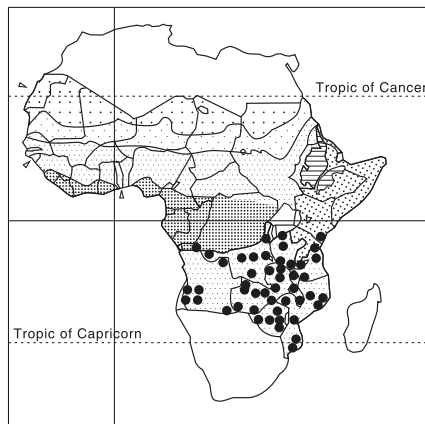
Brachystegia oblonga



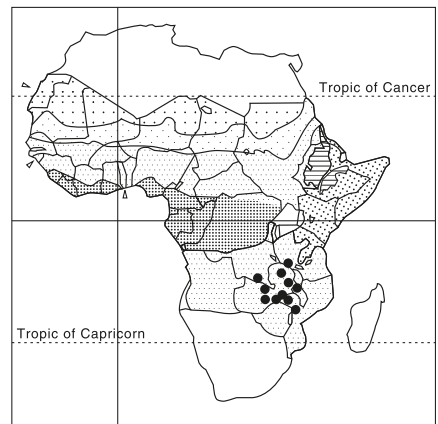
Brachystegia puberula



Brachystegia russelliae



Brachystegia spiciformis



Brachystegia stipulata

BRACHYSTEZIA

B. russelliae Johnst. – Icon.: Contrib. Gray Herb. 73: pl. 1, 1924. Undershrub with annual shoots, subsimple or much branched, 30-40 cm to 2 m tall arising from a woody rootstock, 12,5 cm Ø; shoots extensively spreading over large areas of ground; bud-scales remaining on the lower part of the stem (confused with *Cryptosepalum*).

Poor rocky and gravelly hills along valley; occupies extensive areas; locally dominant in open woodland with *Cryptosepalum*; 1500-2100 m alt.

B. spiciformis Benth., incl. var. *glandiflora* Benth., var. *parviflora* Benth., var. *schmitzii* Hoyle, var. *mpalensis* (Micheli) Hoyle, var. *kwangensis* Hoyle, var. *latifoliolata* (De Wild.) Hoyle

syn.: *B. appendiculata* Benth. non De Wild.; *B. itoliensis* Taub.; *B. oliveri* Taub.; *B. randii* Bak. f.; *B. euryphylla* Harms; *B. hockii* De Wild. and var. *papyracea* De Wild., var. *piloso-pedicellata* De Wild.; *B. edulis* Hutch. & Burt Davy; *B. taubertiana* Hutch. & Burt Davy; *B. venosa* Hutch. & Burt Davy; *B. mpalensis* Micheli; *B. bragei* Harms; *B. trijuga* R. E. Fries; *B. lujai* De Wild.; *B. lujae* De Wild. ex Hutch. & Burt Davy (all syn. according to Chikuni revision).

Semi-evergreen tree 5-30(-40) m to stunted treelet 1-4 m tall; bark deeply to shallowly fissured longitudinally; crown rounded to spreading, flatter with age; foliage pendulous.

Miombo deciduous woodlands; muteshi thicket; rarely fringing dambos; usually badly drained, over-drained and very poor and shallow soils; tolerating a wide range of soil, climate and exposure; most often dominant on best and deepest (often red) well-drained soils on plateau; highly adaptive and invasive; deep white Kalahari sands; sandy areas near the coast to ridges and escarpments; the most widespread and probably most frequent dominant or co-dominant in miombo; also with *Marquesia*, *Brachystegia* spp., *Pterocarpus*, *Julbernardia*; gallery forest; forest patches, near water in valleys; 15-2350 m alt.

NE Soutpansberg in S. Africa (Sabonet News 5: 170-172, 2000; ibidem 6: 209-211, 2001; Veld & Flora 88: 16-17, 2002; Bothalia 31: 43-44, 2001).

B. stipulata De Wild., incl. var. *lufirensis* (De Wild.) Hoyle, var. *velutina* (De Wild.) Hoyle

syn.: *B. bequaertii* De Wild.; *B. velutina* De Wild., incl. var. *quarrei* De Wild.; *B. lufirensis* De Wild.; *B. thomasi* De Wild.; *B. kassneri* Bak. f.; *B. appendiculata* De Wild., non Benth.

Spreading treelet or tree 1-7(-9) m; crown umbrella-shaped or flat, usually dense; bark deeply or reticulately fissured, flaking in thick scales.

Deciduous woodland; almost confined to very shallow soils; commonly gregarious and ± pure on edges of ill-drained dambos, less common locally on lateritic and quartzite ridges with *Julbernardia globifera*, *Uapaca kirkiana*, *Brachystegia boehmii*; schists or ironstone; sandy clay, sandy loam soils; with *B. floribunda*, *B. spiciformis*; 700-1700 m alt.

B. tamarindoides Welw. ex Benth., incl. var. *glabrior* R. E. Fries, but excl. subsp. *microphylla* (Welw. ex Benth.) Chikuni (= *B. microphylla*) and subsp. *torrei* (Hoyle) Chikuni (= *B. torrei*).

Tree 4-30 m; habit and foliage like those of *Tamarindus indica*; trunk branched a little above the base, 45 cm Ø; crown thyriform or dilate-spherical, densely branched; branches and branchlets sub-tortuous.

Table-land; common, occasionally constituting little woods; 1700-2000 m alt.

BRACHYSTEZIA

B. taxifolia Harms

syn.: *B. mimosifolia* Hutch. & Burt Davy; *B. subfalcato-foliolata* De Wild.

Not strictly evergreen (at least in moister areas) bushy shrub, dwarf treelet or tree (1-)2-6(-16) m tall; bole branched or irregular 0,4-1 m Ø; crown flat, obconic or umbrella-shaped, dense with few, large spreading branches; branchlets short, stiff; foliage dense dark green sombre.

Local but often dominant in woodland and thicket; typical of white leached sands and poor stony quartzite and granite ridges; often forming dense pure stands as trees or dwarf thicket, especially on edges of wet dambos; under *Marquesia*; occurring singly or in patches as relics in mixed miombo with *B. boehmii*, *B. longifolia*, *B. utilis*, *B. spiciformis* and *Julbernardia paniculata*; less often on yellow to orange sandy loams; schistose hill; 1000-2050 m alt.

B. torrei Hoyle – Icon.: Kew Bull. 54: 160, 1999.

syn.: *B. tamarindoides* Welw. ex Benth. subsp. *torrei* (Hoyle) Chikuni; *B. sp. nov.* 1 sensu Palgrave

Spreading tree (3-)5-18 m tall with a spreading crown.

Hot low river valleys; often forming almost pure stands on rocky outcrops and hills; 50-200 m alt.

Near *B. bussei*, *B. microphylla*, *B. glaucescens*.

Treated as a subspecies of *B. tamarindoides* in Fl. Zambes.

B. utilis Hutch. & Burt Davy

syn.: *B. diloloensis* De Wild., incl. vars.

Tree 6-20 m tall; crown rounded or flattish, dense, bushy; bark shallowly fissured or coarsely reticulate.

Deciduous woodland, locally dominant or co-dominant; typically in zones or groups on ridges, scarps and slopes, notably in shallow, stony or gritty soils over granite, etc.; flat sandy areas; below *B. microphylla*; often with *Julbernardia globiflora* or in mixed woodland with *Brachystegia*, *Julbernardia paniculata*, *Julbernardia angolensis*; scattered or in small groups in *Brachystegia spiciformis* woodland; 300-1830 m alt.

B. wangermeeana De Wild.

syn.: *B. sapinii* De Wild.; *B. wildemaniana* R. E. Fries; *B. kalongoensis* De Wild.

Tree (1,5-)8-15(-20) m tall; crown flat or umbrella-shaped; foliage long, in tufts, vertically pendulous when young and exceptionally sensitive, leaflets folding early in the evening or when plucked.

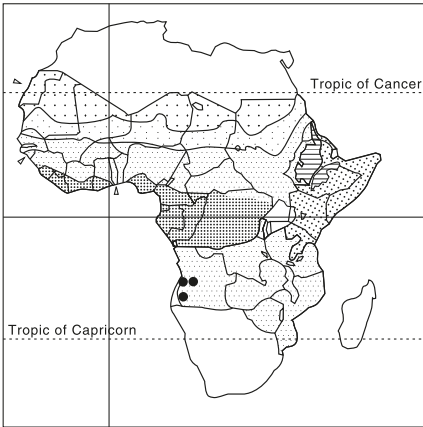
Deciduous woodland; locally abundant and often dominant; typically on rocky hills and upper parts of escarpments; also frequent and co-dominant around seasonally flooded areas; open forest on Kalahari sands or sandy brown soils; often associated with one or more of the following: *B. spiciformis*, *B. longifolia*, *B. floribunda*, *B. boehmii*, *B. utilis*, *Monotes*, *Uapaca robynsii*, *Julbernardia*; 1000-2000 m alt.

B. zenkeri Harms

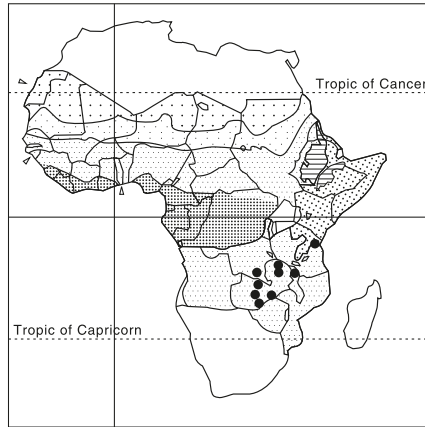
Tree to 40 m with straight cylindrical bole and umbrella-shaped crown. – Flowers known! Seeds unknown.

Very gregarious, often very abundant (Cameroon: Mbanga, Eséka); more rare in Gabon but in nearly pure stands (20 trees by hectare). Deciduous in Cameroon; hill slopes; 100-500 m alt.

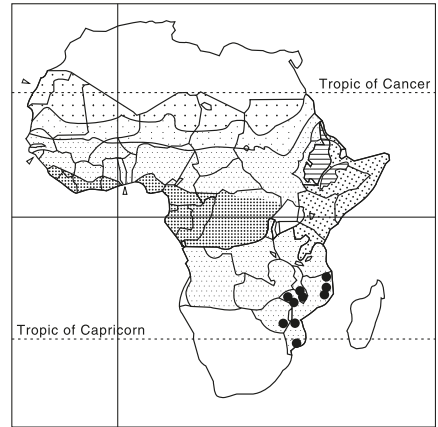
Not identical with *B. laurentii*: large persistent proximal leaflet pairs, sepals widely spaced apart.



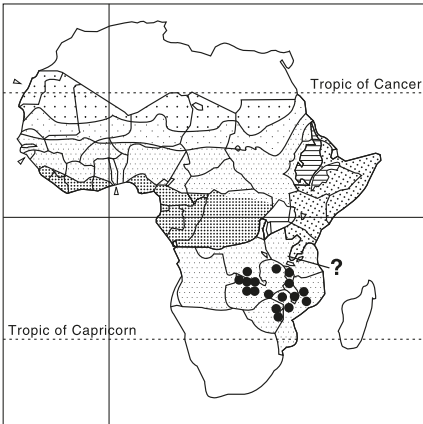
Brachystegia tamarindoides



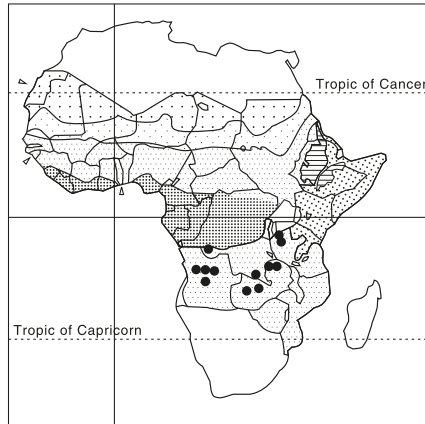
Brachystegia taxifolia



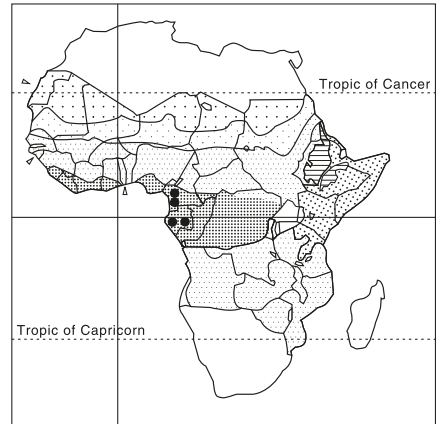
Brachystegia torrei



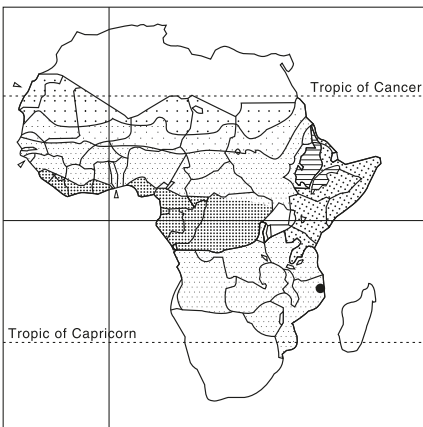
Brachystegia utilis



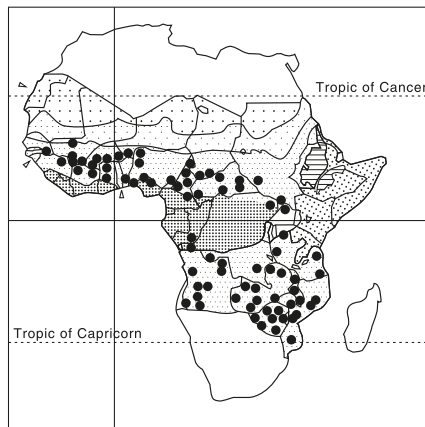
Brachystegia wangermeeana



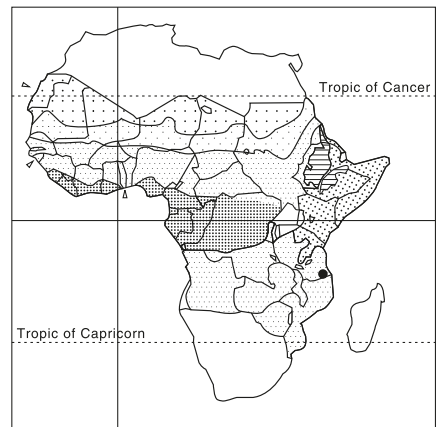
Brachystegia zenkeri



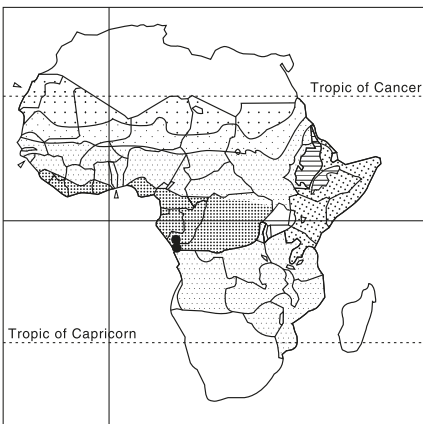
(Brenaniodendron carvalhoi)
= Micklethwaitia carvalhoi



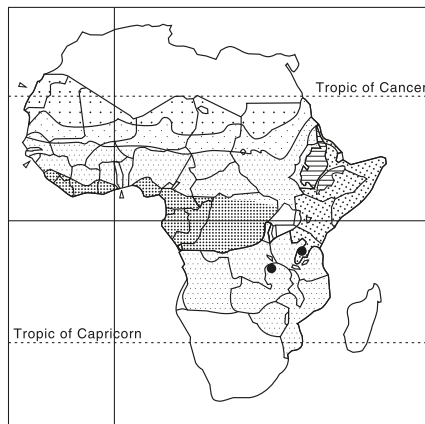
Burkea africana



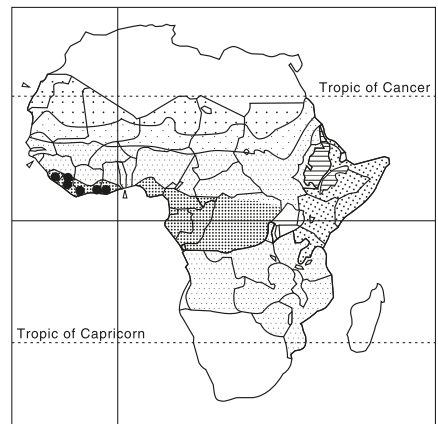
Bussea eggelingii



Bussea gosswileri



Bussea massaiensis



Bussea occidentalis

BRACHYSTEGLIA

TAXON INSUFFICIENTLY KNOWN:

Brachystegia stipulacea Taub.

NOMEN NUDUM:

Brachystegia fleuryana A. Chev.

SYNONYMS:

Brachystegia apertifolia Hutch. & Burt Davy = **B. longifolia**
appendiculata Benth. = **B. spiciformis**
appendiculata De Wild. = **B. stipulata**
astlei Hoyle = **B. michelmorei**
bequaertii De Wild. = **B. stipulata**
bournei Greenway = **B. longifolia**
bragaei Harms = **B. spiciformis**
burtii Hoyle & Jackson = **B. manga**
diloloensis De Wild. incl. var. *brevifoliolata* De Wild. and
var. *subglabra* De Wild. = **B. utilis**
edulis Hutch. & Burt Davy = **B. spiciformis**
euryphylla Harms = **B. spiciformis**
falcato-appendiculata De Wild. = **B. longifolia**
ferruginea De Wild. incl. var. *angustifoliolata* De Wild.,
var. *interrupta* De Wild., var. *quarrei* De Wild., var.
robynsii De Wild. = **B. boehmii**
filiformis Hutch. & Burt Davy = **B. boehmii**
fischeri Taub. = **B. microphylla**
flagristipulata Taub. = **B. boehmii**
gairdnerae Hutch. & Burt Davy = **B. bakeriana**
giorgii De Wild. = **B. allenii**
glaberrima R. E. Fries = **B. longifolia**
glaucescens Hutch. & Burt Davy = **B. microphylla**
globiflora Benth. = **Julbernardia globiflora**
goetzei Harms = **Brachystegia longifolia**
hockii De Wild. incl. var. *papyracea* De Wild. and var.
piloso-pedicellata De Wild. = **B. spiciformis**
holtzii Harms = **B. longifolia**
humblei De Wild. = **B. longifolia**
hopkinsii Suess. = **B. boehmii**
itoliensis Taub. = **B. spiciformis**
kassneri Bak. f. = **B. stipulata**
katangensis De Wild. = **B. boehmii**
kalongoensis De Wild. = **B. wangermeeana**
klaineana Pierre = **Gilletiodendron pierreanum**
klainei Pierre ex Harms = **Librevillea**
letestui De Wild. = **Brachystegia microphylla**
longifoliolata De Wild. = **B. longifolia**
lufirensis De Wild. = **B. stipulata**
luishiensis De Wild. = **B. longifolia**
lujae De Wild. ex Hutch. & Burt Davy = **B. spiciformis**
lujai De Wild. = **B. spiciformis**
malengensis De Wild. = **B. boehmii**
mimosifolia Hutch. & Burt Davy = **B. taxifolia**
mpalensis Micheli = **B. spiciformis**
nchangensis Greenway = **B. floribunda**

BRACHYSTEGLIA

nzang Pellegr. = **B. mildbraedii**
obliqua Hutch. & Burt Davy = **B. bakeriana**
oliveri Taub. = **B. spiciformis**
pectinata Sim = **B. microphylla**
polyantha Harms = **B. floribunda**
pruinosa De Wild. = **B. allenii**
randii Bak. f. = **B. spiciformis**
reticulata Hutch. & Burt Davy = **B. microphylla**
robusta Pierre = **Gilletiodendron pierreanum**
robynsii De Wild. = **B. microphylla**
sapinii De Wild. = **B. wangermeeana**
schliebenii Harms = **B. allenii**
sp. nov. 1 sensu Palgrave = **B. torrei**
sp. nr. *russelliae* White & Hoyle = **B. michelmorei**
stipulacea Taub. = ?
subfalcato-foliolata De Wild. = **B. taxifolia**
tamarindoides Welw. ex Benth. subsp. *microphylla*
(Welw. ex Benth.) Chikuni = **B. microphylla**
tamarindoides subsp. *torrei* (Hoyle) Chikuni = **B. torrei**
tamarindoides var. *glabrior* R. E. Fries
= **B. tamarindoides subsp.
taubertiana Hutch. & Burt Davy = **B. spiciformis**
thomasii De Wild. = **B. stipulata**
trijuga R. E. Fries = **B. spiciformis**
velutina De Wild., incl. var. *quarrei* De Wild.
= **B. stipulata**
venosa Hutch. & Burt Davy = **B. spiciformis**
welwitschii Taub. = **B. longifolia**
wildemaniana R. E. Fries = **B. wangermeeana**
woodiana Harms = **B. boehmii****

Macrobium laurentii De Wild. = **Brachystegia laurentii**

(**BRENANIODENDRON**) = **MICKLETHWAITIA** / 1

Brenaniodendron J. Léonard (31 March 1999), non *Brenandendron* H. Rob. (*Asteraceae*; 23 March 1999), nom. illegit. (Taxon 53: 825, 2004). *Micklethwaitia* G. P. Lewis & Schrire, nom. nov.

BURKEA / 1

Burkea africana Hook., incl. var. *andongensis* Oliv. and var. *cordata* Welw. ex Oliv. – Wild Syringa.

Tree 4–20 m; branchlets often rather stout, knotted; young branches reddish-tomentose; crown much branched, sometimes very near the ground; flowers in pendulous spikes to 30 cm long, crowded with the leaves at the ends of the branchlets.

Widespread except for the forest regions and Ethiopia, Somalia; several types of woodlands; open forests; on sands, sandy soils, sandstones; scattered or in small patches often on rocky hills; also dominant or co-dominant at edges of dambos; on high grounds with *Sclerocarya*, *Prosopis* (Sudan); 40–1740 m alt.

? Congo-Brazzaville. – Botswana, S. Africa, Namibia.

BURKEA AFRICANA

MIPRO, H. & al. (2002). L'utilisation de *Burkea africana* Hook. (Caesalpinia-ceae) par les populations d'éléphants (*Loxodonta africana* Blumenbach) dans le ranch de gibier de Nazinga (Burkina Faso). *Ann. Bot. Afrique Ouest* 02: 25-35.

WILSON, B. G. & E. T. F. WITKOWSKI (2003). Seed banks, bark thickness and change in age and size structure (1978-1999) of the African savanna tree, *Burkea africana*. *Pl. Ecol.* 167: 151-62.

BUSSEA / 5

Bussea eggelingii Verdc.

Tree to 12 m; crown rounded, bole straight; flowers yellow, the colour of those of *Peltophorum pterocarpum* from Asia and Australia, and with very similar blackish-rusty inflorescence-axes; quite mature pods unknown.

Margin of closed forest; ?710 or ± 820 m alt.

B. gossweileri Bak. f.

Evergreen tree to 30 m, with somewhat sinuous obliquely ascending bole, ± 1,2 m Ø; crown globular.

Forest; here and there on elevated ground.

B. massaiensis (Taub.) Harms

Scrubby shrub or tree 2-12 m tall; crown spreading.

Dominant in dense, deciduous scrub; mteshi bush on stony hill-slope on sandy soil; thickets; deciduous woodland; 900-1370 m alt.

Comprises 2 subspp.

B. occidentalis Hutch.

Evergreen tree to 30 m; bole usually straight, rarely larger than 75 cm Ø and 2,5 m in girth, or sometimes crooked or knotty; root spurs at the base, rarely buttresses to 1 m or thin butt flares; crown dense, rounded.

Common in evergreen and deciduous forests; favouring wet places; gallery forest.

B. xylocarpa (Sprague) Sprague & Craib

bas.: *Calliandra xylocarpa* Sprague (*Mimosaceae*).

Tree 10-15 m.

Brachystegia, *Combretum* woodland; favouring stony soils.

Endemic to a particular small area, downstream from the Cabora-Bassa dam site, Mozambique. With certainty known only from the original gathering (lacking flowers). – A further collection with only flowers from further south in Mozambique is uncertain (fide Fl. Zambes.).

CAESALPINIA / 10

For cultivated species, see Enum. 2: 42, 1992.

Caesalpinia bonduc (L.) Roxb.

bas.: *Guilandina bonduc* L. – Treated under this name in Fl. Zambes.

syn.: *G. bonducella* L.; *Caesalpinia bonducella* (L.) Fleming
Bush or shrubby tree, spreading or half-climbing, to ± 5 m tall; stems ± densely armed with spreading straight or slightly deflexed prickles.

CAESALPINIA BONDUC

On or near sea-shores; 0-15 m alt; now naturalised near villages in the interior. Lagoon sides; stream mouths; sometimes forming impenetrable thickets; dune bush, littoral scrub. Salt tolerant.

S. Africa. Widespread in the tropics (native of SE Asia).

Very near *C. major*.

The very hard-shelled seeds will float well in the sea (See C. R. Gunn & J. V. Dennis, *World Guide to Tropical Drift Seeds...*: 128-129, 1999).

C. dauensis Thulin

Shrub ± 2,5 m tall, armed with scattered prickles to 7 mm long on branches and leaf rachides; mature fruit unknown.

Rocky slope in deciduous bushland; along watercourse on limestone slopes in *Acacia*, *Commiphora* woodland with scattered *Sterculia*, *Terminalia*, *Bottegoa*; ± 400-1010 m alt.

C. erianthera Chiov.

Shrub 0,3-2 m tall; young stems armed here and there with recurved or sometimes spreading stipular spines 2-5 mm long in pairs at the nodes; mature fruit unknown.

Acacia open scrub on limestone; rocky slopes; dunes; often in very arid regions; *Acacia-Commiphora* bushland; 10-1000 m alt.

Extremely variable (? more than one species).

S Arabia.

Comprises 2 vars.

C. glandulosopedicellata R. Wilczek

Tree with scattered spines; mature fruit unknown; seeds unknown.

Termite mounds in open forest.

C. homblei R. Wilczek

? Shrub with many straight spines; mature fruit unknown.

Ecology unknown.

Only known from the type collected in 1910 in High Katanga (Zaire) without locality.

[C. major (Medic.) Dany & Exell]

bas.: *Bonduc majus* Medic.

A pantropical shrubby vine very near *C. bonduc* but: stipules 1-3 mm long, subulate or absent; leaves with 3-8 pairs of pinnae, each pinna with about (3-)5-7 pairs of leaflets; flowering pedicels 6-12 mm long; ovules 4; seed yellow to greenish grey at maturity; coarser leaflets; spines on the fruit finer and more numerous.

Perhaps in tropical Africa. Along beaches and in forest to ± 1400 m alt.

More closely related to *C. volkensii*; differs in having linear-lanceolate bracts, smaller flowers (petals ± 7 mm long, not ± 16), and leaflets normally with appressed pubescence on lower surface.

C. oligophylla Harms

Shrub to 4 m tall; branches armed with scattered prickles.

Acacia-Commiphora bushland; red alluvial soil; ± 40-200 m alt.

CAESALPINIA

C. rostrata N. E. Br.; Torre in Mendonça, Contr. Conhec. Fl. Moçamb. 2: 67, 1954. – Icon.: Hook. Ic. Pl. 28: tab. 2702, 1891; Flow. Pl. Africa 57: 71, 2001.

Scrambling shrub 2-3,5 m tall; stems 2-3 cm Ø; armed with scattered ± straight broad-based spreading prickles to 10 mm long; leaflets gland-dotted; lower sepal larger and with a very conspicuous apical upwardly-curved rostrate beak, 2,5-4 mm long, reflexing with age; seeds not seen.

Slopes of warm, dry river valleys.

S. Africa. Known in the wild from only 2 collections in S Mozambique and 1 from adjacent S. Africa. – Not in Zimbabwe. – Described from plants cultivated at Durban (no longer there) from seed of unknown exact location.

[**C. rubra** (Engl.) Brenan]

bas.: *Hoffmannseggia rubra* Engl.

Shrub 2-3 m tall with reddish-brown hairy branchlets and prickling glandular stipules; inflorescence to 20 cm long with deep red flowers.

Namibia (900 m alt.), Botswana.

According to J. M. Lock, Legumes of Africa: 22, 1989, also in Angola. – Is perhaps present in Zimbabwe, but not cited in Fl. Zambes. 3/2, 2007.

Near *C. trothae*.

Not mapped.

C. trothae Harms

Shrub 0,3-3(-5) m tall, erect or sometimes somewhat climbing; young stems armed with scattered straight or ± curved and deflexed prickles varying in length to 9 mm.

Rich *Commiphora-Acacia* scrub on dull red sandy soil, sandstone outcrops; common at several spots; red sandy loam on well drained slopes; pale sandy soil near watercourses; yellowish brown powdery soil on flats; black cotton soil glutinous cracking, in areas of impeded drainage; locally abundant; ± 25-1070 m alt.

Comprises 2 subspp. (intermediates unknown).

C. volkensis Harms

Climbing bush or liane; stems armed with scattered ± downwardly hooked or deflexed prickles ± 2-4 mm long.

In or on margins of rain-forest; 90-1770 m alt.

C. welwitschiana (Oliv.) Brenan

bas.: *Mezoneuron welwitschianum* Oliv. – Treated as such in Fl. Zambes. 3/2: 171, 2007

Liane to 18-45 m long; stems 1,8 cm Ø, armed with scattered downwardly hooked prickles.

Rain- and transitional forests; rocky places in barrancos; bushy wooded slopes; river banks (Fl. Zambes. area); ± 800-1200 m alt.

SYNONYMS:

Caesalpinia angolensis (Welw. ex Oliv.) Herendeen & Zarucchi = **Mezoneuron**

bessac Chiov. = ?

bonduc auctt., non (L.) Roxb. = **Caesalpinia major**

bonducella (L.) Fleming = **C. bonduc**

dalei Brenan & J. B. Gillett = **Stuhlmannia moavi**

CAESALPINIA

elata (L.) Swartz = **Delonix**

erlangeri Harms = **Caesalpinia trothae** subsp.

gillettii Hutch. & E. A. Bruce = **Parkinsonia scioana**

globulorum Bakh. & van Royen = **Caesalpinia major**

insolita (Harms) Brenan & J. B. Gillett = **Stuhlmannia moavi**

jayabo Maza = **Caesalpinia major**

major sensu Brenan = **C. volkensis**

melanosticta Spreng. in L. = **Pomaria burchellii**

sp. A in F.T.E.A. = **Caesalpinia dauensis**

CASSIA / 64

The genus is treated here *sensu lato*, thus including the segregate genera *Senna* Miller and *Chamaecrista* Moench (cf. Enum. 2: 42-45, 1992). Introduced species are not listed below (cf. l. c.).

CHAUHAN, S. V. S. & al. (2003). Stamen dimorphism in three *Cassia* species. *Phytomorphology* 53: 173-18.

GHAREEB, A. & al. (1999). Molecular systematics of some *Cassia* species. *Cytologia* 64: 11-16.

HABA, F. L. & al. (2000). Structure de la feuille et sa variabilité intraspécifique chez les plantes ligneuses tropicales: *Cassia siamea* et *Cassia sieberiana* DC. (Caducifoliée). *Rev. Cytol. Biol. Végét., Le Botaniste* 23(3-4): 35-40.

MONDAL, A. K. & al. (2000). Molecular taxonomy of the genus *Cassia* L. based on seed protein and mitochondrial DNA RFLP. *Phytomorphology* 50: 15-25.

SAHAI, K. (2001). Anatomical variability in seed coat of some *Cassia* L. (Caesalpinioideae) species with taxonomic significance. *Taiwania* 46: 158-166.

SAHAI, K. & al. (1997). Macro- and micromorphological seed characteristics of some *Cassia* species and their taxonomic significance. *Phytomorphology* 47: 273-279.

SAHAI, K. & al. (1998). Palynomorphology of species of *Commelina* L. and *Senna* Tourn. ex Mill. from Nigeria. *New Botanist* 25: 1-10.

Cassia abbreviata Oliv.

(Shrub or) tree 3-10(-15) m; trunk usually slender, erect; crown rounded with drooping branches.

Woodland; wooded grassland; margin of evergreen forest on rock outcrop; deciduous bushland; *Acacia-Combretum* and *Acacia-Commiphora* bushland; dry scrub with trees; margin of pools; also on dunes; termite mounds; deciduous or evergreen thickets; 30-1520 m alt; (600-1400 m in Fl. Zambes. area).

Botswana, Namibia, S. Africa.

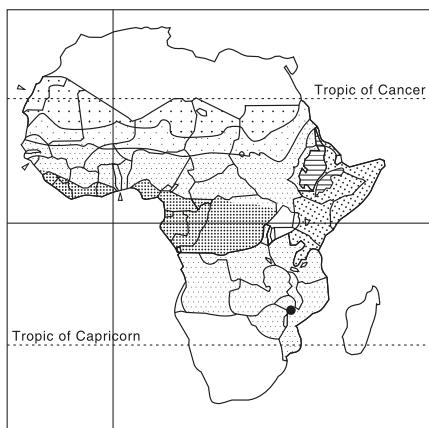
Comprises 3 subspp.: – subsp. **abbreviata**; – subsp. **beareana** (Holmes) Brenan (syn.: *C. atroreticulata* Chiov.; *C. droogmansiana* De Wild.; *C. bequaertii* De Wild.; *C. granitica* Bak. f.; *C. abbreviata* var. *granitica* (Bak. f.) Bak. f. and var. *glabrifrutifera* Steyart); – subsp. **kassneri** (Bak. f.) Brenan

C. absus L. var. **absus**

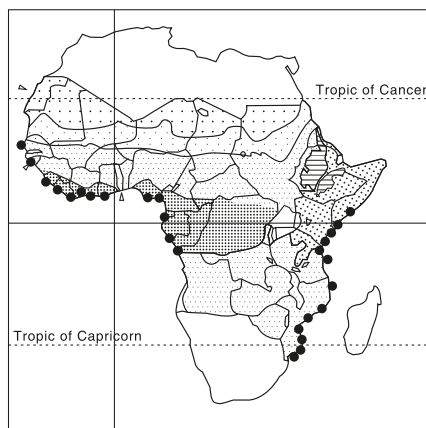
syn.: *Chamaecrista absus* (L.) Irwin & Barneby; *Grimaldia absus* (L.) Link

Annual herb sometimes woody at base, erect or procumbent, usually much branched, sticky, 0,1-1,5 m tall; stems terete, lightly ridged, hirsute, glandular-hairy.

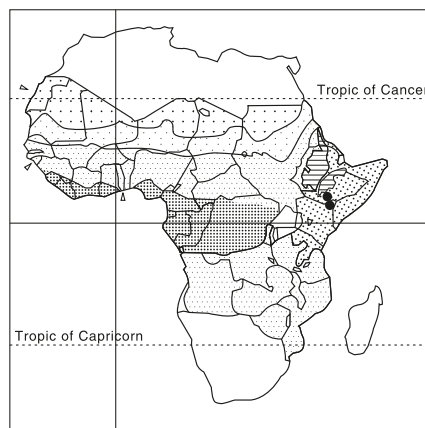
Grassland; wooded grassland; open places in deciduous bushland; all types of bushland; scrub; granite outcrops; also a weed in old cultivations, roadsides, sandy lake-shores, meadows and waste ground; river banks; 7-1700 m alt.



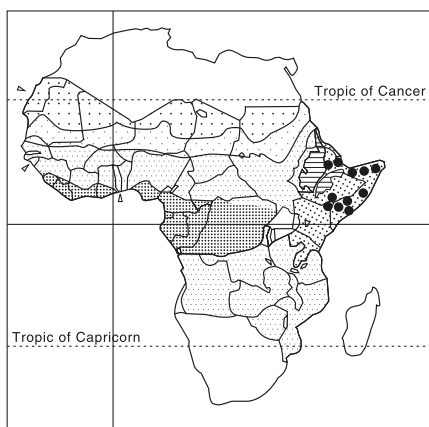
Bussea xylocarpa



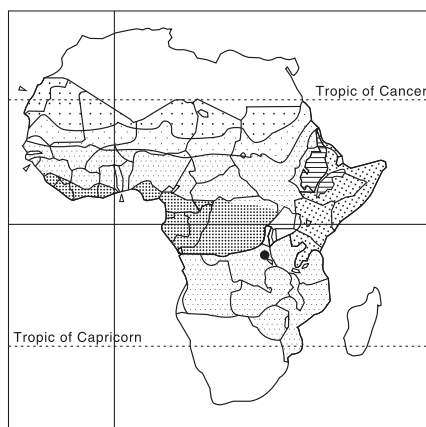
Caesalpinia (Guilandina) bonduc



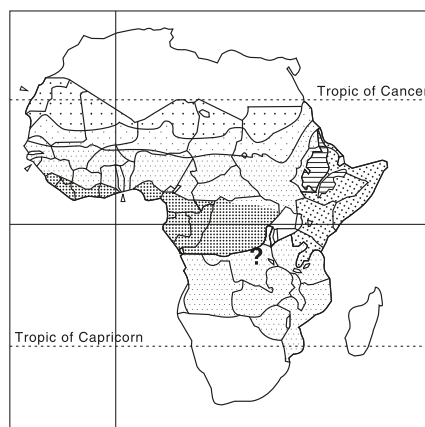
Caesalpinia dauensis



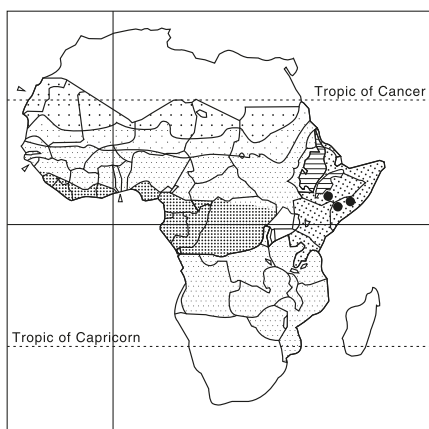
Caesalpinia erianthera



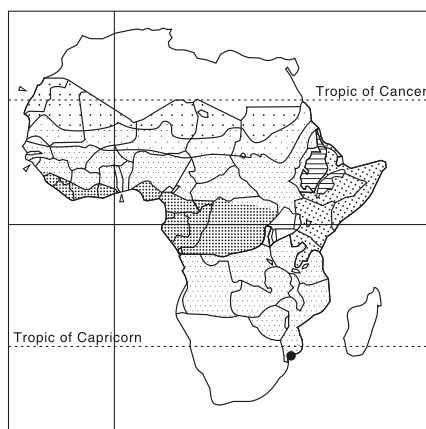
Caesalpinia glandulosopedicellata



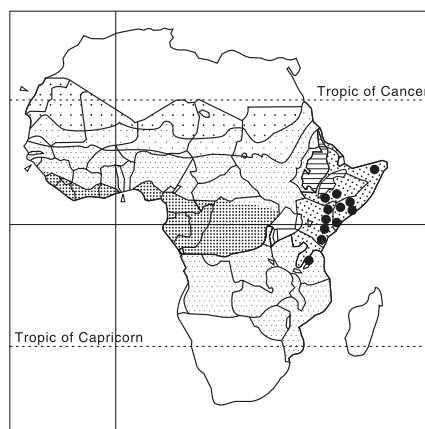
Caesalpinia homblei



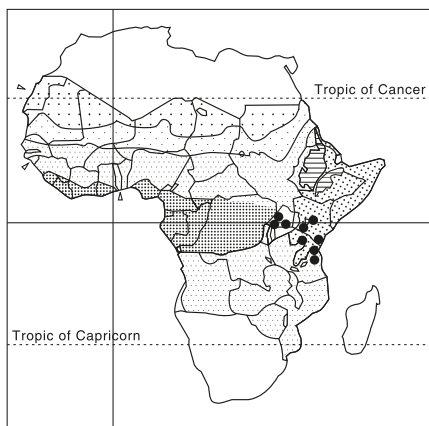
Caesalpinia oligophylla



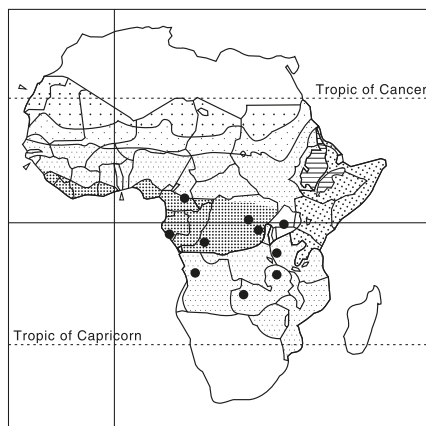
Caesalpinia rostrata



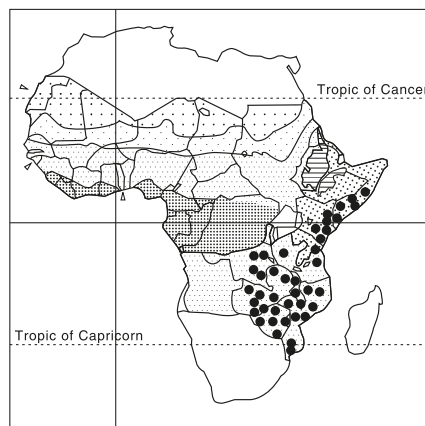
Caesalpinia trothae



Caesalpinia volkensii



Caesalpinia welwitschiana
(*Mezoneuron welwitschianum*)



Cassia abbreviata

CASSIA ABSUS VAR. ABSUS

Botswana; widespread in the tropics of the Old World (S Asia, Australia; var. **absus**); also introduced in the New World. – New World plants belong to var. **meonandra** Irwin & Barneby [*Chamaecrista absus* var. *meonandra* (Irwin & Barnaby) Irwin & Barneby].

C. adenensis Benth., incl. var. *corneliana* (Vatke) Chiov.

syn.: *C. corneliana*! Vatke; Enum. 2: 43, 1992.

Erect shrub to at least 2 m tall.

Semi-desert open bushland on rocky hillsides and in wadi bottoms; to ± 1000 m alt.

S Arabia.

C. africana (Steyaert) Mendonça & Torre – Icon.: Consp. Fl. Angol. 2(2): 185, 1956.

syn.: *C. capensis* fa. Bak., J. Bot. 66, Suppl. Polypet.: 136, 1928; *Chamaecrista africana* (Steyaert) Lock

Rhizomatous undershrub 10-25 cm tall, multi-stemmed, with sub-simple slender stems.

Stagnant water in bushy pasturage with *Cerbera* (= *Cascabela*) and *Scrophulariaceae*; appearing after forest-fires.

C. afro fistula Brenan

Shrub or tree 1,2-6 m tall (? and more).

Coastal; dense bush of the dunes; common in the dry coral areas of Zanzibar and Pemba; sandy flats; sandy forest; bush in open forest; secondary bush; plantations; 0-120 m alt.

Comprises 2 vars.

Cultivated in the tropics (var. **afro fistula**).

Can be confused with the introduced *C. fistula*.

C. angolensis Hiern

syn.: *C. mannii* Oliv. var. *van-houttei* De Wild.

Deciduous tree 6-25 m tall, in most ways very similar to *C. mannii* but has glabrous-margined leaflets with emarginate apices and yellow flowers; fruit 30-40 cm long.

Rain-forest; riparian forest (Malawi); thickets; primitive woods with *Trema* spp.; *Newtonia* riparian forest; *Baikiaea plurijuga* dry deciduous forest; 820-1500 m alt.

Variable in hairiness of the ovary.

One of the most beautiful trees of Angola (Baker f.).

C. arereh Del.

Shrub or tree 6-10 m tall.

Deciduous woodland; wooded grassland; often in rocky places or riparian; tall grass savanna; closed dry forest with *Anogeissus*; sometimes rather abundant; 1200-2000 m alt (? and less).

C. aubrevillei Pellegr.

Deciduous tree 8-10m, with straight bole to 60 cm Ø; fruit to 70 cm long; flowers yellow.

Forest; evergreen forest on slopes (Nimba Mts.); riversides; 525-1000 m alt.

Probably not in Gabon; endangered (very rare) by deforestation.

CASSIA

C. beccarinii Chiov.

syn.: *Senna beccarinii* (Chiov.) Lock

Shrub 1,2-4 m tall, much branched.

Acacia-Commiphora bushland; dry scrub with trees; 610-1500 m alt.

S Arabia.

C. biensis (Steyaert) Mendonça & Torre – Icon.: Bull. Jard. Bot. Etat, Bruxelles 20: 263, 1950; Consp. Fl. Angol. 2(2): 185, 1954.

syn.: *Chamaecrista biensis* (Steyaert) Lock

Perennial herb with several prostrate or decumbent, occasionally semi-erect to erect, simple or subsimple stems 20-45 cm tall, from a woody rootstock.

Grasslands, open woodlands, usually on Kalahari sand or other sandy soils; to c. 1600 m alt.

Namibia, S. Africa, Botswana.

Probably more drought-resistant than the closely related *C. capensis*.

C. burttii Bak. f.

Shrub or tree 1-6(-8) m tall; branchlets dark red-brown, ridged.

Woodland; wooded grassland on hillside; open thicket along small dry ditch in *Combretum* savanna; 15-800 m alt.

The long gracefully drooping racemes of white flowers make this a most elegant plant. It hybridizes with *C. abbreviata*.

C. capensis Thunb. var. **flavescens** (E. Mey.) Vogel

bas.: *Chamaecrista capensis* (Thunb.) E. Mey. var. *flavescens* E. Mey.

syn.: *Cassia capensis* var. *keiensis* Steyaert; *Chamaecrista capensis* (Thunb.) E. Mey.; *Cassia mimosoides* L. var. *capensis* (Thunb.) Harv.

Perennial herb with several prostrate, semi-erect or erect, simple or sub-simple stems from a woody rootstock, or with one or few erect stems to 90 cm tall, usually branched in the upper half; stems ± ridged.

Abandoned cultivation; ± sea level.

S. Africa, Swaziland (c. 500-600 m alt.). Unspecified locality in S Mozambique, Inhaca Isl.

Closely related to *C. biensis*.

C. comosa (E. Mey.) Vogel – Icon.: Bull. Jard. Bot. Etat, Bruxelles 20: 263, 1950.

bas.: *Chamaecrista comosa* E. Mey.

syn.: *Cassia mimosoides* L. var. *comosa* (E. Mey.) Harv.

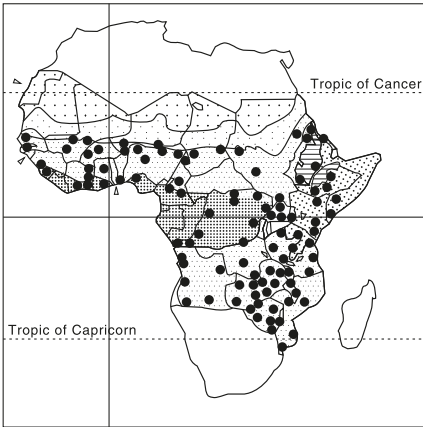
Perennial herb with annual erect, simple to branched stems 10-37(-100) cm tall, ascending from a vertical sympodial ± woody but slender, rhizomatous, horizontally spreading rootstock.

Bushland; deciduous open woodlands with *Brachystegia*; upland grasslands; 1430-1800 m alt.

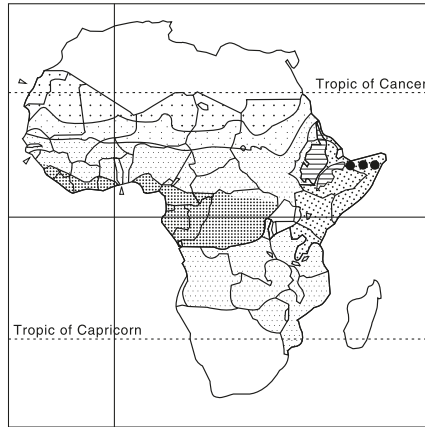
S. Africa (vars. **comosa**, **capricornia** and **lanata**).

Comprises 2 vars. in our area: – var. **capricornia** Steyaert (Congo-Kinshasa, Tanzania); – var. **lanata** Steyaert

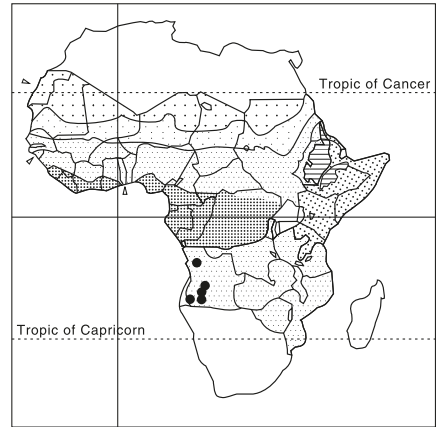
Similar to *C. wittei* in the perennial habit, larger leaves and leaflets.



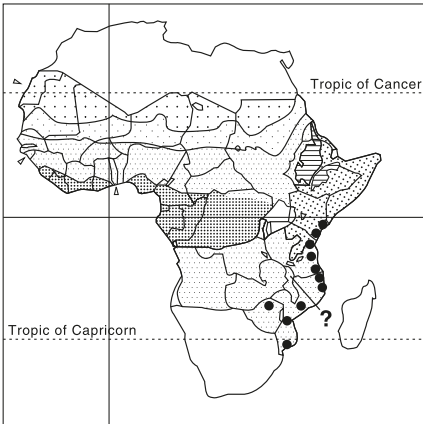
Cassia (Chamaecrista) absus



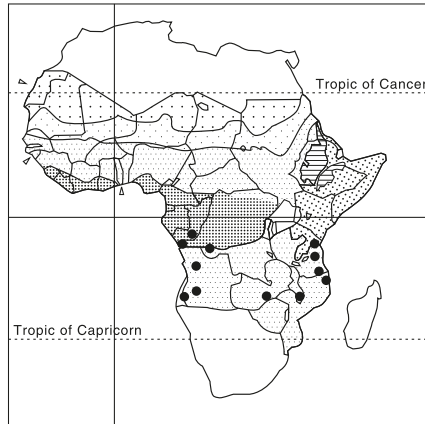
Cassia adenensis



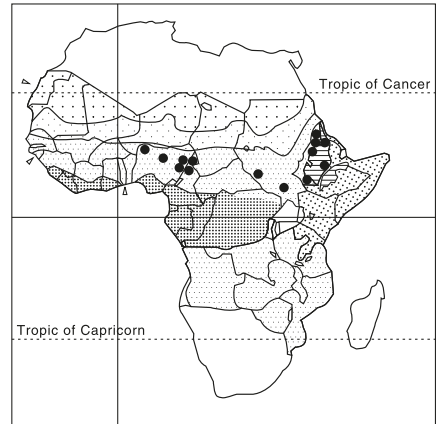
Cassia (Chamaecrista) africana



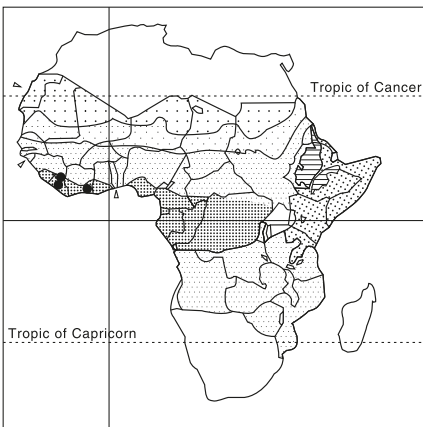
Cassia afroistula



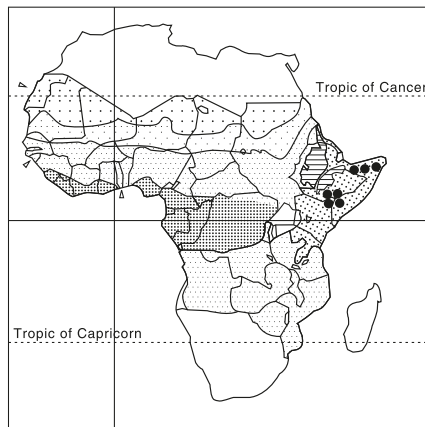
Cassia angolensis



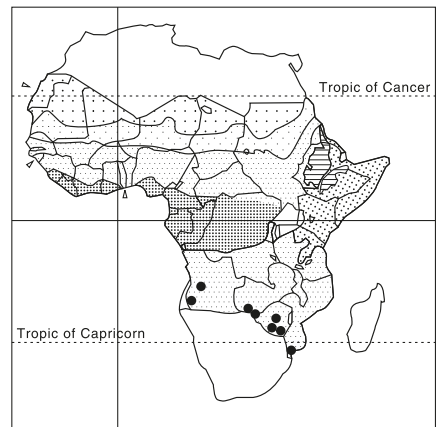
Cassia arereh



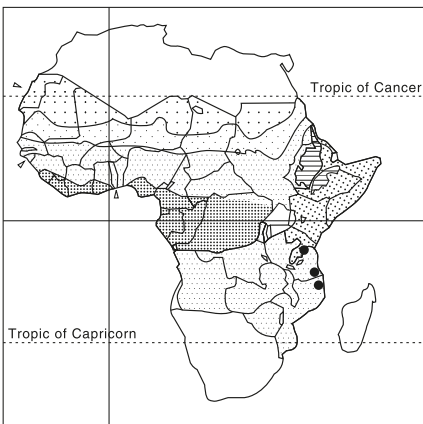
Cassia aubrevillei



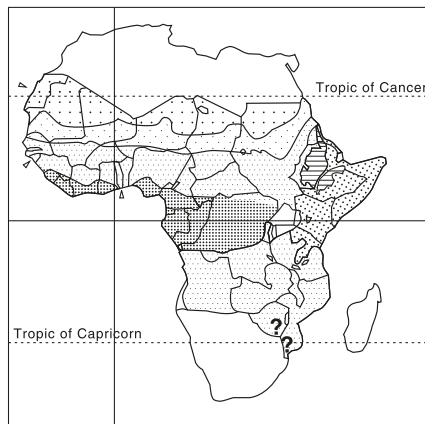
Cassia (Senna) beccarinii



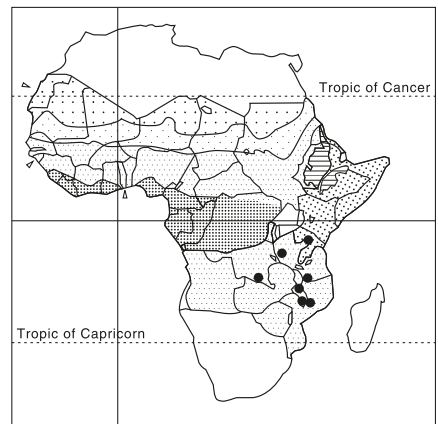
Cassia (Chamaecrista) biensis



Cassia burttii



Cassia (Chamaecrista) capensis



Cassia (Chamaecrista) comosa

CASSIA

C. didymobotrya Fresen.

syn.: *Senna didymobotrya* (Fresen.) H. S. Irwin & Barneby; *Cassia verdickii* De Wild.; *C. nairobiensis* [Aggeler & Musser] L. H. Bailey, nom. invalid.; *C. bracteosa* Welw. ex W. Bull 1866, non A. Lasseigne 1979 (from Argentina).

Shrub (0,6-)2-9 m tall, rounded, multi-stemmed and much branched from ground level, soft-wooded; stems terete. Unpleasant smelling when fresh.

Wooded grassland; evergreen thicket; bushland; often riparian or in disturbed places; rain-forest; often in damp places; sometimes common in old cultivations; in hedges near buildings; 900-2440 m alt. Probably indigenous in swamps and besides rivers in seasonal regions (fide Lock in Fl. Zambes.).

Cultivated in S. Africa, Mozambique, Zimbabwe; introduced in Zambia (ornamental).

Not in Somalia.

C. duboisii Steyaert

syn.: *Chamaecrista duboisii* (Steyaert) Lock

Shrubby plant with erect stems and branches; fruit unknown.

Fresh places in savanna; ± 2300 m alt.

Only known from the type.

Chamaecrista dunensis Thulin – no combination made in the genus **Cassia**.

Shrublet 7-18 cm tall, spreadingly and intricately branched, with greyish cracking bark.

Fixed coastal dunes with scattered clumps of bushes, in whitish sand; c. 15 m alt.

Only known from the type (Gillett & Hemming 24518) collected in 1983.

Near *C. puccioniana*.

Cassia ellisiae Brenan

syn.: *Senna ellisiae* (Brenan) Lock

Shrub or tree 1-3 m tall.

Dry woodland; usually on sandy soil; *Acacia-Commiphora* bushland; rocky limestone slopes; 150-750 m alt.

C. exilis Vatke – Icon.: Fl. Trop. E. Africa, Legum. Caesalp.: 57, 1967.

syn.: *Chamaecrista exilis* (Vatke) Lock

Apparently an annual herb, branching at base into numerous decumbent or ascending stems ± 5-30 cm tall.

Grassland on sandy soil; probably from ± 0 – ± 150 m alt.

C. falcinella Oliv., excl. var. *longifolia* Ghesq. (= *C. parva*) – Icon.: Fl. Trop. E. Africa, Legum. Caesalp.: 57, 1967.

syn.: *Chamaecrista falcinella* (Oliv.) Lock

Annual (or perennial) herb, sometimes with lower parts of stems or the rootstock woody, erect or prostrate, 10-60 cm tall; stems terete, simple or branched; lateral branches usually several, often patent; stipules falcate, overlapping at the shoot tips.

Grassland; cultivated ground; banks of dry seasonal river in sandy desert bushland; rocky and grassy savannas; 600-1800 m alt.

CASSIA FALCINELLA

Wide range of variation in the species.

Botswana, Namibia, S. Africa (var. **parviflora**). Not in Mozambique (= *C. parva*).

Comprises 3 vars.: – var. **falcinella**; – var. **intermedia** Brenan [syn.: *Chamaecrista falcinella* var. *intermedia* (Brenan) Lock]; – var. **parviflora** Steyaert [syn.: *Chamaecrista falcinella* var. *parviflora* (Steyaert) Lock; cf. under *C. parva*].

C. fallacina Chiov., excl. var. *gracilior* Ghesq. (= *C. gracilior*) and var. *katangensis* Ghesq. (= *C. katangensis*).

syn.: *Chamaecrista fallacina* (Chiov.) Lock

Perennial herb or subshrub, with a woody rootstock and spreading or prostrate stems to 35 cm tall.

Grassland with scattered trees; seasonally inundated grassland; wet grey clay-loam; woodland; bushland; 100-2500 m alt.

C. fenarolii Mendonça & Torre – Icon.: Consp. Fl. Angol. 2(2): 185, 1956.

syn.: *Chamaecrista fenarolii* (Mendonça & Torre) Lock

Annual or short-lived perennial herb, ± 10-45 cm tall, with erect or usually prostrate, terete stems woody at base.

Brachystegia woodland; roadsides; 900-1500 m alt.

Resembling prostrate forms of *C. mimosoides*. Close to *C. gracilior* but differs in the larger flowers and the short-stalked glands.

C. fikifiki Aubrév. & Pellegr.

Deciduous tree with bole without buttresses; fruit to 40 cm long or more; flowers yellow.

Rain-forest; not common.

C. ghesquiereana Brenan – Icon.: Fl. Trop. E. Africa, Legum. Caesalp.: 57, 1967.

syn.: *Chamaecrista ghesquiereana* (Brenan) Lock

Prostrate perennial herb with stems radiating from a thickened rootstock, themselves becoming woody below, to 12-40 cm long.

Grassland; 1650-2590 m alt.

C. gossweileri Bak. f.

syn.: *Senna gossweileri* (Bak. f.) Lock

Several annual stems rigid at the base, 40-50 cm tall, arising from a woody many-headed rootstock.

Not uncommon in poor thicket-grown pasturage in dry sandy soil.

Only known from the type.

C. gracilior (Ghesq.) Steyaert – Icon.: Bull. Jard. Bot. Etat, Bruxelles 20: 263, 1950.

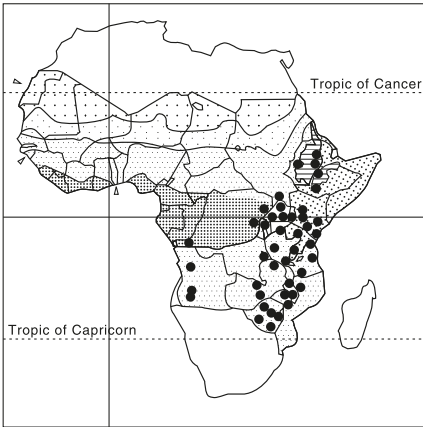
bas.: *Cassia fallacina* Chiov. var. *gracilior* Ghesq.

syn.: *Chamaecrista gracilior* (Ghesq.) Lock

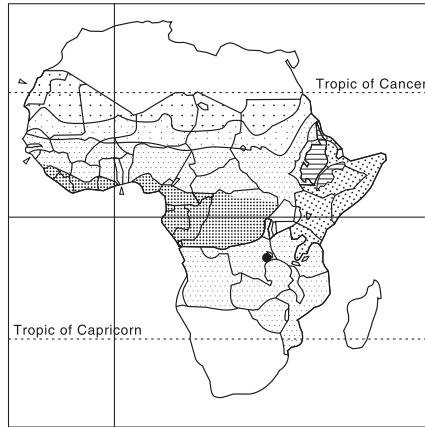
Annual (sometimes short-lived perennial) herb, 5-30(-45) cm tall, usually erect, sometimes prostrate, with terete radiating stems.

Grassland; deciduous woodland; shallow soil near rocks; now also a weed in old cultivated land and by roadsides; 500-1800 m alt.

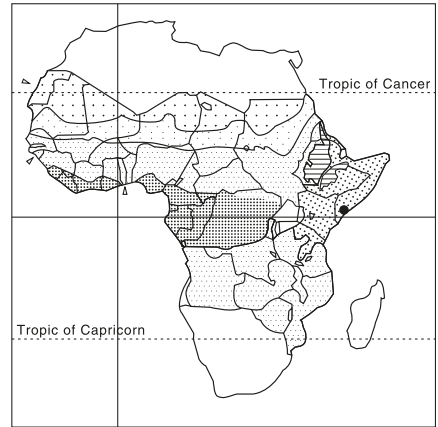
Similar to *C. fenarolii* but differs in the smaller flowers and stalked petiolar glands.



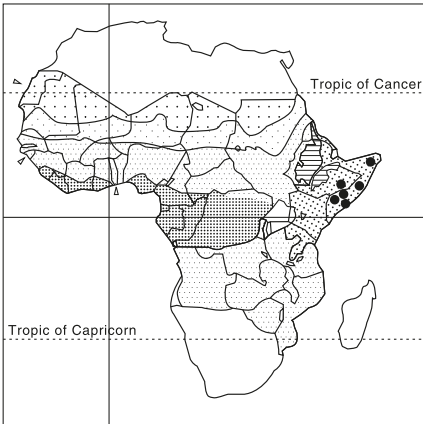
Cassia (Senna) didymobotrya



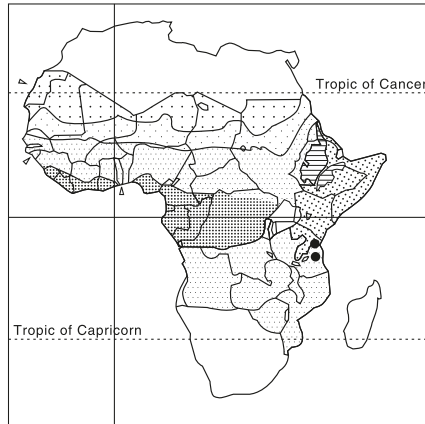
Cassia (Chamaecrista) duboisii



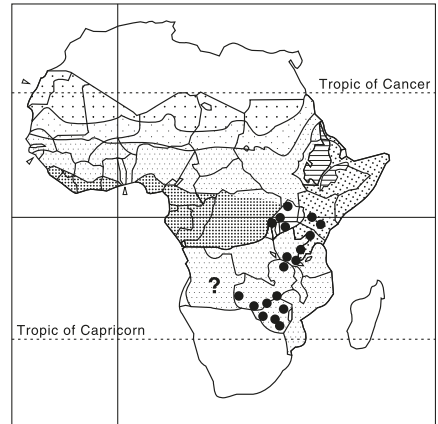
Chamaecrista dunensis



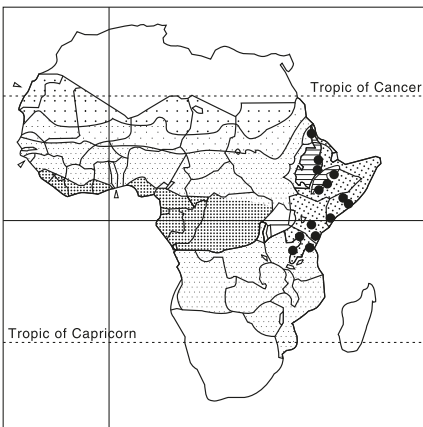
Cassia (Senna) ellisiae



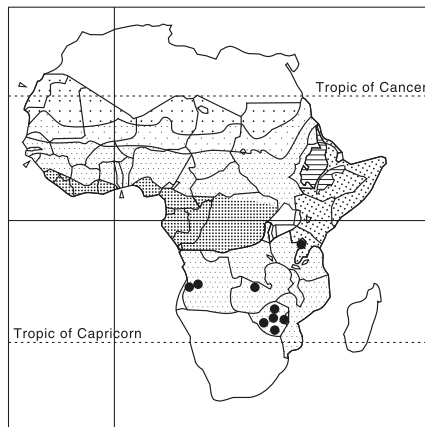
Cassia (Chamaecrista) exilis



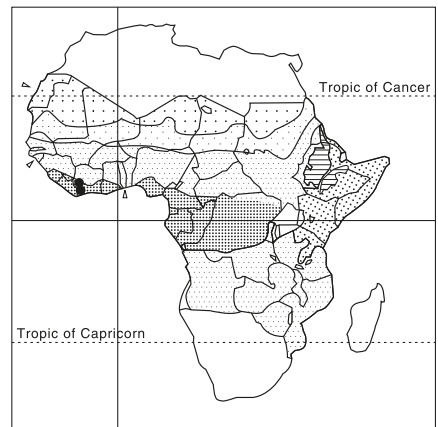
Cassia (Chamaecrista) falcinella



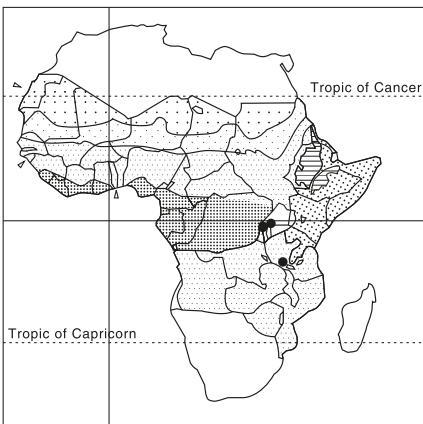
Cassia (Chamaecrista) fallacina



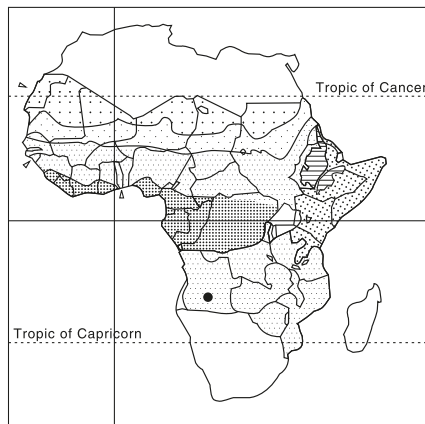
Cassia (Chamaecrista) fenaarolii



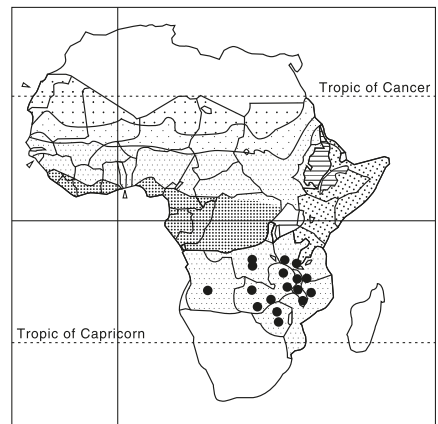
Cassia fikifiki



Cassia (Chamaecrista) ghesquieriana



Cassia (Senna) gossweileri



Cassia (Chamaecrista) gracilior

CASSIA

C. grantii Oliv., incl. var. *pilosula* Oliv. – Icon.: Fl. Trop. E. Africa, Legum. Caesalp.: 57, 1967.

syn.: *C. kituiensis* Vatke, incl. var. *minor* Taub.; *Chamaecrista grantii* (Oliv.) Standley

Perennial herb with slender, woody rootstock (? sometimes rhizomatous); stems terete, radiating, prostrate, 3,5-40 cm long.

Hard, bare ground, particularly by roads and paths; woodland; wooded grassland; open *Brachystegia* and *Acacia* woodlands; 300-2440 m alt. (400-1000 m in Fl. Zambes. area).

C. hochstetteri Ghesq.

syn.: *Chamaecrista dimidiata* (Roxb.) Lock

Annual herb, prostrate or erect with stems 10-45 cm long, terete, simple or branched especially towards the base.

Grassland; old cultivations; bushland; often by rivers; roadside (Zimbabwe); 1300-2000 m alt.

India; China; Japan. – Madagascar ? (specimens recorded by Brenan are attributed to *C. stricta* by Du Puy & Rabevoitra (Legum. Madagascar: 102, 2002).

C. holosericea Fresen.

syn.: *Senna holosericea* (Fresen.) Greuter

Spreading or prostrate herb or shrub, 20-50 cm tall.

Semi-desert open bushland; 0-1400 m alt.

Egypt; Arabia; Socotra; Pakistan.

C. huillensis Mendonça & Torre – Icon.: Consp. Fl. Angol. 2(2): 185, 1956.

syn.: *Chamaecrista huillensis* (Mendonça & Torre) Lock

Undershrub 1-2 m tall, usually branched, hard-woody; stems rigid, purple, tomentose. Ornamental by the large fine orange flowers (petals 12-14 × 8-10 mm).

Abundant in bushy grassy wooded places; to 1900 m alt.

C. humifusa Brenan

syn.: *Senna humifusa* (Brenan) Lock

Herb, sometimes slightly woody, with prostrate densely pubescent eglandular stems to 80 cm or more long; ripe seeds unknown.

Dry scrub with trees; *Acacia-Commiphora* bushland; usually on sandy soil; 90-610 m alt.

C. italica (Mill.) F. W. Andr.

bas.: *Senna italica* Mill.

syn.: *Cassia aschrek* Forssk.; Enum. 2:43, 1992.

Perennial herb with several prostrate to decumbent, branched stems to 40 cm tall, or a sub-shrub, more erect and to 60 cm high, from a woody rootstock with long thick roots; stems when young slightly flattened.

Grassland; sometimes abundant in wadis; stony plain and schistose rocks; dunes; sandy soils; *Acacia-Commiphora* bushland; open bushland; desert and semi-desert; often by streams; waste and disturbed places; short grass savanna; clay plains; 0-1850 m alt.

Variable taxon, in particular subsp. **arachoides** with specimens having hairy ovaries and young pods, and larger flowers.

CASSIA ITALICA

N Africa from Cape Verde Isl. (via Algeria, Libya) to Egypt and Ethiopia to Socotra; Israel, Arabia to S Iran, Pakistan (subsp. **italica**); – Botswana, Namibia, Swaziland, S. Africa (subsp. **arachoides**); – Botswana, Namibia; India (subsp. **micrantha**).

Comprises 3 subspp. (nearly allopatric, but intermediate forms known): – subsp. **italica**; – subsp. **arachoides** (Burchell) Brenan [bas.: *C. arachoides* Burchell; syn.: *Senna italica* subsp. *arachoides* (Burchell) Lock]; – subsp. **micrantha** Brenan [syn.: *Senna italica* subsp. *micrantha* (Brenan) Lock].

Cultivated in Centr. Afr. Rep. (Ndellé, fide Chevalier).

C. jaegeri Keay – Icon.: Bull. Assoc. Philom. Alsace Lorraine 14: 39, 1970.

syn.: *Chamaecrista jaegeri* (Keay) Lock

Perennial, slender subwoody erect herb or undershrub 1-1,8 m tall.

Dry open forest on slopes with *Butyrospermum parkii*, *Khaya senegalensis*, *Parkia biglobosa*, etc. (Mali); sand or soil with ferruginous fine gravels; woody savanna; grassfield; rocky soils; with *Lepidagathis anobrya*, *Tephrosia platycarpa*, *Andropogon pseudapricus* (Senegal); or with *Burkea africana*, *Oxytenanthera abyssinica* (Senegal); or with *Andropogon tectorum*, *Loudetia simplex*, *Pennisetum pedicellatum*, *Tephrosia mosiensis*, *Vernonia nigritana*, *Pandiaka heudelotii*, *Polygala multiflora* etc. (Mali).

C. kalulensis Steyaert – Icon.: Bull. Jard. Bot. Etat, Bruxelles 20: 263, 1950.

syn.: *Chamaecrista kalulensis* (Steyaert) Lock

Shrublet ± 70 cm tall, with only one subwoody, erect, slightly ramose stem; seeds unknown.

Forest on crests.

Only known from the type.

C. katangensis (Ghesq.) Steyaert, *excl.* var. *biensis* Steyaert (= *C. biensis*). – Icon.: Bull. Jard. Bot. Etat. Bruxelles 20: 263, 1950.

syn.: *Chamaecrista katangensis* (Ghesq.) Lock

Perennial herb with annual erect terete simple stems to 65 cm tall or more (1,2 m), arising from a thin woody rootstock.

Julbernardia-Brachystegia deciduous woodland; termite mound; humid or dry places in savanna or forests; 1520-1710 m alt.

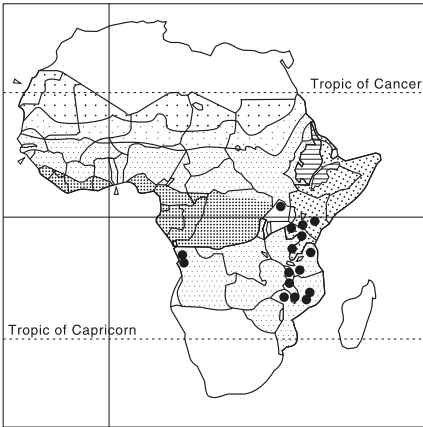
Comprises 3 vars.: – var. **katangensis** (incl. specim. Cruse 155 from Zambia cited as a type of **Cassia meelii** by Steyaert); – var. **nuda** Steyaert [syn.: *Chamaecrista katangensis* var. *nuda* (Steyaert) Lock]; – var. **A** sensu Lock in Fl. Zambes. (a very hairy plant arising from a short vertical rootstock; from Zambia).

Near *C. parva* (cf. under this species).

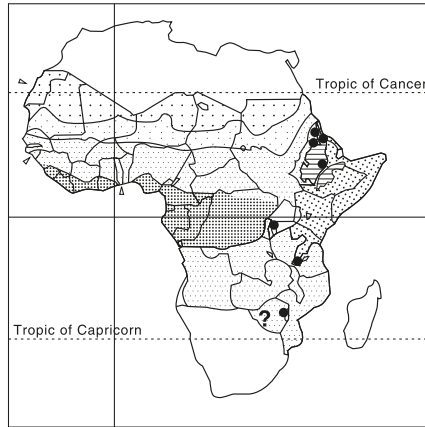
C. kirkii Oliv., incl. var. *velutina* Ghesq.; *excl.* var. *microphylla* Dewèvre (= *C. robynsiana*).

syn.: *C. wildemaniana* Ghesq.; *Chamaecrista kirkii* (Oliv.) Standley

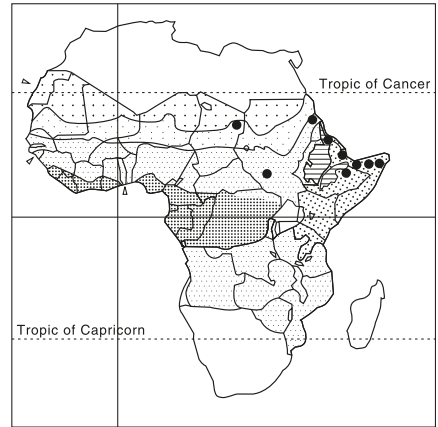
Erect annual herb 30-120(-240) cm tall, with the single main stem often becoming rather woody in its lower part and thus perhaps enabling the plant to perennate for a short time; stems simple or ± branched.



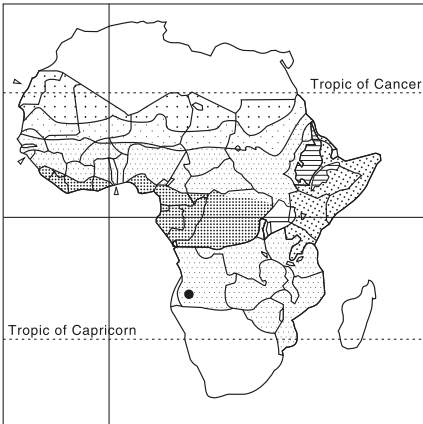
Cassia (Chamaecrista) grantii



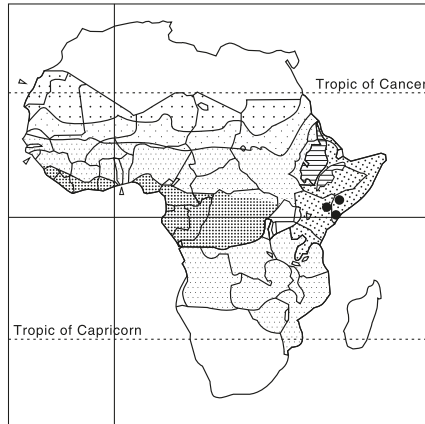
Cassia hochstetteri
(*Chamaecrista dimidiata*)



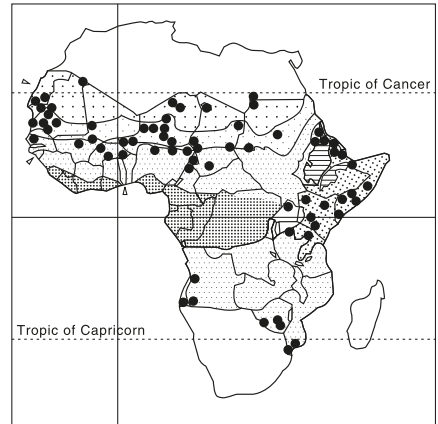
Cassia (Senna) holosericea



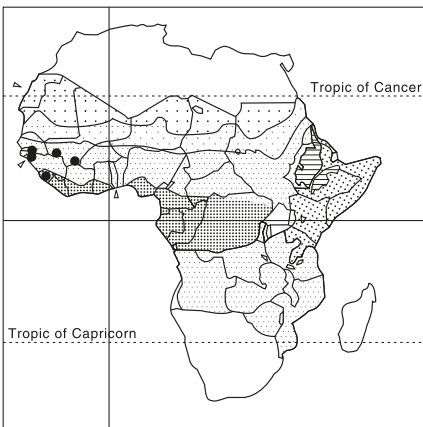
Cassia (Chamaecrista) huillensis



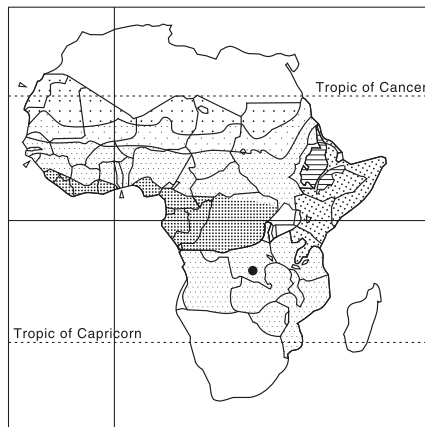
Cassia (Senna) humifusa



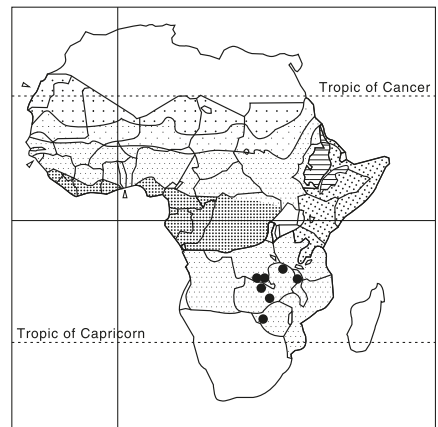
Cassia (Senna) italica



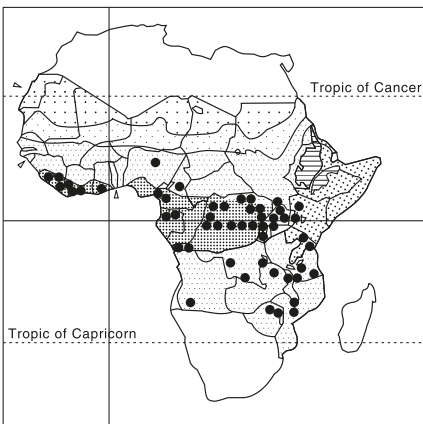
Cassia (Chamaecrista) jaegeri



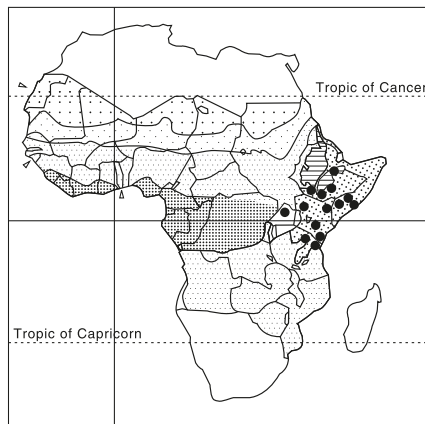
Cassia (Chamaecrista) kalulensis



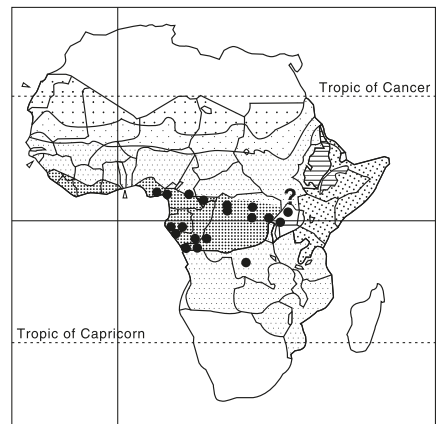
Cassia (Chamaecrista) katangensis



Cassia (Chamaecrista) kirkii



Cassia (Senna) longiracemosa



Cassia mannii

CASSIA KIRKII

Grassland, particularly in damp or marshy places, often by rivers and pools; *Acacia-Commiphora* bushland; forest edges, clearings; near ferruginous hardpans; wooded grassland; grassy places on rocks; 400-2300 m alt.

Bioko / Fernando Poo.

Comprises 3 vars. (several specimens are intermediate): – var. **kirkii**; – var. **glabra** Steyaert [syn.: *Chamaecrista kirkii* var. *glabra* (Steyaert) Lock]; – var. **guineensis** Steyaert [syn.: *Chamaecrista kirkii* var. *guineensis* (Steyaert) Lock].

Can be confused with *C. comosa* (a perennial!).

C. longiracemosa Vatke, incl. var. *nummularifolia* Chiov.

syn.: *Senna longiracemosa* (Vatke) Lock

Shrub to 3 m tall, or sometimes tree to 7 m.

Dry scrub with trees; *Acacia-Commiphora* bushland; semi-desert scrub; wooded grassland; often by streams, lakes and pools; roadsides; 100-1000 m alt.

C. mannii Oliv., excl. var. *van-houttei* De Wild. (= *C. angolensis*).

Deciduous tree to 15-26 m, with sinuous spiny bole; flowers rose-scented, pink; fruit to 90 cm long.

Rain-forest; gallery forest; 850-1370 m alt. (and less?).

São Tomé, Príncipe.

C. meelii Steyaert, excl. specim. Cruse 155 (= *C. katangensis* var. *katangensis*). – Icon.: Bull. Jard. Bot. Etat, Bruxelles 20: 263, 1950.

syn.: *Chamaecrista meelii* (Steyaert) Lock

Herb ± 50 cm tall; stem with slender, numerous ramifications; fruit unknown.

Brachystegia forest.

Only known from the type (Van Meel in G. de Witte 5688).

C. mimosoides L., excl. var. *capensis* (Thunb.) Harv. (= *C. capensis*) and excl. var. *stricta* (E. Mey.) Harv. (= *C. quarrei*), and excl. var. *telfairiana* Hook. f. (= *C. telfairiana*), and excl. var. *comosa* (E. Mey.) Harv. (= *C. comosa*).

syn.: *Chamaecrista mimosoides* (L.) Greene

Annual or short-lived perennial herb, 0,4-1,7 m tall with erect, simple or subsimple stem usually branching sparsely above the middle, or ± 45-75 cm and branching from ground level; taproot system branching, spreading, often ± woody near ground level; stems usually slender, sometimes to 12 mm Ø and ± woody.

Clearings; forest margins; wooded grassland; grassland; cultivated and waste ground; sandy river beds, lake- and sea-shores; fallow land; all types of bushland; ditches; dunes, sands; savannas; hard-pans; 0-2800 m alt.

Extremely variable but at the present stage of knowledge of the species in Africa, it would be unwise to establish infraspecific taxa.

Caprivi strip, Botswana; widespread in S Asia (but occurrence needs critical studies also of related Asian taxa).

Can be confused with *C. fenarolii* and *C. quarrei*, also *C. polytricha*, *C. plumosa*, *C. gracilior*.

Chamaecrista mwangokae Gereau & G. M. Walters, Novon 13: 439, 2003. – Icon.: ibid.: 440.

syn.: *Cassia* sp. A sensu Brenan in Fl. Trop. E. Afr., Legum.-Caesalp.: 84, 1967.

CHAMAECRISTA MWANGOKAE

Perennial herb with spreading or ascending stems 10-30 cm long and a thick woody rootstock; leaflets in 2-11 pairs, c. 10 × 4-8 mm; petiolar glands stipitate; inflorescence 1-2-flowered; mature pod, and seeds unknown.

Grassland and stony grassy hillsides, with *Aloe*, *Apodytes dimidiata*, *Asparagus*, *Dodonaea viscosa*, *Faurea*, *Helichrysum*, *Protea*; nearly always found in recently burned areas (perhaps dependent on fire for induction of flowering); 1675-2000 m alt.

Only known from Iringa Region, S Tanzania.

No synonym available in genus *Cassia*.

Similar to *Cassia grantii* and *C. zambesica*.

Cassia newtonii Mendonça & Torre – Icon.: Consp. Fl. Angol. 2(1): 185, 1954.

syn.: *Chamaecrista newtonii* (Mendonça & Torre) Lock

Shrublet or perennial slender herb woody at base with ramose stem, ± 30 cm tall; flowers of a splendid orange colour; calyx almost entirely petaloid.

Pastures; 1700 m alt.

C. nigricans Vahl

syn.: *Chamaecrista nigricans* (Vahl) Greene

Herb, apparently annual, erect, brittle, simple or branched, 25-45(-180) cm tall; fruits erect. – Distinctive in life: all leaves tend to be held in a single plane.

Grassland; cultivated ground; fallow land; roadsides; semi-desert and *Acacia-Commiphora* bushland; usually by rivers, drainage lines, hot springs, humid soils; wooded grassland of various types; also dry and sandy soils; sandy-muddy soil overlying hard-pan; hollows; 50-1300 m alt. – Sometimes in dense stands.

Arabia, India.

Very distinctive and constant species.

C. obtusifolia L.; Merlier, Adventices tropicales, Acta-Publications, Paris, 1987; R. R. Schippers, Légumes africains indigènes...: 94-95, 2004.

syn.: *Senna obtusifolia* (L.) H. S. Irwin & Barneby; Enum. 2: 43, 1992.

Annual or short-lived perennial herb or sub-shrub with erect, sparsely branched stems 0,3-2 m tall.

Roadsides; fallow land; grassland; weed of cultivated ground; waste places; overgrazed sites; also near pools, river beds and near water; wooded grassland; sand; 0-2000 m alt.

Namibia, Botswana, S. Africa. Pantropical. ? Introduced in tropical Africa from tropical America; extending into southern USA.

Can be confused with the introduced *Cassia* (*Senna*) *tora* (and often named so).

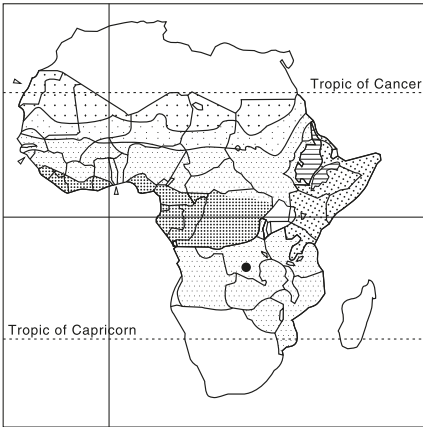
C. occidentalis L.

syn.: *Senna occidentalis* (L.) Link

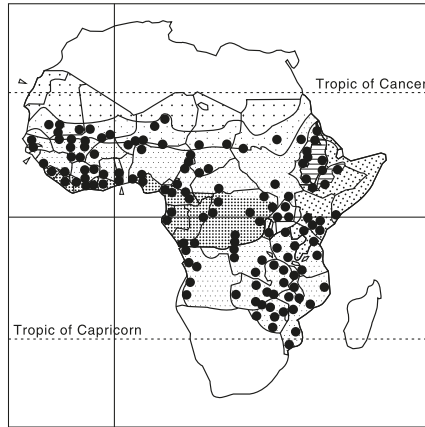
Erect herb, sometimes slightly woody, 0,15-2 m tall; stems rigid.

Usually a weed of cultivation, roadsides and waste ground near villages and buildings; grassland, lake-shores; sand and sand with humus; muddy-clayey soil; 0-2400 m alt.

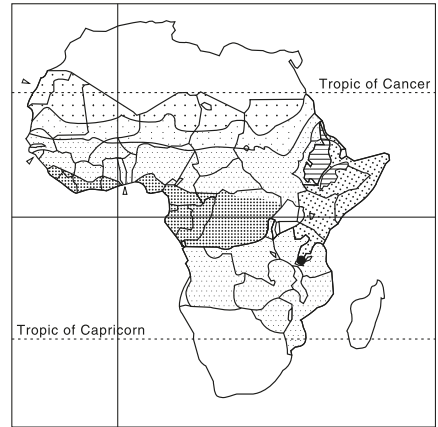
Caprivi Strip, Botswana; probably introduced in Ennedi (Chad). Pantropical, perhaps originating in tropical America but uncertain. If introduced into Africa, it has been there for a long time.



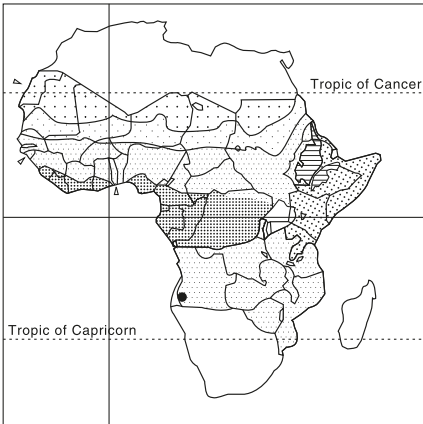
Cassia (Chamaecrista) meelii



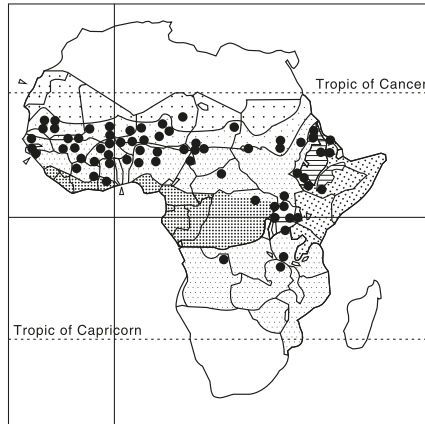
Cassia (Chamaecrista) mimosoides



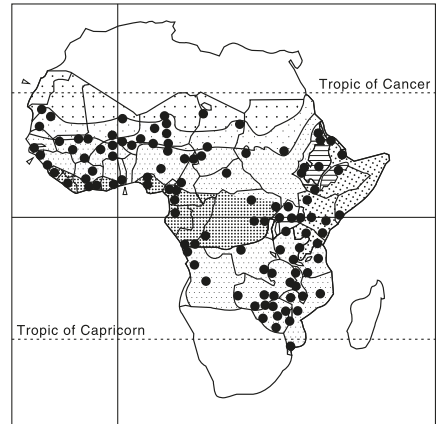
Chamaecrista mwangokae



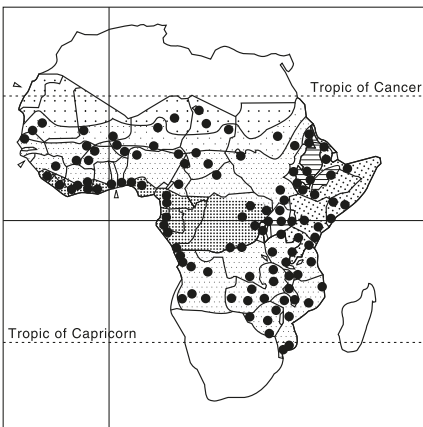
Cassia (Chamaecrista) newtonii



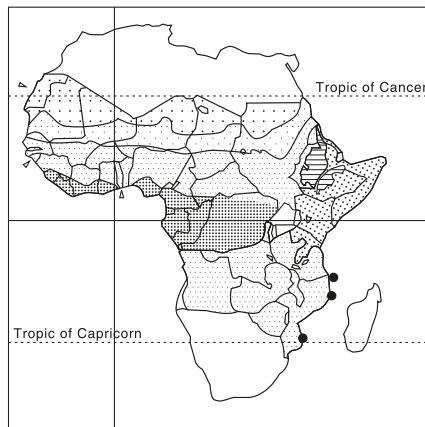
Cassia (Chamaecrista) nigricans



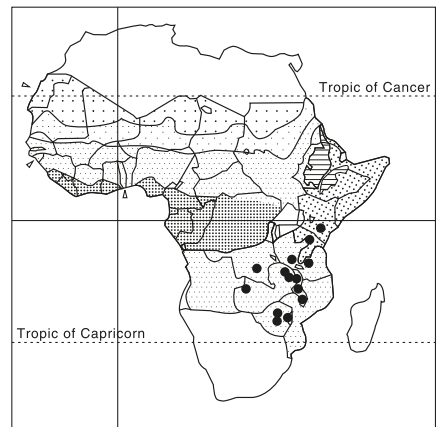
Cassia (Senna) obtusifolia



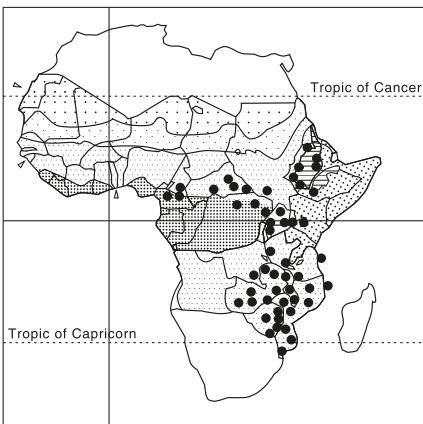
Cassia (Senna) occidentalis



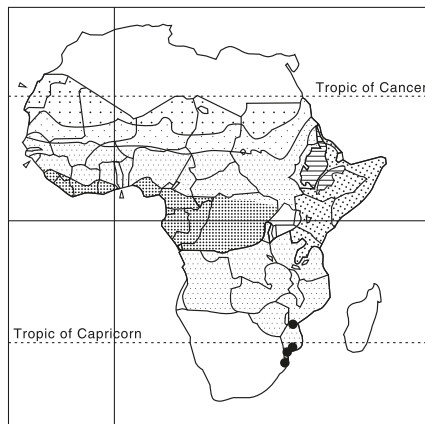
Cassia (Chamaecrista) paralias



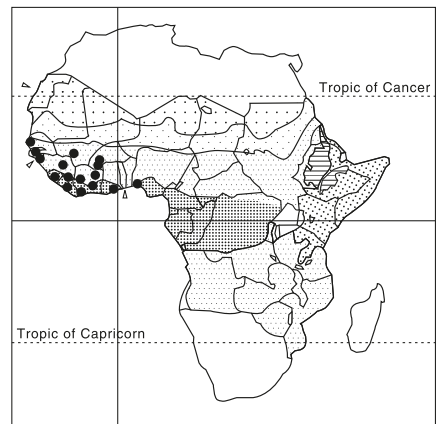
Cassia (Chamaecrista) parva



Cassia (Senna) petersiana



Cassia (Chamaecrista) plumosa



Cassia (Senna) podocarpa

CASSIA

C. paralias Brenan

syn.: *Chamaecrista paralias* (Brenan) Lock

Perennial woody herb or shrublet 40-50 cm tall with very ramose, woody stems from a woody rootstock.

Sandy soil near the sea, frequent; sand dunes, sandy dry soil in treeless places; 0-20 m alt. – Known from only a small area of coastal Mozambique.

Distinctive species in its small thick, tightly imbricate leaflets; otherwise resembling *C. mimosoides*.

C. parva Steyaert – Icon.: Fl. Trop. E. Africa, Legum. Caesalp.: 57, 1967.

syn.: *C. falcinella* Oliv. var. *longifolia* Ghesq. quoad specim. Schlieben 249 et bis; *Chamaecrista parva* (Steyaert) Lock

Perennial herb ± 8-50 cm tall with erect slender, flexuous, usually annual stems, simple or subsimple or somewhat branched especially near base, arising from a woody rootstock.

Grassland; deciduous woodland; grassy savanna with *Protea*; open forests with *Brachystegia*; 1560-2200 m alt.

Resembling *C. katangensis* (both perhaps forming a single taxon). On the other hand, the distinctive features of *C. parva* are not always clear, with series of forms intermediate between *C. comosa* and *C. katangensis*.

C. petersiana Bolle, incl. var. *tomentosa* Bak. f.

syn.: *Senna petersiana* (Bolle) Lock; *Cassia delagoensis* Harv. Shrub sparingly to multi-branched, slender, rounded, or tree 0,6-6(-12) m tall.

Rain-forest and edges; riverine forest; deciduous woodland; coastal evergreen bushland; wooded grassland; woodland on rejuvenated soils; wooded savannas; dry closed forests; wetter bushland and thicket; 12-2130 m alt.

Very variable (in leaflet shape and indumentum); perhaps hybridisation possible with other (introduced) species creating some forms.

N S. Africa; Madagascar (probably introduced).

The hybrid *C. petersiana* and *C. singueana* has been recorded.

C. plumosa (E. Meyer) Vogel var. *plumosa* – Icon.: Pooley, A field guide to wild flowers Kwazulu-Natal: 257, 1998.

bas.: *Chamaecrista plumosa* E. Meyer

Perennial herb with one or few annual stems from a thickened woody rhizomatous rootstock, either prostrate and diffusely branched forming a spreading mat to 40 cm Ø and ± 10 cm tall; or semi-erect or erect and eventually diffusely branched forming a compact ± rounded bush to ± 40 cm tall; or sub-simple producing a few willowy branches above the middle to form a spindly sub-suffrutex to 2,5 m tall; stems often reddish to purplish on one side only.

Mainly along the coast, usually in sandy grassland; near the sea. S. Africa. – Var. *erecta* Schorn & Gordon-Gray [syn.: *Chamaecrista plumosa* var. *erecta* (Schorn & Gordon-Gray) Lock] in S. Africa (Natal, Transvaal).

C. podocarpa Guill. & Perr.

syn.: *Senna podocarpa* (Guill. & Perr.) Lock

Shrub to 6 m tall.

Locally common in old farmland; rather common in dry forests; gallery forest and edges; humid places (niayes); 500 m alt. (Nimba Mts).

Bioko / Fernando Poo.

CASSIA

C. polytricha Brenan – Icon.: Fl. Trop. E. Africa, Legum. Caesalp.: 57, 1967.

syn.: *Chamaecrista polytricha* (Brenan) Lock

Annual or perennial herb with simple or somewhat branched, erect or ascending terete stems to 50(-100) cm tall.

Deciduous *Brachystegia-Uapaca* woodland; induced grassland; shallow boggy soil overlying laterite by streamside; sometimes very common in cultivated ground on clay soil in xerophyte forest; shallow soil over rock; 400-1700 m alt.

Variable species: annual or perennial plant, size and number of flowers.

Comprises 3 vars.: – var. **polytricha** (perennial); – var. **pauciflora** Brenan (annual) [syn.: *Chamaecrista polytricha* var. *pauciflora* (Brenan) Lock]; – var. **pulchella** Brenan (annual) [syn.: *Chamaecrista polytricha* var. *pulchella* (Brenan) Lock].

C. puccioniana Chiov.

syn.: *Chamaecrista puccioniana* (Chiov.) Lock

Much-branched shrub or shrublet, to 1,5 m tall; mature seeds unknown.

Bushland on sand or on rocky limestone slopes; ± 200 m alt.

C. quarrei (Ghesq.) Steyaert – Icon.: Bull. Jard. Bot. Etat, Brux. 20: 265, 1950; 21: 359, 1951, sub nom. *C. sparsa*.

bas.: *C. kirkii* Oliv. var. *quarrei* Ghesq.

syn.: *Chamaecrista stricta* E. Mey.; *Cassia stricta* (E. Mey.) Steud. 1840, non Schrank 1819, nom. illegit.; *C. mimosoides* L. var. *stricta* (E. Mey.) Harv.; *C. capensis* Thunb. var. *humifusa* Ghesq. quoad specim. Robyns 2448; *C. sparsa* Steyaert p.p. quoad holotypum tantum; in Fl. Congo Belge 3: 523, 1952, excl. “Indes; Chine”.

Annual herb with prostrate and ascending stems forming a low bushy plant about 1-1,5 m in Ø and under 30 cm tall; sometimes stems erect, branched or sub-simple, to 90 cm high (but not 2-3 m).

Roadsides in open bushy country; also a weed of cultivated ground in *Brachystegia* woodland; river banks; 750-2040 m alt. – Often forming extensive local populations.

S. Africa.

C. robynsiana Ghesq. – Icon.: Bull. Jard. Bot. Etat, Brux. 9: 167, 1932.

syn.: *C. kirkii* Oliv. var. *microphylla* Dewèvre, nom.; *Chamaecrista robynsiana* (Ghesq.) Lock

Erect perennial suffruticose herb with annual glabrous terete ridged stems (ridges decurrent from stipule bases), arising from a slender woody rootstock; mature pods and seeds unknown.

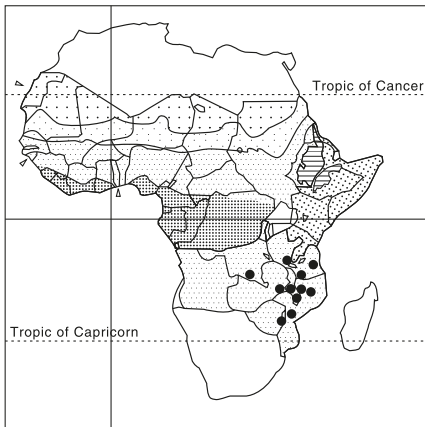
Brachystegia woodland (“chipya”), sometimes in seasonally inundated valleys (dambos) or copper-induced clearings; 1200-1400 m alt.

C. ruspolii Chiov.

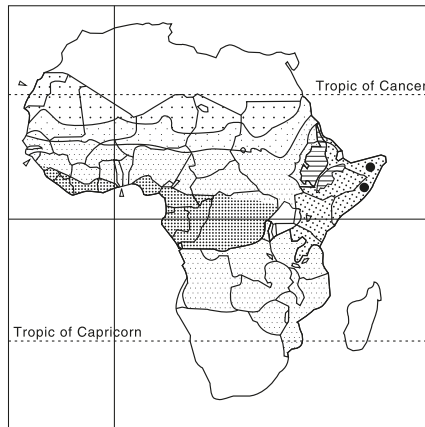
syn.: *Senna ruspolii* (Chiov.) Lock

Shrublet to 1,5 m tall, with thickened underground rootstock; leaves large (2,5-9 × 1,8-6 cm), rosetted at apex of short woody stems.

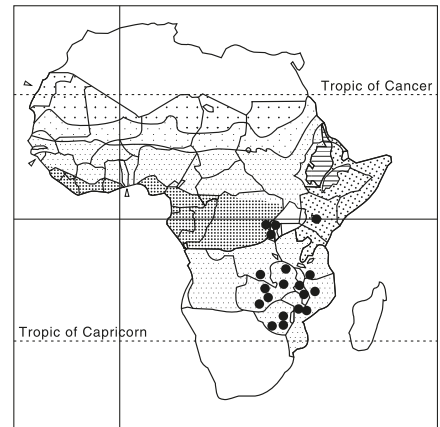
Dry woodland and bushland; shallow soil over rock outcrop in alluvial flats; *Acacia-Commiphora* bushland, usually on sand; 20-1000 m alt.



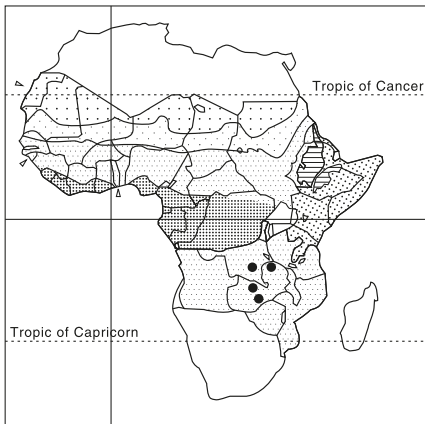
Cassia (Chamaecrista) polytricha



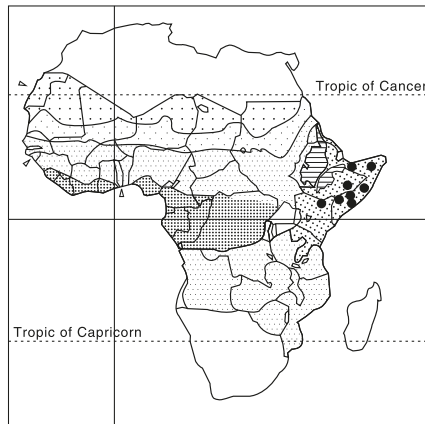
Cassia (Chamaecrista) puccioniana



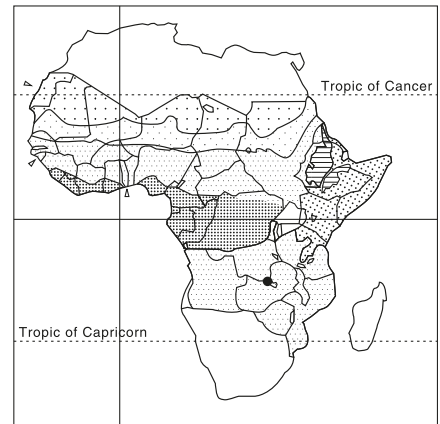
Cassia quarrei (Chamaecrista stricta)



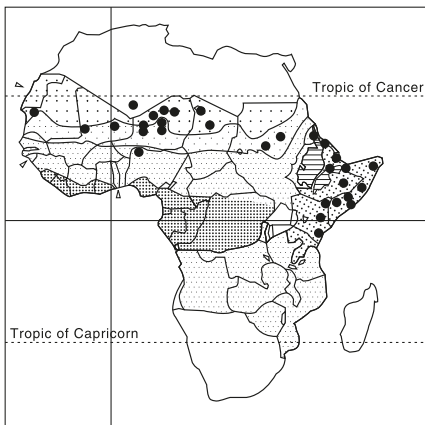
Cassia (Chamaecrista) robyniana



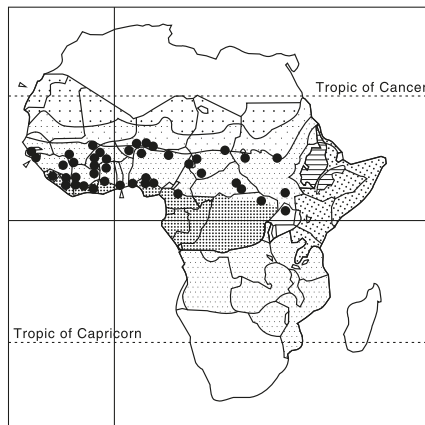
Cassia (Senna) ruspolii



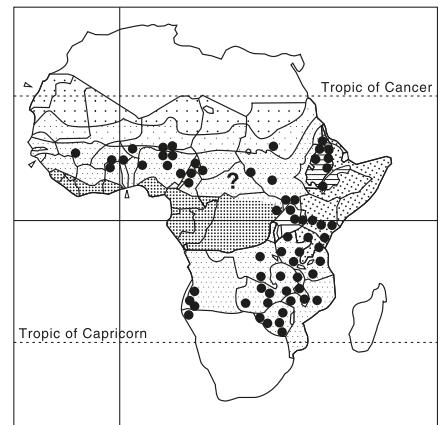
Cassia (Chamaecrista) schmitzii



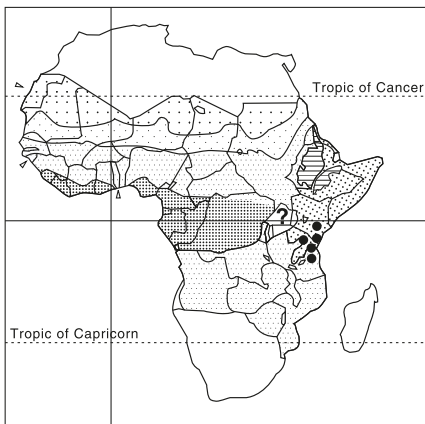
Cassia senna (Senna alexandrina)



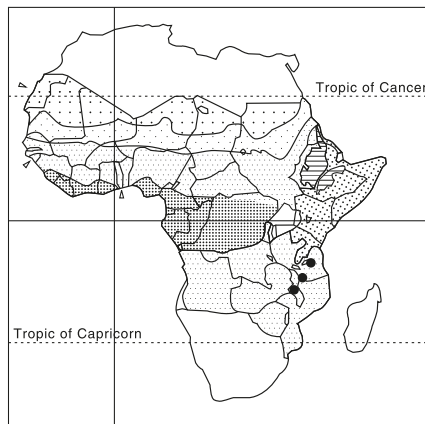
Cassia sieberiana



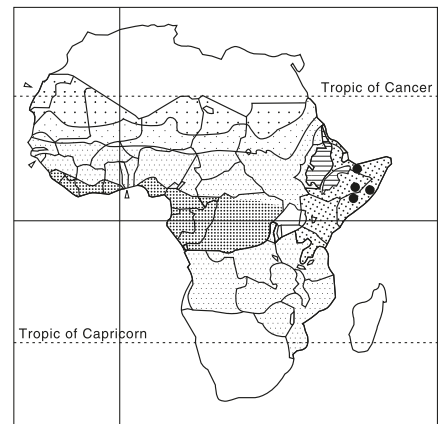
Cassia (Senna) singueana



Cassia (Chamaecrista) telfairiana



Cassia thyrsoides



Cassia (Senna) truncata

CASSIA

C. schmitzii Steyaert

syn.: *Chamaecrista schmitzii* (Steyaert) Lock

? Perennial herb, 30-40 cm tall with slender erect stems; ripe seeds unknown.

Brachystegia clump at the edge of dambo.

Only known from the type.

C. senna L.

syn.: *C. lanceolata* Forssk.; *C. medicinalis*... var. *genuina*...; *Senna alexandrina* Mill.; Enum. 2: 44, 1992.

Shrub 0,2-3 m tall with much-branched stems, pale and ± zigzag.

Dry scrub with trees; rocks; clayey and sandy-clayey soils; wadi beds; also a weed of cultivated and arable lands; deserts on sands; short grass savanna; *Acacia-Commiphora* bushland and semi-desert open bushland, scrub and grassland; drainage areas, flood plains, riverbanks; near damp sites; 0-±1500 m alt.

Algeria, Egypt; Arabia to India.

Comprises 2 vars.

Sometimes cultivated (Amani, Tanzania and Mozambique). – Source of true senna of commerce.

C. sieberiana DC.

syn.: *C. kotschyana* Oliv.

Shrub ramose from base, or tree 2-12(-20) m tall; trunk short with low-branching crown with flexuose, long branches; flowers yellow in pendulous *Laburnum*-like racemes 15-42 cm long; fruit black to >80 cm long.

Wooded grassland and savanna; secondary bush; lateritic soils; roadsides; gravel and ± concrete colluvium with clay; gallery forest; wet sites in short and long grass savanna; thickets; secondary (closed) forest; coastal scrub; sandstone plateau; to ± 1070 m alt.

C. singueana Del., incl. var. *glabra* (Bak. f.) Brenan and var. *flavescens* (Bak. f.) Brenan

syn.: *Senna singueana* (Del.) Lock; *Cassia zanzibarensis* Vatke; *C. goratensis* Fresen. var. *glabra* Hutch. ex Bak. f., var. *flavescens* Bak. f. and var. *kethulleana* (De Wild.) Ghesq. ex De Wild. & Staner; *C. sabak* Del.; *C. "singueana"* auct. sphalm.; *C. kethulleana* De Wild.; *C. mututu* De Wild., nom.; *C. tettensis* Bolle

Shrub or tree 1-6-15 m tall, with scaly fissured, thick bark; flowers showy.

Woodland; *Acacia-Combretum* bushland; wooded grassland and bushland; frequently on termite mounds; stony thickets at the skirts of primitive woods; exposed stony parts of open mixed wood with *Protea* sandy woods with *Toumatea madagascariensis* (= *Swartzia*) and *Protea* spp.; resistant to fire; tall grass savanna; laterite, sandstone, granitic places; hilly ground; 0-2130 m alt.

The hybrid *C. petersiana* × *C. singueana* has been recorded.

C. telfairiana (Hook. f.) Polhill – Icon.: Fl. Mascareignes 80: 22, 1990.

bas.: *C. mimosoides* L. var. *telfairiana* Hook. f.

syn.: *C. pulchella* Boj., nom. nud.; *Chamaecrista telfairiana* (Hook. f.) Lock

Annual or shortly perennial, erect, ramose herb, (0,3-)0,5-1,6 (-2,7) m tall.

CASSIA TELFAIRIANA

Coastal regions.

Probably introduced in Mauritius, Seychelles, La Réunion; closely related plants occur in the Sudan Republic and the eastern Congo Republic; some specimens from La Réunion have very small flowers.

C. thyrsoides Brenan

Semi-scandent shrub (rarely) to 4,5 m tall, or usually tree 4,8 (-8-)18 m.

Riverine forest (very common); thicketed ravine in *Julbernardia-Brachystegia* woodland; *Parkia* riparian forest; 850-1370 m alt.

C. truncata Brenan

syn.: *Senna truncata* (Brenan) Lock

Shrublet 0,45-1,2(-2) m tall.

More open parts of bush country with many tall trees on red sandy soil; roadsides; woodland; *Acacia-Commiphora* bushland; sometimes common; 160-760 m alt.

C. tuhovalyana Aké Assi

syn.: *Senna tuhovalyana* (Aké Assi) Lock

Shrublet 1-2,5 m tall.

Savanna; open forest; rain-forest.

Brazil (Lagoa).

C. usambarensis Taub. – Icon.: Fl. Trop. E. Africa, Legum. Caesalp.: 57, 1967.

syn.: *Chamaecrista usambarensis* (Taub.) Standley

Perennial herb with branches to 40 cm long radiating from a thickened rootstock, forming a carpet.

Grassland, especially near rocks; roadsides; 1760-2590 m alt.

C. wittei Ghesq.

syn.: *Chamaecrista wittei* (Ghesq.) Lock

Annual or short-lived perennial herb with erect or arcuate-spreading stems 0,3-1,5 m tall; rarely the stems may become weakly woody above ground-level and thus perhaps enable the plant to perennate for a short time; flowers large. Distinctive species.

Grassland; evergreen bushland; forest margins; wooded grassland; 1000-2590 m alt.

C. zambesica Oliv. – Icon.: Fl. Trop. E. Africa, Legum. Caesalp.: 57, 1967; Gereau & Walters in Novon 13: 439-441, 2003.

syn.: *Chamaecrista zambesica* (Oliv.) Lock; *Cassia* ? *stuhlmannii* Taub.; *C. "zambesiaca"* sphalm.; *Cassia hildebrandtii* Vatke, incl. var. *crispata* Serrato; *Chamaecrista hildebrandtii* (Vatke) Lock

Perennial herb with prostrate or semi-prostrate stems 3-60 cm long, from a thick woody rootstock.

Grassland; wooded grassland; bushland; degraded evergreen forest; savannas; rocky hilltops; (abandoned) cultivated land; 0-2350 m alt.

This species has been sunk under *C. grantii* Oliv. var. *pilosula* Oliv.; the two are indeed closely related, but *C. zambesica* is distinct (lacking glands on the leaf-rhachis, smaller flowers, usually narrower leaflets).

CASSIA

SYNONYMS:

- Cassia abbreviata* Oliver subsp. *kassneri* (Baker f.) Brenan var. *glabrifrutifera* Stey. = **C. abbreviata** subsp. **beareana**
acutifolia Del. = **C. senna**
agnes (De Wit) Brenan = **C. javanica** (introd.)
augustifolia Vahl = **C. senna**
arachoides Burchell = **C. italica** subsp.
aschrek Forssk. = **C. italica**
atroreticulata Chiov. = **C. abbreviata** subsp. **beareana**
beareana Holmes = **C. abbreviata** subsp.
bequaertii De Wild. = **C. abbreviata** subsp. **abbreviata**
bracteosa Welw. ex W. Bull. = **C. didymobotrya**
burmannii Wall., non DC. = **C. italica**
capensis Thunb. fa. = **C. africana**
 var. *humifusa* Ghesq. p.p. = **C. quarrei**
 var. *keiensis* Stey. = **C. capensis** var. **flavescens**
coluteoides Colladon = **C. pendula** (introd.)
corneliana Vatke = **C. adenensis**
delagoensis Harv. = **C. petersiana**
droogmansiana De Wild. = **C. abbreviata** subsp. **abbreviata**
falcinella Oliver var. *longifolia* Ghesq. p.p. = **C. parva**
fallacina Chiov. var. *gracilior* Ghesq. = **C. gracilior**
 var. *katangensis* Ghesq. = **C. katangensis**
floribunda sensu Brenan, non Cav. = **C. septentrionalis** (introd.)
goratensis Fresen. = **C. singueana**
granitica Bak. f. = **C. abbreviata** subsp. **abbreviata**
hildebrandtii Vatke, incl. var. *crispata* Serrato = **C. zambesica**
indecora Kunth var. *glabrata* Vogel = **C. pendula** (introd.)
kassneri Bak. f. = **C. abbreviata** subsp.
katangensis (Ghesq.) Stey. var. *biensis* Stey. = **C. biensis**
kethulleana De Wild. = **C. singueana**
kirkii Oliver var. *microphylla* Dewèvre = **C. robysiana**
 var. *quarrei* Ghesq. = **C. quarrei**
kituiensis Vatke incl. var. *minor* Taub. = **C. grantii**
kotschyana Oliver = **C. sieberiana**
laevigata Willd. = **C. septentrionalis** (introd.)
lanceolata Forssk. = **C. senna**
mannii Oliver var. *van-houttei* De Wild. = **C. angolensis**
marginata Roxb., non Willd. = **C. roxburghii** (introd.)
medicinalis... var. *genuina*... = **C. senna**
meelii Stey. specim. Cruse 155 = **C. katangensis** var. **katangensis**
mimosoides L. var. *africana* Stey. = **C. africana**
 var. *capensis* (Thunb.) Harv. = **C. capensis** var. **flavescens**
 var. *comosa* (E. Mey.) Harv. = **C. comosa**
 var. *stricta* (E. Mey.) Harv. = **C. quarrei**
 var. *telfairiana* Hook. f. = **C. telfairiana**
 group A in F.T.E.A. = **C. telfairiana**
mututu De Wild. = **C. singueana**
nairobiensis L. Bailey = **C. didymobotrya**

CASSIA

- nodosa* Buch.-Ham. ex Roxb. = **C. javanica** (introd.)
obovata Colladon = **C. italica**
pachycarpa De Wit = **C. grandis** (introd.)
pulchella Boj. = **C. telfairiana**
sabak Del. = **C. singueana**
 “*singueana*” Del. sphalm. = **C. singueana**
somalensis Servato Valenti = **C. adenensis**
 sp. A sensu Brenan, F.T.E.A. = **Chamaecrista mwangokae** (cited under *Cassia*)
sparsa Stey. p.p. = **Cassia quarrei**
stricta (E. Mey.) Steud. = **Cassia quarrei**
stuhlmannii Taub. = **C. ? zambesica**
tettensis Bolle = **C. singueana**
tomentosa L. f. = **C. multiglandulosa** (introd.)
tora auctt., non L. = **C. obtusifolia**
verdickii De Wild. = **C. didymobotrya**
wildemaniana Ghesq. = **C. kirkii**
 “*zambesiaca*” Oliver sphalm. = **C. zambesica**
zanzibarensis Vatke = **C. singueana**

Grimaldia absus (L.) Link = **Cassia absus**

CERATONIA / 1

Ceratonia oreothauma Hillc., G. P. Lewis & Verdc. subsp. **somalensis** Hillc., G. P. Lewis & Verdc.; Biol. Skr. 54: 146, 2001; M. Fisher, Ghazanfar & Spalton, The Natural History of Oman: 51, 1999; Kilian & al., Willdenowia 34: 164-165, 2004.

Evergreen tree, 4-8 m tall.

On limestone in evergreen bushland; 1500-2000 m alt.

Subsp. **oreothauma** occurs in Oman (Jebel Aswad) and S Yemen (Hadramaut); in this subspecies the leaflets are puberulous on both surfaces.

This species is adapted to higher altitudes than the cultivated **C. siliqua** L. (0-800 m); a cross between them would perhaps produce a more useful forage plant.

Ceratonia oreothauma is a member of the very interesting group of plants with holarctic affinities but present in tropical Africa: *Anemone somalensis*, *Cyclamen somalense*, *Coris monspeliensis*, *Coronilla somalensis*, *Helianthemum* spp., *Lavandula* spp., *Hyoscyamus grandiflorus*, *Iphionia phillipsiae* (See Fl. Mediterr. 1: 181, 1991). – See also L. Ramón-Laca & D. J. Mabberley (2004). The ecological status of the carob-tree (*Ceratonia siliqua*, Leguminosae) in the Mediterranean (Bot. J. Linn. Soc. 144: 431-436) referring to the origin and domestication of *Ceratonia*.

(CHAMAECRISTA)

For species descriptions and maps, see under **Cassia**, also for **Chamaecrista dunensis** and **Ch. mwangokae** (with no synonyms available in *Cassia*).

Chamaecrista absus (L.) Irwin & Barneby = **Cassia**

africana (Stey.) Lock = **Cassia**

biensis (Stey.) Lock = **Cassia**

capensis (Thunb.) E. Meyer = **Cassia**

CHAMAECRISTA

- comosa* E. Meyer = **Cassia**
dimidiata (Roxb.) Lock = **C. hochstetteri**
duboisii (Ste.) Lock = **Cassia**
dunensis Thulin – See under **Cassia** p. 110.
exilis (Vatke) Lock = **Cassia**
falcinella (Oliver) Lock = **Cassia**
fallacina (Chiov.) Lock = **Cassia**
fenarolii (Mendonça & Torre) Lock = **Cassia**
ghesquiereana (Brenan) Lock = **Cassia**
gracilior (Ghesq.) Lock = **Cassia**
grantii (Oliver) Standley = **Cassia**
hildebrandtii (Vatke) Lock = **Cassia zambesica**
huillensis (Mendonça & Torre) Lock = **Cassia**
jaegeri (Keay) Lock = **Cassia**
kalulensis (Ste.) Lock = **Cassia**
katangensis (Ghesq.) Lock = **Cassia**
kirkii (Oliver) Standley = **Cassia**
 var. *glabra* (Ste.) Lock = **C. kirkii** var.
 var. *guineensis* (Ste.) Lock = **C. kirkii** var.
meelii (Ste.) Lock p.p. (Cruse 155) = **C. katangensis**
mimosoides (L.) Greene = **Cassia**
mwangokae Gereau & G. M. Walters – See under **Cassia**
 p. 114.
newtonii (Mendonça & Torre) Lock = **Cassia**
nictitans (L.) Moench = **C. lechenaultiana** (introd.)
nigricans (Vahl) Greene = **Cassia**
paralias (Brenan) Lock = **Cassia**
parva (Ste.) Lock = **Cassia**
plumosa E. Meyer = **Cassia**
polytricha (Brenan) Lock = **Cassia**
puccioniana (Chiov.) Lock = **Cassia**
robysiana (Ghesq.) Lock = **Cassia**
rotundifolia (Pers.) Greene = **Cassia** (introd.)
schmitzii (Ste.) Lock = **Cassia**
stricta E. Meyer = **C. quarrei**
telfairiana (Hook. f.) Lock = **Cassia**
usambarensis (Taubert) Standley = **Cassia**
wittei (Ghesq.) Lock = **Cassia**
zambesica (Oliver) Lock = **Cassia**

CHIDLOWIA / 1

Chidlowia sanguinea Hoyle

Tree to 25 m; bole >0,5 m Ø, tortuous, fluted, (often hollow when very large), branched from 2-4 m above the ground; flowers wine-red in very slender, long (to 40 cm), pendulous panicles; branches spreading, drooping; fruit to 60 cm long.

Rain-forest; locally excessively abundant; also in half-deciduous forest; riverine forest; to 1100 m alt.

Probably not in Gabon.

(COLOPHOSPERMUM)

Proposal (1372) to conserve *Colophospermum* against *Hardwickia*, according to Report No. 49 of the Committee for Spermatophyta *unresolved* (Taxon 53: 813, 2004). However, a new vote taken recommends the conservation of *Colophospermum* which will be the correct name if the two genera are combined (Taxon 54: 1096, 2005). – For literature citations, see under *Hardwickia*.

SYNONYM:

Colophospermum mopane (Kirk ex Benth.) J. Léonard
 = **Hardwickia**

COPAIFERA / 4

Copaifera baumiana Harms

Perennial plant (shrub or subshrub) with erect stems 1-4 m tall, 0,5 cm Ø, arising from a thick rootstock. Dense evergreen shrub forming thickets. – Flowering on first-year shoots when burnt down to ground-level.

Wooded savanna; open forests with *Brachystegia*, *Isoberlinia*, *Erythrophleum africanum*, *Cryptosepalum pseudotaxus*; on Kalahari sands where it is widespread and locally abundant; a constituent of evergreen thickets and secondary scrub; 750-1400 m alt.

C. mildbraedii Harms

Tree 30-65 m, with bole 20-30 m, 0,5-1,5 m Ø, clean, cylindrical or thickened and fluted at the base; crown umbrella-like.

Rain-forest on firm ground; very rarely periodically flooded forest on islands; gallery forest; rather common in Yangambi area (Zaire).

Confused with *Gilletiodendron mildbraedii*.

C. religiosa J. Léonard

Tree with cylindrical, straight bole, thickened at base; bark brick-red; crown broad umbrella-like.

Rain-forest; very scattered.

C. salikounda Heckel

syn.: *Detarium chevalieri* Harms

Evergreen tree to 40 m, with bole to >1 m Ø and 3 m in girth, swollen at base or with low, narrow root ridges when young, developing into thick, narrow, transversely striate buttresses to 1,8 m high when old; bole straight and cylindrical, clean to 25 m; crown much branched and dense.

Evergreen rain-forest; lagoon side; often ± gregarious; also on slopes; to 950 m alt.

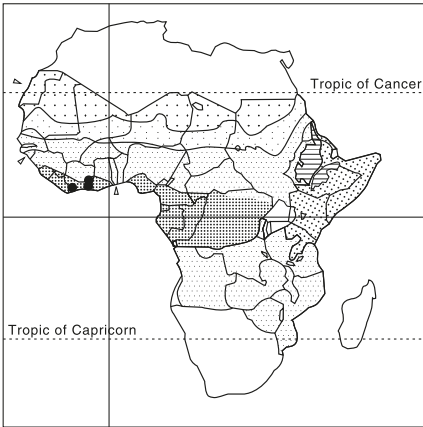
Confused with *Detarium senegalense* that has leaflets with translucent dots.

SYNONYMS (See also Enum. 2: 45, 1992):

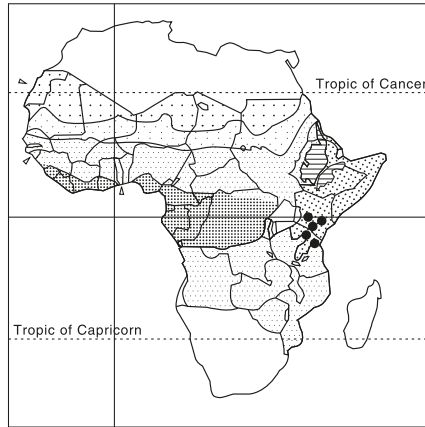
Copaifera arnoldiana (De Wild. & Th. Durand) Th. & H. Durand
 = **Guibourtia arnoldiana**

carissoana Exell = **G. carissoana**

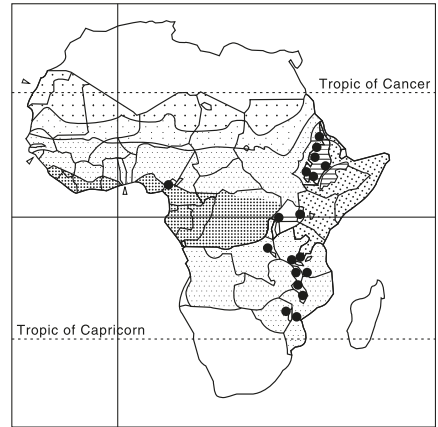
coleosperma Benth. = **G. coleosperma**



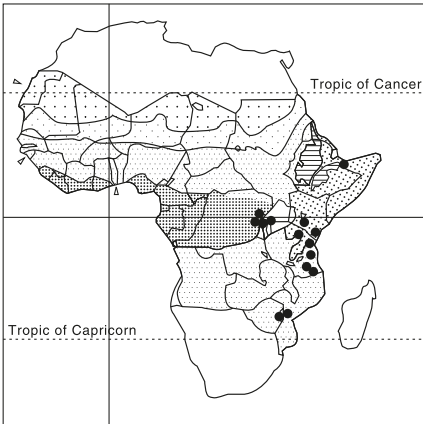
Cassia (Senna) tuhovalyana



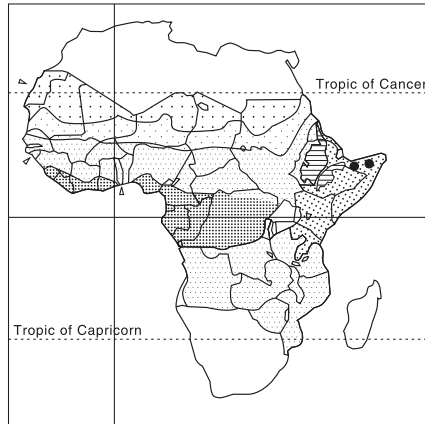
Cassia (Chamaecrista) usambarensis



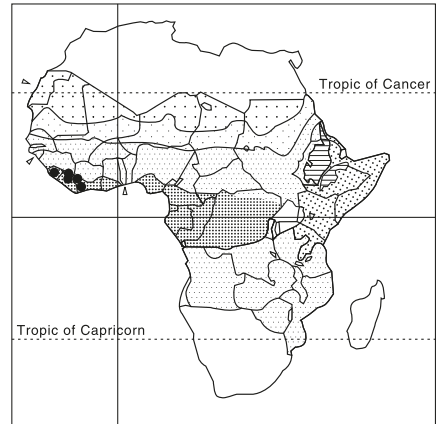
Cassia (Chamaecrista) wittei



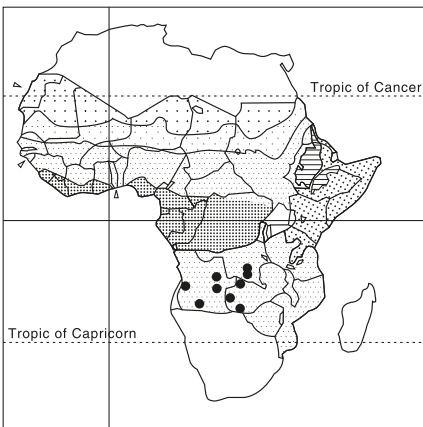
Cassia (Chamaecrista) zambesica



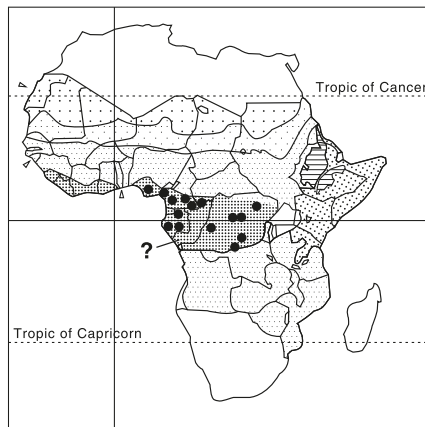
Ceratonia oreothauma



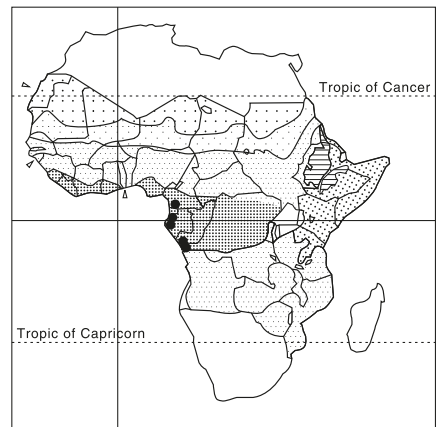
Chidlowia sanguinea



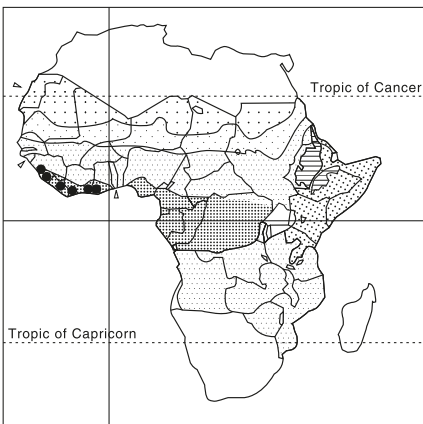
Copaifera baumiana



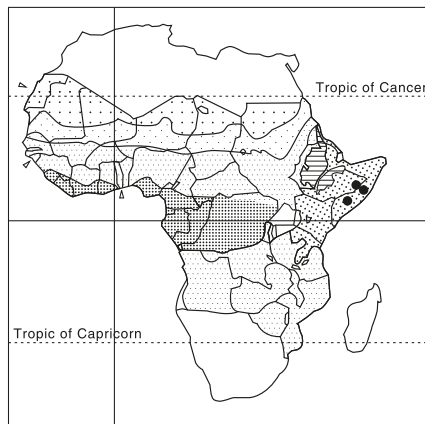
Copaifera mildbraedii



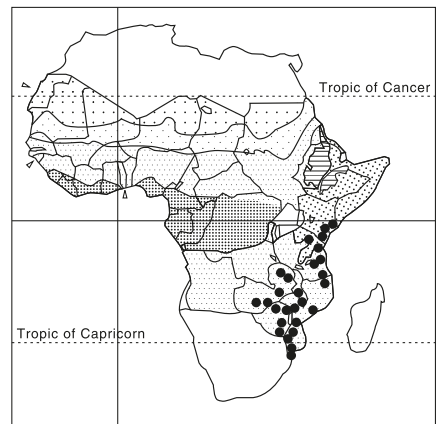
Copaifera religiosa



Copaifera salikounda



Cordeauxia edulis



Cordyla africana

COPAIFERA

- coleosperma* auctt. (Pellegrin, Heitz) = **G. pellegriniana**
copallifera (Bennet) Milne-Redh. = **G. copallifera**
copallina Baill. = **G. copallifera**
conjugata (Bolle) Milne-Redh. = **G. conjugata**
demeusei Harms = **G. demeusei**
dinklagei Harms = **G. dinklagei**
ehiae A. Chev. = **G. ehiae**
 "gorskia" (sphalm.) Schinz = **G. conjugata**
gorskiana Benth. = **G. conjugata**
gossweileri Exell = **G. carrissoana**
guibourtiana Benth. = **G. copallifera**
laurentii De Wild. = **G. demeusei**
letestui (Pellegr.) Pellegr. = **Sindoropsis**
mannii Baill. = **Prioria**
mopane Benth. = **Hardwickia**
salikounda auctt., non Heckel = **Copaifera mildbraedii**,
C. religiosa
schliebenii Harms = **Guibourtia**
tessmannii Harms = **Guibourtia**
vuilletiana A. Chev. = **G. copallifera**
vuilletii A. Chev., nom. = **G. copallifera**

CORDEAUXIA / 1

ASSEFA, F. & al. (1997). Agricultural potential of little used tropical legumes with special emphasis on *Cordeauxia edulis* (Ye-eb nut) and *Sphenostylis stenocarpa* (African yam bean). *Giessener Beiträge zur Entwicklungsfor-schung* 24: 237-242.

Cordeauxia edulis Hemsl.

Much-branched shrub or tree to 2,5 m tall.

Acacia-Commiphora bushland and scrub on sandy soil; 200-500 m alt.

Fairly variable.

Seeds highly appreciated as food; provides a valuable dry season browse.

CORDYLA / 5

Tribe *Swartzieae*. Sometimes placed in **Fabaceae** (e.g. by H. M. Burkill, *Useful Pl. W. Trop. Africa*, Ed 2, 3: 305-307, 1995).

KIRKBRIDE, J. H., Jr. (2005). Dupuya, a new genus of Malagasy legumes (Fabaceae). *Novon* 15: 305-314 [Appendix with *Cordyla specimens* from mainland Africa].

Cordyla africana Lour.

Tree 9-24(?-40) m; bole to 2,2 m d.b.h.; crown much branched, wide-spreading.

Alluvium fringing forest and ground-water forest; ? also in dry evergreen forest; occurring with *Acacia albida*, *A. campylacantha*, *Kigelia* etc.; in canopy of remnants of dry semi-deciduous forest, also conspicuous as isolated trees in densely populated wooded farmland, having been left standing for its valuable timber (Malawi); 0-1000 m alt.

Swaziland, S. Africa.

CORDYLA

C. densiflora Milne-Redh.

Tree 4-10 m tall.

Deciduous woodland and bushland (*Commiphora*); 850-1220 m alt.

C. pinnata (Lepr. ex A. Rich.) Milne-Redh.

Tree 10-20 m, with straight, cylindrical bole; crown hemispherical, very leafy; flowers appearing on one-year old shoots before the leaves.

Dry forest on alluvium; cultivated ground; sandy soils; fine gravels; wooded savanna.

C. richardii Milne-Redh.

Tree or rarely shrub, 3-12(-20) m tall; branches drooping.

Deciduous woodland on rocky hillsides; near rivers and in valley on alluvial soils; often with *Ficus*, *Azalia* spp.; also with *Sterculia setigera*, *Ficus arbutifolia*, etc.; or with *Lannea fulva*, *Grewia*, *Combretum molle*, *Dalbergia melanoxylon*, etc.; 700-1220 m alt.

C. somalensis J. B. Gillett

Shrub or tree 1-5 m tall.

Acacia-Commiphora bushland; *Acacia-Commiphora-Terminalia* open scrub; usually on gravel and sandy soil; orange and red soil; also on coastal dunes; 100-900 m alt.

Comprises 2 subspp. (intermediates exist).

CRUDIA / 9

The ined. species cited below figures in Sosef & al., Check-list pl. vascul. Gabon: 214, 2006

Crudia gabonensis Pierre ex Harms

Tree 20-40 m, with straight bole to 1 m Ø, clear to 16 m height; buttresses 5-8, winged, very thin, 3-5 m high, 2 m apart at the base; branches ramose, obliquely erect; crown compact.

Rain-forest on firm ground; also river banks; sometimes in stands, never gregarious.

C. gossweileri Bak. f.

Tree 20-30 m; trunk 30-80 cm Ø, sulcate at the base; fruit unknown.

Frequent on river banks.

C. harmsiana De Wild.

Tree 5-20 m, with bole 25-100 cm Ø, branching from near the base.

Riverine formations periodically flooded in *Uapacetum heudelotii*; sometimes in swampy forest. Plant bending over river.

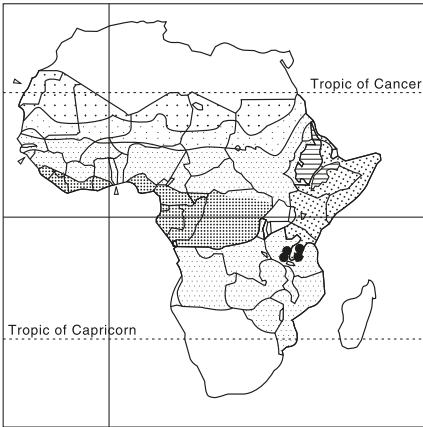
Comprises 2 vars.

C. klanei Pierre ex De Wild.

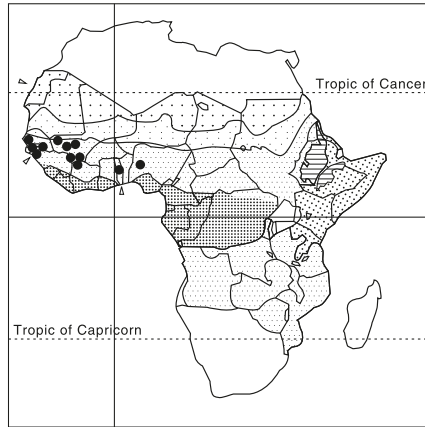
Tree to 8 m; bole branched, slightly irregular, to 0,5 m Ø; crown spreading, densely leafy.

Freshwater swamp forest by creeks, lagoons and lakes; *Rhizophora* mangrove. Plant bending over water.

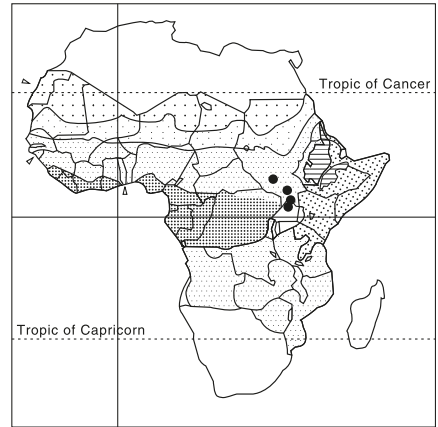
Bioko / Fernando Poo.



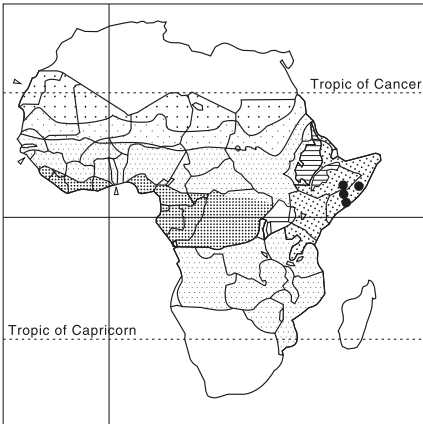
Cordyla densiflora



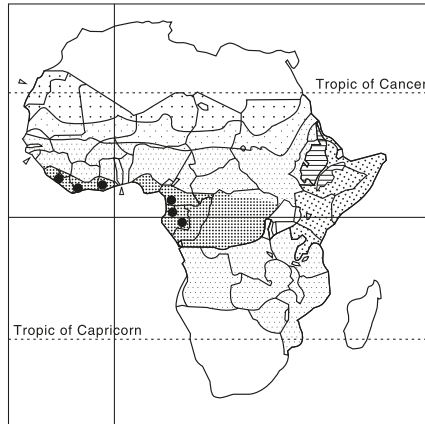
Cordyla pinnata



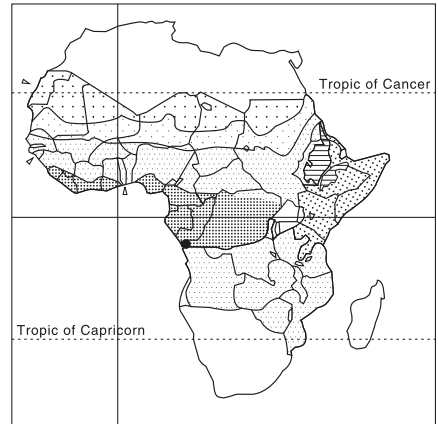
Cordyla richardii



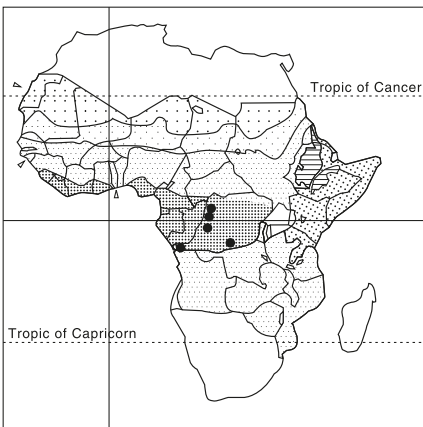
Cordyla somalensis



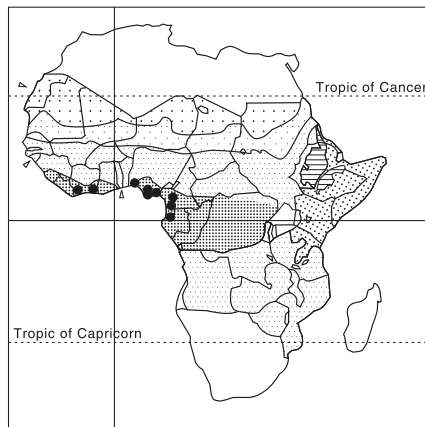
Crudia gabonensis



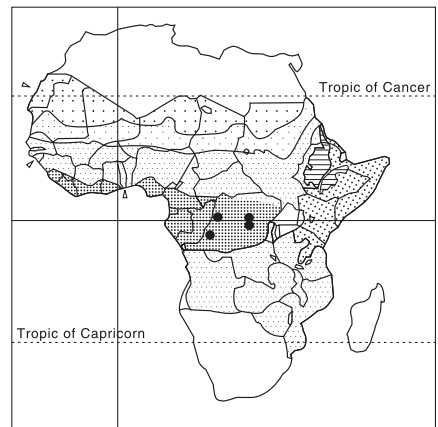
Crudia gossweileri



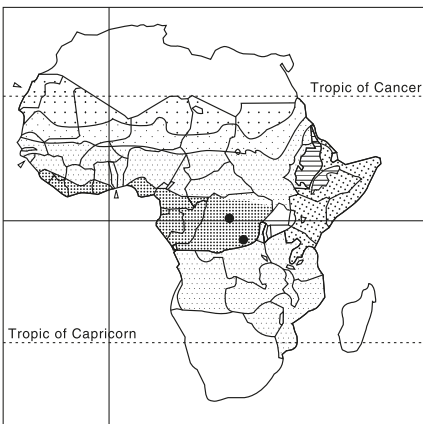
Crudia harmsiana



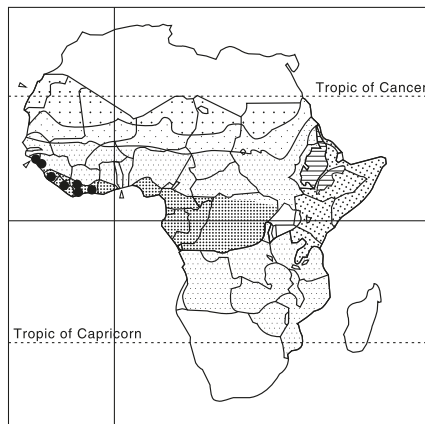
Crudia klainei



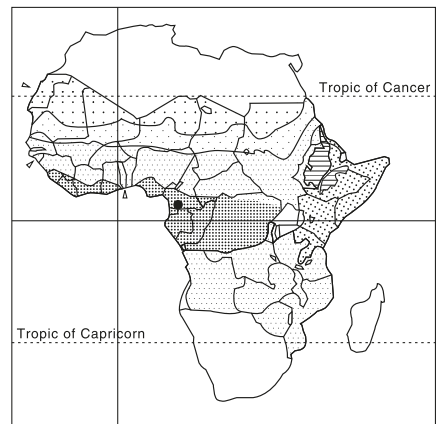
Crudia laurentii



Crudia michelsonii



Crudia senegalensis



Cryptosepalum ambamense

CRUDIA

C. laurentii De Wild.

Tree 10-25 m, with bole 3-8 m long and 30-75 cm Ø, branched and winged from near the base; crown dense and often weeping. Riverine formations periodically flooded.

C. letouzeyi Breteler & Nguema, ined.

C. michelsonii J. Léonard – Icon.: Bull. Jard. Bot. Etat, Brux. 20: 229, 1950.

syn.: *Crudiopsis mengei* De Wild. in sched.

Tree 35-40 m, with cylindrical bole to 30 m high and 2 m Ø (including buttresses); lobed at the base with winged buttresses; bark brick-red.

Rain-forests (?or swamp); ± 400-500 m alt.

C. senegalensis Planch. ex Benth.

Tree 5-10(-25) m; bole 90 cm Ø (over buttresses), crooked, low-branching; crown spreading.

Often by rivers in the forest zone.

Not in Senegal (Heudelot type specimen is from Guinea) nor in Gabon (= *C. klaneii*); ? Ghana.

C. zenkeri Harms & De Wild. fide Breteler & Ngueme, l.c.; Gabon 450-550 m alt.

CRYPTOSEPALUM / II

Cryptosepalum ambamense Letouzey

Tree to 10 m; bole 3 m high with oblique branches, very ramose, densely leafy; crown globose, dense; leaflets erect; fruit unknown. Riversides.

Only known from the type collected in 1979.

C. congolanum (De Wild.) J. Léonard

Tree 10-12 m; bole ± 15 cm Ø.

Riverine formations periodically flooded; rather common.

C. diphyllum P. A. Duvign., Mém. Acad. Roy. Belg., Classe Sci. 30(2): 272 (12 April, 1957); in Hutch. & Dalz., Fl. W. Trop. Africa, Ed. 2, 1(2): 480 (27 March, 1958).

Tree to 15 m.

Riversides.

Only known from 2 specimens (Jones FHI 1467, Amachi FHI 38254).

C. exfoliatum De Wild.

Shrub or tree 0,2-18(-30) m tall, sometimes suffruticose, but then branched above, or at least with several often clustered lateral inflorescences, and with stems apparently persisting for at least 2 seasons.

Fairly common on rocky ground; *Brachystegia-Pterocarpus* woodland; 550-1700 m alt.

A very variable and widespread complex species.

Comprises 5 subsp.: – subsp. **exfoliatum** with 2 vars.

For detailed mapping, see Kew Bull. 20: 6, 1966.

CRYPTOSEPALUM

C. katangense (De Wild.) J. Léonard

syn.: *C. bequaertii* De Wild.

Suffrutex with seasonal, multi-fasciculate, simple or sometimes little ramose (at the base) branches, 12-40(-80) cm tall, arising from a fingerthick rhizome; fruit unknown.

Open forest.

A good species?

C. maraviense Oliv., incl. var. *minor* Dewèvre; Kew Bull. 20: 19, 1966; Fl. Zambes. 3/2: 70, 2007.

syn.: *C. dasycladum* Harms; *C. pulchellum* Harms; *C. boehmii* Harms; *C. busseanum* Harms; *C. debeertsii* De Wild.; *C. verdickii* De Wild.; *C. hockii* De Wild., incl. var. *velutina* De Wild.; *C. bifolium* De Wild.; *C. delevoyi* De Wild.; *C. robynsii* De Wild.; Enum. 2: 46, 1992.

Geoxylic suffrutex (See Nord. J. Bot. 1: 738, 1981) with a thickened woody rhizomatous rootstock, whence (or from the basal part of the previous year's stems) arise often tufted erect annual stems, each ± 4-40 cm high, simple and with a single terminal inflorescence.

Brachystegia-Julbernardia deciduous woodland; often abundant over wide areas in miombo woodland and at the edges of dam-bos. Pioneer on stony scree or lateritic slab; 300-1800 m alt.

Metallophyte (Co = 3-24µg/g dry weight; Cu = 22-259; Zn = 82; Ni = 14,6; Pb = 11); See Bull. Soc. Roy. Bot. Belg. 119(2): 183, 1986; Belg. J. Bot. 134: 46, 2001.

Exceedingly variable species (a splendid subject for investigation by modern taxonomic techniques); certainly one of the most protean species in all tropical Africa (See Fl. Trop. E. Africa, Leguminosae, Caesalpinioideae: 200-203, 1967). Eight minor variants have been recognized, named A to H in Fl. Zambes.

C. mimosoides Welw. ex Oliv.

Suffrutex with seasonal, simple or slightly ramose, 20-25 cm tall stems arising from a horizontal rhizome.

Open forests; mabwati with *Monotes*, *Brachystegia*, *Berlinia*, *Uapaca*; 1075 m alt. (Angola).

C. minutifolium (A. Chev.) Hutch. & Dalziel

bas.: *Hymenostegia minutifolia* A. Chev.

Tree 25-35 m, with bole 15-20 m long, 40-60 cm Ø.

Montane large forest.

C. pellegrinianum (J. Léonard) J. Léonard

Tree; fruit unknown.

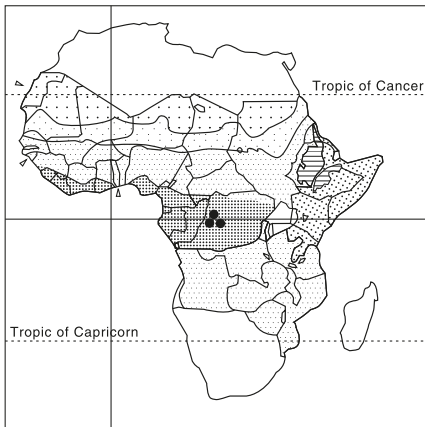
Riparian formations, periodically flooded; uncommon.

C. staudtii Harms

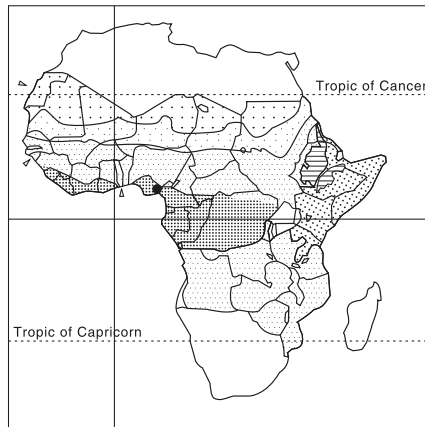
syn.: *C. exfoliatum* sensu Pellegr., non De Wild.; *C. sp.* Tani Letouzey & Mouranche

(Shrub slightly ramose or) tree at least 15-18 m tall; bole 1 m Ø with small thin buttresses inclined at 45° and to 50 cm high, with triangular section 10-20 cm at the base; bole straight and cylindrical; crown umbrella-like. – Fruit known! (See Letouzey & Mouranche, Ekop du Cameroun: 52, 1952 and Fl. Gabon 15: pl. 58 p. 241, fig. 6, 1968).

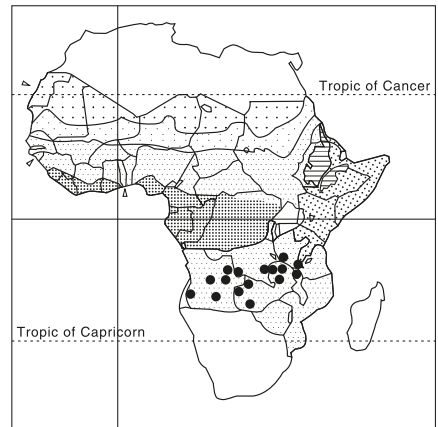
In small patches in evergreen rain-forest.



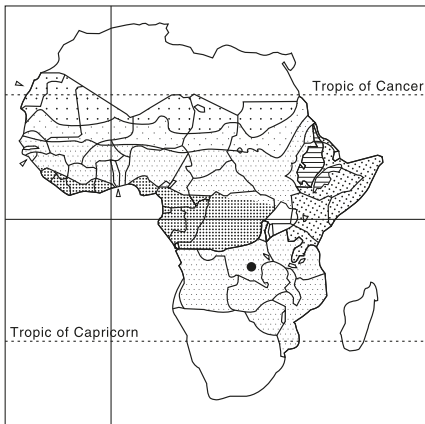
Cryptosepalum congolanum



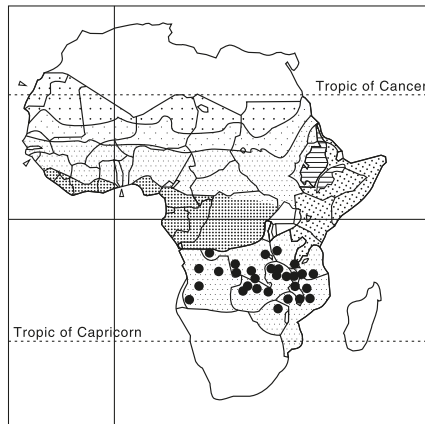
Cryptosepalum diphyllum



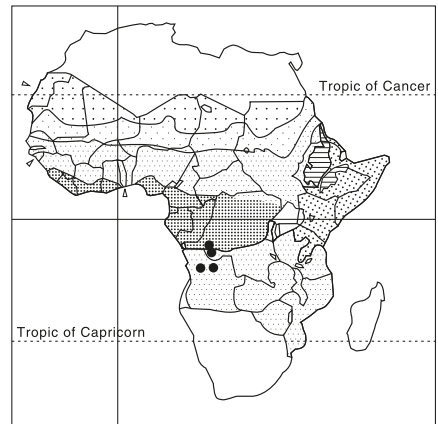
Cryptosepalum exfoliatum



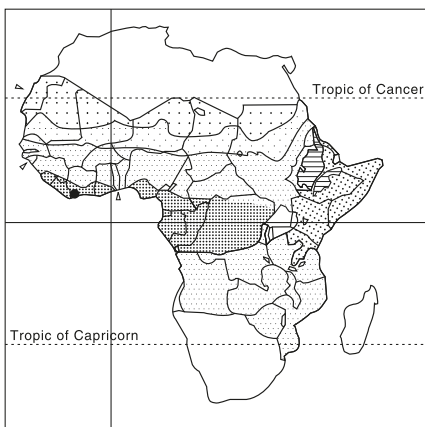
Cryptosepalum katangense



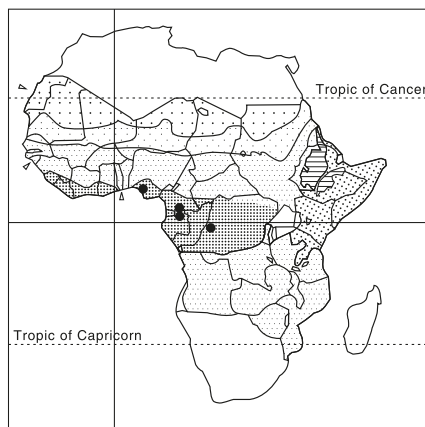
Cryptosepalum maraviense



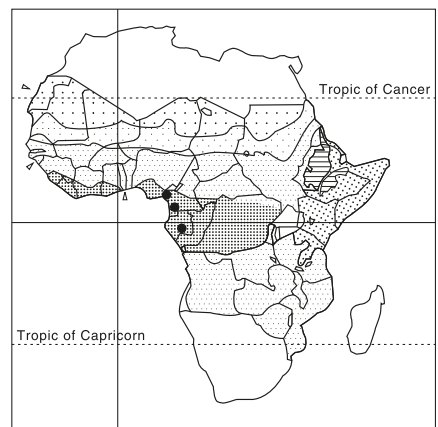
Cryptosepalum mimosoides



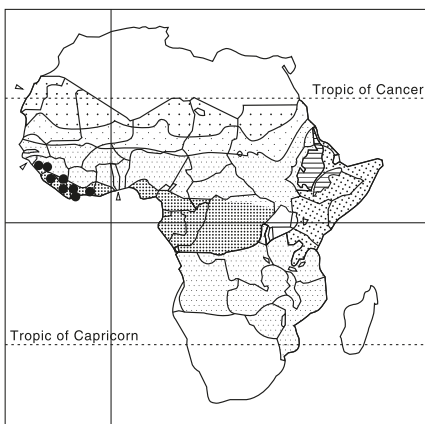
Cryptosepalum minutifolium



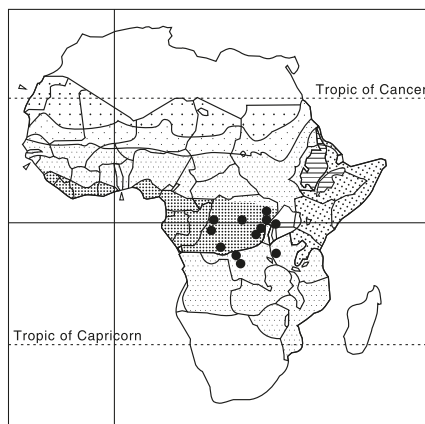
Cryptosepalum pellegrinianum



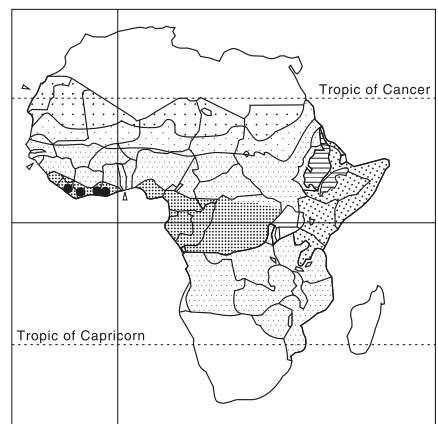
Cryptosepalum staudtii



Cryptosepalum tetraphyllum



Cynometra alexandri



Cynometra ananta

CRYPTOSEPALUM

C. tetraphyllum (Hook. f.) Benth.

bas.: *Cynometra ? tetraphylla* Hook. f.

Tree to 30 m; bole 80 cm Ø; straight, or slightly sinuous, regular to 16 m long; branches drooping at the apex; sometimes branched near the base; rarely with buttresses to 75 cm high.

Evergreen closed rain-forests and secondary jungle, from riversides in the plain to mountain crests and torrent-sides; to 800-1000 m alt. – Sometimes very abundant (Guinea).

SYNONYMS:

Cryptosepalum arboreum Baker f. = **Cryptosepalum exfoliatum** subsp. **pseudotaxus**

bequaertii De Wild. = **C. katangense**

bifolium De Wild. = **C. maraviense**

boehmii Harms = **C. maraviense**

busseanum Harms = **C. maraviense**

crassiusculum P. A. Duvign. = **C. maraviense**

curtisiorum I. M. Johnston = **C. maraviense**

dasycladum Harms = **C. maraviense**

debeerstii De Wild. = **C. maraviense**

delevoyi De Wild. = **C. maraviense**

elegans P. A. Duvign. = **C. maraviense**

elegans Letouzey = **C. ambamense**

exfoliatum sensu Pellegrin, non De Wild. = **C. staudtii**

fruticosum Hutch. = **C. exfoliatum** subsp.

hockii De Wild. = **C. maraviense**

pseudotaxus Baker f. = **C. exfoliatum** subsp.

pulchellum Harms = **C. maraviense**

robysii De Wild. = **C. maraviense**

sp. Tani Letouzey & Mouranche = **C. staudtii**

subelegans P. A. Duvign. = **C. maraviense**

suffruticans P. A. Duvign. = **C. exfoliatum** subsp.

verdickii De Wild. = **C. maraviense**

CYNOMETRA / 26

LÉONARD, J. (1951). Notulae systematicae XI. Les *Cynometra* et les genres voisins en Afrique tropicale. *Bull. Jard. Bot. Etat, Brux.* 21: vide 378-400.

Cynometra alexandri C. H. Wright

syn.: *C. sankuruensis* Vermoesen

Flat-topped evergreen tree 10-50 m, with bole (5-)12-26 m long, (20-)70-150 cm Ø, branching rather low down, and with extensive thin buttresses near base, to 8 m long and several m high.

Rain-forest on firm ground; gregarious; 700-1200 m alt.

C. ananta Hutch. & Dalziel

Evergreen tree to 30-36 m; bole 1,2 m Ø with buttresses to 4 m high, bole often angular and knotty, branched at ± 10 m from the base, ± reddish (confused with *Piptadeniastrum africanum*); crown heavily branched, rounded, dense, covered, with light-grey flowers; new foliage brilliant red.

Rain-forest in wet places; often forms gregarious stands on the slopes towards creeks, in valleys and on small plateaux; sometimes exceedingly abundant.

CYNOMETRA

C. congensis De Wild.

Tree; fruit unknown.

Ecology unknown.

Not in Gabon. – Perhaps only a var. of *C. mannii*.

C. engleri Harms

Evergreen tree 12-21 m or ? shrubby 4-6 m tall; fruit unknown.

Riverine forest; 100-300 m alt.

C. gillmanii J. Léonard

Tree, ? evergreen, 12-15 m tall; fruit unknown.

Reddish sandy soil in woodland.

Only known from the type collected in 1942.

C. greenwayi Brenan (probably a syn. of *C. suaheliensis*).

Tree to ± 10 m; ripe fruit unknown.

Common with *Ehretia* in sand-dunes with scattered coral-rock outcrops; 8 m alt.

C. hankei Harms

syn.: *C. bokalaensis* De Wild.; *C. henkei* Harms

Tree 20-45 m; bole straight 13-22 m long, 30-150 cm Ø with buttresses 1,5-8 m high. The leaves may be confused with those of *Copaifera mildbraedii*, *Microberlinia bisulcata*, some species of *Monopetalanthus*, *Talbotiella eketensis*.

Very common in forests on firm ground and in forests with *Lophira*, *Sacoglottis*; rare in periodically flooded forests on islands.

C. leonensis Hutch. & Dalziel – Icon.: Voorhoeve, Liberian high forest trees : 173, 1965.

Tree to 30 m with bole >1 m Ø or shrub 2-3 m tall multi-stemmed; base with low, spreading buttresses sometimes reaching to 1,8 m on the stem; bole straight and clean to 14 m height, but usually the stem is forked at a low level or divided above the buttresses into as many as seven part-stems. Suckers from the base or on the stem are common and may develop into quite heavy branches. Crown fairly dense. New leaves brilliant red.

Evergreen rain-forest, often along rivers, where it may be dominant with *Monopetalanthus pteridophyllus*; also forming gregarious stands; high forest and secondary forest formations; ± 100 m alt. (Angola).

Comprises 2 subspp.

Leaves confused with those of *Didelotia engleri*.

C. letestui (Pellegr.) J. Léonard

syn.: *C. letestui* Pellegr., nom.

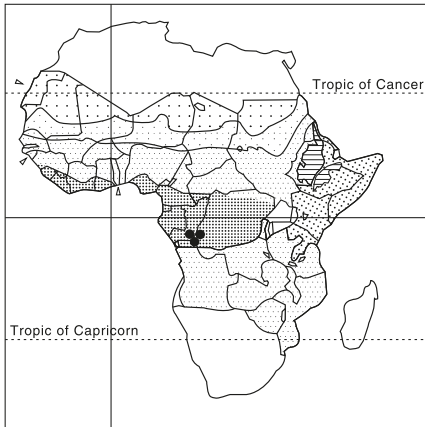
Shrub or tree; fruit known! (See Fl. Congo Belge 3: 312, 1952).

Very common along streams.

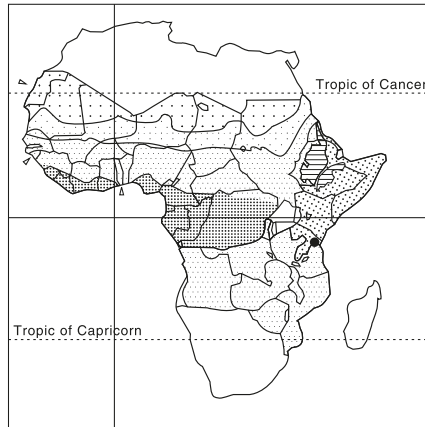
C. longepedicellata Harms (longipedicellata).

Much branched evergreen tree to 18 m, with broad rounded crown; fruit unknown.

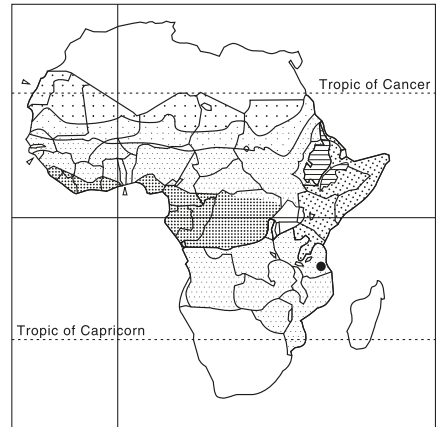
Evergreen rain-forest; ± 900 m alt.



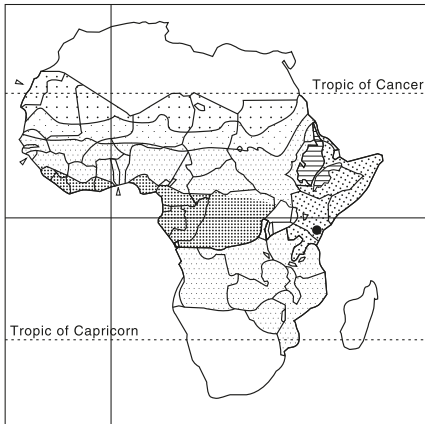
Cynometra congensis



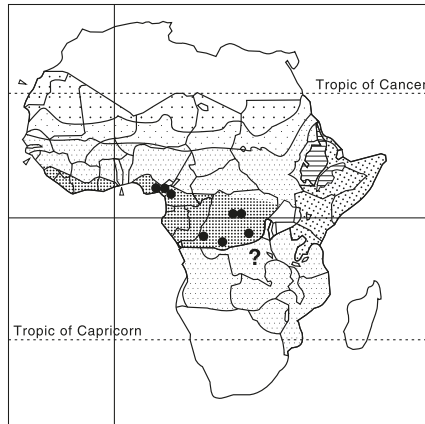
Cynometra engleri



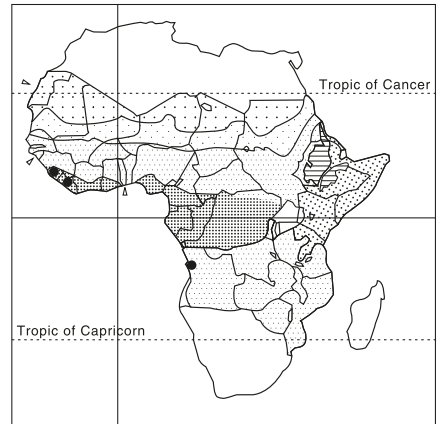
Cynometra gillmanii



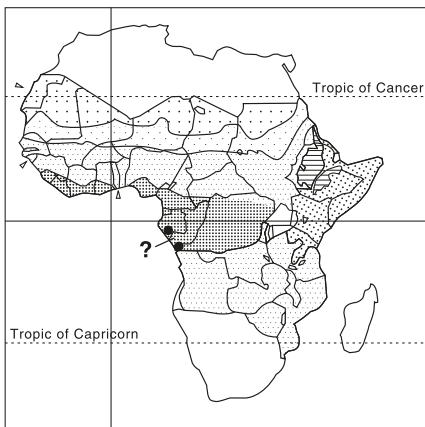
Cynometra greenwayi



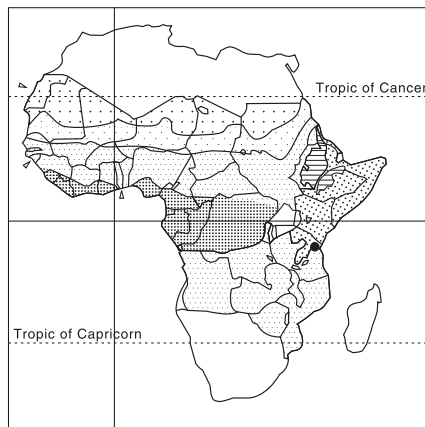
Cynometra hankei



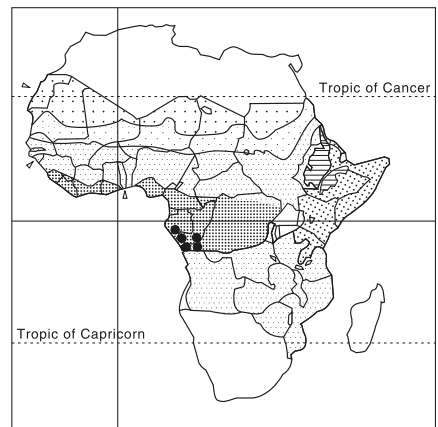
Cynometra leonensis



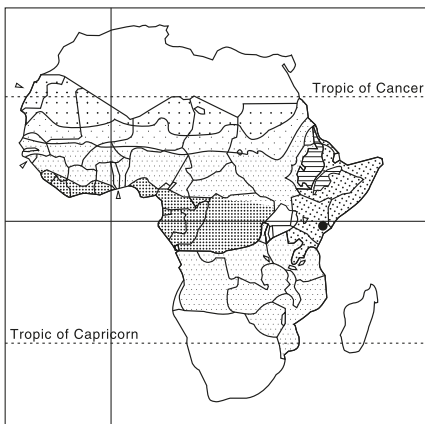
Cynometra letestui



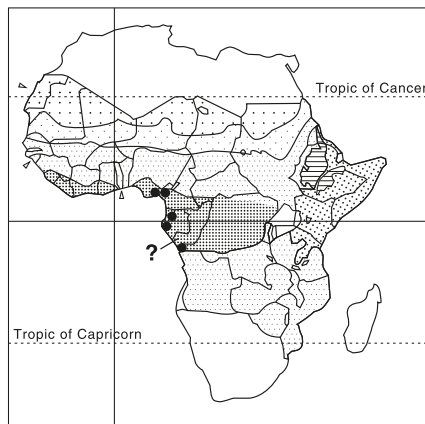
Cynometra longipedicellata



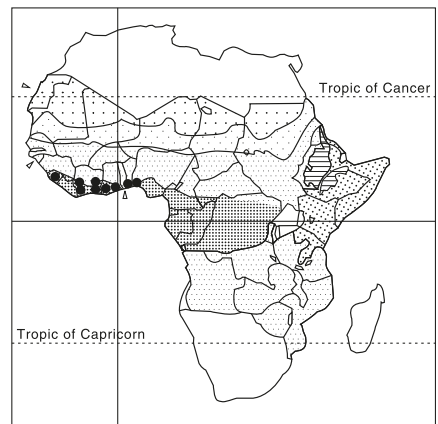
Cynometra lujae



Cynometra lukei



Cynometra mannii



Cynometra megalophylla

CYNOMETRA

C. lujae De Wild.

Tree 10-20 m, sometimes shrub; bole 10-12 m, 30-45 cm Ø.

Disturbed valley forests.

C. lukei Beentje

Tree 10-15 m, with spreading crown and ± fluted trunk, sometimes branching near the base.

Floodplain woodland; riverine forest on heavy soils, flooded; soils with impeded drainage in seasonally flooded back levee, with *Acalypha echinus*, *Lawsonia inermis*, *Maytenus heterophylla*, *Lecaniodiscus*, *Garcinia livingstonei*, *Hyphaene compressa*; deep grey alluvial clay-silt, not close to the river, with *Lannea*, *Garcinia*, *Strychnos*, *Diospyros*, *Phoenix*, *Haplocoelum foliosum* and many Rubiaceae shrubs; dry forest; forest patch with *Mimusops*, *Garcinia livingstonei*; 20-50 m alt. – Locally common; sometimes in dominant stands.

Vulnerable.

C. mannii Oliv.

Tree to 20 m; trunk sometimes short and divided near the base, occasionally prop-rooted; crown extensively bushy.

River banks; fringing forest; mangrove- and lake sides; sometimes very abundant.

São Tomé.

C. megalophylla Harms

Tree 15-22 m; bole 90-100 cm Ø, irregular, sometimes divided near the base and with huge main branches; young foliage drooping; crown very dense, spreading.

Forest, particularly on river-banks; sometimes gregarious.

Habit and leaves like *Hymenostegia aubrevillei*.

C. michelsonii J. Léonard

Tree with cylindrical bole to 4 m tall, 17 cm Ø, 54 cm dbh; fruit unknown.

Plateau forest; ravine side on quartzly-clayey soil, schist; ± 560-680 m alt.

C. nyangensis Pellegr.

Tree; fruit unknown.

Gallery forest; 100-150 m alt.

Known from very few collections.

Very near *C. oddonii*.

C. oddonii De Wild.

syn.: *C. sessiliflora* Harms var. *oddonii* (De Wild.) Lebrun

Tree; fruit unknown.

Forest.

C. palustris J. Léonard – Icon.: Bull. Jard. Bot. Etat, Brux. 22: 202, 203, 1952.

Tree ± 20 m; bole ± 1 m Ø, winged at base.

Swampy forest.

CYNOMETRA

C. pedicellata De Wild.

syn.: *C. sessiliflora* Harms var. *pedicellata* (De Wild.) Lebrun and var. *vermoeseniana* Lebrun p.p. typica.

Tree 12-20-30 m, sometimes shrub; bole to 10-20 m, 40-100 cm Ø.

Riverine and swampy forest formations; also in forest on firm ground; rocky banks of streams; 750 m alt. (Angola).

C. sanagaensis Aubrév., Fl. Gabon 15: 67 and pl. 11 p. 71, 1968, nom. subnud.; Fl. Cameroun 9: 79 and pl. 14 p. 81, 1970.

Shrub or tree with fluted bole.

Periodically flooded forest; riversides.

C. schlechteri Harms

Tree 4-18 m, with bole branched near the base, 20-40 cm Ø.

Riverine forest formations, periodically flooded (*Uapacetum heudelotii* J. Léonard); not common in Gabon (? confused with *C. mannii*).

C. sessiliflora Harms, incl. var. *vermoeseniana* J. Lebrun p.p. non typica (cf. *C. pedicellata*); excl. var. *oddonii* (De Wild.) Lebrun (= *C. oddonii*) and var. *pedicellata* (De Wild.) Lebrun (= *C. pedicellata*).

syn.: *C. gillettii* De Wild.

Tree 4-20 m, with bole 1-7 m long, 20-50 cm Ø.

Riverine forest formation (*Uapacetum heudelotii* J. Léonard) periodically flooded or swampy with *Cynometra schlechteri*, *Guibourtia demeusei*; rare in forest on firm ground.

Comprises 2 vars.

C. suaheliensis (Taub.) Bak. f.

bas.: *Theodora suaheliensis* Taub.

syn.: *Schotia suaheliensis* (Taub.) Harms; ? *Cynometra greenwayi* Brenan (cf. under this species).

Evergreen shrub or tree 5-15 m tall.

? Dry evergreen and riverine forests; coastal evergreen bushland; 0-150 m alt.

C. ulugurensis Harms

Tree; fruit unknown.

Presumably in forest; ± 660 m alt.

C. vogelii Hook. f.

Tree 5-20 m; bole 0,5-1 m Ø, usually branching low down, with widely spreading branches.

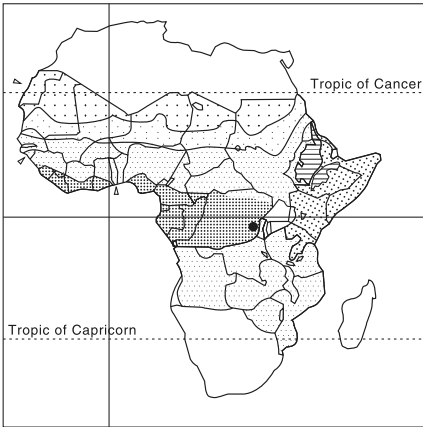
Swamp forest, particularly along river banks; locally abundant; savanna forest.

Not in Ivory Coast.

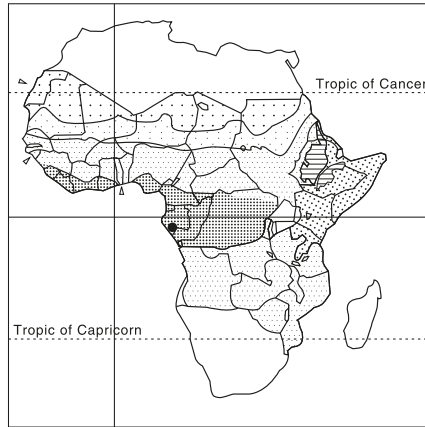
C. webberi Bak. f.

Evergreen tree 4,5-18 m, with bushy crown and buttressed base to trunk.

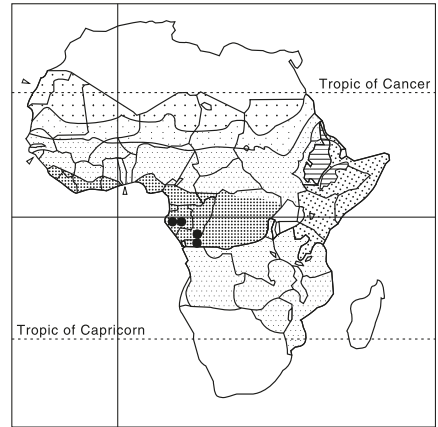
Dry evergreen forest; ? evergreen woodland; deciduous woodland with *Brachystegia*; near sea-level ± 150 m alt.



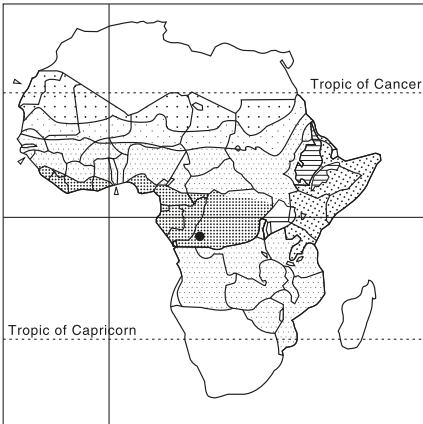
Cynometra michelsonii



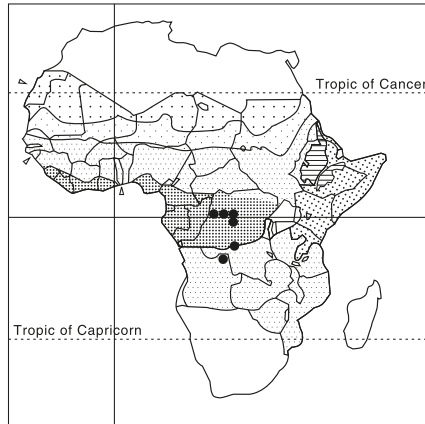
Cynometra nyangensis



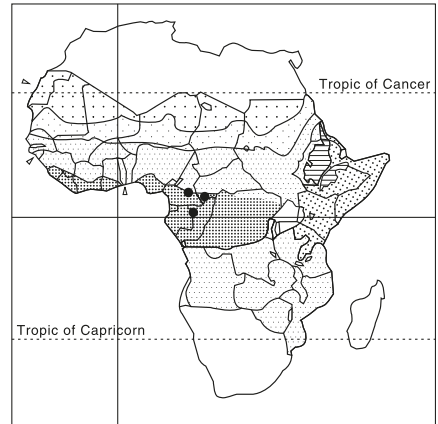
Cynometra oddonii



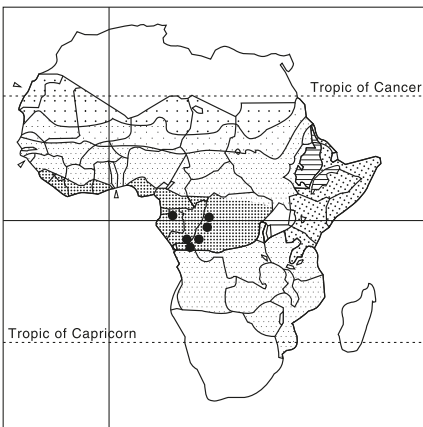
Cynometra palustris



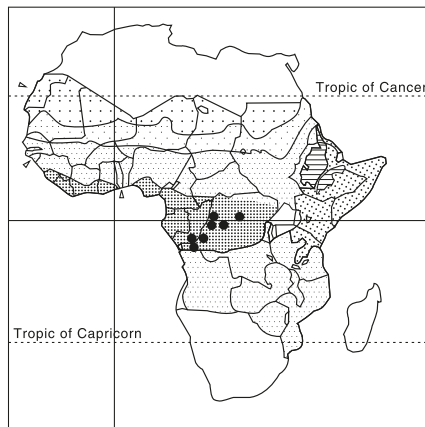
Cynometra pedicellata



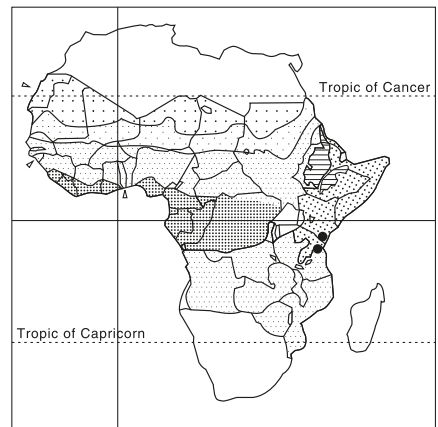
Cynometra sanagaensis



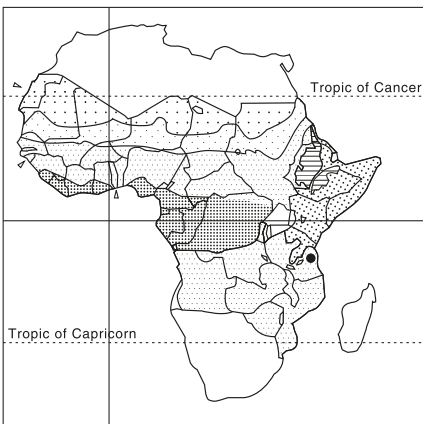
Cynometra schlechteri



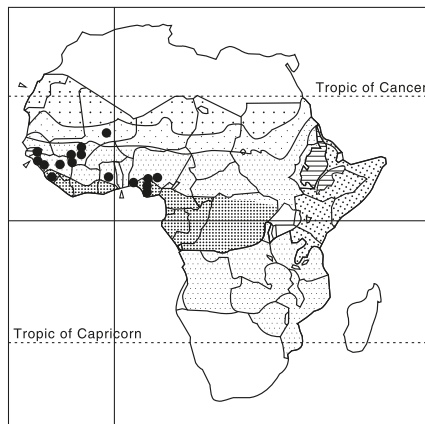
Cynometra sessiliflora



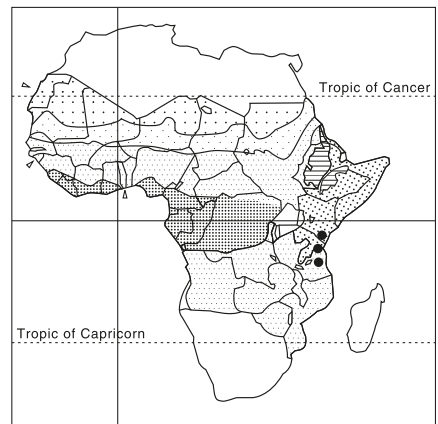
Cynometra suaheliensis



Cynometra ulugurensis



Cynometra vogelii



Cynometra webberi

CYNOMETRA

SYNONYMS:

- Cynometra afzelii* Oliv. = **Hymenostegia**
aubrevillei Pellegr. = **H. neoaubrevillei**
bequaertii De Wild. = **Normandiodendron**
bipetala Pellegr. = **Hymenostegia pellegrinii**
bokalaensis De Wild. = **Cynometra hankei**
brachyura Harms = **Hymenostegia**
capparidacea (Taub.) Harms = **Zenkerella**
carvalhoi Harms = **Micklethwaitia**
 (map under **Brenaniodendron**)
citrina (Taub.) Harms = **Zenkerella**
claessensii De Wild. = **Normandiodendron bequaertii**
dacremontii Lebrun = **Gilletiodendron kisanuense**
djumaensis De Wild. = **Aphanocalyx**
egregia Hora & Greenway nom. nud. = **Zenkerella**
escherichii Harms = **Gilletiodendron**
felicis (A. Chev.) Pellegr. = **Hymenostegia**
fischeri (Taub.) Bak. = **Scorodophloeus**
floribunda Benth. = **Hymenostegia**
gilletii De Wild. = **Cynometra sessiliflora**
glabra De Wild. = **Lebruniodendron leptanthum**
glandulosa Portères = **Gilletiodendron**
greenwayi Brenan = **Cynometra ? suaheliensis**
grotei Harms = **Zenkerella**
hedinii A. Chev. = **Aphanocalyx**
henkei Harms = **Cynometra hankei**
kisanuense De Wild. = **Gilletiodendron**
koko De Wild. = **Lebruniodendron leptanthum**
laurentii De Wild. = **Cynometra sessiliflora** var.
laxiflora Benth., incl. var. *nitidula* Welw. ex Oliv.
 = **Hymenostegia laxiflora**
leptantha Harms = **Lebruniodendron**
leptoclada Harms = **Zenkerella citrina**
longituba Harms = **Plagiosiphon**
mildbraedii Harms = **Gilletiodendron**
multijuga Harms = **Plagiosiphon**
mundungu Pellegr. = **Hymenostegia**
pachycarpa A. Chev. = **Brachystegia mildbraedii**
pierreana Harms = **Gilletiodendron**
purpureo-caerulea Bak. f. = **Normandiodendron**
bequaertii
rubriflora De Wild. = **N. bequaertii**
sankuruensis Vermoesen = **Cynometra alexandri**
schliebenii Harms = **Zenkerella capparidacea** subsp.
capparidacea
sessiliflora Harms var. *oddonii* (De Wild.) Lebrun
 = **Cynometra oddonii**
 var. *pedicellata* (De Wild.) Lebrun = **C. pedicellata**
 var. *vermoesiana* Lebrun p.p. = **C. pedicellata** and
C. sessiliflora
 sp. Zing sensu Letouzey & Mouranche
 = **Didelotia brevipaniculata**
tetraphylla Hook. f. = **Cryptosepalum**

DANIELLIA / 9

Daniellia alsteeniana P. A. Duvign.; Sabonet News 5(2): 95, 2000.

Tree 10-22 m, with straight bole to 1 m Ø at the base; crown open, spreading by levels.

Open forest with *Isobertinia*, *Brachystegia*; forest with *Marquesia*, *Guibourtia coleosperma*, *Brachystegia*; edge of muhulu; forest stand with *Monotes*, *Berlinia*, *Uapaca* near source; dry evergreen forest and deep soil miombo woodland (many of the habitats are degraded in Zambia); 1100-1300 m alt. (Angola).

Inflorescence indumentum very variable.

D. klainei Pierre ex A. Chev.

Tree 20-30 m, with bole 0,6-1 m Ø, cylindrical.

Secondary forest; river sides (frequent); very abundant in forest with *Caesalpinaceae* on gneiss basement.

D. mortehanii De Wild.

syn.: *Cyanothyrsus mortehanii* (De Wild.) De Wild.

Tree; fruit unknown.

Probably forest.

Only known from the type collected in 1913.

D. oblonga Oliv.

Tree to nearly 61 m tall; bole smooth; fruit unknown?

Forest with *Lophira*, *Sacoglottis*; 600-800 m alt.

Bioko / Fernando Poo.

D. ogea (Harms) Rolfe ex Holland

bas.: *Cyanothyrsus ogea* Harms

syn.: *Daniellia caudata* Craib; *D. fosteri* Craib; *D. punchii* Craib ex Holland (flowers); *D. similis* Craib

Deciduous or evergreen tree 15-55 m, with clean straight cylindrical bole (to 1,5 m Ø) and sometimes very short rounded buttresses; bole clear to 18-30 m; crown small.

Evergreen and deciduous forests, in swampy parts; rice field edges; to 600 m alt. (Nimba Mt.).

Bioko / Fernando Poo.

D. oliveri (Rolfe) Hutch. & Dalziel

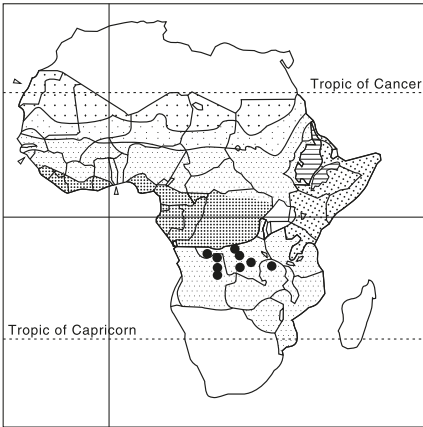
bas.: *Paradaniellia oliveri* Rolfe

Deciduous tree 9-12-25(-45) m; bole to 1,5 m Ø, straight or twisted, cylindrical, 8-10 m long, 4 m in girth; unbuttressed but root-fluted at base; crown obconical, flat-topped, spreading, dense.

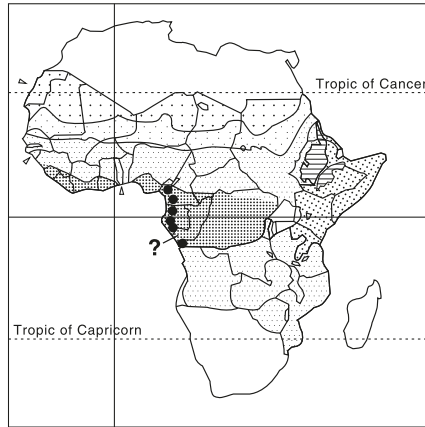
Wooded grassland with *Butyrospermum paradoxum*; gregarious in deciduous forests; wooded savanna to open forest on sandy-clayey humid soil; sandy soils on laterite; granitic rocks; on alluvial terrace of large marigot; on gravels and colluvium or very deep soils; sometimes invading cultivations; sometimes abundant (*Daniellia*-savanna in Zaire, wooded savanna with *Daniellia oliveri*, *Parkia biglobosa* in Benin).

Not in Angola.

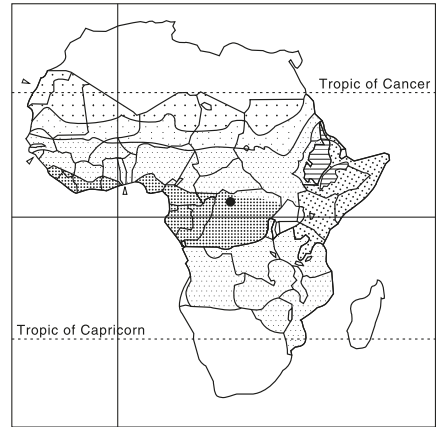
The largest tree of the wooded sudano-guinean savannas.



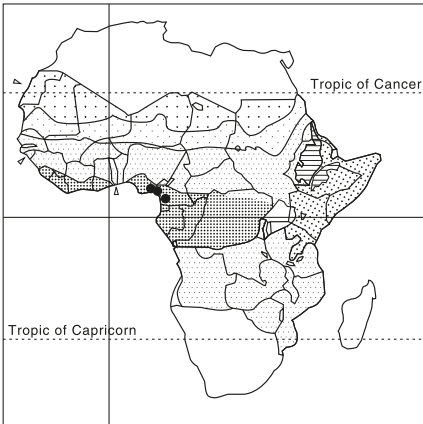
Daniellia alsteeniana



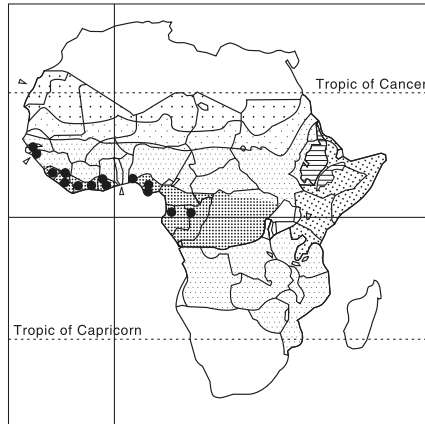
Daniellia klainei



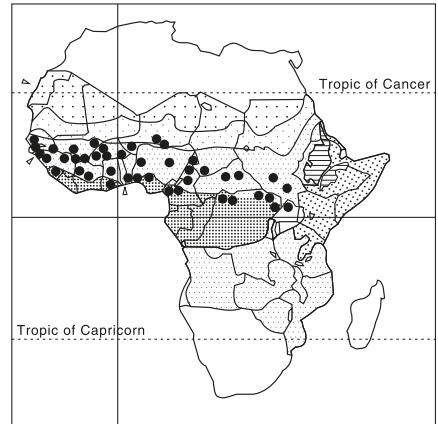
Daniellia mortehanii



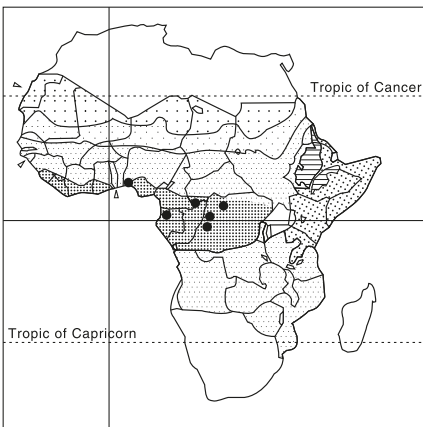
Daniellia oblonga



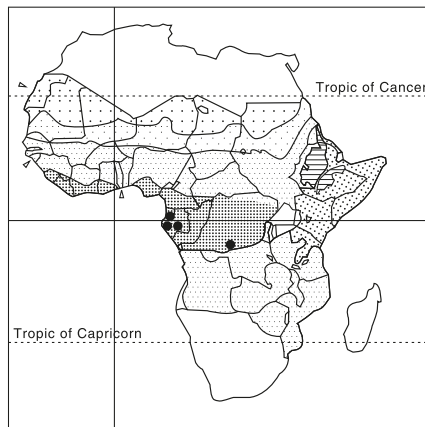
Daniellia ogea



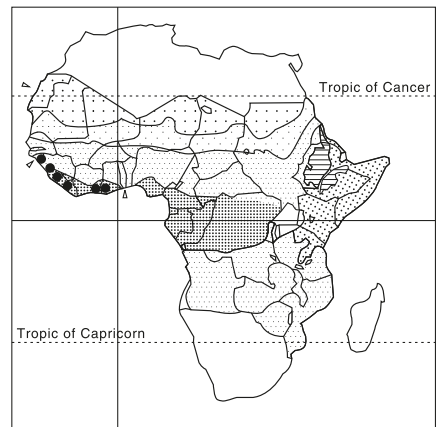
Daniellia oliveri



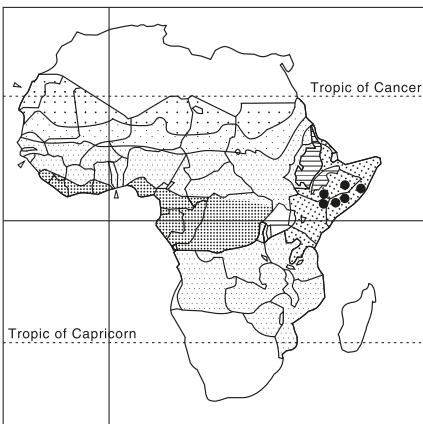
Daniellia pynaertii



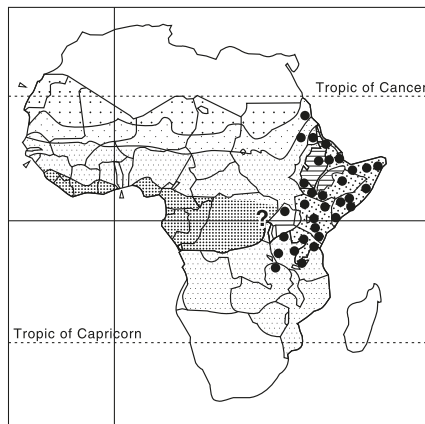
Daniellia soyauxii



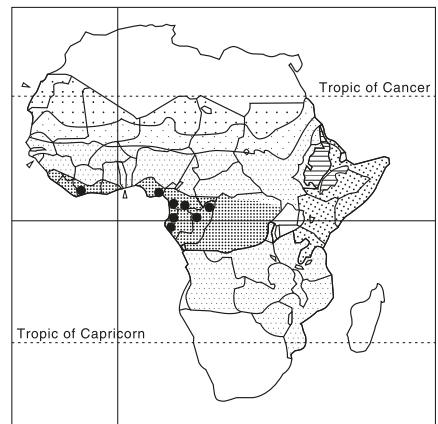
Daniellia thurifera



Delonix baccal



Delonix elata



Detarium macrocarpum

DANIELLIA

D. pynaertii De Wild.

syn.: *D. ealaensis* Bak. f. (sub “calaenois”); *D. pubescens* Hutch. & Dalziel

Tree to 35 m tall with straight bole to 1 m Ø; flowering after the fall of the leaves.

Swampy- or periodically flooded forests.

Benin? Not in Ivory Coast nor Cameroon.

D. soyauxii (Harms) Rolfe

bas.: *Cyanothyrus soyauxii* Harms

Tree 20-30 m, with cylindrical bole; fruit unknown.

Plateau rain-forest on sandy soil.

Comprises 2 vars.

D. thurifera Benn.

syn.: *D. caillei* A. Chev., nom.

Tree to 45 m; bole unbuttressed, 1,2-1,5 m Ø, long, clear, straight; branchlets pendulous.

Evergreen forest; scattered but sometimes abundant; hills, cliff along lagoon; gallery forest.

Also in Gabon (fide Sosef & al., Check-list, 2006).

DELONIX / 2

BANKS, H. (1997). The pollen of Delonix (Leguminosae: Caesalpinioideae: Caesalpinieae). *Kew Bull.* 52: 417-454.

Delonix baccal (Chiov.) Bak. f.

bas.: *Poinciana baccal* Chiov.

Tree 6-18 m, with umbrella-shaped crown; bark with the outer surface peeling off and papery.

Commiphora-Acacia deciduous bushland; white limestone slopes with shallow, pale soil; valleys on steep rocky slopes; escarpment edge with granite, gneisses and schist exposed; white or yellowish sandy or loamy soils; scrub with *Cussonia*, *Ficus*, *Acacia*, *Dichrostachys*, *Combretum*, *Commiphora*, etc., largely degraded by cultivation; 300-1080 m alt.

Would be a fine ornamental for ± arid places (4 petals almost white with salmon claws, the 5th petal bright yellow, filaments yellow and anthers orange).

D. elata (L.) Gamble

bas.: *Poinciana elata* L.

syn.: *Caesalpinia elata* (L.) Swartz

Tree 2,5-15 m, with rounded-spreading crown; branches drooping.

Deciduous thickets and *Acacia-Commiphora* bushland; often on rocky slopes or by streams; 430-1400 m alt. (? and more).

Variable.

Egypt, Arabia, India. Introduced in Zambia?

Attractive-flowered tree.

[D. regia (Bojer ex Hook.) Raf. – Flamboyant].

bas.: *Poinciana regia* Bojer ex Hook.

Deciduous tree to 12-30 m with cylindrical trunk and flat or curving crown; surface-rooting.

Native of Madagascar; cultivated in all tropical countries as an ornamental (flowers very large and showy).

DETARIUM / 3

LÉONARD, J. & J.-L. DOUCET (1997). See *Aphanocalyx* above p. 86 [vide p. 216-217].

Detarium macrocarpum Harms – Icon.: Bull. Jard. Bot. Natl. Belgique 66: 215, 1997.

Tree to >60 m, with large or small buttresses at the base; bole straight, cylindrical, >2 m Ø.

Rain-forest.

D. microcarpum Guill. & Perr.

Tree to 9-10 m, with a twisted bole and widely spreading crooked branches; branchlets mostly 30-60 cm long, often clustered at the end of short gnarled bosses and *fall off* entire; bark peeling in papery patches.

Drier formations; open forests; wooded savannas; depression; colluvium; deep sand on laterite; sometimes planted; also abundant on fallow land; on various types of soils.

KOUYATÉ, A. M. & P. VAN DAMME (2003). Monographie de la taxonomie du *Detarium microcarpum*. In: SEBSEBE DEMISSEW & al., Eds., *XVIIth AEFAT Congress 21-26 September 2003. Abstracts*: 28. Addis Ababa University Press.

D. senegalense J. F. Gmel.

syn.: *D. heudelotianum* Baill.

Tree 15-36 m; bole straight, cylindrical, relatively short, 6-12 m long, 40 cm Ø, 3 m in girth; crown large, very leafy. Fruit toxic but a non-toxic form is eaten.

Closed- and fringing forest in the moister savanna regions; open savanna; to 650 m alt. (Nimba Mt.).

Mali?

SYNONYMS:

Detarium chevalieri Harms = **Copaifera salikounda**
letestui Pellegr. = **Sindoropsis**

DIALIUM / 24

STEYAERT, R. L. (1951). Contribution à l'étude de genre *Dialium*. *Bull. Soc. Roy. Bot. Belgique* 84: 29-45.

Dialium angolense Welw. ex Oliv.

Tree 3-20 m with a broad crown, sometimes a low spreading shrub to 4 m tall; bole conical, tortuous, 30-60 cm Ø, with rounded buttresses; branches erect, ± tortuous.

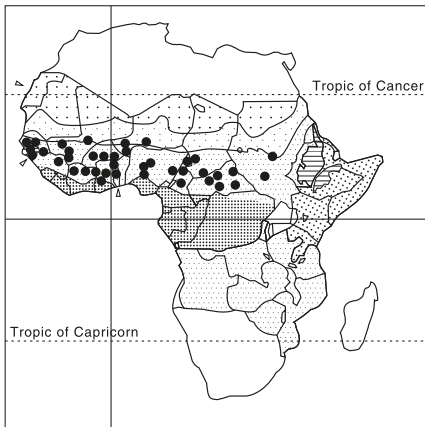
Gallery and fringing evergreen forests, muteshi forest and thickets on lake shores, on sand hills, quartz rocks and other rocky places; woodland and sandy river banks; 700-1275 m alt.

Variable in shape of leaflets.

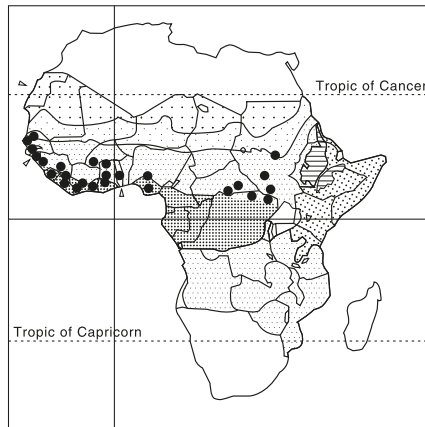
D. aubrevillei Pellegr.

Evergreen tree to 36-65 m; trunk to 30 m long, >1 m Ø, 2,5 m in girth, buttressed, angular, usually straight, but sometimes crooked and branched at low level; buttresses spreading, transversely striate, concave, which may grow quite large on old specimens; crown fairly small, half globular.

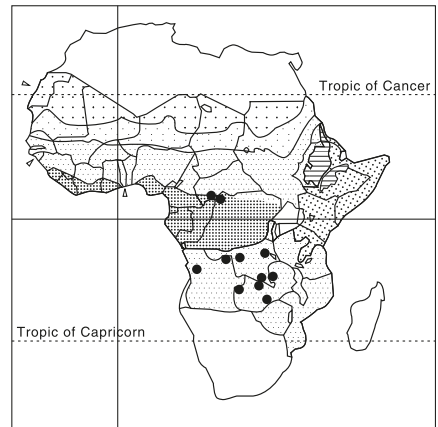
Scattered in rain- and secondary rain-forest and moist semi-deciduous forest; granitic soil; sandy crest; to 500 m alt. (Nimba Mt.).



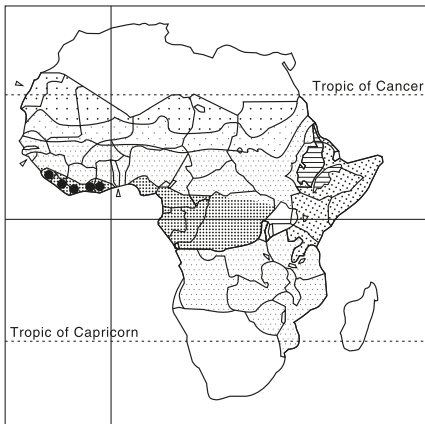
Detarium microcarpum



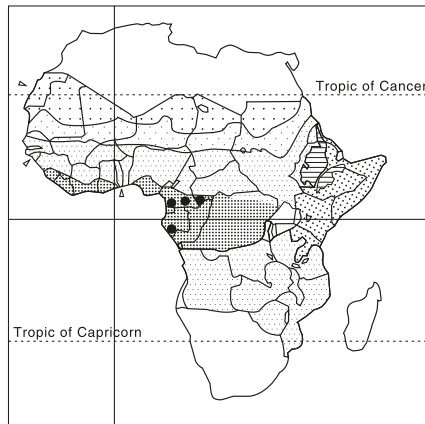
Detarium senegalense



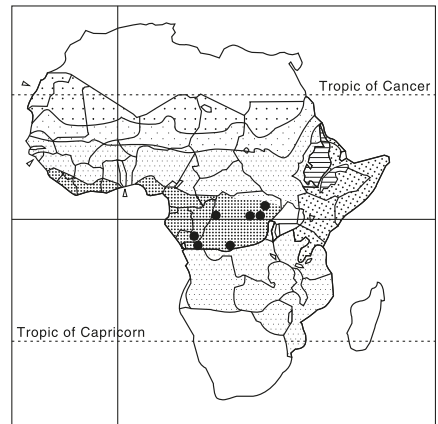
Dialium angolense



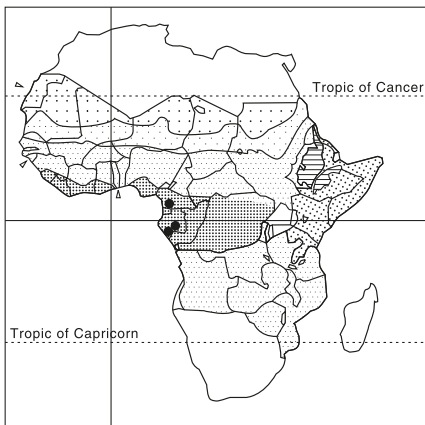
Dialium aubrevillei



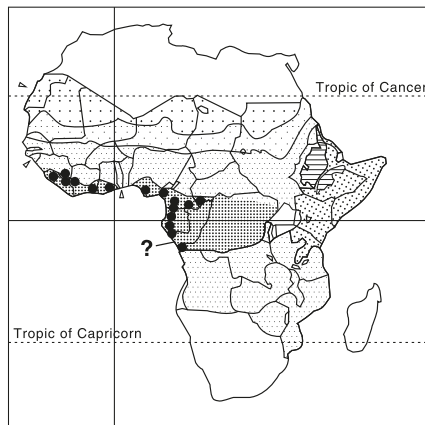
Dialium bipindense



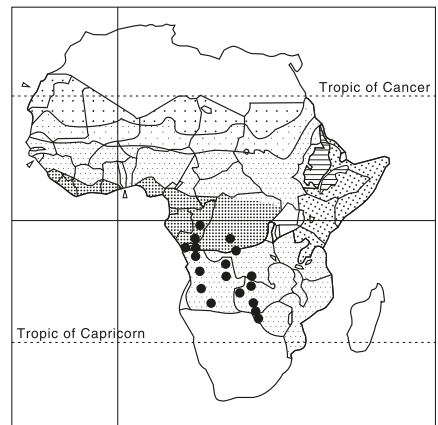
Dialium corbisieri



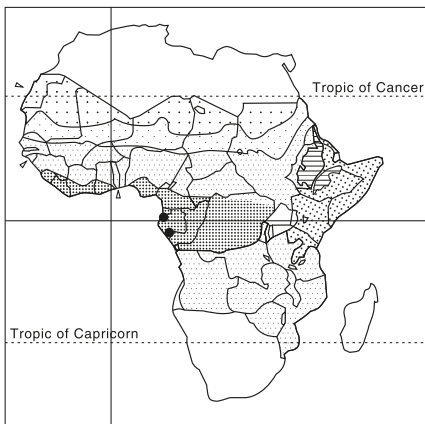
Dialium densiflorum



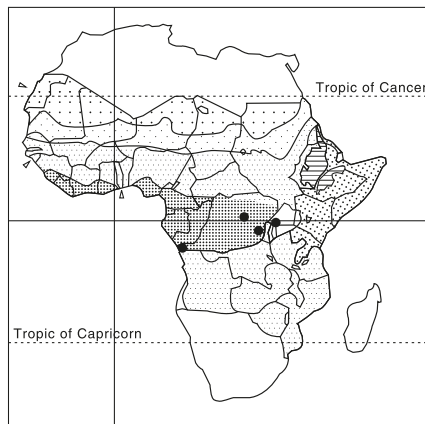
Dialium dinklagei



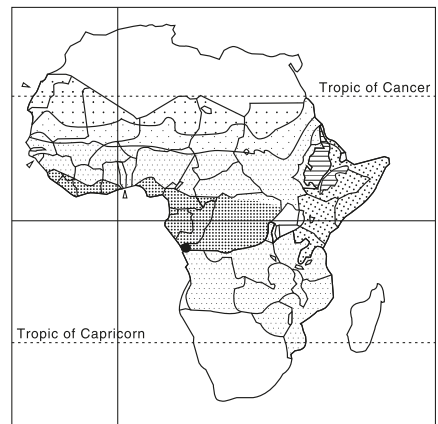
Dialium englerianum



Dialium euryspalum



Dialium excelsum



Dialium gossweilerii

DIALIUM

D. bipindense Harms

syn.: *D. connaroides* Harms ex De Wild., nomen (1920); descr. in Baker f. 1930.

Tree 20-35 m.

Rain-forest; seasonally flooded forest; abandoned fields and roads.

D. corbisieri Staner

Tree to 30-35 m; bole straight or tortuous, to 1 m Ø.

Flooded forest or on dry ground; swamp- and stream sides.

D. densiflorum Harms (synonym of *D. guineense*, fide Sosef & al., Check-list Gabon, 2006).

Tree ± 20 m; fruit unknown.

Ecology unknown (? forest).

D. dinklagei Harms

syn.: *D. klainei* Pierre ex Harms; *D. staudtii* Harms

Tree 7-30 m with verrucose trunk 50-90 cm Ø, 2,75 m in girth; rarely with narrow buttresses, but with thick, heavy root swellings; crown spreading with pendulous branches; petals absent.

River- and lagoon-sides; humid gully; evergreen and deciduous forest; sometimes in marshy places; half-deciduous forest with *Celtis*; scattered in many types of forest; old fields; to ± 500 m alt. (Nimba Mt.).

D. englerianum Henriquès

syn.: *D. lacourtianum* De Wild. ex Vermeesen; *D. simii* E. P. Phillips ("simsii" sphalm. in E. G. Baker, Legum. Trop. Afr.); *D. quinquepetalum* Pellegr., Mém. Inst. Etudes Centrafr. 1: 126, 1949, nom. invalid., and Not. Syst. 14: 56, 1950.

Evergreen tree 6-23 m; bole 1,5-3 m long, 10-30 cm Ø, irregular; crown rounded.

Wooded savanna; woodland on Kalahari sands; often associated with *Baikiaea*, *Cryptosepalum*, *Burkea*, *Erythrophleum*; 500-1450 m alt.

Caprivi Strip, Botswana, ? S. Africa (Transvaal).

Also in Gabon (fide Sosef & al., l.c.).

D. eurysepalum Harms

Tree 6-7 m tall (fide Harms); petals absent.

Forest on shore; riversides.

D. excelsum Steyaert

Tree 18-50 m; bole 9-30 m long, 0,6-1,5 m Ø with straight buttresses 8 m high and 2 m apart at the base.

Rain-forests; riversides; ± 760-900 m alt.

D. gossweileri Bak. f.

Tree 10-30 m, with sinuous bole.

Forest on firm ground.

Not in Gabon (= *D. pachyphyllum*).

D. guineense Willd.

Tree 8-20 m tall; bole to 80 cm Ø with narrow, thin butt flares; often shrubby and bole short, branching low; crown very leafy and compact.

DIALIUM GUINEENSE

Riparian plant. Sometimes persisting in wooded savanna; locally frequent, especially in wooded areas adjoining open country; permanent brook on rock; rocky couloir; evergreen and half-deciduous forests; often on river-banks, swamp margins, borders of seasonally inundated places; to 1000 m alt. (Nimba Mt.).

Principe, São Tomé.

D. hexasepalum Harms – Neotype: Hart 415 (type: Mildbraed 3020 destroyed).

Shrub or tree; trunk 15-20 cm Ø; fruit unknown.

High forest.

Collected only twice: 1908, 1983.

D. holtzii Harms

syn.: *D. mossambicense* Steyaert; *D. schlechteri* sensu Steyaert in Bull. Soc. Roy. Bot. Belg. 84: 37, 1951, p.p. quoad specim. Busse 2587 ex Tanzania.

Tree to 7-25 m; petals absent or 1.

Dry evergreen forest; riverine and swamp forest; woodland 10-800 m alt.

Extremely close to *D. bipindense*.

D. kasaiense Louis ex Steyaert

Tree 25 m tall and more; petals and stamens unknown.

Ecology unknown.

D. lopense Breteler; White & Abernethy, Guide Végétation Lopé: 136, 138, 1996.

Tree to ± 30 m; trunk sometimes slightly twisted with or without small buttresses, ± 60 cm D.B.H.

Rain-forest and forest-savanna border.

D. orientale Bak. f.

Tree or many-stemmed shrub 6-12(-18) m tall.

Dry evergreen forest; coastal evergreen bushland on sand; grouped-tree grassland; near sea-level to 60 m alt.

D. pachyphyllum Harms

syn.: *D. macranthum* A. Chev.; *D. yambataense* Vermeesen

Tree 8-20 m; bole 5-15 m long, to 70 cm Ø, straight; sometimes with slightly pronounced buttresses.

Swampy forest or forest on firm ground; low alt.

D. polyanthum Harms cited as a synonym, is maintained as a good species by, e.g. Cheek & al., Pl. Kupe...: 313, 2004, and also D. J. Harris, Vascul. pl. Dzanga-Sangha Res., C.A. R. :107, 2002; also by Sosef & al., Check-list Gabon, 2006.

D. pentandrum Louis ex Steyaert

Tree to 30-40 m; bole to 12-20 m long, ± 1 m Ø, generally with lobed buttresses.

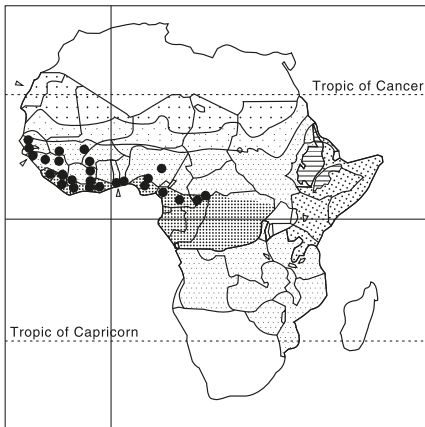
Rain-forest on firm ground.

D. pobeguinii Pellegr.

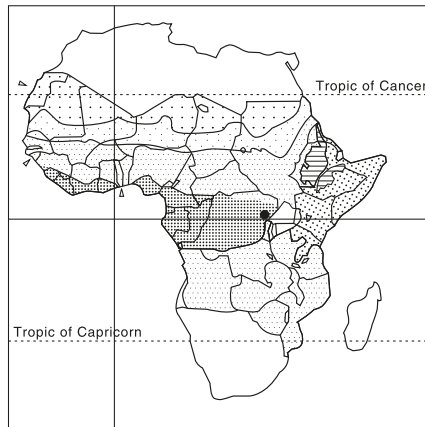
syn.: *D. ovatum* Hutch. & Dalziel, nom.

Tree to 14 m; petals absent.

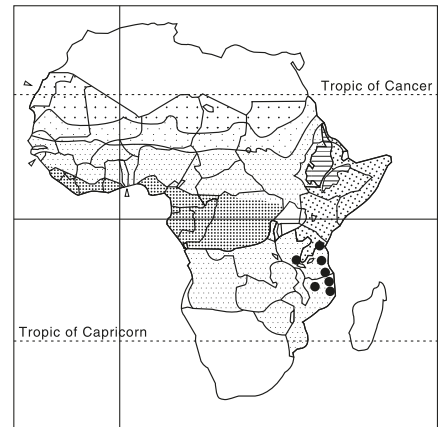
River banks close to water.



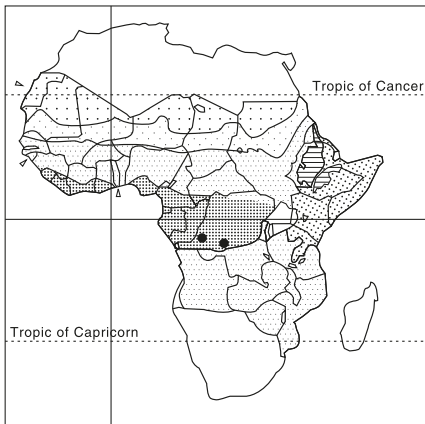
Dialium guineense



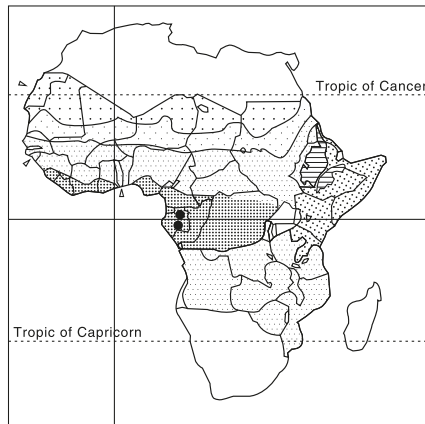
Dialium hexasepalum



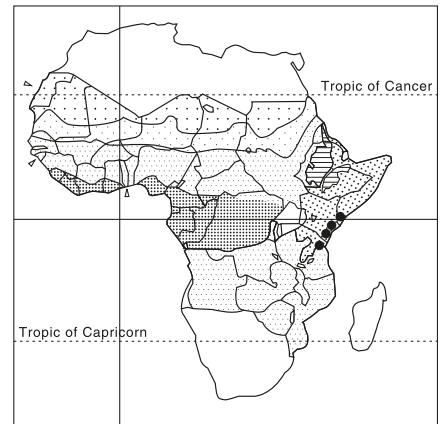
Dialium holtzii



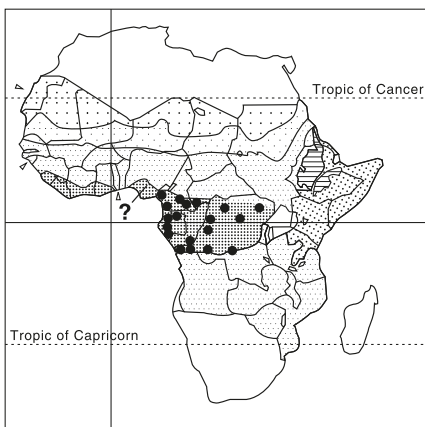
Dialium kasaiense



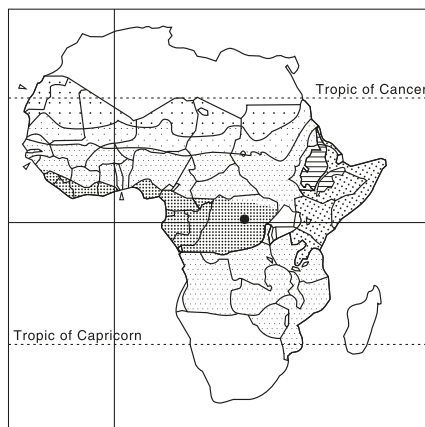
Dialium lopense



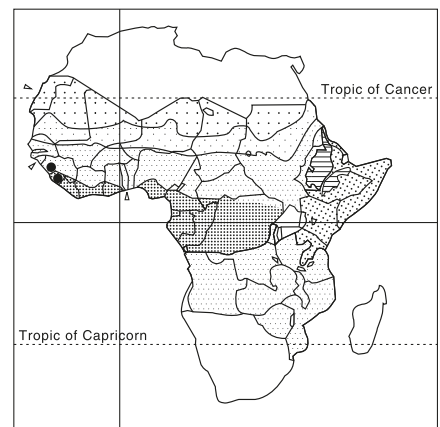
Dialium orientale



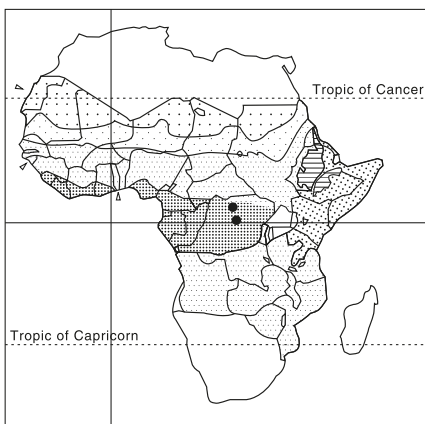
Dialium pachyphyllum (incl. *D. polyanthum*)



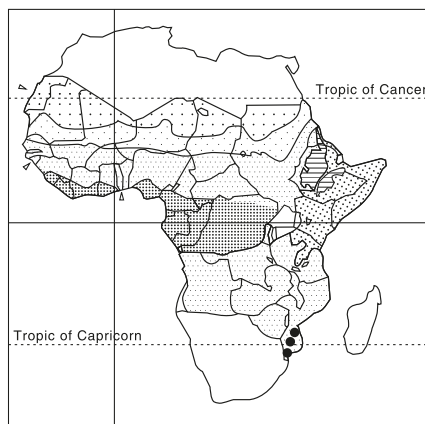
Dialium pentandrum



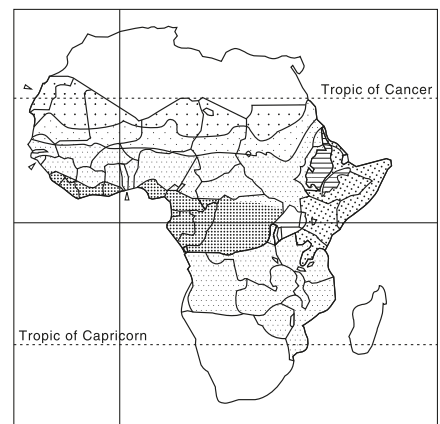
Dialium pobeguini



Dialium reygaertii



Dialium schlechteri



DIALIUM

D. reygaertii De Wild.

Tree ± 15 m, with straight bole to 45 cm Ø; branches tortuous; ripe seeds unknown.

Rain-forests sometimes flooded or swampy forests; riparian formations.

D. schlechteri Harms; Coates Palgrave, Trees of Southern Africa, Ed. 2: 286, 1997; Steyaert, Bull. Soc. Roy. Bot. Belg. 84: 37, 1951, excl. spec. Busse 2587.

syn.: *Andrada arborea* Sim

Usually tree 5-10 m, but reaching 15 m under favourable conditions.

Coastal bush and forest, frequently a canopy tree on dry sandy soils; lowland dry woodland, dry forest on sand or alluvial soils, with *Albizzia*, *Acacia*, *Azelia*, *Terminalia*, *Balanites*, *Euphorbia*, etc.; below 200 m alt.

Variable in number of stamens (6-10). Specimens with large coriaceous leaflets approaching *D. holtzii*.

S. Africa (Natal).

Not in Tanzania (= *D. holtzii*).

D. soyauxii Harms (synonym of *D. guineense*, fide Sosef & al., Check-list Gabon, 2006).

Tree 7-15 m; petals absent.

Forest with clearings on firm ground, with *Marantaceae* spp.

D. tessmannii Harms

syn.: *D. mayumbense* Bak. f.

Tree to 20 m, with straight or tortuous bole to 65 cm Ø and small winged buttresses.

Swampy forest and disturbed forest on hillside; firm-ground forest with clearings in association with *Marantaceae* spp.

D. zenkeri Harms (synonym of *D. guineense*, fide Sosef & al., Check-list Gabon, 2006).

syn.: *D. acuminatum* De Wild.; *D. laurentii* De Wild.

Tree to 40 m tall and more with cylindrical bole to 1 m Ø, sometimes ± deeply grooved.

Riparian; periodically flooded forests; sometimes in forest on firm ground.

SYNONYMS:

Dialium acuminatum De Wild. = **Dialium zenkeri** (= **D. guineense**)

bipindense sensu Eggeling, non Harms = **D. excelsum**

connaroides Harms ex De Wild., and descr. in Bak. f.
= **D. bipindense**

evrardii Stey. = **D. angolense**

fleuryi Pellegrin = **D. bipindense**

graciliflorum Harms = insufficiently known

klainei Pierre ex Harms = **D. dinklagei**

lacourtianum De Wild. ex Vermeesen = **D. englerianum**

latifolium Harms = insufficiently known

laurentii De Wild. = **D. zenkeri** (= **D. guineense**)

letestui Pellegrin = **Sindoropsis**

macranthum A. Chev. = **Dialium pachyphyllum**

mayumbense Baker f. = **D. tessmannii**

DIALIUM

mossambicense Stey. = **D. holtzii**

ovatum Hutch. & Dalziel = **D. pobeguini**

pierrei De Wild. = **D. soyauxii** (= **D. guineense**)

poggei Harms = insufficiently known

polyanthum Harms = **D. pachyphyllum**

quinquepetalum Pellegrin = **D. englerianum**

reticulatum Burt Davy & MacGregor = **D. orientale**

schlechteri sensu Steyaert p.p., non Harms = **D. holtzii**

simii E. P. Phillips ("simii" sphalm.) = **D. englerianum**

sp. nr. *bipindense* sensu Eggeling = **D. excelsum**

staudtii Harms = **D. dinklagei**

yambataense Vermeesen = **D. pachyphyllum**

DIDELOTIA / 10

Didelotia africana Baillon

Evergreen tree 36 m, with clear trunk ±25 m, 1 m Ø, 2,4-2,75 m in girth; foliage like that of *Hymenaea courbaril* L.

Near or on the banks of lakes or small rivers in evergreen rain-forest; damp soil with *Parkia bicolor*, *Garcinia*, *Pycnanthus angolense*, *Uapaca* in high forest.

D. afzelii Taubert apud Engl. & Prantl

Evergreen tree 25 m; bole 50-60 cm Ø; stout, swollen at base, low-branching; crown narrow; anthers open when the young flower is enclosed by the bracteoles (bud); leaves resembling those of *Tetraberlinia tubmaniana*.

Riverine forest usually on river banks; sandy soil covering rock; 80 m alt.

D. brevipaniculata J. Léonard

Evergreen tree 14-20 m, with clear trunk to 14 m, 1-1,5 m Ø; generally with 3-6 buttresses, to 1 m high, 10-30 cm wide. The higher the tree, the more slender the trunk.

Old secondary forest; lowland rain-forest; by scattered stands. Confused with *Monopetalanthus*.

D. engleri Dinklage & Harms

syn.: *D. ledermannii* Harms

Evergreen shrub or tree; leaves resembling those of *Cynometra leonensis*.

Rather moist forest on sandy soils near the coast.

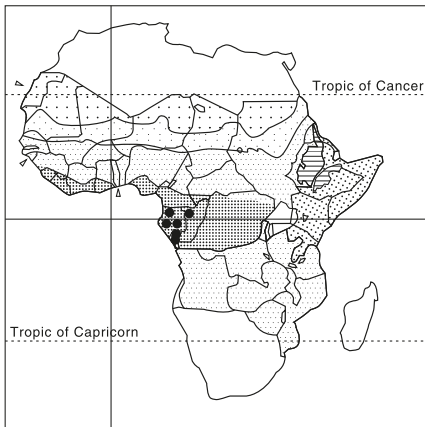
? Equatorial Guinea, ? Gabon.

D. idae J. Léonard

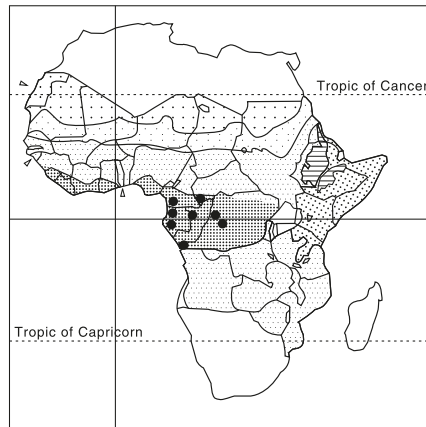
Evergreen tree 15-30(-50) m; trunk straight, clean, cylindrical, to 25 m long and to 1,2 m Ø, 4,5 m in girth; base sometimes swollen for the first 1-1,2 m, with very low, thick root swellings; crown deltoid, with fairly ascending branches, fairly open, dark green, rather small.

Rocky granite slopes and hollows in high forest; flat valleys, slowly rolling country; with *Tarrietia utilis*, *Lophira alata*, *Pari-nari excelsa*, *Brachystegia leonensis*; 80-350 m alt.

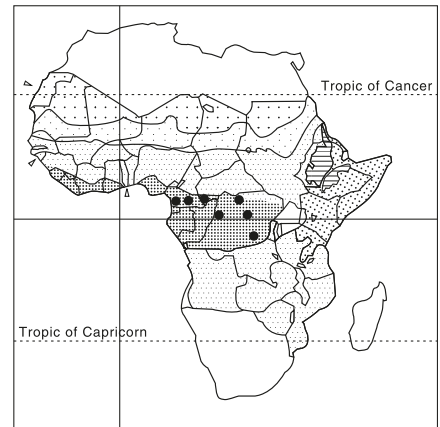
The tree grows scattered throughout the evergreen forest, often in the single-dominant forests of *Tetraberlinia tubmaniana*.



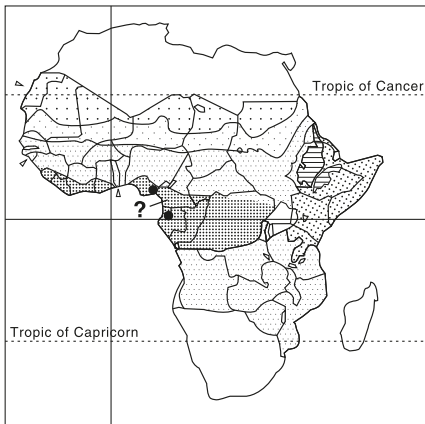
Dialium soyauxii



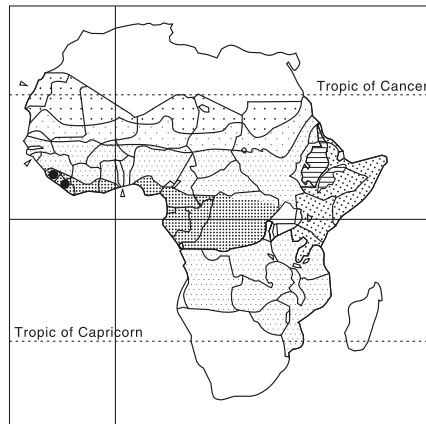
Dialium tessmannii



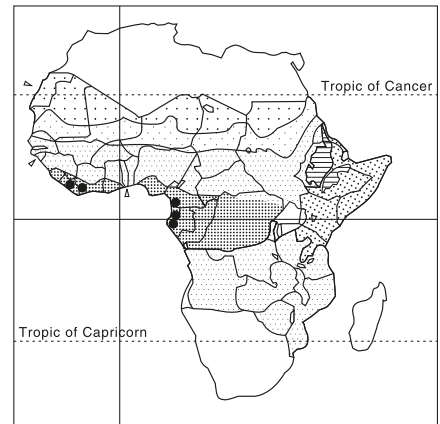
Dialium zenkeri



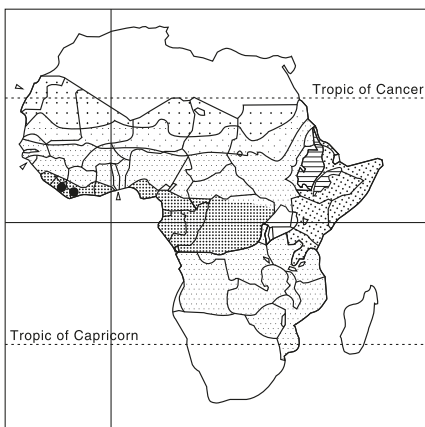
Didelotia africana



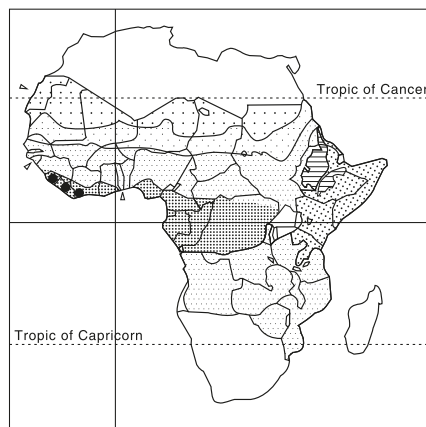
Didelotia afzelii



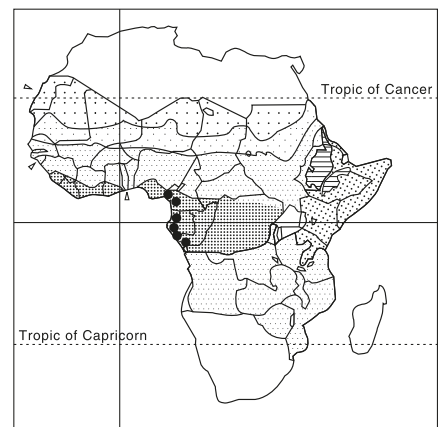
Didelotia brevipaniculata



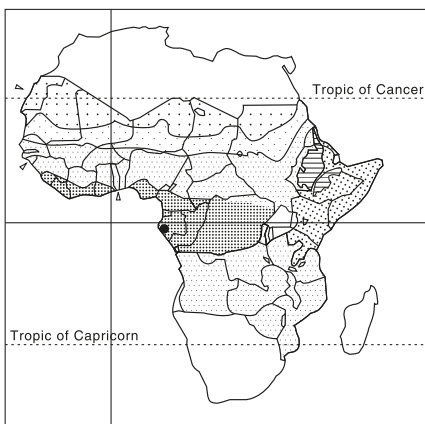
Didelotia engleri



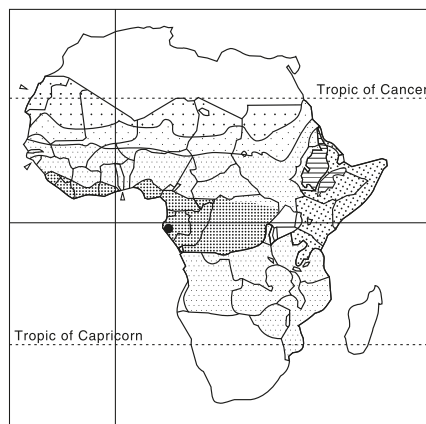
Didelotia idae



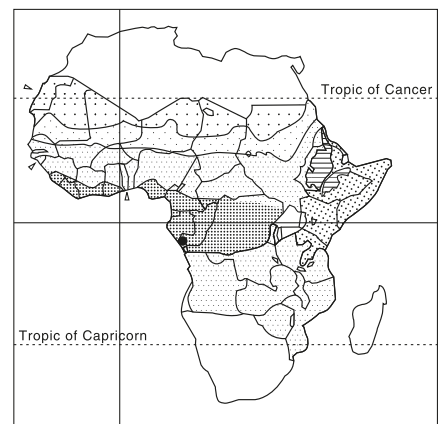
Didelotia letouzeyi



Didelotia minutiflora



Didelotia morelii



Didelotia pauli-sitai

DIDELOTIA

D. letouzeyi Pellegrin

Tree 25-40 m; trunk to 1 m Ø, free to 16 m and more.

Rain-forests; not rare but isolated specimens only, never gregarious; moist depression in forest; rarely in small open groups to 50 trees; 1-200 m alt.

Confused with *D. africana*.

D. minutiflora (A. Chev.) J. Léonard

Deciduous tree 30-35 m; bole 1-1,5 m Ø; (?? or liane); fruit unknown.

Not far from the ocean, on sandy soils in forests bordering lagoons (tree slightly buttressed); in rather dense stands.

Only known from the type collected in 1946 (in a region where deforestation is making rapid progress); ? extinct. The specimen Fleury in Chevalier 26679 cited by Chevalier himself (Rev. Int. Bot. Appl. Agric. Trop. 26: 603, 1946) is sterile and the name *Brachystegia fleuryana* A. Chev. is a nom. invalid.

D. morelii Aubrév.

Habit and fruit unknown (? tree).

Ecology unknown (? forest).

Only known from 2 collections.

D. pauli-sitai Letouzey

Tree 10 m; sepals absent; fruit unknown?

Forest on white sands; 10-100 m alt.

Also in Gabon.

D. unifoliolata J. Léonard

Tree 5 m tall and bole 30 cm Ø, sometimes to 20 m tall and bole nearly 1 m Ø.

Along water-courses: bank of a brook, swamp near a river; in *Guibourtia*-forest subject to inundation.

Resembling *Pynaertiodendron congolanum*.

INSUFFICIENTLY KNOWN:

Didelotia duparquetiana Autran, nomen semi-nudum; possibly a synonym of *D. engleri*.

SYNONYMS:

Didelotia appendiculata (Benth.) Taub. = **Brachystegia**

ledermannii Harms = **Didelotia engleri**

sp. in Hutch. & Dalziel, Fl. W. Trop. Afr., Ed. 2, 1(2): 481, 1958, p.p. = **Tetraberlinia tubmaniana**

DISTEMONANTHUS / 1

Distemonanthus benthamianus Baill. – (African) Satinwood.

syn.: *D. laxis* Oliv.

Deciduous tree to 36-40 m; trunk 62->129 cm Ø above the buttresses, 2,75 m in girth; bole free to 20 m, cylindrical, straight, sometimes slightly sinuous towards the apex, with thin and irregular buttresses, or without; crown rounded or spreading, fairly open, umbrella-like; bark conspicuous, orange to red, particularly in the upper part of the bole and on the branches; leafless

DISTEMONANTHUS BENTHAMIANUS

in a short winter period, and then putting out a flush of red leaves followed by showy cream to red flowers.

Secondary formations; evergreen and half-deciduous forests; by isolated individuals, never abundant, rarely in groups; 200-400 m alt.

Confused with *Afrormosia (Pericopsis) laxiflora* (not a closed-forest species).

DUPARQUETIA / 1

Duparquetia orchidacea Baill.

syn.: *Oligostemon pictus* Benth.

Straggling woody climber, 2 m long, or tree to 8 m tall.

Savanna; forest regrowth with *Musanga*; forest and stream banks; coastal scrub; locally common; 1-550 m alt.

ENGLERODENDRON / 1

Englerodendron usambarense Harms – Icon.: Bot. Jahrb. Syst. 40: 29, 1908.

Shrub or tree to 25 m tall.

Rain-forest; 760-1000 m alt.

SYNONYMS:

Englerodendron conchyliophorum (Pellegr.) Breteler = **Antho-**
notha

gabunense (J. Léonard) Breteler = **Antho-**
notha

sargosii Pellegr. = **Antho-**
notha

ERYTHROPHLEUM / 5

Erythrophleum africanum (Welw. ex Benth.) Harms, incl. vars. and forms (e.g. var. *parvifolium* Schinz, var. *micrantherum* De Wild., var. *angustifolium* De Wild., var. *stenocarpum* Harms; fa. *glabrissimum* De Wild.; fa. *subglabrum* De Wild.).

bas.: *Gleditsia africana* Welw. ex Benth.

syn.: *E. pubistamineum* Hennings; “*Erythrocephalum*” *pubis-*
tamineum De Wild., lapsus; *Caesalpinioides africanum*
(Welw. ex Benth.) Kuntze

Tree 4-15(-? 18) m; trunk straight, 40 cm Ø, 70 cm d.b.h., free to 10 m height; crown spreading; foliage resembling that of *Burkea africana*.

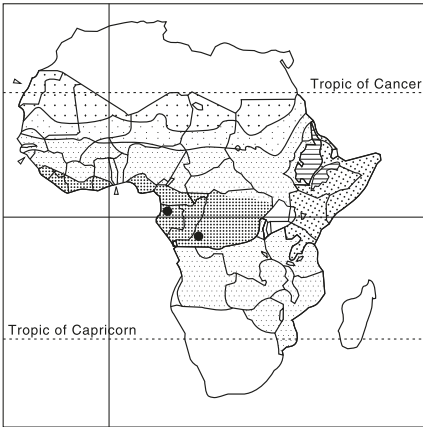
Wooded savanna; several types of woodland; sandy soils; fine gravels; open forest on sand; *Brachystegia* formations (“panda”); near wet sites in savanna; Kalahari sand often with *Parinari curatellifolia*, *Brachystegia spiciformis*, *Baikiaea*; 250-1600 m alt.

Namibia, Caprivi Strip, Botswana. – Malawi?

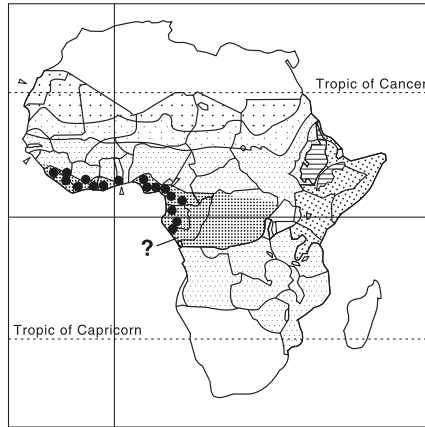
Confused with *Albizia coriaria*.

E. ivorense A. Chev.

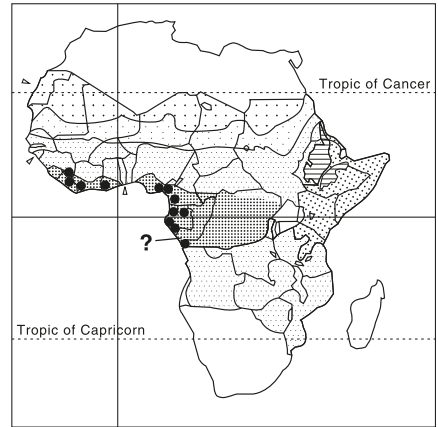
Evergreen tree to 40 m; bole 1,2 m Ø, 3-4,5 m in girth, rarely very straight and cylindrical, but usually crooked, angular, branched; trunk irregular in cross-section (the base has low root swellings when young, high, heavy root ridges or narrow, thick



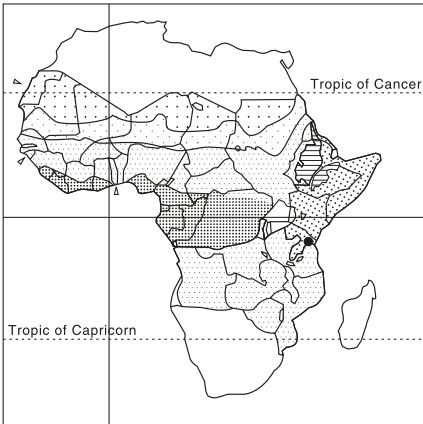
Didelotia unifoliolata



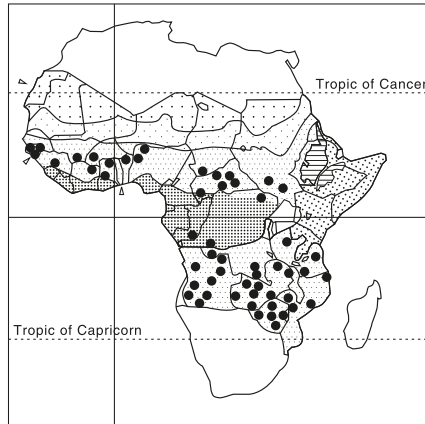
Distemonanthus benthamianus



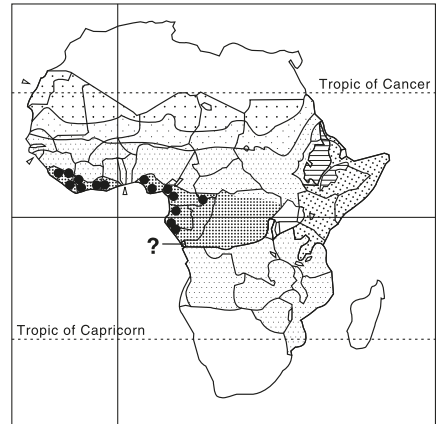
Duparquetia orchidacea



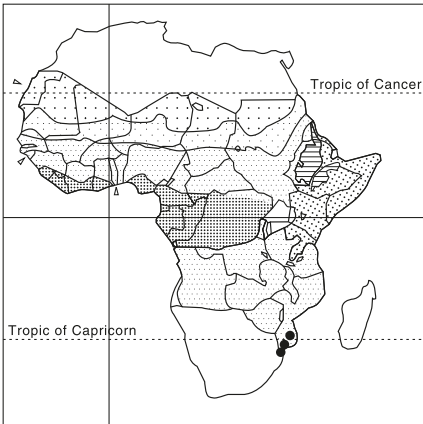
Englerodendron usambarense



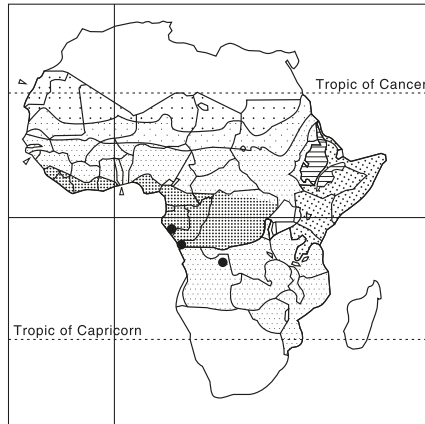
Erythrophleum africanum



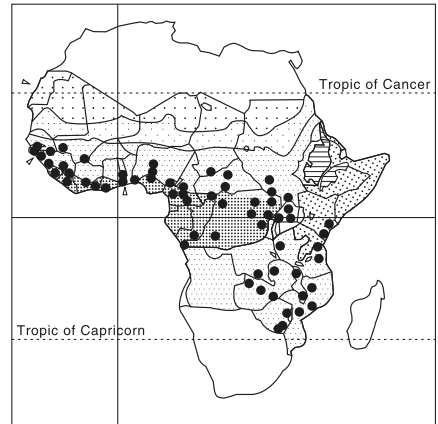
Erythrophleum ivorense



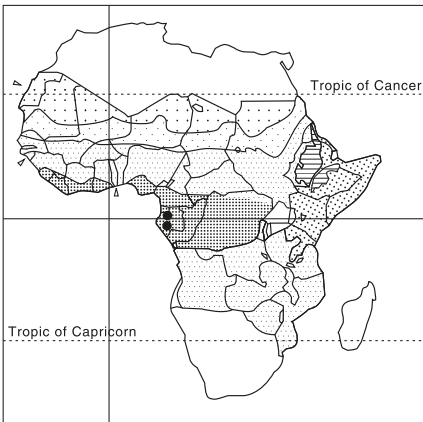
Erythrophleum lasianthum



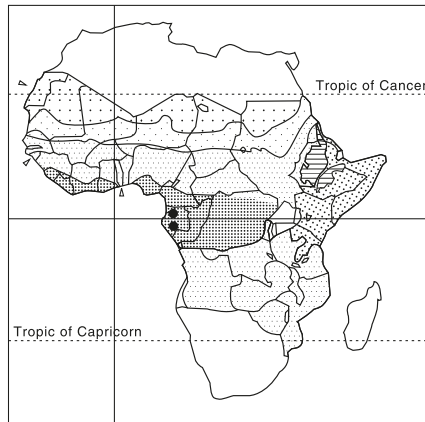
Erythrophleum letestui



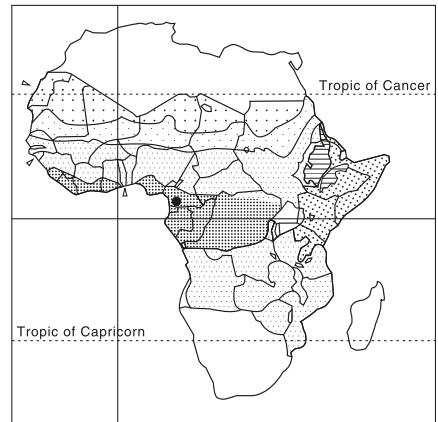
Erythrophleum suaveolens



Eurypetalum batesii



Eurypetalum tessmannii



Eurypetalum unijugum

ERYTHROPHLEUM IVORENSE

buttresses when old, often extending in heavy ridges along the stem); crown half-globular, bushy, with very dense foliage, branches and twigs spreading.

In the moister parts of the forest region; evergreen and deciduous forest, generally on river-banks and in damp depressions; usually rare, but occasionally present in moderate quantities (Ghana); sometimes one of the commonest trees (Liberia); very frequent in the Gabon estuary; old secondary forests; near sea-level -1000 m alt.

Zaire?

E. lasianthum Corbishley

Tree 8-15 m.

Can become locally dominant in dry sand forest; open woodland, riverine forest; low alt.

S. Africa, Swaziland.

E. letestui A. Chev., Vég. Ut. Afr. Trop. Franç. 9 (La forêt et les bois du Gabon): 182 sine descript., tab. XVIII: 181, 1916; Baker, J. Bot. 66, Suppl. Polypet.: 152, 1928 with very short descript.; Baker, Legum. Trop. Afr.: 778, 1930 with description; Conspect. Fl. Angol. 2 (1): 252-253, 1954. Type: Le Testu 1490 in Chevalier 28921, Tchibanga, 1908 (?lost).

Evergreen tree 20-30 m.

Rain-forest. Cited in gallery forest by Gossweiler (Carta Fito-geogr. Angola: 53, 1939).

Near *E. africanum* (See Conspect. Fl. Angol.).

Not in Aubréville, Fl. Gabon 15, 1968.

Four specimens known from Angola.

E. suaveolens (Guill. & Perr.) Brenan

syn.: *E. giudicale* W. Procter, non *Mavia giudicalis* Bertol.; *E. ordale* Bolle

Tree 9-40 m; bole rarely straight, to 1,5 m Ø, slightly buttressed (buttresses blunt), often low-branching; crown dense, spreading; pods opening without scattering the seeds.

Gallery forest with *Berlinia*; lakeshore forest; in seepage munitus; drier parts of the forest region; savanna forest; locally abundant; rain-forest with *Chrysophyllum albidum*, *Cola gigantea*, *Alstonia boonei*, *Parinari excelsa*, *Milicia excelsa*; edges of rain-forest; crest with forest on not too deep soils; from near sea-level to 1500 m alt.

SYNONYMS:

Erythrophleum dinklagei Taub. = **Calpocalyx** (*Mimosaceae*)

guineense G. Don = **Erythrophleum suaveolens**

var. *swaziense* Burt Davy = **E. lasianthum**

judicale W. Procter = **E. suaveolens**

micranthum Harms ex Holland = **E. ivorensense**

ordale Bolle = **E. suaveolens**

pubistamineum Hennings = **E. africanum**

purpurascens A. Chev. = **Tetrapleura chevalieri** (*Mimosaceae*)

EURYPETALUM / 3

Eurypetalum batesii Bak. f. – Icon.: Rev. Bot. Appl. Agric. Trop. 20: 177, 1940.

Tree 15-25 m, with several stems in a cluster or with a trunk 10-15 m without branches, 0,5-0,6 m Ø, with buttresses. Fruit known!

Rain-forest. Common fide Chevalier.

Not in Cameroon, only in Gabon.

E. tessmannii Harms – Icon.: Bot. Jahrb. Syst. 45: 294, 1910; Engler in Engl. & Drude, Die Veg. der Erde 9, 3(1): 437, 1915. Tree.

Rain-forest; 30-350 m alt.

E. unijugum Harms

Tree to 30 m; bole fluted, small-buttressed.

Evergreen rain-forest; 0-400 m alt.

GIGASIPHON / 2

Gigasiphon gossweileri (Bak. f.) Torre & Hillc.

Woody liane 15-30 m long; stem 8 cm Ø with axillary, ribboned, circinate tendrils; twigs grooved.

Heliophilous in forest on firm ground, or riverine- or swampy forests.

Perhaps not a true *Gigasiphon*.

G. macrosiphon (Harms) Brenan; Robertson in The Drifting Seed 4(1): 7, 1998.

bas.: *Bauhinia macrosiphon* Harms

syn.: *Gigasiphon humblotianum* sensu Dale & Greenway, Kenya Trees and Shrubs, 1961.

Tree 6-12-24 m; crown rounded.

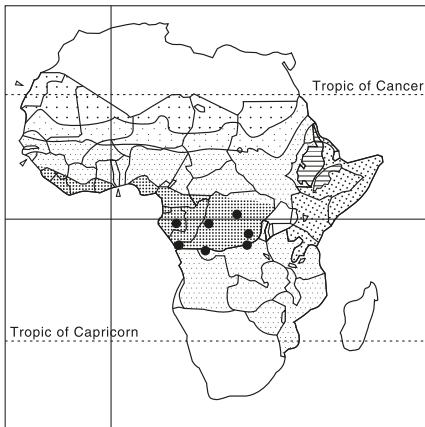
Rain-forest dominated by *Cynometra suaheliensis*; 30-910 m alt.

Ornamental by its large, beautiful flowers. Cultivated (in botanical gardens e. g. Nairobi; Hawaii).

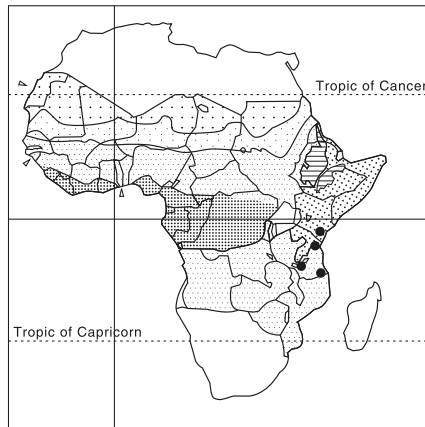
ROBERTSON, A. (1998). *Gigasiphon macrosiphon* – A case of mistaken identity. *Drifting Seed* 4/1: 7.

One of Kenya's rarest trees, not seen for years (earlier collections from 1915, 1959), except in Gongoni Forest Reserve and at Kaya Muhaka (rediscovered in 1990); also discovered in SW Tanzania, in 2001 (fide Q. Luke & B. Verdcourt in J. E. African Hist. 93: 75-77, 2004).

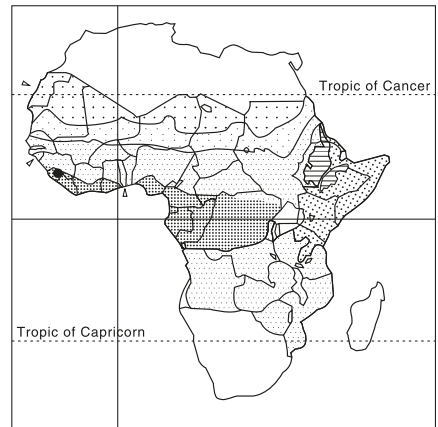
Seeds confused with those of [*G. humblotianum* (Baill.) Drake =] *Bauhinia humblotiana* Baill. (Madagascar).



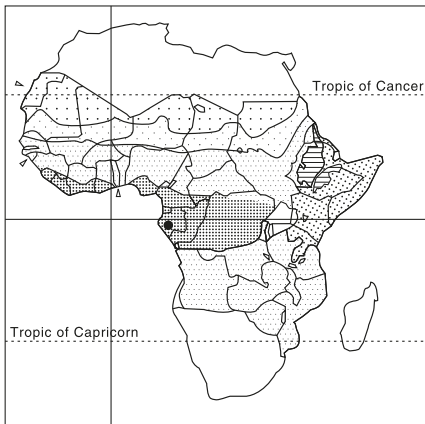
Gigasiphon gossweileri



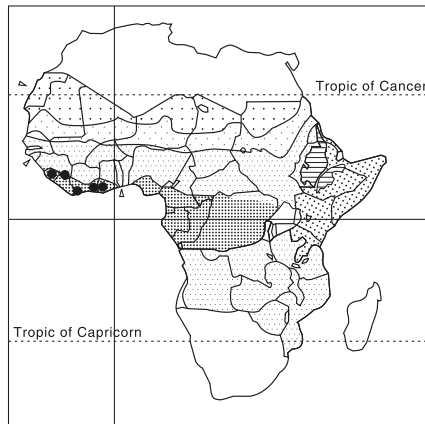
Gigasiphon macrosiphon



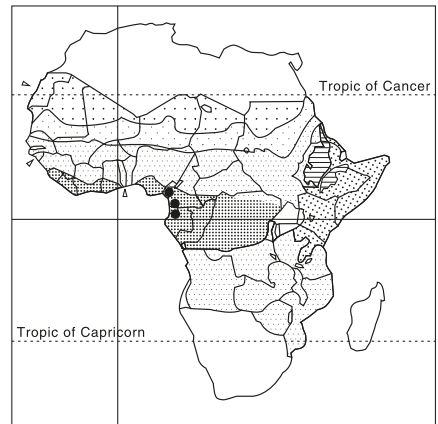
Gilbertiodendron aylmeri



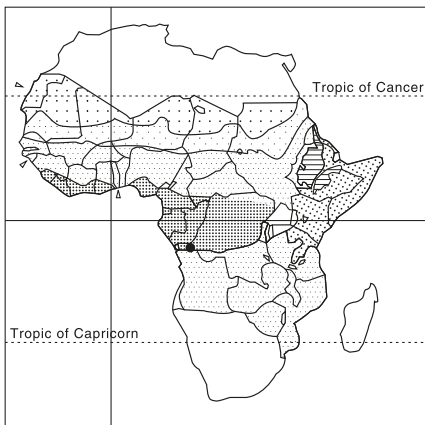
Gilbertiodendron barbulatum



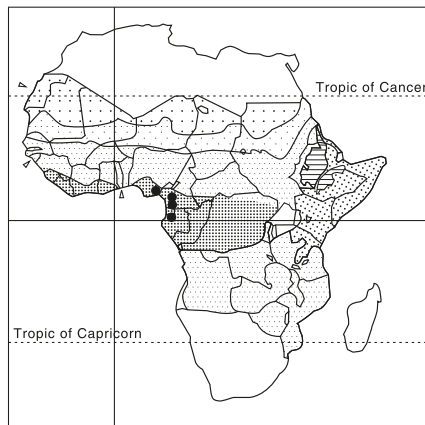
Gilbertiodendron bilineatum



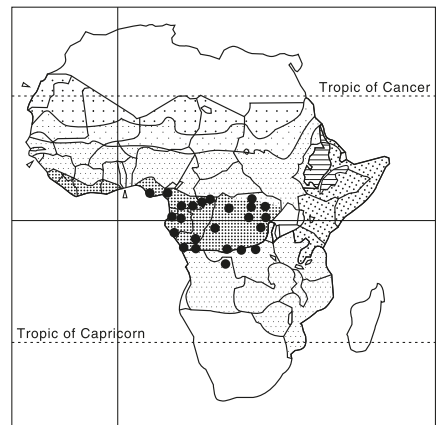
Gilbertiodendron brachystegioides



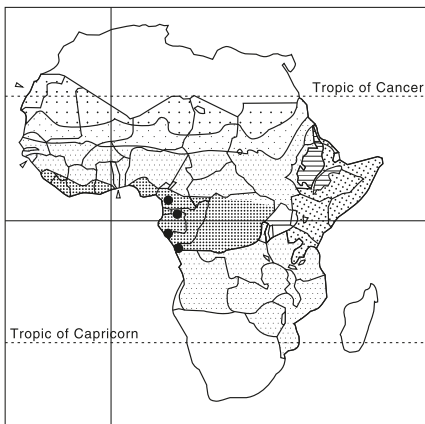
Gilbertiodendron breynii



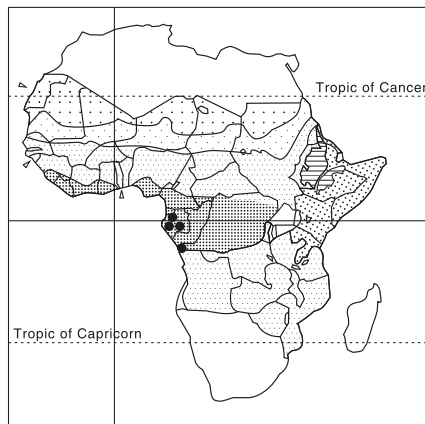
Gilbertiodendron demonstrans



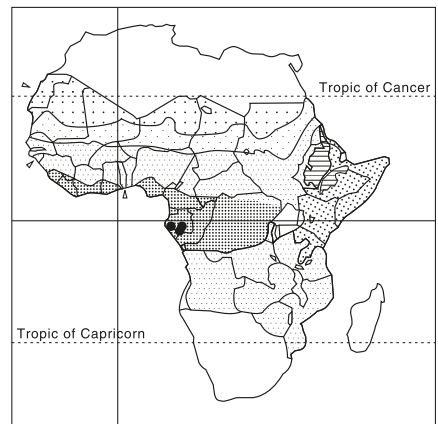
Gilbertiodendron dewevrei



Gilbertiodendron grandiflorum



Gilbertiodendron grandistipulatum



Gilbertiodendron imenoense

GILBERTIODENDRON / 26

Gilbertiodendron aylmeri (Hutch. & Dalziel) J. Léonard

Small tree.

Often near the sea: near mangrove swamps, on the sea beach.

G. barbulatorum (Pellegr.) J. Léonard

Shrub or tree with slender branches; fruit unknown.

Forest; 740-770 m alt.

Only known from 2 collections.

G. bilineatum (Hutch. & Dalziel) J. Léonard

Tree to 30 m; bole 1,8 m in girth, to 80 cm Ø, low-branching; crown irregular.

Often in wet places in closed forest; gregarious.

G. brachystegioides (Harms) J. Léonard, excl. var. *sulfureum* Pellegr. (= *G. ogoouense*).

bas.: *Macrolobium brachystegioides* Harms s. str.

Tree 25-35 m, with rather straight bole, unbuttressed.

High rain-forest; in small nearly pure stands.

G. breynei Bamps

Tree 10-25 m; bole 25-30 cm Ø.

Rain-forest near lake-sides, in stands.

G. demonstrans (Baill.) J. Léonard

syn.: *Macrolobium demonstrans* (Baill.) Oliv. var. *talbotii* Bak. f.; *M. talbotii* (Bak. f.) Hutch. & Dalziel

Scandent shrub or tree 6-7,5 m tall.

Forest.

G. dewevrei (De Wild.) J. Léonard; Gérard, Publ. Inst. Natl. Etude Agron. Congo Belge (INEAC), Sér. Sci. 87, 1960.

Tree 25-40 m; bole slightly thickened at the base, 5-22 m long, 0,5-2 m Ø, cylindrical and straight, rarely >4 m in girth; crown dense.

Sandy soils; in nearly pure stands; very common here and there on firm ground; more sporadic in riverine forest formations, periodically flooded or swampy; muhulu; in stands in tropophyllous forests; 750 m alt. (Angola).

BLAKE, S. & J. M. FAY (1997). Seed production by Gilbertiodendron dewevrei in the Nouabalé-Ndoki National Park, Congo, and its implications for large mammals. *J. Trop. Ecol.* 14: 885-891.

G. grandiflorum (De Wild.) J. Léonard

Tree 12-15 m; bole 30-35 cm Ø, cylindrical; ripe fruit unknown.

Siliceous and swampy soils; swamp-forest.

G. grandistipulatum (De Wild.) J. Léonard

syn.: *Macrolobium letestui* Pellegr.

Tree 7-15 m tall with bole 60-80 cm Ø; stipules connate, 7-20 cm × 2-5 cm; ? seeds unknown.

Ecology unknown (? swamp).

GILBERTIODENDRON

G. imenoense (Pellegr.) J. Léonard

Shrub or tree; fruit unknown.

Ecology unknown.

G. ivorense (A. Chev.) J. Léonard – Icon.: Cooper & Record, The evergreen forests of Liberia: tab. VII, 1931 (Yale Univ. School of Forestry, Bull. 31).

syn.: *Macrolobium chevalieri* Harms

Tree to 20 m, with clear bole; posterior petal 10-12 × 5,5-7 cm.

Rain-forest, in understory.

G. klainei (Pierre ex Pellegr.) J. Léonard

Tree 15-35 m, with straight, cylindrical bole.

Forests; in stands of few trees.

G. limba (Scott Elliot) J. Léonard

Tree 12-22 m; bole crooked, low-branching, but sometimes clear, 1,8 m in girth, 0,4 m Ø; crown spreading; large branches drooping.

Wet or ± swampy places; marigot side and near streams in deciduous forest; rain-forest; in valley bottom.

G. limosum (Pellegr.) J. Léonard

Ramose shrub sometimes bushy; fruit unknown.

Partly (? or much of the plant) immersed at high water.

G. mayombense (Pellegr.) J. Léonard (excl. *Macrolobium mayombense* Pellegr. var. *parvifolium* Bak. f. = *G. ogoouense*).

Tree (5-6)12-20 m tall with bole 25-65 cm Ø.

Riverine forest; shade plant.

G. ngounyense (Pellegr.) J. Léonard

Tree; fruit unknown.

Ecology unknown.

Only known from the type collected in 1918.

G. obliquum (Stapf) J. Léonard

Shrub with rusty panicles of white flowers; fruit unknown.

Ecology unknown.

Only known from the type.

G. ogoouense (Pellegr.) J. Léonard – Icon.: Bull. Jard. Bot. Etat, Brux. 22: 189, 1952.

syn.: *Macrolobium mayombense* Pellegr. var. *parvifolium* Bak. f.; *M. brachystegioides* Harms var. *sulfureum* Pellegr.

Tree 28-35 m; bole 14-19 m long, 0,6-2 m Ø, cylindrical.

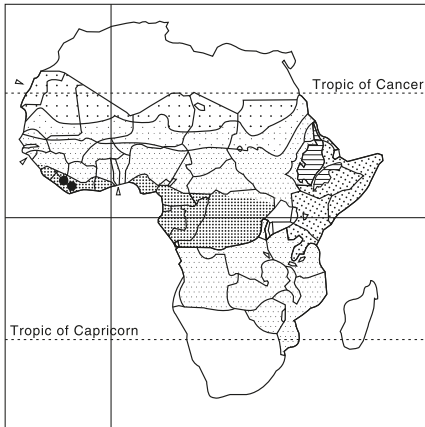
Forests on firm ground; sometimes frequent with *G. dewevrei*.

G. pachyanthum (Harms) J. Léonard

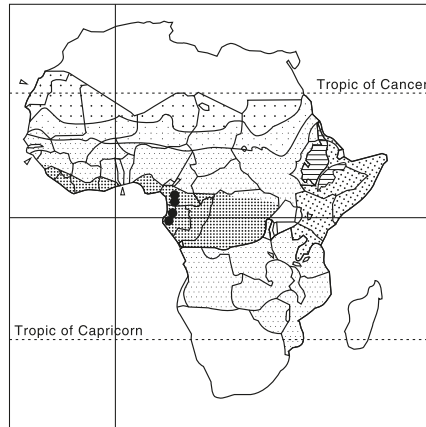
Tree 10 m; fruit unknown.

Ecology unknown.

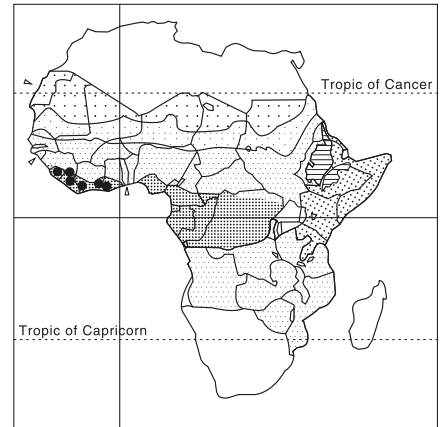
Only known from the type collected in 1903.



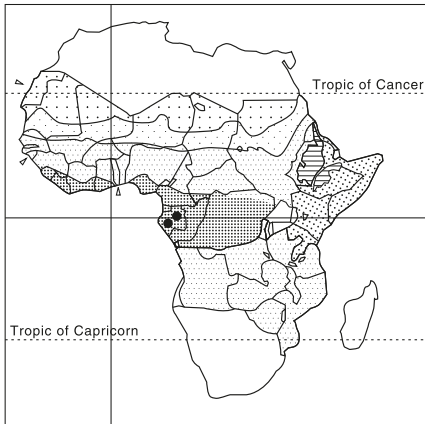
Gilbertiodendron ivorense



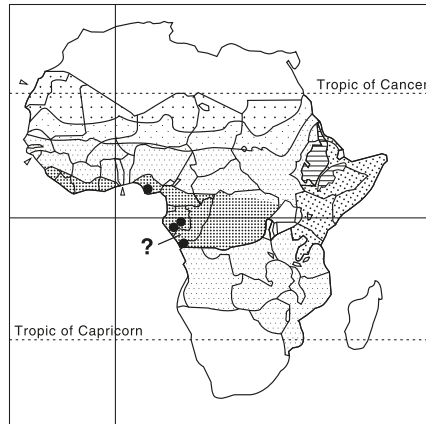
Gilbertiodendron klainei



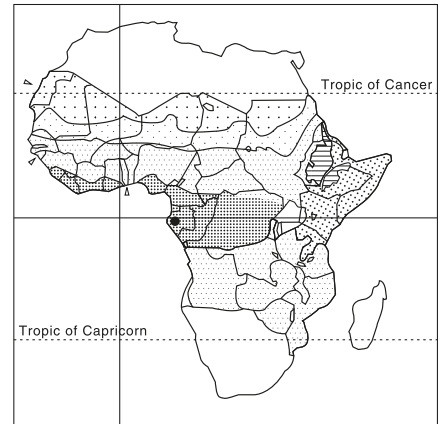
Gilbertiodendron limba



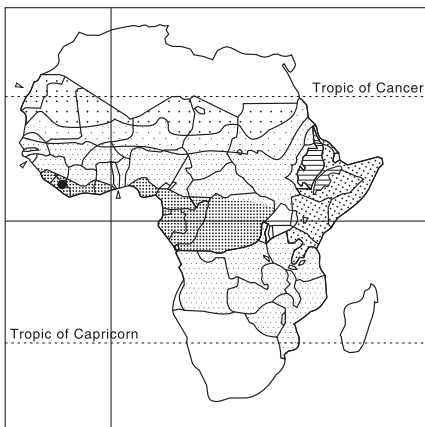
Gilbertiodendron limosum



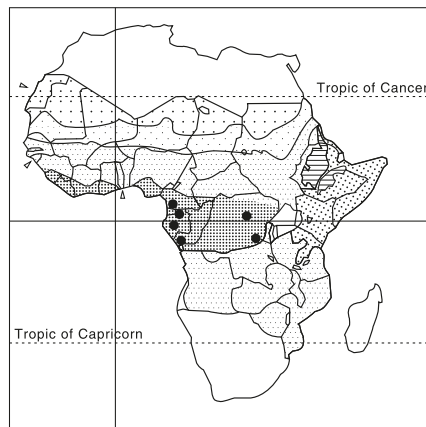
Gilbertiodendron mayombense



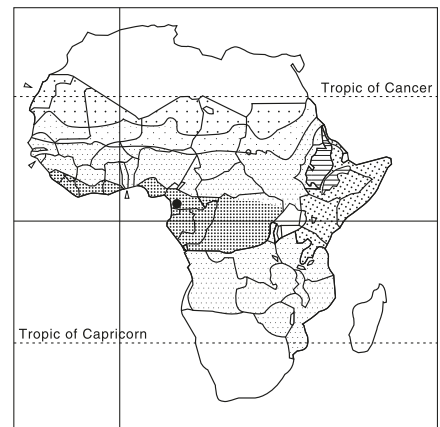
Gilbertiodendron ngounyense



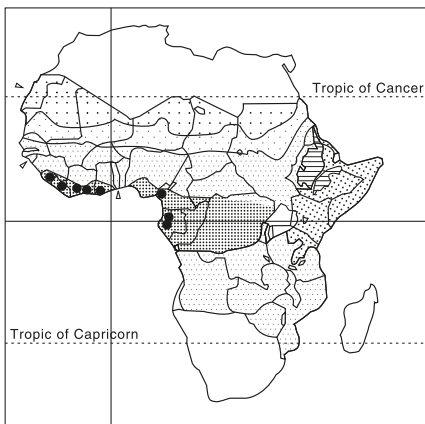
Gilbertiodendron obliquum



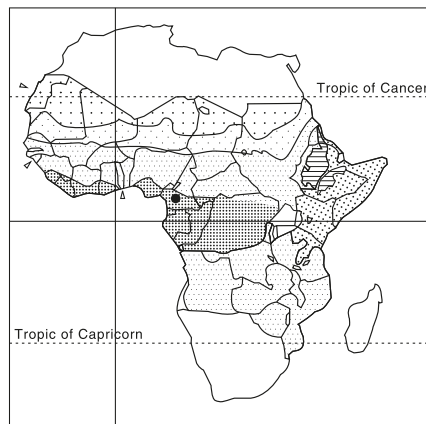
Gilbertiodendron ogoouense



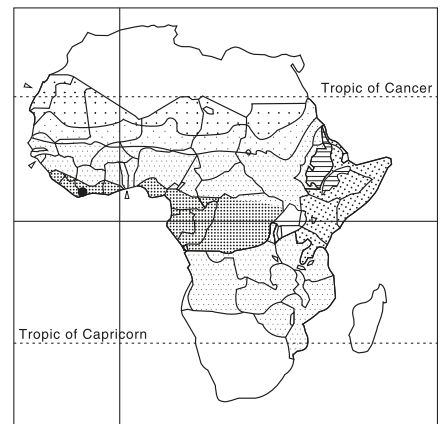
Gilbertiodendron pachyanthum



Gilbertiodendron preussii



Gilbertiodendron quadrifolium



Gilbertiodendron robynsianum

GILBERTIODENDRON

G. preussii (Harms) J. Léonard

Tree to 30-35 m, with straight bole 14 m long, 2-2,4 m in girth, cylindrical, 1-2 m Ø; bark sulphur yellow, flaking; crown spreading.

Closed forest, river-banks and lake sides; gregarious.

G. quadrifolium (Harms) J. Léonard

Tree; fruit unknown.

Ecology unknown (? forest, beside brook).

Only known from the type (probably destroyed) collected in 1914. Similar to *G. dewevrei* but leaves smaller and the large petal yellowish white (not wine coloured).

G. robynsianum Aubrév. & Pellegr.

Shrub; fruit unknown ?

Forest; along watercourse; road-side in forest.

G. splendidum (A. Chev. ex Hutch. & Dalziel) J. Léonard

Tree to 25 m; bole straight, cylindrical, 60 cm Ø, 1,8 m in girth; the large petal 9 × 9 cm. Has one of the longest fruits in the *Leguminosae*: to 60 × 13 cm, dark brown tomentellous, with 3 strong longitudinal ridges.

Swampy parts of evergreen forest; muddy stream sides; hollows.

G. stipulaceum (Benth.) J. Léonard

Tree 6-9 m; ripe fruit unknown ?

Wet gallery forest ?; brook sides; 5-240 m alt.

G. unijugum (Harms) J. Léonard

Tree or shrub; ripe fruit unknown ?

Stream side; 2-650 m alt.

Resembling *Pellegriniodendron diphyllum*.

G. zenkeri (Harms) J. Léonard

Tree; fruit unknown.

Rain-forest.

GILLETIODENDRON / 5

AUBRÉVILLE, A. (1939). Forêts reliques en Afrique Occidentale Française. *Rev. Bot. Appl. Agric. Trop.* 19: 479-484 (*Gilletiodendron glandulosum*).

DUVAL C. S. (2002). Habitat, conservation, and use of *Gilletiodendron glandulosum* (Fabaceae, Caesalpinioideae) in southwestern Mali. *Syst. Geogr. Pl.* 71: 699-737.

LÉONARD, J. & J.-L. DOUCET (1997). See under *Aphanocalyx*, p. 86 [vide p. 217].

Gilletiodendron escherichii (Harms) J. Léonard

Tree; fruit unknown.

Ecology unknown (? forest).

Near *G. mildbraedii* but with sharp-pointed leaflets, larger, less oblique, less numerous, and with larger flowers: leaflets 4-6 (not 14-28), measuring 5-9 × 3-4 cm (not 1,5-4 × 0,5-1,5 cm); sepals 4-5 mm long (not 3-4), petals nearly 5 mm long (not 3-4).

Type (destroyed) collected in 1912-13 (Escherich 303).

GILLETIODENDRON

G. glandulosum (Portères) J. Léonard – Icon.: Bull. Jard. Bot. Etat, Brux. 21: 403, 1951; Rev. Bot. Appl. Agric. Trop. 19: 785, 1939.

Evergreen tree 12-20 m, but more often a shrub, sometimes multi-stemmed; crown dense; leaflets glandular; fruits with prominent glands, secreting a golden yellow resin.

Gully, escarpment, crest on sandstone in relic forest formations, with *Bombax buonopozense*, *Diospyros mespiliformis*, *Combretum* spp., *Hymenocardia acida*, *Detarium senegalense*, *Gardenia tenuifolia*, *Daniellia oliveri*, etc.; under *Gilletiodendron glandulosum* grow: *Sarcostemma viminale*, *Adenium honghel*, *Kalanchoe lanceolata*. Endangered (extremely sensitive to fire); only known from Mali in the triangle Kita-Bafoulabé-Kéniéba; humid soil conditions along seasonal or semi-permanent watercourses.

The only sudanian species of the guinean genus *Gilletiodendron*.

G. kisantuense (Vermoesen ex De Wild.) J. Léonard – Icon.: Bull. Jard. Bot. Etat, Brux. 21: 407, 1951.

syn.: *Cynometra dacremontii* Lebrun

Tree 10-30 m; bole to 7 m high, grooved and with buttresses.

Disturbed valley forest; gallery forest; river banks.

G. mildbraedii (Harms) Vermoesen

Tree 30-45 m; bole 11-20 m, 50-85 cm Ø with winged buttresses to 2-6,5 m high, 1-2 m apart.

Forest on firm ground with *Scorodophloeus zenkeri*; sometimes island forest with lianes.

Resembling *Copaifera mildbraedii* but leaflets obtuse at the apex and seed without aril.

G. pierreanum (Harms) J. Léonard – Icon.: Bull. Jard. Bot. Natl. Belg. 66: 219, 1997.

syn.: *Brachystegia klaineana* Pierre; *B. robusta* Pierre

Tree 15-25 m, with grooved irregular bole and very tall buttresses.

Humid valley bottoms but also on mountains.

(GOSSWEILERODENDRON) = **PRIORIA**

GRIFFONIA / 4

Griffonia physocarpa Baillon

syn.: *Bandeiraea tenuiflora* Benth., excl. var. *velutina* De Wild. and var. *longipetala* De Wild. (= *G. speciosa*); *B. "tenuifolia"* De Wild., err. cal.

Bushy liane or erect or bushy shrub.

Forest formations; secondary thickets; in the swamp-forest region.

Bioko / Fernando Poo.

Not in Angola (= *G. speciosa*).

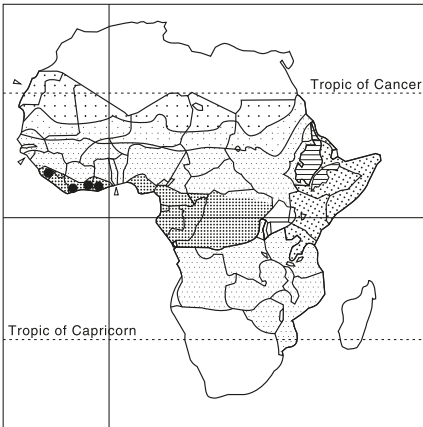
G. simplicifolia (Vahl ex DC.) Baillon

bas.: *Schotia simplicifolia* Vahl ex DC.

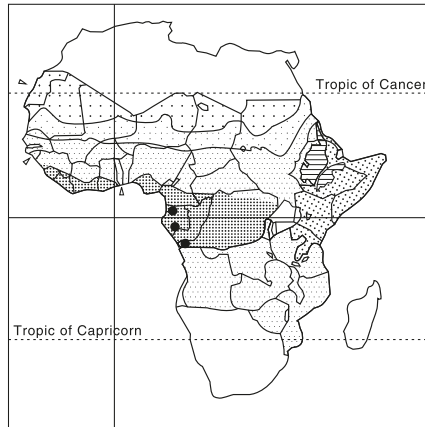
Hard-wooded shrub or climber with short strong woody tendrils.

Grass savanna; coastal plains on termite mounds; scrub, thickets; climber in secondary and gallery forests. Very common fide Aubréville; rather common fide Adam.

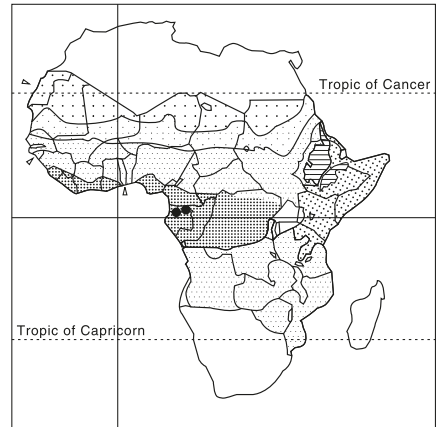
Sometimes cultivated (fide Pellegrin).



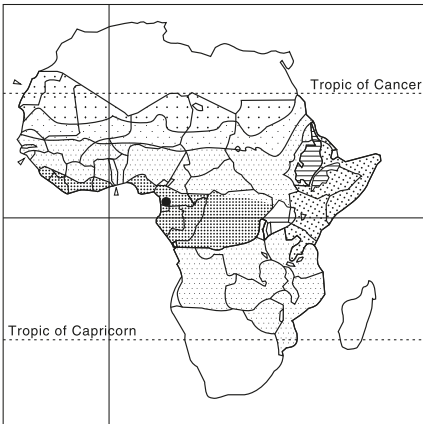
Gilbertiodendron splendidum



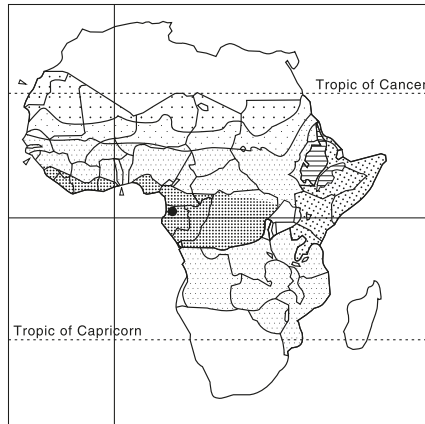
Gilbertiodendron stipulaceum



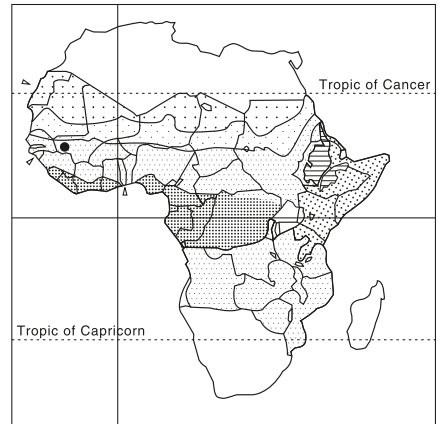
Gilbertiodendron unijugum



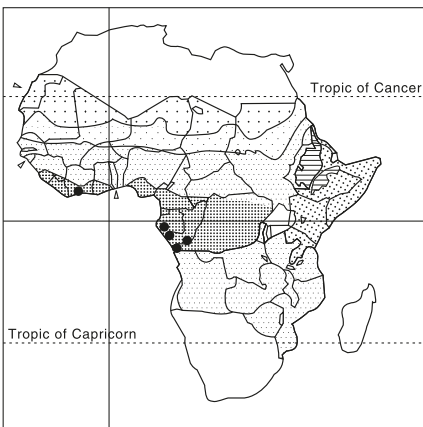
Gilbertiodendron zenkeri



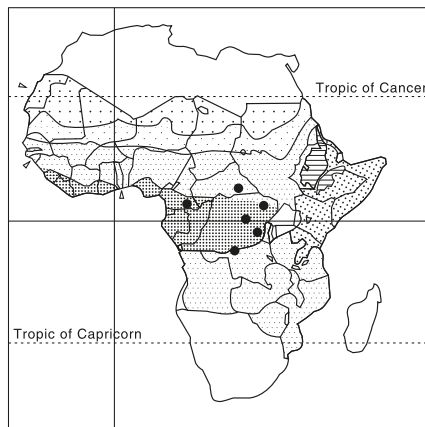
Gilletiodendron escherichii



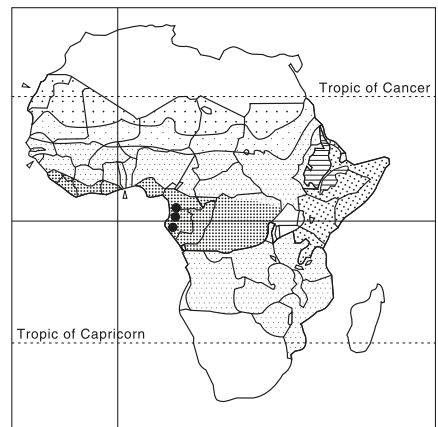
Gilletiodendron glandulosum



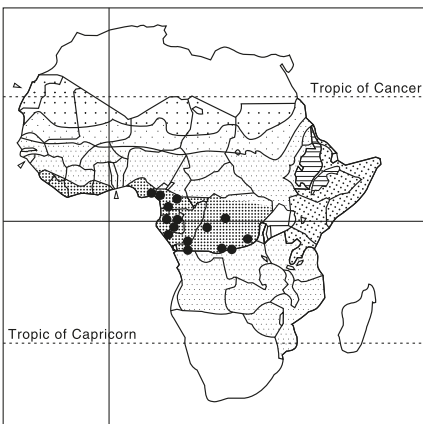
Gilletiodendron kisantuense



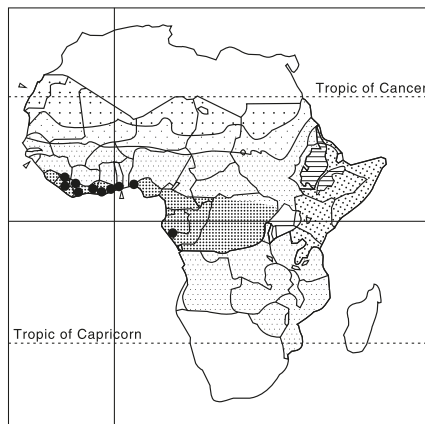
Gilletiodendron mildbraedii



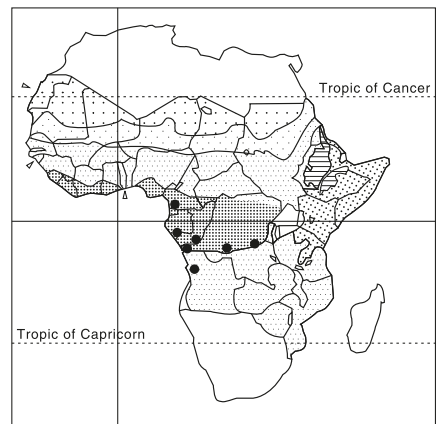
Gilletiodendron pierreanum



Griffonia physocarpa



Griffonia simplicifolia



Griffonia speciosa

GRIFFONIA

G. speciosa (Welw. ex Benth.) Taub.

bas.: *Bandeiraea speciosa* Welw. ex Benth.

syn.: *B. tenuiflora* Benth. var. *velutina* De Wild. and var. *longipetala* De Wild.

Liane 3-4 m tall with stems 25 cm Ø, or climbing shrub 1,2-1,5 m tall, with dark-purple flowers like those of *Fuchsia* or *Schotia*, calyx scarlet; sometimes a small tree or shrub standing erect.

Bushy parts of palm-groves; thickets; primary woods, widely climbing on trees with *Dalhousiea africana*; mountainous wooded stations; also with *Cacousia platyptera*.

G. tessmannii (De Wild.) Compère

Liane.

Gallery forest; riverine forest formations.

SYNONYM:

Griffonia barteri Hook. f. ex Oliv. = **Acioa** (*Rosaceae*)

GUIBOURTIA / 13

Guibourtia arnoldiana (De Wild. & Th. Durand) J. Léonard

syn.: *Copaifera arnoldiana* (De Wild. & Th. Durand) Th. & H. Durand

Tree to 25-30 m, with irregular bole 10-20 m long, 0,4-0,8(-1) m Ø; buttresses to 1 m high; bark brick-red.

Forests on firm ground.

G. carrisoana (Exell) J. Léonard – Icon.: Bull. Jard. Bot. Etat, Brux. 20: 271, 1950.

Shrub or tree 3-6 m tall; trunk very slender.

Dry coastal lowlands; waterfall; 60-130 m alt.

Comprises 2 vars.

G. coleosperma (Benth.) J. Léonard

syn.: *Copaiba coleosperma* (Benth.) O. Kuntze; *Copaiba coleosperma* (Benth.) Britton

Tree 12-30 m; bole grooved 8-13 m tall, 55-65 cm Ø or more.

Open forest with *Isobertinia*, *Brachystegia*; in pure stands here and there; deep Kalahari sand; 750-1400 m alt.

Namibia, Caprivi Strip, Botswana.

G. conjugata (Bolle) J. Léonard – Icon.: Peters, Reise Mossamb., Bot. 1: pl. 3, 1862.

syn.: *Copaifera gorskiana* Benth.; *C. gorskia* Schinz (sphalm.); *Copaiba conjugata* (Bolle) O. Kuntze; *Copaifera conjugata* (Bolle) Milne-Redh.

Tree 6-18 m, sometimes multi-stemmed to 4 m tall.

Open woodland, dense bush, usually in deep sand, often along rivers on sandy soils; 0-1500 m alt. – Disjunction between coastal populations and those of Zambia-Zimbabwe.

S. Africa.

G. copallifera Benn.

syn.: *Copaifera guibourtiana* Benth.; *C. copallina* Baill.; *Copaiba copallifera* (Benn.) O. Kuntze; *Copaiba guibourtiana* (Benth.) Lyons; *Copaifera vuilletiana* A. Chev.; *C. vuilletii* A. Chev. nom.

GUIBOURTIA COPALLIFERA

Shrub or tree to 25 m tall; trunk straight, cylindrical, 0,7 m Ø; bark white-greyish; plank-buttressed at base to 2 m height, or bole swollen at base with sharp buttresses extending upwards as fluting.

In nearly pure stands on mountain slopes; torrent sides; on sandstone; flooded valley in Ivory Coast (endangered).

Also cultivated (e.g. Nigeria) for its gum-copal of commerce.

Relic of ancient guinean forests.

G. demeusei (Harms) J. Léonard – Icon.: Notizbl. Königl. Bot. Gart. Mus. Berlin 5: 178, 1910.

syn.: *Copaifera laurentii* De Wild.

Tree 25-40 m; bole cylindrical, straight, 10-20 m long, 0,5-1 m Ø; buttresses several, thin, wing-like; crown dense.

Periodically flooded and swampy forests; gallery forest in pure stands and with *Uapaca heudelotii*, *Lophira procera*, *Irvingia gabonensis*, *I. smithii*, *Macrolobium coeruleoides*.

G. dinklagei (Harms) J. Léonard

Shrub or tree to 4,5 m tall; fruit unknown.

River banks.

G. ehie (A. Chev.) J. Léonard

Tree to 45 m, with straight cylindrical bole 1,8 m in girth, 0,5-0,8 m Ø; buttressed up to 4 m.

Forest with *Calpocalyx heitzii*, *Sacoglottis*, *Lophira*; fairly common in places; 500-700 m alt. (Nimba Mt.).

G. leonensis J. Léonard – Icon.: Bull. Jard. Bot. Etat, Brux. 20: 271, 277, 1950.

Tree to 25 m, with straight cylindrical bole, 1,25 m in girth; with narrow buttresses.

Forest.

G. pellegriniana J. Léonard – Icon.: Bull. Jard. Bot. Etat, Brux. 19: 405, 1948-49.

Tree to 30 m, with straight, cylindrical bole 40 cm Ø, sometimes grooved at the base and with buttresses.

Sometimes abundant in forests with *Berlinia tomentosa*, *Sacoglottis gabonensis*.

G. schliebenii (Harms) J. Léonard

Tree 6-20 m tall.

Near lake-shore; woodland on reddish-orange sands; coastal forest and woodland; to 100-200 m alt.

G. sousae J. Léonard – Icon.: Bull. Jard. Bot. Etat, Brux. 20: 271, 1950.

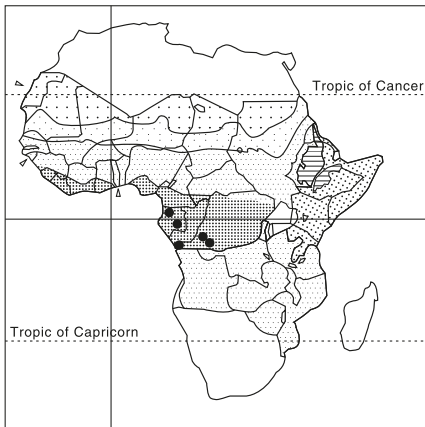
Tree 12-15 m; pod and seeds unknown.

Sandy soil with *G. conjugata*, *Androstachys johnsonii*; 150 m alt.

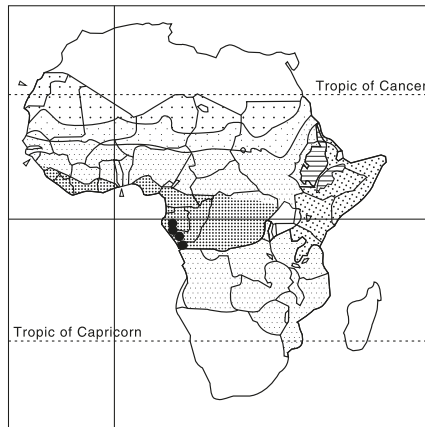
Only known from the type collected in 1936 (with mature flower buds only).

G. tessmannii (Harms) J. Léonard

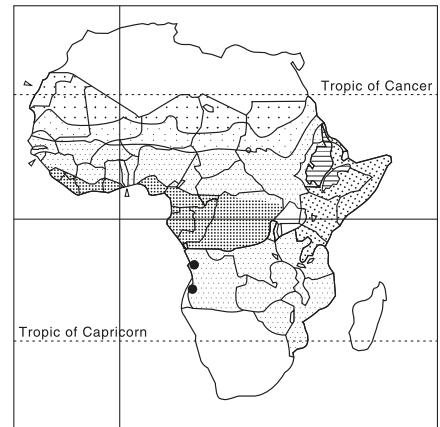
Tree probably to >65 m tall, with straight, cylindrical bole 0,9-2 m Ø, with thin, irregular high buttresses, and sinuous near the top.



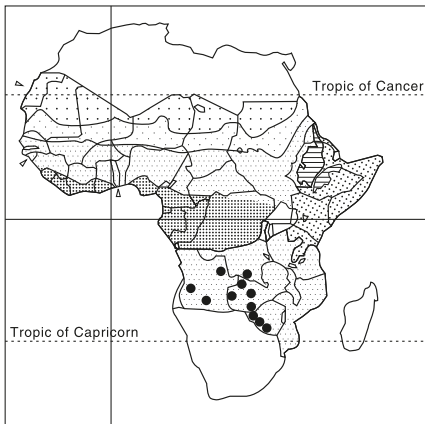
Griffonia tessmannii



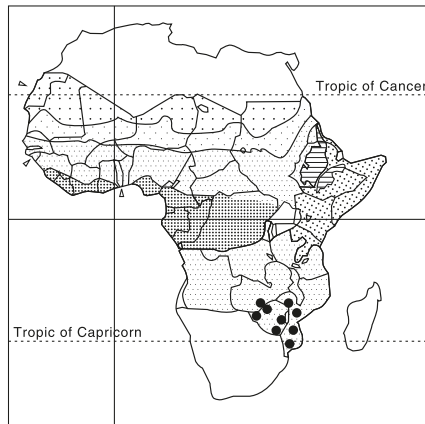
Guibourtia arnoldiana



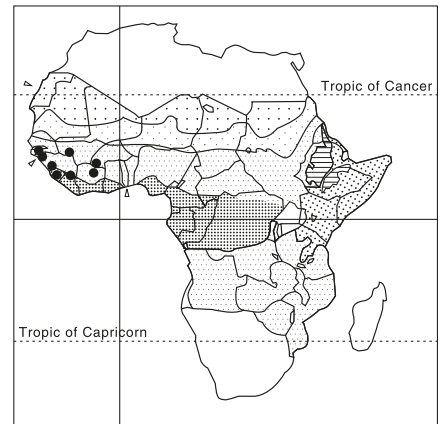
Guibourtia carrisoana



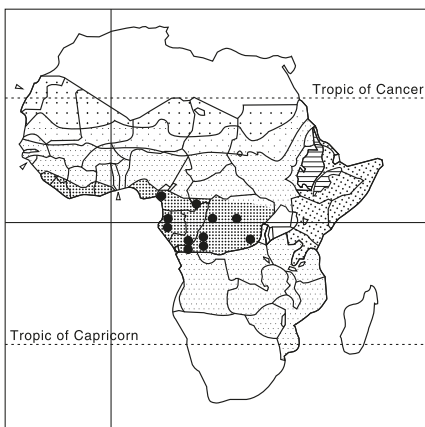
Guibourtia coleosperma



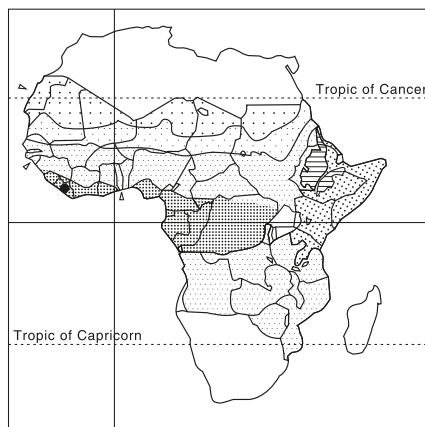
Guibourtia conjugata



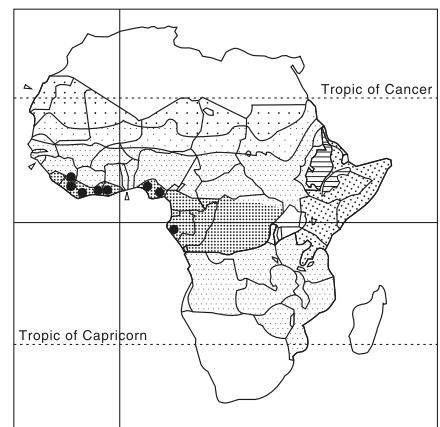
Guibourtia copallifera



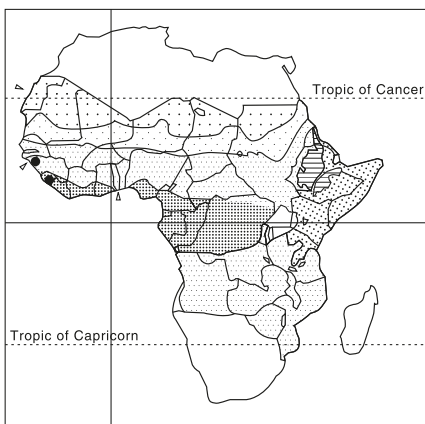
Guibourtia demeusei



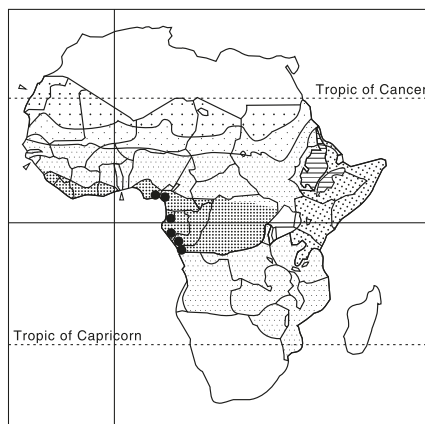
Guibourtia dinklagei



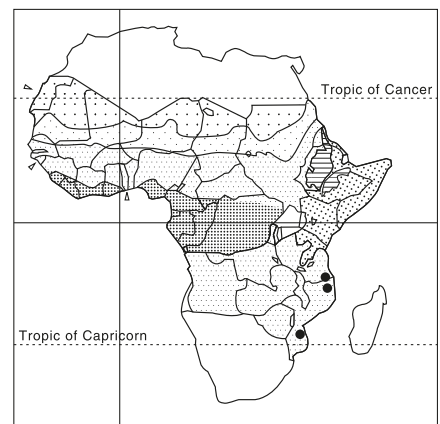
Guibourtia ehie



Guibourtia leonensis



Guibourtia pellegriniana



Guibourtia schliebenii

GUIBOURTIA TESSMANNII

Scattered but relatively abundant in *Aucoumea*, *Sacoglottis* forest; *Maranthaceae* forest; on firm ground.

SYNONYMS:

Guibourtia gossweileri (M. Exell) Torre & Hillc.
= **G. carrissoana** var.
liberiensis J. Léonard = **G. dinklagei**
vuilletiana (A. Chev.) A. Chev. = **G. copallifera**
vuilletii (A. Chev.) A. Chev. = **G. copallifera**

(GUILANDINA)

SYNONYMS:

Guilandina bonduc L. = **Caesalpinia bonduc**
bonducella (L.) Fleming = **C. bonduc**

HARDWICKIA / 1

The taxonomic status of the monotypic genus *Colophospermum* J. Léonard does not seem to be resolved yet, nor does the proposal to conserve this name against *Hardwickia* Roxb., a monotypic Indian genus. Here we follow Breteler & al. (in *Adansonia* 19: 279-291, 1997) who consider them conspecific on the grounds of comparative anatomy. However, J. Léonard (1999) has presented arguments concluding that the two genera are differentiated by numerous characters having an important generic value. – However, a new note taken recommends the conservation of *Colophospermum* which will be the correct name if the genera are combined. If they are kept separate, *Hardwickia* may be used for the Indian genus (Taxon 54: 1096, 2005).

- BRETELER, F. J. & al. (1997). *Colophospermum* reduced to *Hardwickia* (Leguminosae-Caesalpinioideae). *Adansonia*, Sér. 3, 19: 279-291.
- JORDAAN, A. & D. C. J. WESSELS (1999). The aril of *Colophospermum mopane*. Its role during seed germination and fruit opening. *S. Afric. J. Bot.* 65: 392-397.
- JORDAAN, A. & al. (2001). Morphology, ontogeny and functional anatomy of the seeds of *Colophospermum mopane*. *S. Afric. J. Bot.* 67: 214-229.
- JORDAAN, A. & al. (2002). Structure of the style and wet non-papillate stigma of *Colophospermum mopane*, Caesalpinioideae: Detarieae. *Bot. J. Linn. Soc.* 139: 295-304.
- KRÜGER, H. & al. (1999). Floral development in the legume tree *Colophospermum mopane*, Caesalpinioideae: Detarieae. *Bot. J. Linn. Soc.* 131: 223-233.
- LÉONARD, J. (1999). *Colophospermum* n'est pas synonyme d'*Hardwickia* (Caesalpinioideae): Conclusion d'une méthode objective de travail. *Bull. Jard. Bot. Natl. Belgique* 67: 21-43.
- MADZIBANE, J. & M. J. POTGIETER (1999). Uses of *Colophospermum mopane* (Leguminosae: Caesalpinioideae) by the Vhavenda. *S. Afric. J. Bot.* 65: 440-443.
- MAPAURE, I. & L. MHLANGA (2001). Patterns of elephant damage to *Colophospermum mopane* on selected islands in Lake Kariba, Zimbabwe. *Kirkia* 17: 189-198 [2000].
- MASHABANE, L. G. & al. (2001). The utilisation of *Colophospermum mopane* by the Vatsonga in the Gazankulu region (eastern Northern Province, South Africa). *S. Afric. J. Bot.* 67: 199-205.
- POTGIETER, M. J. & D. C. J. WESSELS (1998). The anatomy and morphology of petioles and leaflets of *Hardwickia mopane* (Leguminosae: Caesalpinioideae). *S. Afric. J. Bot.* 64: 281-289.
- POTGIETER, M. & al. (2001). Mopane-Veld. Can we afford to lose this valuable veld type? *Veld & Flora* 87: 78-79.
- SEETHARAM, Y. N. & K. KOTRESHA (1998). See *Bauhinia* p. 89.
- SIEBERT, F. & al. (2003). A comparison of Mopaneveld vegetation in South Africa, Namibia and Zimbabwe. *Bothalia* 33: 121-134.

HARDWICKIA

- SMIT, G. N. & N. F. G. RETHMAN (1998a). The influence of tree thinning on the reproduction dynamics of *Colophospermum mopane*. *S. Afric. J. Bot.* 64: 25-29.
- SMIT, G. N. & N. F. G. RETHMAN (1998b). Root biomass, depth distribution and relations with leaf biomass of *Colophospermum mopane*. *S. Afric. J. Bot.* 64: 38-43.
- SMITH, P. P. & al. (1998). (1372) Proposal to conserve the name *Colophospermum* against *Hardwickia* (Leguminosae, Caesalpinioideae). *Taxon* 47: 751-752.
- SMITH, P. P. & al. (2000). (1372). To conserve *Colophospermum* J. Kirk ex J. Léonard over *Hardwickia* Roxb. (Leguminosae-Caesalpinioideae). *Taxon* 49: 275-276. – For correction of text, see *Taxon* 53: 813 (2004), Report No. 49.
- TIMBERLAKE, J. R. (1999). *Colophospermum mopane*: An overview of current knowledge. In: TIMBERLAKE, J. & S. KATIVU (Eds.). *African Plants: Biodiversity, Taxonomy and Uses*: 565-571. Royal Botanic Gardens, Kew.
- VILLOEN, L. & al. (2003). Allozyme variation in five populations of mopane, *Colophospermum mopane* (Fabaceae). *S. Afric. J. Bot.* 69: 282-286.
- WELMAN, W. (M.) G. (1999). *Colophospermum mopane* is the correct name for the 'mopane'. *SABONET News* 4: 188-195.
- WIGGINS, D. A. (1997). Fluctuating asymmetry in *Colophospermum mopane* leaves and oviposition preference in an African silk moth *Imbrasia belina*. *Oikos* 79: 484-488.

Hardwickia mopane ([Kirk ex] Benth.) Breteler

bas.: *Copaifera mopane* [Kirk ex] Benth. (Kirk used the name *C. mopane* but Bentham did not take up the full name used by Kirk).

syn.: *Copaiba mopane* (Benth.) Breteler; *Colophospermum mopane* ([Kirk ex] Benth.) [Kirk ex] J. Léonard

Tree 4-18 m tall, usually \pm 10 m (or multi-stemmed shrub).

Dominant over great areas in hot, low-lying areas; often on alluvial soils, but tolerating alkaline and poorly drained soils; 60-1000(-1300) m alt.

Botswana, S. Africa, Namibia.

Mopane woodland or *Colophospermum* woodland is one of the most distinctive vegetation groups, often forming pure stands. Sometimes the plants can remain stunted, forming mopane scrub.

SYNONYM:

Hardwickia mannii (Baill.) Oliv. = **Prioria**

(HOFFMANNSEGGIA)

SYNONYMS:

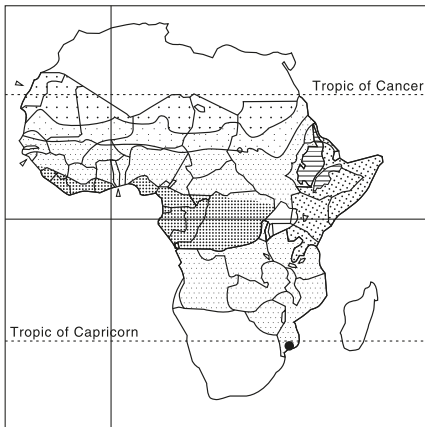
Hoffmannseggia burchellii (DC.) Benth. ex Oliv., incl. subsp. *rubro-violacea* (Bak. f.) Brummitt & J. Ross = **Pomaria insolita** Harms = **Stuhlmannia moavi**
rubra Engl. = **Caesalpinia**
rubro-violacea Bak. f. = **Pomaria burchellii**

HYLODENDRON / 1

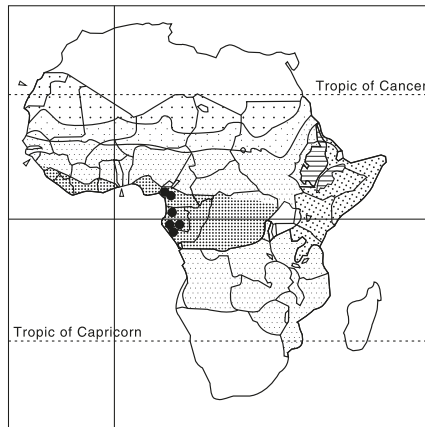
Hylodendron gabunense Taub.

Tree 20->40 m, with straight, cylindrical bole 10 m and more long, 30-100 cm Ø; with numerous, thin, ramose, winged buttresses with woody spines; crown irregular with erect branches and horizontal branches.

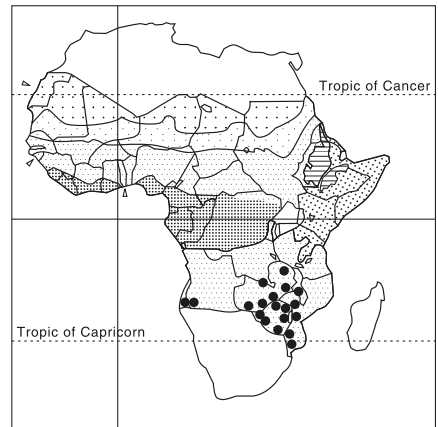
Gallery forest, clump of trees; on shallow soils; sometimes in small stands on old cultivations; frequent in secondary forest; here and there in rain-forest (big trees); 1-200 m alt.



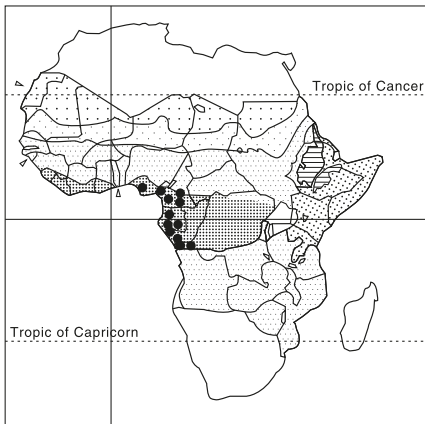
Guibourtia sousae



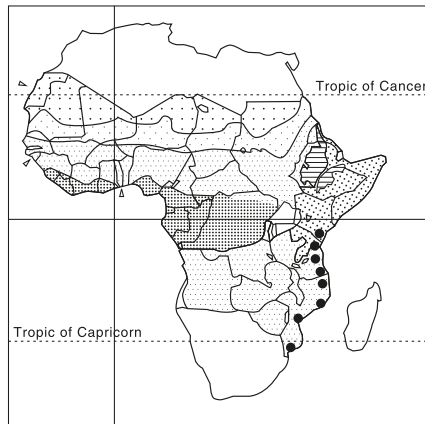
Guibourtia tessmannii



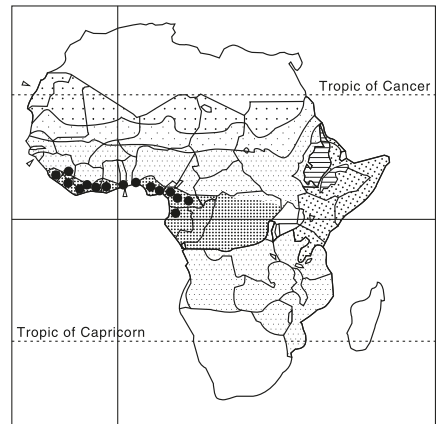
Hardwickia (Colophospermum) mopane



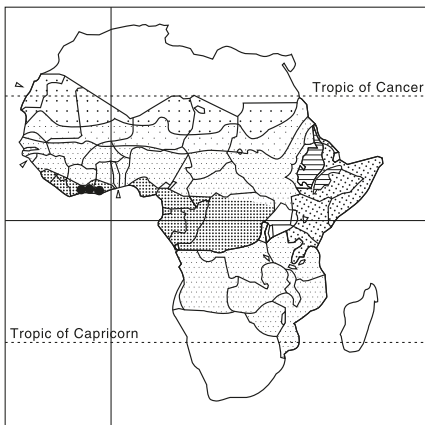
Hylandendron gabunense



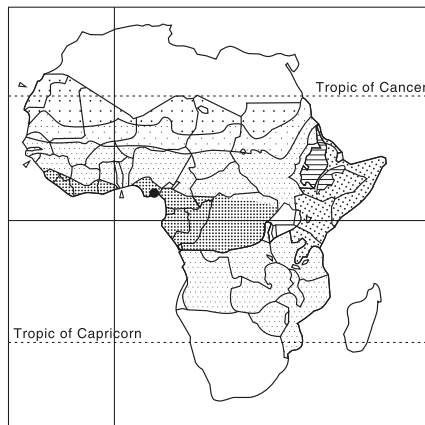
Hymenaea verrucosa



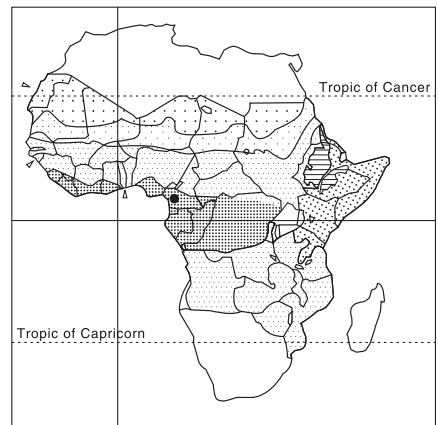
Hymenostegia afzelii



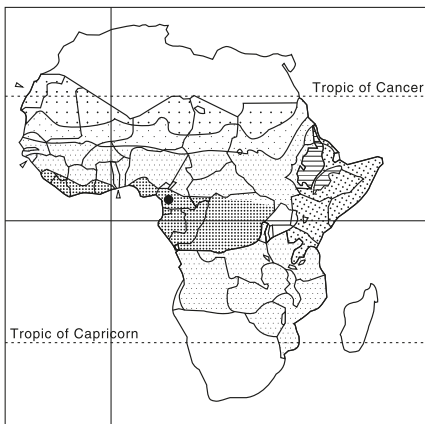
Hymenostegia aubrevillei



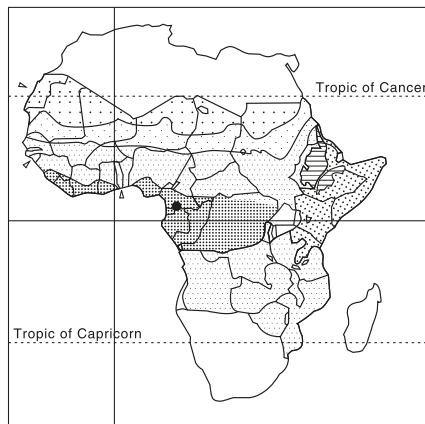
Hymenostegia bakeriana



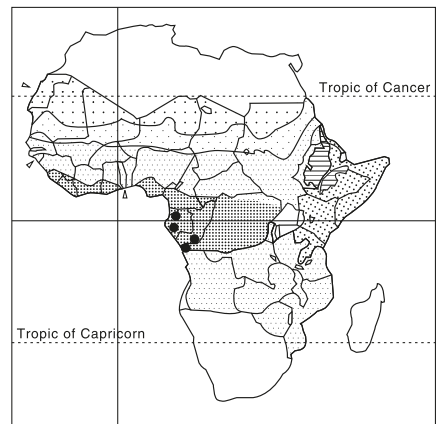
Hymenostegia brachyura



Hymenostegia breteleri



Hymenostegia felicis



Hymenostegia floribunda

HYMENAEA / 1

Hymenaea verrucosa Gaertn.

syn.: *Trachylobium hornemannianum* Hayne; *T. mossambicense* Klotzsch; *T. verrucosum* (Gaertn.) Oliv.; *T. gaertnerianum* Hayne, nom. superfl. pro *Hymenaea verrucosa*.

Evergreen tree 6-24(-40) m; bole cylindrical, clear to 15 m; crown, flat.

On or near the coast in dry evergreen forest, woodland and evergreen bushland; 15-240 m alt. (mostly below 100 m).

Madagascar, Mauritius, Seychelles. – Relict.

Also cultivated as street trees; also as a source of Zanzibar copal.

This plant is the closest extant species to *H. mexicana* described by G. Poinar Jr. & A. E. Brown in 2002, in amber from mines of Chiapas, Mexico; this fact indicates Old World-New World connections (Bot. J. Linn. Soc. 139: 125-132).

HYMENOSTEGIA / 16

Hymenostegia afzelii (Oliv.) Harms

bas.: *Cynometra afzelii* Oliv.

syn.: *Hymenostegia dinklagei* Harms

Shrub or tree to 18 m tall; bole slender 0,2 m Ø, slightly fluted at base.

Scattered in undergrowth or dominant in half-deciduous rain-forest; also in coastal formations on sandy ground; gallery; riparian; gregarious tendencies; deciduous and secondary forests; sometimes with *Lophira procera*; 0-1000 m alt.

When in flower, it is a very ornamental tree (pink and white flowers).

H. aubrevillei Pellegr.

Tree to 9 m, with short bole and dense rounded crown.

River-banks in high forest.

H. bakeriana Hutch. & Dalziel

Tree; fruit unknown.

Ecology unknown.

Only known from the type collected between 1909 and 1912.

H. brachyura (Harms) J. Léonard

Shrub or tree 15-25 m tall.

Rain-forest; river-sides.

H. breteleri Aubrév.

Tree 12-17 m; bole 35-40 cm Ø; fruit unknown.

Granitic rocks; 900-950 m alt.

H. felicis (A. Chev.) J. Léonard

Tree 12-15 m, very ramose, with erect branches and pendant twigs; fruit unknown.

Ecology?; 40-620 m alt.

Ornamental.

Known from few collections.

HYMENOSTEGIA

H. floribunda (Benth.) Harms

bas.: *Cynometra floribunda* Benth.

Tree ± 9->15 m, with bole 15 m long, 55 cm Ø, irregular; winged buttresses to 1,5 m high.

Riverine forest; swamp edges.

H. gracilipes Hutch. & Dalziel

Tree to 14 m; bole to 60 cm Ø, 1,8 m in girth; crown spreading, branches drooping; fruit unknown.

Evergreen forest; often along river banks. Not common.

Ornamental (flowers profuse, white-sepaled and reddish-petaled, in terminal racemes, several-flowered).

H. klainei Pierre ex Pellegr.

Tree 15-20 m, with slender twigs.

Stream-banks.

H. laxiflora (Benth.) Harms, incl. var. *gilletii* (De Wild.) Bak.

bas.: *Cynometra laxiflora* Benth.

syn.: *C. laxiflora* var. *nitidula* Welw. ex Oliv.; *Hymenostegia gilletii* De Wild.

Shrub or tree to 10-25 m tall; bole 30-90 cm Ø; small buttresses at the base.

Disturbed forest.

H. mundungu (Pellegr.) J. Léonard

Tree with slender twigs; fruit unknown.

Forest.

Known from few collections.

H. neoaubrevillei J. Léonard

Tree; fruit unknown.

Forest.

Only known from few collections.

Very near *H. pellegrinii* but with smaller leaflets (10 × 2 mm, not 15-20 × 5 mm).

H. ngounyensis Pellegr.

Tree 5-6 m, with slender twigs; fruit unknown.

Lake sides; 30-510 m alt.

H. normandii Pellegr.

Small tree with slender twigs; fruit unknown.

Swampy ground.

H. pellegrinii (A. Chev.) J. Léonard – Icon.: Rev. Int. Bot. Appl. Agric. Trop. 26: 613, 1946.

Tree with slender twigs; bole irregular, rarely more than 90 cm Ø, with rather thin and irregular buttresses at base.

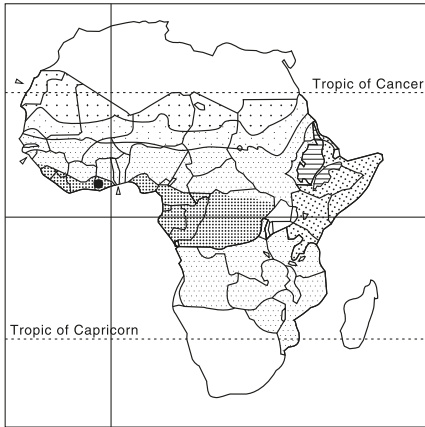
Forest, ? stream estuary; 50-758 m alt.

H. talbotii Bak. f.

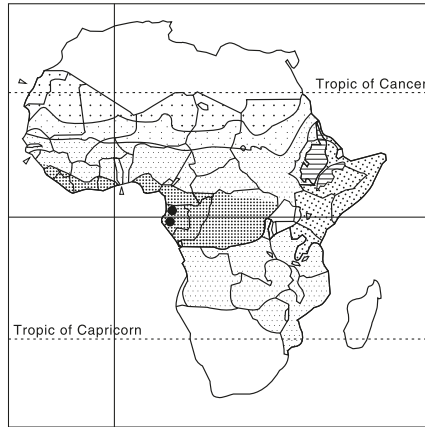
? Small tree; fruit unknown.

Forest; 650 m alt. (also in Gabon).

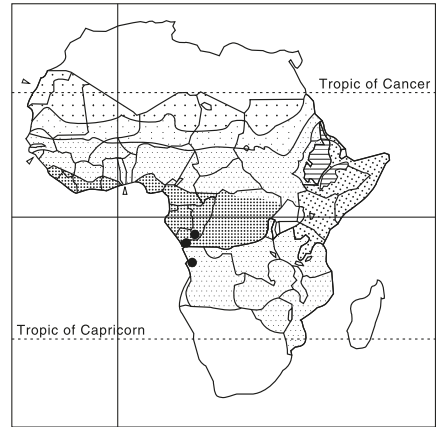
Only known from 2 collections.



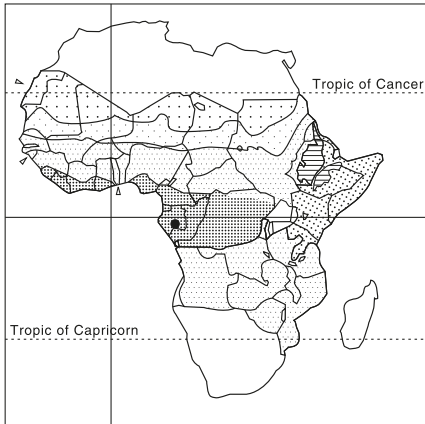
Hymenostegia gracilipes



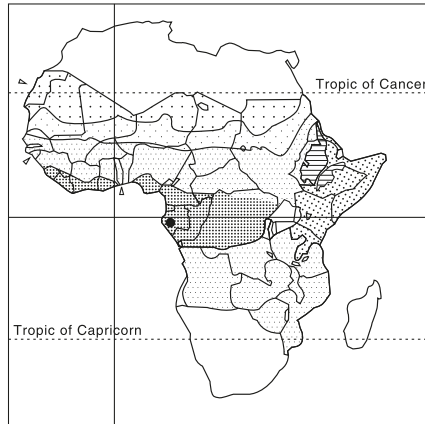
Hymenostegia klainei



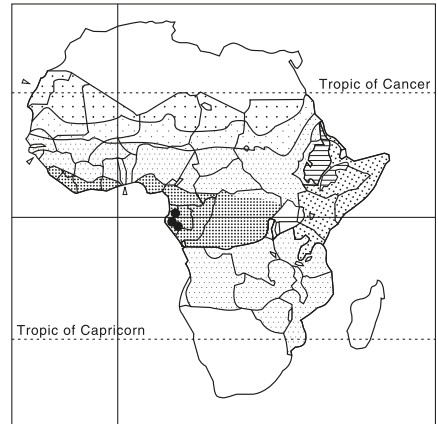
Hymenostegia laxiflora



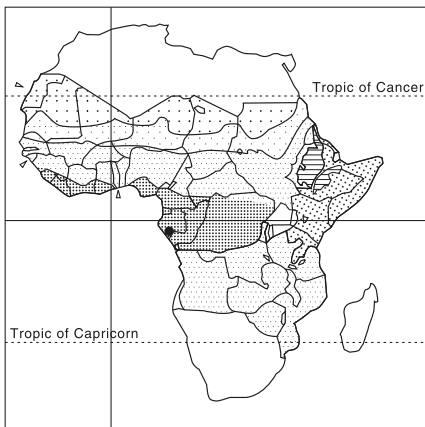
Hymenostegia mundungu



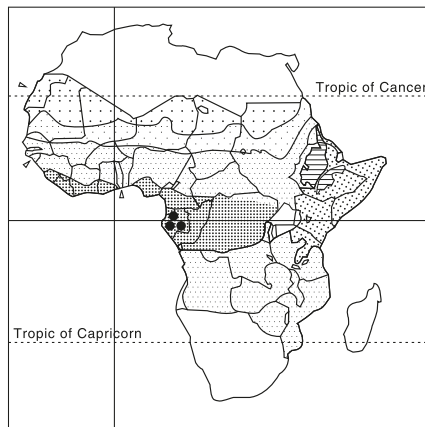
Hymenostegia neoaubrevillei



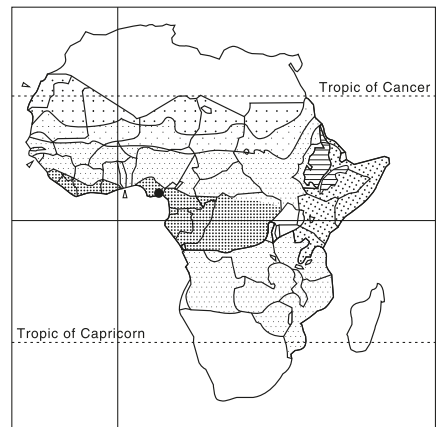
Hymenostegia ngounyensis



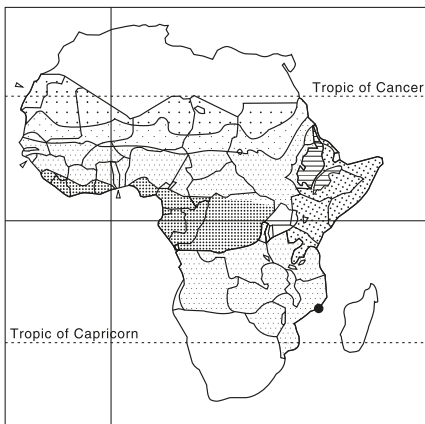
Hymenostegia normandii



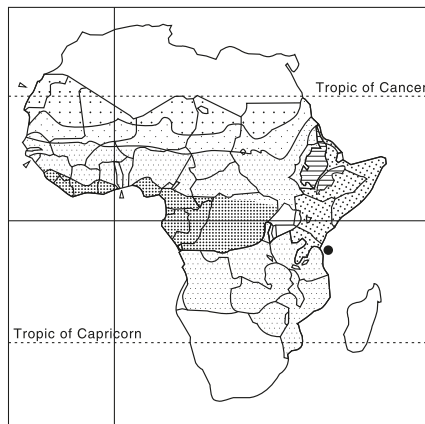
Hymenostegia pellegrinii



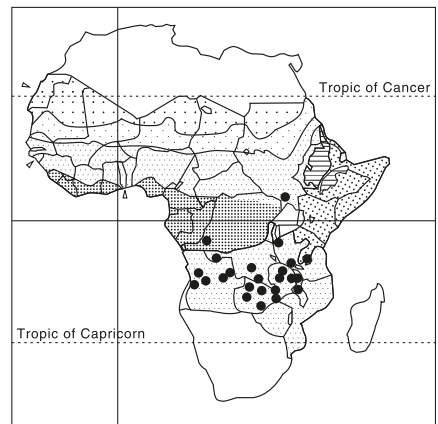
Hymenostegia talbotii



Icuria dunensis



Intsia bijuga



Isoberlinia angolensis

HYMENOSTEGIA

SYNONYMS:

Hymenostegia dinklagei Harms = **Hymenostegia afzelii**
gilletii De Wild. = **H. laxiflora**
longituba (Harms) Bak. f. = **Plagiosiphon**
minutifolia A. Chev. = **Cryptosepalum**

ICURIA / 1

WIERINGA, J. J. (1999). See under **Aphanocalyx**, p. 86.

Icuria dunensis Wieringa

Tree to 40 m; bole cylindrical, straight to 10 m long, DBH to >1 m; base sometimes with small feet.

In large communities in sandy dunes to a stretch of ± 200 km between Angoche (= Antonio Enes) and Moebase, Mozambique. Forming nearly monospecific forests in the older dunes, on dryland.

Confused with *Hymenaea verrucosa*.

First collected in 1965; recollected in 1995-1998; described in 1999.

INTSIA / 1

Intsia bijuga (Colebr.) O. Kuntze

bas.: *Macrobium bijugum* Colebr.

syn.: *Afzelia bijuga* (Colebr.) A. Gray 1854, nom. illegit., non (Willd.) Spreng. 1827.

Tree 5-40 m, buttressed when old.

On and near the sea-shore. Widely dispersed by ocean currents (vide Gunn & Dennis, World Guide to Tropical Drift Seeds and Fruits: 152, 1999).

Coasts and islands of the Indian and Pacific Oceans.

Cultivated in Zanzibar and Tanzania.

ISOBERLINIA / 5

Isoberlinia angolensis (Welw. ex Benth.) Hoyle & Brenan; Amer. J. Bot. 89: 877, 2002; Bull. Jard. Bot. Etat, Brux. 20: 297, 1950.

Shrub or tree 1-12(->20) m; bole 5-7 m long, 0,5-1 m DBH; crown spreading, rounded; also an undershrub 20-40 cm tall in fallow land (Cameroon, Mts. Mandaras fide Aubréville).

Deciduous woodland, sometimes dominant or co-dominant; open forests; gravelly, lateritic or muddy soils; often gregarious; 600-2100 m alt.

Comprises 3 vars.: – var. **angolensis** [syn.: *Westia angolensis* (Benth.) Macbr.]; – var. **lasiocalyx** Hoyle & Brenan [syn.: *Berlinia densiflora* Bak.; *B. stolzii* Harms; *Isoberlinia densiflora* (Bak.) Milne-Redh.]; – var. **niembaensis** (De Wild.) Brenan; – Intermediates can be found.

I. doka Craib & Stapf

syn.: *Humboldtia bailloni* Schweinfurth ms.; *Berlinia chevalieri* De Wild.; *B. kerstingii* Harms

Tree 10-18(-20) m; trunk straight for 5 m height, often hollow 40-60 cm Ø; ?also undershrub 20-40 cm tall (Cameroon: Mt. Mandaras fide Aubréville).

ISOBERLINIA DOKA

Deciduous woodland; tall grass savanna; always in stands; forming beautiful open forests; often with *Isoberlinia tomentosa*, *Burkea africana*, *Prosopis africana*, *Uapaca somon*, *Monotes kerstingii*; sandy, lateritic, rocky soils; cliff; gregarious; dismantled hard-pan; to ±1220 m alt.

I. paradoxa Hauman

Tree 12-15 m; bole 25 cm Ø; fruit unknown.

Savanna with *Borassus*; copsewood on rocks.

This species is an intermediate between true *Berlinia* and *Isoberlinia*.

I. scheffleri (Harms) Greenway

bas.: *Berlinia scheffleri* Harms

syn.: *Westia scheffleri* (Harms) Macbr.

Evergreen tree 30-46 m, with cylindrical trunk and small buttresses.

Rain-forest; common and locally dominant; 460-1680 m alt.

I. tomentosa (Harms) Craib & Stapf

bas.: *Berlinia tomentosa* Harms

syn.: *Westia tomentosa* (Harms) Macbr.; *Berlinia verdickii* De Wild.

Tree 3-18 m, with rounded or spreading crown; bole 6-7 m tall, 0,4-0,5(-1) m Ø, often hollow.

Deciduous woodland; savanna; gregarious, usually on stony ground; often mixed with *I. doka*; dismantled hard-pan; open forest on clayey soil; 610 (?and less)-1850 m alt.

Sometimes not separated from *I. angolensis*.

SYNONYMS:

Isoberlinia baumii (Harms) P. A. Duvign.

= **Julbernardia paniculata**

baumii (Harms) Robyns = **J. paniculata**

densiflora (Bak.) Milne-Redh. = **Isoberlinia angolensis** var. **leioocalyx**

Other synonyms, See Enum. 2: 51, 1992.

(ISOMACROLOBIUM)

Isomacrobium conchyliophorum (Pellegr.)

Aubrév. & Pellegr. = **Anthothona**

elongatum (Hutch.) Aubrév. & Pellegr. = **Anthothona**

gabunense (Léonard) Aubrév. & Pellegr. = **Anthothona**

graciliflorum (Harms) Aubrév. & Pellegr. = **Anthothona**

hallei Aubrév. = **Anthothona**

isopetalum (Harms) Aubrév. & Pellegr. = **Anthothona**

lebrunii (J. Léonard) Aubrév. & Pellegr. = **Anthothona**

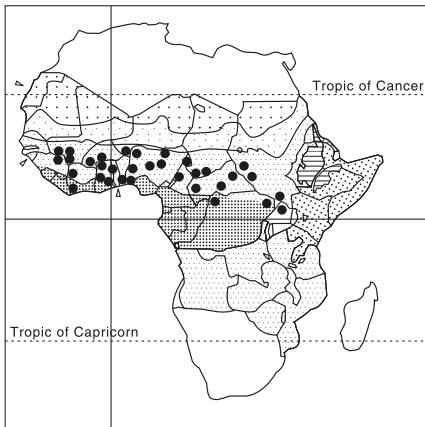
leptorrhachis (Harms) Aubrév. & Pellegr. = **Anthothona**

nigericum (Bak. f.) Aubrév. & Pellegr. = **Anthothona**

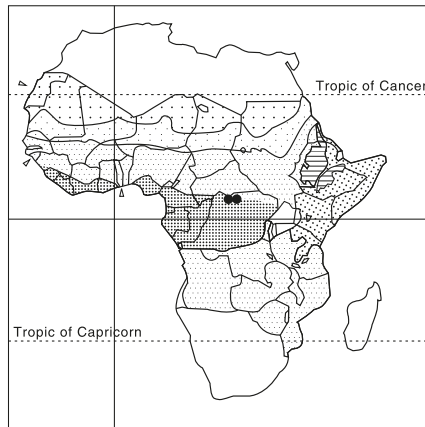
obanense (Bak. f.) Aubrév. & Pellegr. = **Anthothona**

sargosii (Pellegr.) Aubrév. & Pellegr. = **Anthothona**

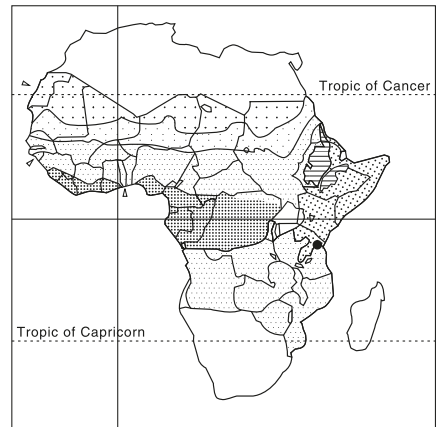
vignei (Hoyle) Aubrév. & Pellegr. = **Anthothona**



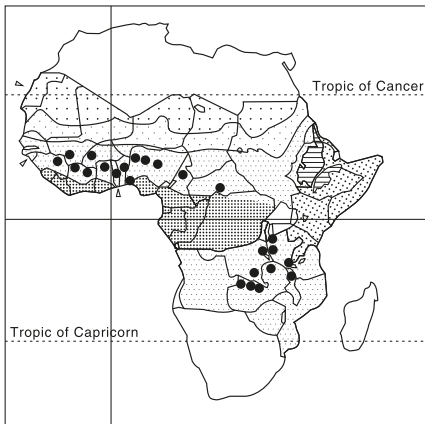
Isoberlinia doka



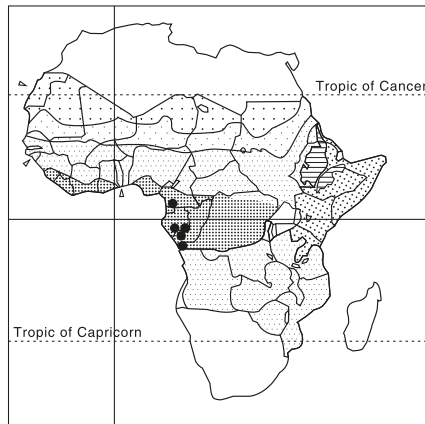
Isoberlinia paradoxa



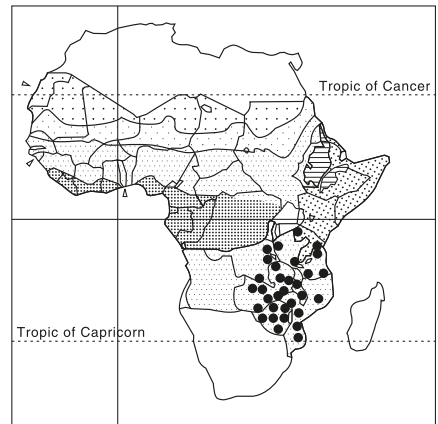
Isoberlinia scheffleri



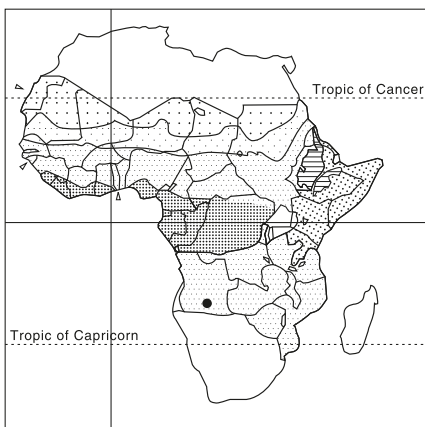
Isoberlinia tomentosa



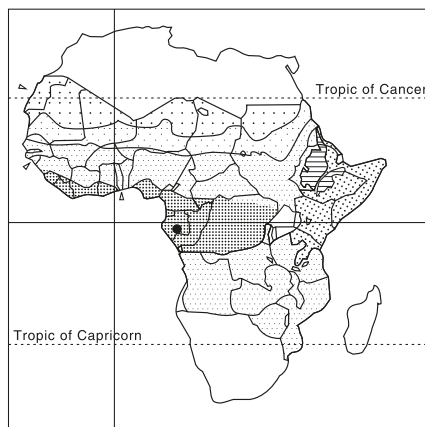
Julbernardia brieiyi



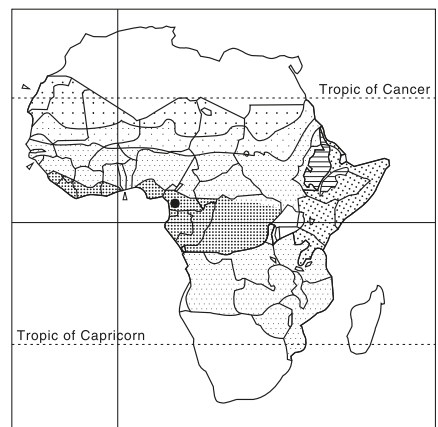
Julbernardia globiflora



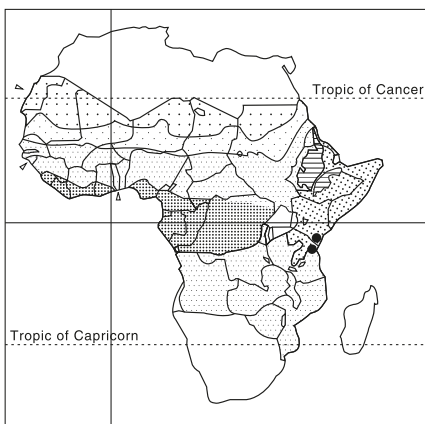
Julbernardia gossweileri



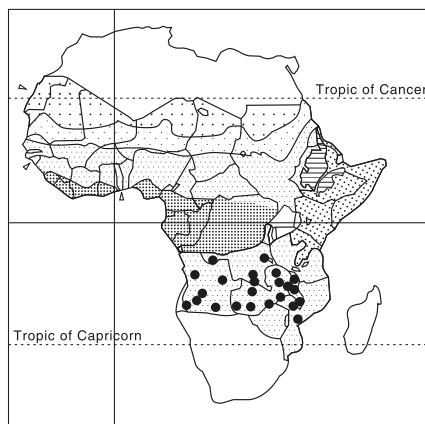
Julbernardia hochreutineri



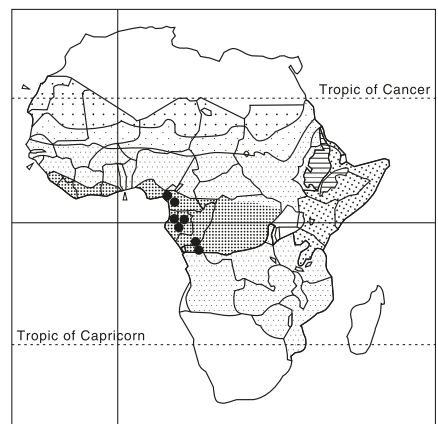
Julbernardia letouzeyi



Julbernardia magnistipulata



Julbernardia paniculata



Julbernardia pellegriniana

JULBERNARDIA / 10

Genus dedicated to Jules Bernard, Governor of the Gabon, who: "... à l'encontre des usages administratifs, encouragea les recherches botaniques de Le Testu. Ce fait exceptionnel méritait bien d'être rappelé..." (fide Pellegrin, Boissiera 7: 296, 1943). ["... contrary to the usage of the Administration, encouraged Le Testu's botanical exploration. This exception to the common practice is worth remembering..."]. This statement is contradictory to N. Hallé's version (in Fl. Gabon 14: 6, 1968): "Sa passion exubérante pour la récolte botanique était loin de nuire à son activité professionnelle mais elle nuisit beaucoup à son avancement du fait de l'incompréhension de ses chefs". ["His exuberant passion for plant collecting was far from damaging his professional activity, but the Officials' incomprehension prejudiced his promotion"].

Julbernardia brieyi (De Wild.) Troupin

Tree 25-45 m, with straight bole, 1 m Ø and buttresses 1,5 m high; crown rounded.

Dominant in rain-forest; often on riversides; waterfalls; forest gallery in savanna.

Not in Cameroon.

J. globiflora (Benth.) Troupin

syn.: *Berlinia eminii* Taub.; *B. globiflora* (Benth.) Harms; *Westia eminii* (Taub.) Macbr.

Tree 5-15 m, with flat or rounded spreading crown; sometimes shrubby or flowering from coppice shoots 0,3-2 m high.

Deciduous woodland; often the commonest and dominant tree in *Brachystegia* areas; usually with *B. spiciformis* and forming tsetse-fly habitat; poor, residual plateau soils; escarpment slopes; 490-1950 m alt.

Botswana.

J. gossweileri (Bak. f.) Torre & Hillcoat

Extensively caespitose undershrub with annual shoots, since the growth is usually destroyed by fire or frost.

Hard gravelly ground in sunny situations.

J. hochreutineri Pellegr. – Icon.: Boissiera 7: 299, 1943.

Tree; fruit unknown.

Forest; 150-420 m alt.

J. letouzeyi Villiers

Tree 3-10 m, branched from near the base; bole straight, to 80 cm Ø, slightly lobed or with small buttresses at 45°; crown ± dense.

Hill with sandstone substratum; very abundant with *Syzygium guineense* var. *littorale*, *Cassipourea barteri*, *Manilkara obovata*; locally the only arborescent species.

J. magnistipulata (Harms) Troupin – Icon.: Beentje, Kenya trees, shrubs...: 244, 1994.

Evergreen tree, rarely a bush (2,5-)10-25 m tall; buttressed at base (?always).

Rain-forest; riverine forest; coastal evergreen bushland; coastal *Brachystegia* woodland; 0-1150 m alt.

JULBERNARDIA

J. paniculata (Benth.) Troupin – Icon.: Bull. Jard. Bot. Etat, Brux. 20: 297, 1950.

syn.: *Westia paniculata* (Benth.) Macbr.; *Berlinia paniculata* Benth. var.? *ferruginea* Benth. and var. *glabrior* Oliv. nom. nud., excl. var. *gossweileri* Bak. f. (= *J. gossweileri*); *B. baumii* Harms; *Pseudoberlinia baumii* (Harms) P. A. Duvign.; *Isoberlinia baumii* (Harms) P. A. Duvign.; *J. baumii* (Harms) Robyns

Evergreen, flat-topped tree 2-20 m, much-branched; bole 25-80 cm Ø, straight.

Deciduous woodland; usually occurring with *Brachystegia floribunda*; common and locally dominant; in poor plateau soils; Kalahari sands; covers extensive areas; dominant in open grassy woods on sand; savanna exposed to fires; 1000-1700 m alt.

J. pellegriniana Troupin

syn.: *Paraberlinia bifoliolata* Pellegr., non *Julbernardia bifoliolata* (Harms) Troupin, nec *Berlinia bifoliolata* Harms (= *Tetraberlinia bifoliolata*).

Tree 15-45 m, with thin buttresses to 2 m high, 1-2 m apart and straight or slightly sinuous bole, 0,8-1 m Ø, 15-20 m high, >1-3 m in girth.

Rain-forest; in very scattered stands in Gabon but also in very localized small stands in Cameroon. Sometimes 128 trees in a 2,5 ha plot (maximum).

Perhaps in SE Nigeria.

Confused with *Eurypetalum unijugum* but leaflets lacking translucent dots, and with *Tetraberlinia bifoliolata* but fruit with 1-2 longitudinal nerves.

J. seretii (De Wild.) Troupin

syn.: *Berlinia ledermannii* Harms, incl. var. *dolichopoda* Harms

Tree to 40 m; bole straight, cylindrical, 1,7 m Ø (at 1,5 m from the ground) with large buttresses 3 m high, 2 m broad at the base, 8-15 cm thick; crown spreading, 30 m Ø; flowers strongly scented.

Rain-forest, dense and without undergrowth on plateau, or periodically flooded; to 900 m alt. – Common in S Cameroon.

J. unijugata J. Léonard

Evergreen tree 2-18 m, nearly always forked at 3-6 m height.

Dense riverine forest with *Khaya*, *Piptadenia*, *Albizia*, etc.; 1080-1580 m alt.

J. makandensis Breteler, ined., in Sosef & al., Check-list pl. vascul. Gabon: 223, 2006.

SYNONYMS:

Julbernardia baumii (Harms) Troupin

= **Julbernardia paniculata**

bifoliolata (Harms) Troupin = **Tetraberlinia**

microphylla Troupin = **Michelsonia**

microphylla sensu Troupin in Bull. Jard. Bot. Etat, Brux.

20: 320-321, 1950, p.p. = **Tetraberlinia baregarum**

normandii Pellegr. descr. gall. = **Julbernardia brieyi**

ogooensis Pellegr. = **J. seretii**

polyphylla Troupin = **Tetraberlinia**

LEBRUNIODENDRON / 1

Lebruni dendron leptanthum (Harms) J. Léonard – Icon.: Bull. Jard. Bot. Etat, Brux. 21: 423, 1951.

syn.: *Cynometra glabra* De Wild.; *C. koko* De Wild.

Tree 12-30 m; bole 40-100 cm Ø, ± cylindrical; buttresses at the base.

Mixed forest on firm ground; tropophilous forests.

Also in Gabon (fide Sosef & al. 2006).

(LEONARDENDRON)

Leonardendron gabunensis (J. Léonard) Aubrév. = **Anthonotha**

LEONARDOXA / 1

McKEY, D. B. (2000). *Leonardoxa africana* (Leguminosae: Caesalpinioideae): a complex of mostly allopatric subspecies. *Adansonia*, Sér. 3, 22: 71-109.

Leonardoxa africana (Baill.) Aubrév.

syn.: *Schotia humboldtioides* Oliv.; *Theodora africana* (Baill.) Taub.

Tree 3- to 14-35 m; bole straight, cylindrical 8 to 35-90 cm Ø and 30 cm in girth; ramiflorous or cauliflorous. – Highly specialized myrmecophyte or myrmecophilous plant harbouring ants (*Petalomyrmex phylax*, *Cataulacus mckeyi*, *Aphomomyrmex afer*, etc.) in hollowed out swollen internodes below each leaf with a small hole at the upper end.

Coastal forests; wettest forests of Africa: the lowland near the Bight of Biafra; also on hills in relict patches; along streams; swamps; inselbergs; ± 10-1266 m alt. – Sometimes common.

Comprises subsp. **africana** and subsp. **gracilicaulis** McKey.

SYNONYMS:

Leonardoxa bequaertii (De Wild.) Aubrév., incl. var. *bergeri* (De Wild.) Aubrév. = **Normandi dendron**

romii (De Wild.) Aubrév. = **N. romii**

LIBREVILLEA / 1

Librevillea klainei (Pierre ex Harms) Hoyle – Icon.: Bol. Soc. Brot., Sér. 2, 29: pl. 1 after p. 21, 1955.

Tree 12-40 m; bole cylindrical, sometimes curved, 1,2 m Ø with large, much-branched crown; with thin buttresses to 2 m; sometimes a shrub.

Sometimes lake sides; deciduous rain-forests; river banks; sandy soils near lagoon; in seasonally flooded ground behind the mangrove; very frequent in the region of Fernan Vaz where it occurs in stands; scattered in rain-forest of stony hills at Belize (fide Hoyle, 1955).

A true *Brachystegia* according to Chikuni.

LOESENERA / 4

Loesenera gabonensis Pellegr.

Small tree; ripe fruit unknown.

Tree groves and forest gallery in savannas.

LOESENERA

L. kalantha Harms – Icon.: Rev. Bot. Appl. Agric. Trop. 13 [Actes et Comptes Rendus Assoc. Colonies-Sciences 9(91): 152, 1933].

Erect, ramose shrub 5-6 m tall or tree to 28 m; bole tortuous, ramose near the base, to 60 cm Ø; base with short and thick root swellings; new leaves in drooping pink-red flushes.

Swampy valleys and along creeks in moist conditions; sandy ground; in gregarious stands.

Sometimes cultivated (Ivory Coast: Toulépleu, Guiglo).

Can be confused with *Tetraberlinia*.

L. talbotii Bak. f.

Tree to 15 m tall.

Evergreen forest; 180-1000 m alt.

L. walkeri (A. Chev.) J. Léonard – Icon.: Bull. Jard. Bot. Etat, Brux. 21: 435, 1951.

Tree with straight bole to ± 30 m tall, >1 m Ø; sometimes small buttresses to 1-1,5 m high at the base.

Swamp edges; near rivers in rain-forest; rather common, often with *Sclerosperma*.

(MACROLOBIUM)

Macrolobium acuminatum De Wild. = **Anthonotha**

aylmeri Hutch. & Dalziel = **Gilberti dendron**

bambolense Louis = **G. ogoouense**

barbulatum Pellegrin = **Gilberti dendron**

benthamii Baker f. = **G. stipulaceum**

bijugum Colebr. = **Intsia**

bilineatum Hutch. & Dalziel = **Gilberti dendron**

bonnivairii De Wild. = **Anthonotha pynaertii**

brachystegioides Harms = **Gilberti dendron**

var. *sulphureum* Pellegrin = **G. ogoouense**

brieyi De Wild. = **Anthonotha**

chevalieri Harms = **Gilberti dendron ivorense**

chrysophylloides Hutch. & Dalziel = **Anthonotha fragrans**

cladanthum Harms = **Anthonotha**

cladanthum sensu Pellegr. p.p. = **A. pellegrinii**

coeruleoides De Wild. = **Paramacrolobium coeruleum**

coeruleum (Taubert) Harms = **P. coeruleum**

conchyliophorum Pellegrin = **Anthonotha**

crassifolium (Baillon) J. Léonard = **Anthonotha**

crassifolium A. Chev. = ?

dawei Hutch. & Burt Davy = **Paramacrolobium coeruleum**

demonstrans (Baillon) Oliver incl. var. *talbotii* Bak. f.

= **Gilberti dendron**

dewevrei De Wild. = **Gilberti dendron**

dinklagei Harms = **Gilberti dendron demonstrans**

diphyllum Harms = **Pellegrini dendron**

diphyllum sensu auct. = **Tessmannia copallifera**

ecoucense Pellegrin = **Gilberti dendron ogoouense**

“*ecoukense*” Pellegrin = **G. ogoouense**

elongatum Hutch. = **Anthonotha**

ernae Dinkl. = **Triplisomeris**

MACROLOBIUM

- explicans* (Baillon) Keay = **Triplisomeris**
ferrugineum Harms = **Anthothona**
fragrans Baker f. = **Anthothona**
gilletii De Wild. = **Anthothona**
graciliflorum Harms = **Anthothona**
graciliflorum sensu Pellegrin = **A. gabunensis**
grandiflorum De Wild. = **Gilbertiodendron**
grandistipulatum De Wild. = **Gilbertiodendron**
heudelotianum (Baillon) Aubrév. = **Anthothona macrophylla**
heudelotii Planch. ex Benth. = **Triplisomeris explicans**
imenoense Pellegrin = **Gilbertiodendron**
isopetalum Harms = **Anthothona**
ivorensis (A. Chev.) Pellegrin = **Gilbertiodendron**
klainei Pierre ex Pellegrin = **Gilbertiodendron**
lamprophyllum Harms = **Anthothona**
laurentii De Wild. = **Brachystegia**
lebrunii J. Léonard = **Anthothona**
leptorrhachis Harms = **Anthothona**
 var. *nigericum* Bak. f. = **A. nigerica**
limba Scott Elliot = **Gilbertiodendron**
limosum Pellegrin = **Gilbertiodendron**
macrophyllum (P. Beauv.) J. F. Macbr., incl. var. *heudelotianum* (Baill.) Bak. f. = **Anthothona**
malchairii De Wild. = **A. pynaertii**
mayombense Pellegrin = **Gilbertiodendron**
 var. *parvifolium* Bak. f. = **G. ogoouense**
ngouniense Pellegrin = **G. ngounyense**
ngounyense Pellegrin = **Gilbertiodendron**
nigericum (Baker f.) J. Léonard = **Anthothona**
noldeae Rossberg = **Anthothona**
obanense Baker f. = **Anthothona**
obliquum = **Gilbertiodendron**
ogoouense Pellegrin = **Gilbertiodendron**
pachyanthum Harms = **Gilbertiodendron**
palisotii Benth. p.p. = **Anthothona macrophylla**
preussii Harms = **Gilbertiodendron**
pynaertii De Wild. = **Anthothona**
quadrifolium Harms = **Gilbertiodendron**
sargosii (Pellegrin) Pellegrin = **Anthothona**
sp. Troupin = **Pseudomacrolobium mengei**
sp. aff. *obanense* Aubrév. = **Anthothona vignei**
sp. nov. in Fl. Congo B. R.-U. = **Gilbertiodendron stipulaceum**
splendidum (Hutch. & Dalziel) Pellegrin = **Gilbertiodendron**
 dron
stipulaceum Benth. = **Anthothona**
straussianum Harms = **Gilbertiodendron** ?
talbotii (Bak. f.) Hutch. & Dalziel = **Gilbertiodendron**
 demonstrans
triplisomere Pellegrin = **Triplisomeris pellegrinii**
trunciflorum Harms = **Anthothona**
unijugum Pellegrin = **Gilbertiodendron**
vignei Hoyle = **Anthothona**
zenkeri Harms = **Gilbertiodendron**

MEZONEURON / 2

Mezoneuron angolense Welw. ex Oliv.

Liane 12-20 m long; stems 4-8 cm Ø, armed with scattered downwardly hooked or deflexed prickles, which on the old stems become enlarged and raised on subconical-cylindrical corky bosses.

Rain-forest; riverine and swamp forests; coastal evergreen bushland; savanna (presumably as a relic of former forest); stony thickets at forest margins; along roads; near sea-level to 2000 m alt. Not in Cameroon and Liberia (= *M. benthamianum*).

M. benthamianum Baill.

Shrub or woody climber 7,5-20 m tall; stems 6-8 cm Ø; stems and rachis covered with short recurved thorns; flowers yellow; fruit bright red.

Forest gallery; humid places; thickets; dry deciduous and secondary closed forest; rocky savanna forest; 500 m alt. (Liberia: Mt. Nimba).

Cultivated to form garden fences (Gambias).

SYNONYM:

Mezoneuron welwitschianum Oliv. – See **Caesalpinia welwitschiana**

MICHELSONIA / 1

WIERINGA, J. J. (1999). See under **Aphanocalyx**, p. 86.

Michelsonia microphylla (Troupin) Hauman –Type: Michelson 520a! (520b = **Tetraberlinia baregarum**).

bas.: *Julbernardia microphylla* Troupin
syn.: *Tetraberlinia microphylla* (Troupin) Aubrév.

Tree to 30 m tall and probably more, with spreading crown; bole branchless for to at least 12 m, DBH to 80(-?120) cm; base without or with small buttresses, sometimes slightly conical.

Hill tops and slopes; also in valleys and small canyons, but never in swampy conditions; primary forest; may become common locally and may even form almost pure stands [*Michelsonia microphylla* forest sensu Pierlot, Koninkl. Acad. Overzeese Wetenschappen, Kl. Natuur- en Geneesk. Wet., N. R. 14(4): 163-164, 1966]; 680 m alt.

Planted in Yangambi (Zaire).

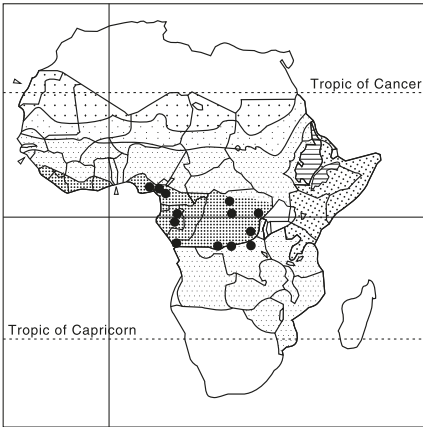
Confused with *Tetraberlinia baregarum*.

First collected around 1943; in general has become very rare, and could not be traced recently (extensive logging in the 1940s and 1950s).

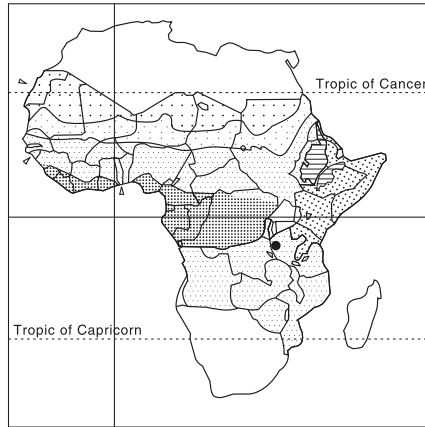
SYNONYMS:

Michelsonia microphylla (Troupin) Hauman p.p. = **Tetraberlinia baregarum**

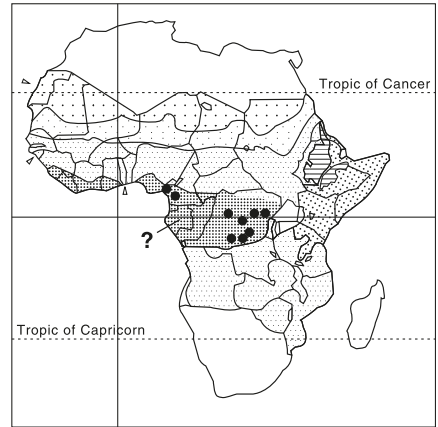
polyphylla (Harms) Hauman = **T. polyphylla**.



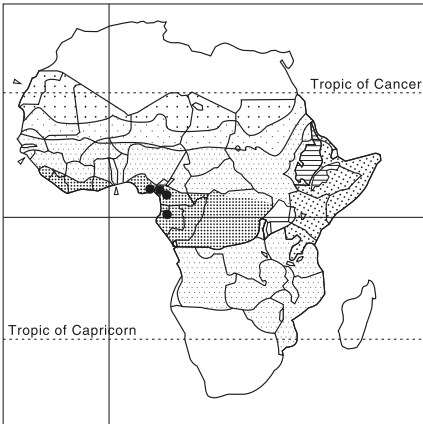
Julbernardia seretii



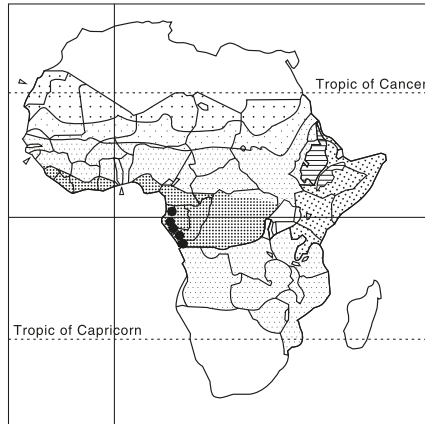
Julbernardia unijugata



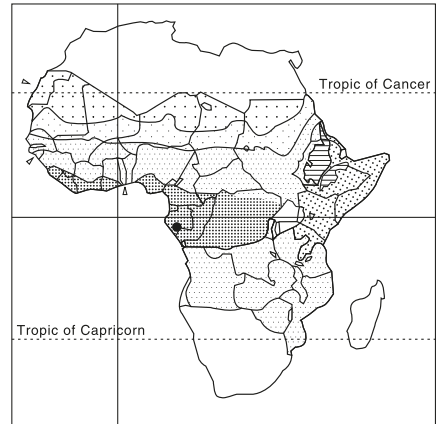
Lebruni dendron leptanthum



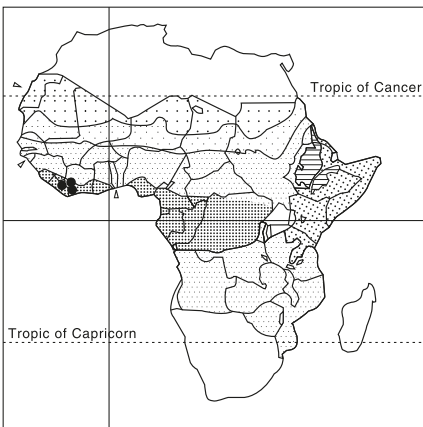
Leonardoxa africana



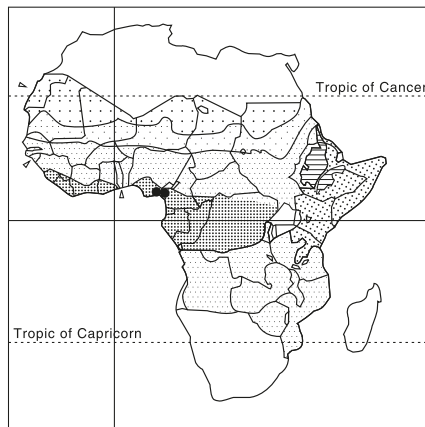
Librevillea klainei



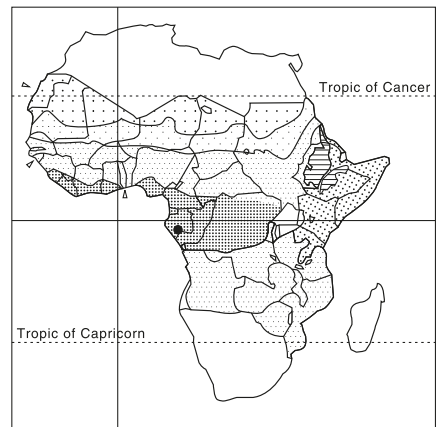
Loesenera gabonensis



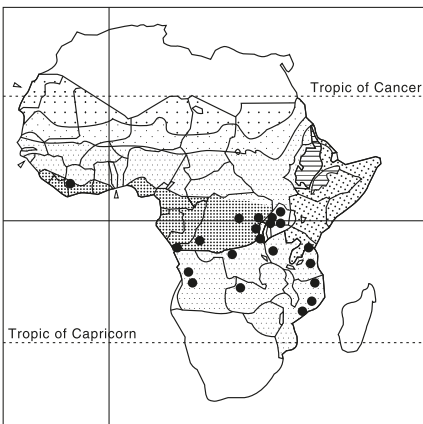
Loesenera kalantha



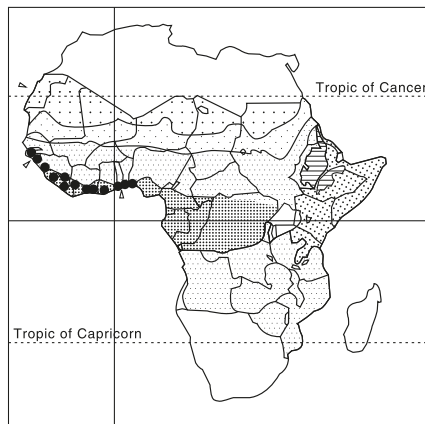
Loesenera talbotii



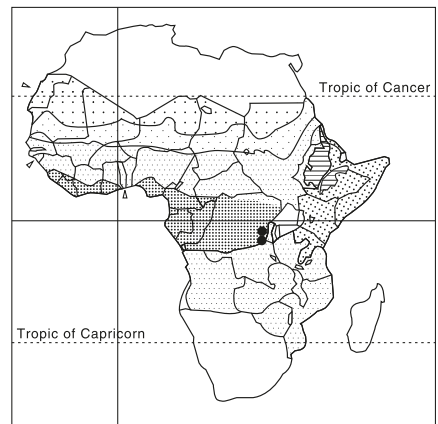
Loesenera walkeri



Mezoneuron angolense



Mezoneuron benthamianum



Michelsonia microphylla ●
Micklethwaitia carvalhoi - see *Brenani dendron*

MICKLETHWAITIA / 1

Micklethwaitia G. P. Lewis & Schrire, nom. nov.

syn.: *Brenaniodendron* J. Léonard, nom. illegit.

Micklethwaitia carvalhoi (Harms) G. P. Lewis & Schrire, Kew Bull. 59: 166, 2004. – Icon.: Bull. Jard. Bot. Natl. Belgique 67: 17, 1999.

bas.: *Cynometra* ? *carvalhoi* Harms

syn.: *Brenaniodendron carvalhoi* (Harms) J. Léonard

Deciduous tree 6-10 m.

Open forest on red clay soils with quartzite; 10-150 m alt.

First collected in 1884-85 by Dr. Manuel Rodrigues Pereira de Carvalho (1848-1909); rediscovered in 1960-61-62-64 by Gomes e Sousa.

Mapped as *Brenaniodendron* (p. 103).

MICROBERLINIA / 2

GREEN, J. J. & D. M. NEWBERY (2002). Reproductive investment and seedling survival of the most-fruiting rain forest tree, *Microberlinia bisulcata* A. Chev. *Pl. Ecol.* 162: 169-183.

NEWBERY, D. M. & al. (2004). Structure and inferred dynamics of a large grove of *Microberlinia bisulcata* trees in central African rain forest: the possible role of periods of multiple disturbance events. *J. Trop. Ecol.* 20: 131-143.

Microberlinia bisulcata A. Chev. – Icon.: Rev. Bot. Appl. Agric. Trop. 26: 619, 1946.

Deciduous tree to over 40 m; bole cylindrical, to 75 cm Ø, c. 20 m to lowest branching; buttresses at base to 3 m high.

Rain-forest with *Lophira*, *Sacoglottis*; codominant in groves of ectomycorrhizal *Caesalpiniceae*; on sandy well-drained acid soils with low phosphorous availability; 1-400 m alt.

Plants have very poor regeneration.

M. brazzavillensis A. Chev. – Icon.: Amer. J. Bot. 89: 880, 2002; Rev. Bot. Appl. Agric. Trop. 26: 607, 1946.

Tree with straight, cylindrical bole and small buttresses at the base; crown well developed, dense.

In small stands, sometimes in nearly pure stands; savanna along rivers; sandy ground on lagoon sides.

Confused with *Didelotia minutiflora*.

MILDBRAEDIODENDRON / 1

Mildbraedi dendron excelsum Harms

Deciduous tree 20-50 m, with straight or slightly sinuous trunk 75 cm Ø; and winged buttresses, 3 m high; crown open, spreading.

Closed forest; ± 790-1000 m alt.

Nigeria?

(MONOPETALANTHUS)

Monopetalanthus breynei Bamps = **Bikinia**

compactus Hutch. & Dalziel = **Aphanocalyx microphylla** subsp.

coriaceus J. Morel ex Aubrév. = **Bikinia**

durandii F. Hallé & Normand = **Bikinia**

emarginatus Hutch. & Dalziel = **Plagiosiphon**

evrardii Bamps = **Bikinia**

hedinii (A. Chev.) Pellegr. = **Aphanocalyx**

heitzii Pellegr. = **Aphanocalyx**

jenseniae Gram = **Aphanocalyx**

ledermannii Harms = **Aphanocalyx**

leonardii Devred & Bamps = **A. richardsiae**

letestui Pellegr. = **Bikinia**

longiracemosus A. Chev. = **Tetraberlinia**

macrophyllus J. Morel, ms. = **T. moreliana**

microphyllus Harms = **Aphanocalyx**

pectinatus A. Chev. = **Aphanocalyx**

pellegrinii A. Chev. = **Bikinia**

pteridophyllus Harms = **Aphanocalyx**

richardsiae J. Léonard = **Aphanocalyx**

sp., Fl. Congo B. R. -U. 3: 440, 1952 = **A. richardsiae**

sp. A., F. W. T. A., Ed. 2 = **Didelotia brevipaniculata**

trapnellii J. Léonard = **Aphanocalyx**

NEOCHEVALIERODENDRON / 1

Neochevalierodendron stephanii (A. Chev.) J. Léonard – Icon.: Rev. Bot. Appl. Agric. Trop. 32: 567, 1953; Bull. Jard. Bot. Etat, Brux. 21: 431, 1951.

Tree 8-15 m; bole 30-60 cm Ø.

River-sides; rain-forest.

NORMANDIODENDRON / 2

Normandi dendron bequaertii (De Wild.) J. Léonard

bas.: *Cynometra bequaertii* De Wild.

syn.: *Schotia bequaertii* (De Wild.) De Wild., incl. var. *bergeri* (De Wild.) J. Léonard and var. *rubriflora* (De Wild.) J. Léonard; *S. bergeri* De Wild.; *S. rubriflora* (De Wild.) De Wild.; *S. claessensii* (De Wild.) Lebrun; *Cynometra claessensii* De Wild.; *C. rubriflora* De Wild.; *C. pupureo-caerulea* Bak. f.; *Schotia kirunduensis* De Wild.; *Leonardoxa bequaertii* var. *bergeri* (De Wild.) Aubrév.!

Shrub or tree 4-15 m; trunk 30-45 cm Ø; when a tree 12-35 m tall.

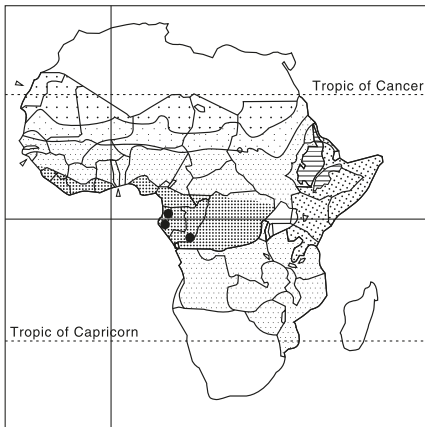
Forests on firm ground; along water and forest gallery; low ground to 550-1200 m alt.

N. romii (De Wild.) J. Léonard

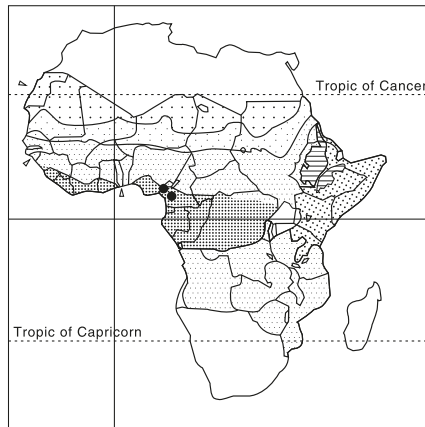
Tree 10-30 m, sometimes a shrub; bole deeply grooved, 35-60 cm Ø, rather low-branching.

Forests on firm ground; forest gallery; very common here and there; 400-850 m alt.

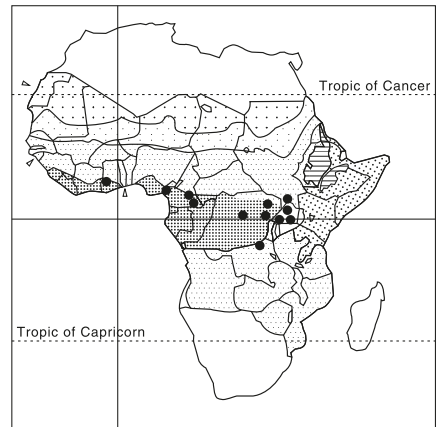
Flowers very beautiful (calyx red, corolla white with a yellow petal at the centre).



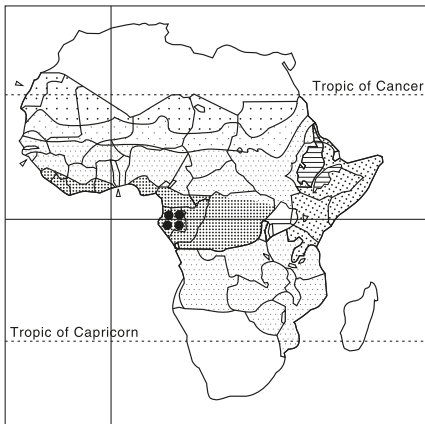
Microberlinia brazzavillensis



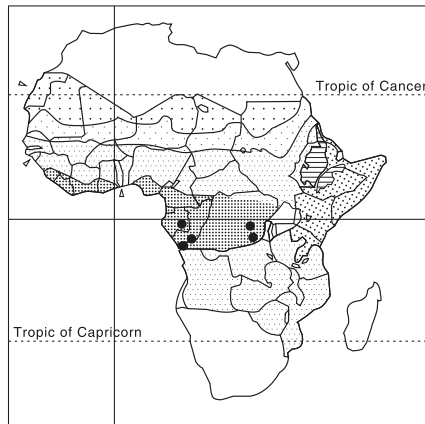
Microberlinia bisulcata



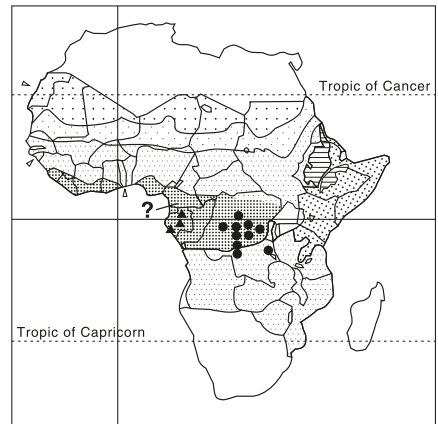
Milbraedi dendron excelsum



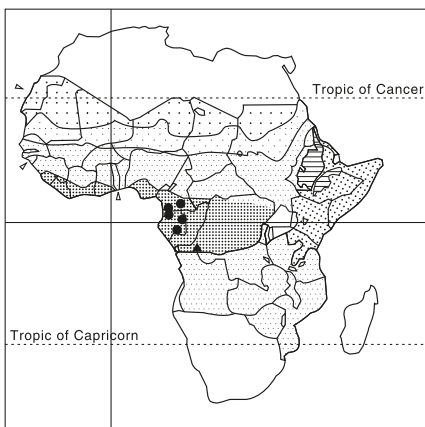
Neochevalierodendron stephanii



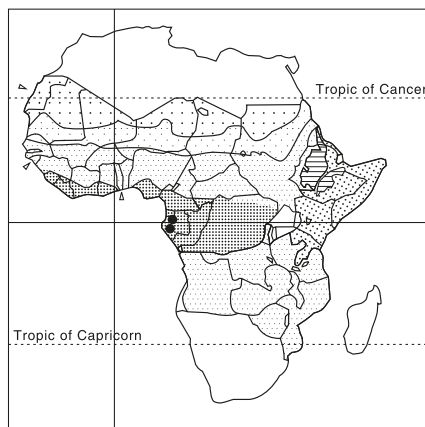
Normandiodendron bequaertii



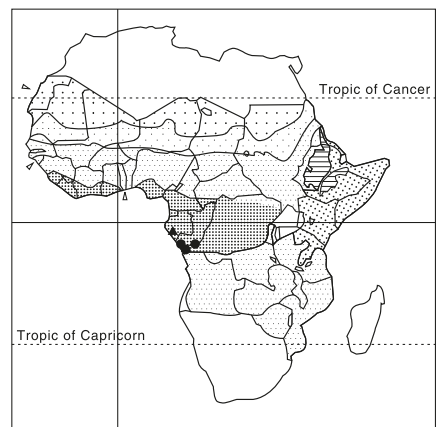
Normandiodendron romii ●
Oddoniodendron gambanum ▲ ?



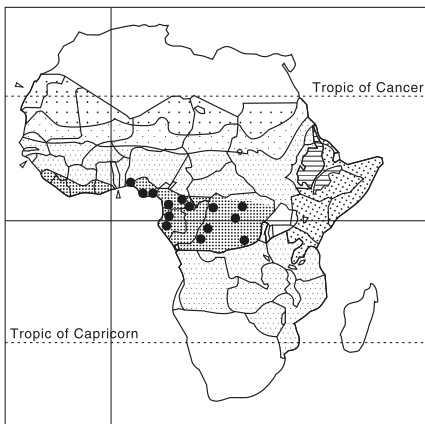
Oddoniodendron gilletii ▲
Oddoniodendron micranthum ●



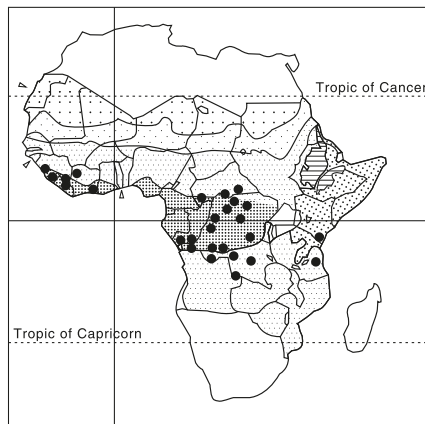
Oddoniodendron normandii



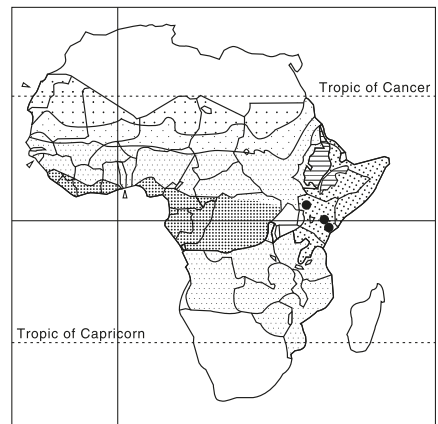
Oddoniodendron reitsmarum ▲
Oddoniodendron romeroi ●



Pachyelasma tessmannii



Paramacrolobium coeruleum



Parkinsonia anacantha

ODDONIODENDRON / 6

LÉONARD, J. & J.-L. DOUCET (1997). See under *Aphanocalyx*, p. 86 [vide p. 217-218, 220].

Odoniodendron gambanum Ngok Banak & Breteler, Adansonia, Sér. 3: 243, 2004. – Icon.: o.c.: 244, 247.

Tree 12-25 m; trunk 20-50 cm Ø; branchlets greyish, tomentose; stipules tomentose; leaves pubescent.

Forest; 0-400 m alt.

Resembling *O. micranthum* (which has, however, glabrous branchlets and stipules).

O. gillettii De Wild. – Icon.: Ngok Banak & Breteler, o.c.: 247 (flower).

Tree with glabrous branchlets, stipules and leaves.

Forest; 0-300 m alt.

Similar to *O. micranthum*.

O. micranthum (Harms) Bak. f. – Icon.: Bull. Jard. Bot. Natl. Belgique 66: 219, 1997.

bas.: *Berlinia micrantha* Harms

Tree 15-35 m, with straight bole 25-50 cm Ø covered with lenticels when young; branchlets obscurely lenticellate.

Forest; to 750 m alt.

O. normandii Aubrév.

Tree 15-45 m, with many, thin, ramose buttresses at the base; bole cylindrical, straight, 60-80 cm Ø; branchlets densely lenticellate.

Rain-forest; in stands of few specimens; very rare; 0-200 m alt.

O. reitsmarum Ngok Banak & Breteler, o.c.: 248. – Icon.: o.c.: 249, 247.

Tree c. 20 m; branches, branchlets and stipules tomentose; leaves glabrous; mature flowers unknown; fruit and seeds unknown.

Forest on low mountain; to c. 500 m alt.

Known only from the type (J. M. & B. Reitsma 1395).

Near *O. gambanum*.

O. romeroi Mendes

Tree 15-20 m; branchlets obscurely lenticellate.

Semi-deciduous forest; forest gallery; to 300 m alt.

(OXYSTIGMA)

Oxystigma buchholzii Harms = **Prioria**

dewevrei De Wild. = **P. buchholzii**

gilbertii J. Léonard = **Prioria**

mafuta De Wild. = **P. buchholzii**

mannii (Baill.) Harms = **Prioria**

mortehanii De Wild. = **P. oxyphylla**

msoo Harms = **Prioria**

oxyphyllum (Harms) J. Léonard = **Prioria**

sp. sensu Keay & al, Nigerian Trees 2 = ?

sp. sensu Torre & Hillc., C. F. A. = *Oxystigma stapfiana*

A. Chev. = **Stachyothyrsus stapfiana**

PACHYELASMA / 1

Pachyelasma tessmannii (Harms) Harms – Icon.: Bot. Jahrb. Syst. 49: 429, 1913.

Tree to 60 m; bole straight, cylindrical, sometimes deformed, to 2,5 m Ø, with well-developed plank-buttresses; crown spreading, umbrella-like; leaves to 35-38,5 cm long; fruit woody, 15-37 × 2-2,5 cm, thick (3,5-4 cm), 4-angled.

Evergreen rain-forest.

Flowers and wood with a very unpleasant smell carrying a distance (to 300 m).

Bark and fruit used as fish poisons.

One of the biggest and most majestic trees of the Congolese rain-forest.

PARAMACROLOBIUM / 1

Paramacrolobium coeruleum (Taub.) J. Léonard

Tree 5-40 m; bole cylindrical, free to 20 m length, by 15-60 cm Ø, but often irregular, ramose from the base, with low ascending branches; buttressed at base; crown spreading with drooping branches.

Closed evergreen forest, rain-forest on firm ground; river sides in *Brachystegia* forest-woodland; gallery forest; often forming clumps; 1-525 m alt.

Not in Cameroon and Gabon.

PARKINSONIA / 3

Parkinsonia anacantha Brenan

Shrub to 2,1 m tall, or spreading tree.

Semi-desert scrub with *Acacia mellifera*; 300-910 m alt.

Perhaps in Somalia.

P. raimondoi Brenan

Dense but graceful shrub or tree, 2-6 m tall, with slender branches; armed with very short (0,5-2 mm) stipular spines at the nodes.

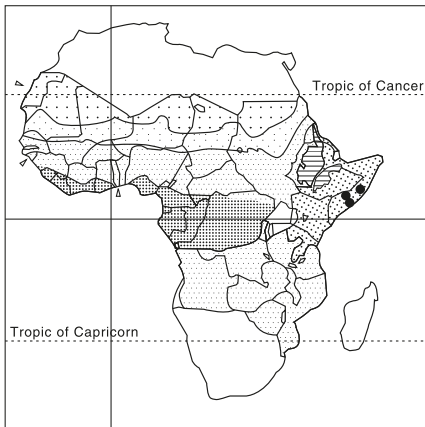
Fixed coastal dunes; *Acacia-Commiphora* bushland on sand; sometimes in clumps; 5-200 m alt.

P. scioana (Chiov.) Brenan

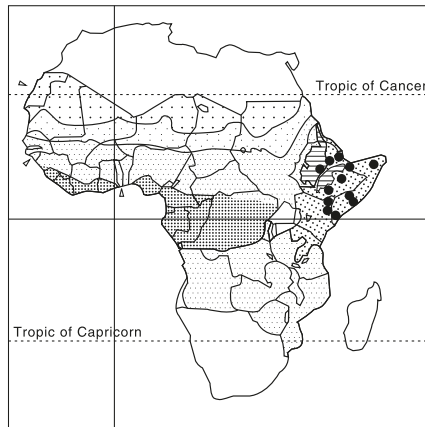
syn.: *Peltophorum scioanum* (Chiov.) Bak. f.

Shrub or tree 0,6-5 m tall, branching from or near the base; stipular spines paired at nodes, 2-5 mm long, straight or hooked.

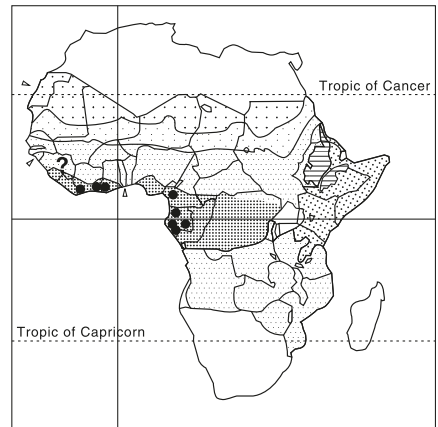
Lime and sandy soils over sedimentary rocks; *Commiphora-Acacia* open scrub with *Borassus*, marginal forest beside river; rich *Commiphora-Acacia* scrub with scattered larger trees such as *Delonix*, *Terminalia*, *Gyrocarpus*, on black cotton soil; limestone slopes; stony hills; locally frequent; 40-1250 m alt.



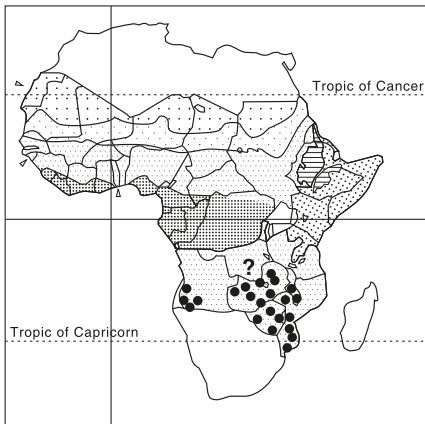
Parkinsonia raimondoi



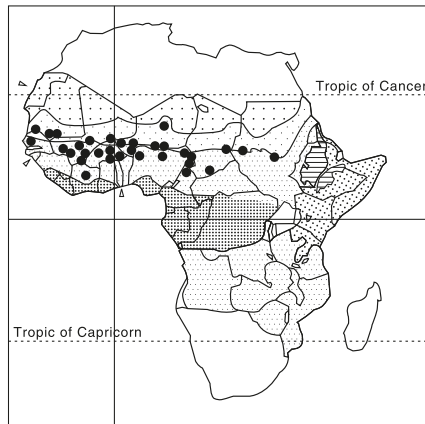
Parkinsonia scioana



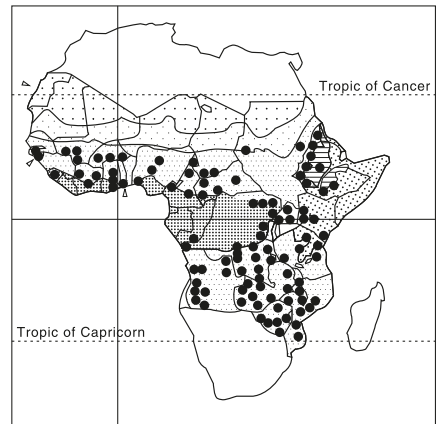
Pellegriniodendron diphyllum



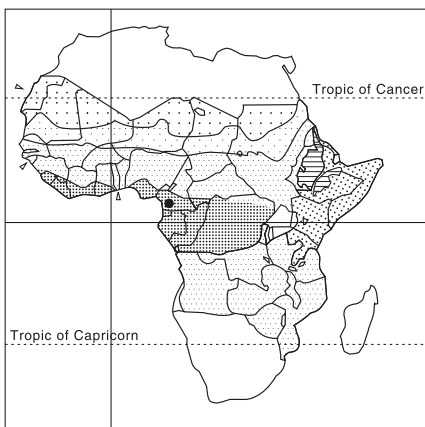
Peltophorum africanum



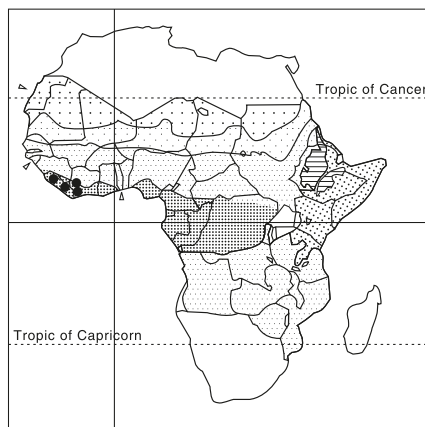
Piliostigma reticulatum



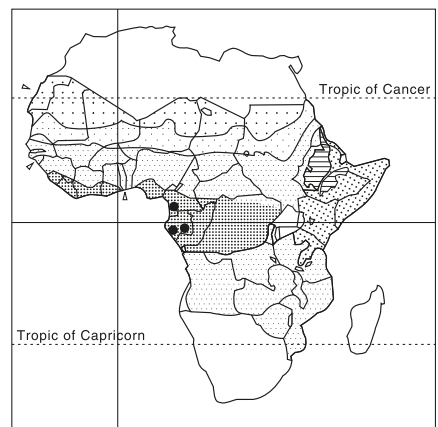
Piliostigma thonningii



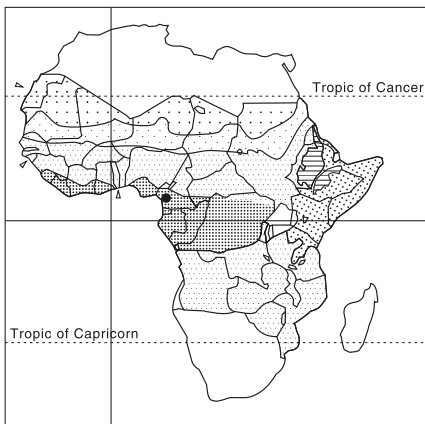
Plagiosiphon discifer



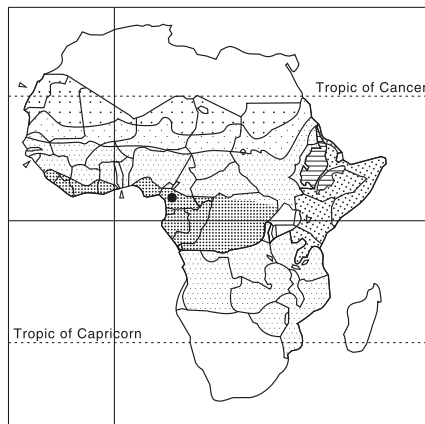
Plagiosiphon emarginatus



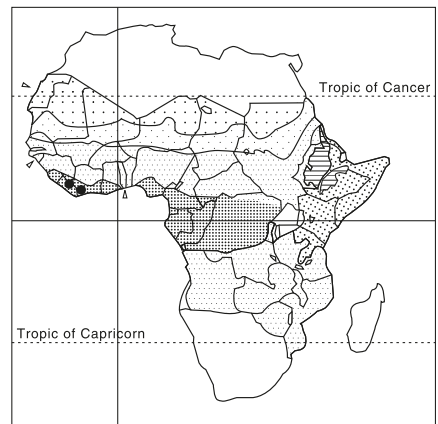
Plagiosiphon gabonensis



Plagiosiphon longitubus



Plagiosiphon multijugus



Polystemonanthus dinklagei

PELLEGRINIODENDRON / 1**Pellegriniodendron diphyllum** (Harms) J. Léonard

Tree 15-25 m; trunk to 20 cm Ø, rarely more; lower branches drooping near ground, crown straggling. Habitus like *Gilbertiodendron limba*.

In small stands in humid places; riversides; in shady parts of evergreen forest.

Resembling *Gilbertiodendron unijugum*.

PELTOPHORUM / 1**Peltophorum africanum** Sond.

syn.: *Brasilettia africana* (Sond.) Kuntze

Graceful tree 3-12 m, with rounded and broad, spreading crown; branches rambling and spreading.

Very open formation on clayey soil; open, high-grass woodland on rejuvenated soils; crest of limestone ridge; banks of rivers; woods on plateau; sometimes abundant with *Protea* spp., *Combretaceae*; thickets of *Tamarix orientalis*; 700-± 2000 m alt.

S. Africa, Caprivi Strip, Namibia, Botswana, Swaziland.

Not in W. Africa (= *Bussea occidentalis*).

SYNONYM:

Peltophorum scioanum (Chiov.) Bak. f. = **Parkinsonia**

PILIOSTIGMA / 2

Piliostigma reticulatum (DC.) Hochst.; Sécheresse 10: 178, 1999.

bas.: *Bauhinia reticulata* DC.

syn.: *B. benzoin* Kotschy; *B. glabra* A. Chev.; *B. glauca* A. Chev.; *Elayuna biloba* Raf.

Evergreen tree to 10 m, much branched with very dense, spherical, spreading crown; or a shrub 1-3 m tall with divergent branches.

Drier savanna regions; plateau with ferruginous hard-pan; thalwegs; dunes; forming bush on fallow land; valleys; flooded or humid areas; sandy-clayey soil; cultivations on sand; very poor soils; deteriorated sandstone; to 945-1825 m alt.

Confused with *P. thonningii* when the leaves are old and ±without hairs.

P. thonningii (Schumach.) Milne-Redh.

bas.: *Bauhinia thonningii* Schumach.

syn.: *Piliostigma pyrrhocarpum* Hochst.; *Bauhinia abyssinica* A. Rich.; *Locellaria bauhinioides* Welw.; *Bauhinia reticulata* sensu auctt. (sphalm. "articulata"), non DC. s. str.

Deciduous scrambling shrub 2-6 m tall, or tree to 10-20 m; bole tortuous, 20 cm Ø, with pendant branches (crooked tree with low spreading crown); crown hemispherical to globulous.

In savanna regions moister than those of the preceding species; deciduous woodland; wooded grassland and wooded savanna; bushland; often in river valleys in Ethiopia; riverine forest, seasonally inundated grassland (NE Tanzania); often in high-grass woodland on rejuvenated soils in Zambia; deep colluvium; river bank shoulders; hollows; sandy-clayey or clayey-sandy deep soils; near sea-level-2000 m alt.

PILIOSTIGMA THONNINGII

Namibia, Caprivi Strip, S. Africa (Transvaal).

Not in Somalia (= *Bauhinia buscalionii*).

Has been much confused with **P. reticulatum**, but distinguishable by its larger leaves and the hairiness of the lower leaf surface.

The areas occupied by these two species are well-marked: **P. reticulatum** occurring in the drier and **P. thonningii** in the moister savanna regions; at Zaria (Nigeria) where the areas overlap Milne-Redhead noted a mixed population with strong indication of hybridity [fide Fl. West Trop. Afr., Ed. 2, 1(2): 444, 1958].

SYNONYMS:

Piliostigma pyrrhocarpum Hochst. = **Piliostigma thonningii rufescens** (Lam.) Benth. = **Bauhinia**

PLAGIOSIPHON / 5**Plagiosiphon discifer** Harms

Bushy shrub 3-5 m tall; fruit unknown.

Rain-forest.

Only known from the type collected in 1895.

P. emarginatus (Hutch. & Dalziel) J. Léonard

Tree 25-30(?35) m tall with blunt spines on trunk and branches; bole to 50 cm Ø, irregular, low-branching.

River banks (sometimes very common); waterfalls; sometimes growing in gregarious stands on rocky hills.

P. gabonensis (A. Chev.) J. Léonard

Tree with slender branches; fruit unknown?

Forest; hill; 150-400 m alt.

P. longitubus (Harms) J. Léonard

syn.: *Hymenostegia longituba* (Harms) Bak. f.

Shrub or tree.

Rain-forest. – In Gabon?

P. multijugus (Harms) J. Léonard

Tree to 20 m; buttresses rather thick and high; bole often fluted, divided into several branches, erect, very ramose with terminal twigs pendent; foliage drooping.

Isolated specimens always near water; rather frequent.

POLYSTEMONANTHUS / 1

Polystemonanthus dinklagei Harms – Icon.: Bot. Jahrb. Syst. 26: pl. 7 fig. D-F, 1899.

Tree to 30 m; bole 0,6 m Ø; leaves 30-50 cm long; flowers fairly large (± 17 mm long).

Probably forest.

POMARIA / 1

SIMPSON, B. B. & G. P. LEWIS (2003). New Combinations in Pomaria (Caesalpinioideae: Leguminosae). *Kew Bull.* 58: 175-184.

SIMPSON, B. B. & al. (2004). Phylogeny and Character Evolution of Hoffmannseggia (Caesalpinieae: Caesalpinioidea: Leguminosae). *Syst. Bot.* 29: 933-946.

Pomaria burchellii (DC.) B. B. Simpson & G. P. Lewis – Icon.: Harvey, *Thesaurus Capensis* 1: pl. II, 1859.

bas.: *Melanosticta burchellii* DC.

syn.: *Caesalpinia melanosticta* Spreng., nom. illegit.; *Hoffmannseggia burchellii* (DC.) Benth. ex Oliv., incl. subsp. *rubro-violacea* (Bak. f.) Brummitt & J. Ross; *H. rubro-violacea* Bak. f.

Erect or decumbent-ascending herb often subcaulescent, to 30 cm tall or rarely subshrub with stems 2-45 cm tall arising from a woody rootstock bearing fusiform tubers to ± 15 cm long; dark glands present on all parts.

Wooded grassland, mixed woodland; dry riverbeds; on Kalahari sand; 900-1200 m alt.

Subsp. *rubro-violacea* is maintained as such in Fl. Zambes 3/2: 184, 2007 (absence of root tubers; with sensitive leaflets).

Namibia, S. Africa, Botswana.

PRIORIA / 7

BRETELER, F. J. (1999). A revision of Prioria, including Gossweilerodendron, Kingiodendron, Oxystigma and Pterygopodium (Leguminosae-Caesalpinioideae-Detariae) with emphasis on Africa. *Wageningen Agric. Univ. Papers* 99-3; 61 pp.

Prioria balsamifera (Vermoesen) Breteler

bas.: *Pterygopodium balsamiferum* Vermoesen

syn.: *Gossweilerodendron balsamiferum* (Vermoesen) Harms

Resiniferous tree 25-55 m, with cylindrical bole 0,5-1,5 m Ø; crown spreading with open foliage.

Rain-forest; forest on firm ground; to 600 m alt.

P. buchholzii (Harms) Breteler

bas.: *Oxystigma buchholzii* Harms

syn.: *O. mafuta* De Wild.; *O. dewevrei* De Wild.

Tree 5-30 m with bole 25-75 cm Ø, 1,8 m DBH, rarely a shrub to 4 m; trunk often with a distinctly enlarged base.

Common in periodically flooded riverine forest formations; hanging over the water.

P. gilbertii (J. Léonard) Breteler

bas.: *Oxystigma gilbertii* J. Léonard

Tree 25-30 m; with bole 70 cm Ø; flower known!

Forest on firm ground; to 1300 m alt.

P. joveri (Normand ex Aubrév.) Breteler

bas.: *Gossweilerodendron joveri* Normand ex Aubrév.

Resiniferous tree to 40 m with straight, cylindrical bole 1,5 m DBH.

Rain-forest with *Celtis*, *Sterculiaceae*, evergreen; 0-500 m alt.

PRIORIA

P. mannii (Baill.) Breteler – Icon.: Engler, *Veg. Erde* 9, *Pflanzenw. Afr.* 3(1B): 438, 1915.

bas.: *Copaifera ? mannii* Baill.

syn.: *Hardwickia ? mannii* (Baill.) Oliv.; *Oxystigma mannii* (Baill.) Harms; *Eriander engleri* Winkler

Tree to ± 30 m tall; bole 70 cm DBH, often with a large intricate crown; radicular system strong.

Forest; freshwater swamps; behind the mangrove; river banks; 1-200 m alt.

P. msoo (Harms) Breteler

bas.: *Oxystigma msoo* Harms

Tree to 30-50 m, with cylindrical bole 3 m DBH.

Ground-water forest; 640-1260 m alt.

P. oxyphylla (Harms) Breteler

bas.: *Pterygopodium oxyphyllum* Harms

syn.: *Oxystigma mortehanii* De Wild.; *O. oxyphyllum* (Harms) J. Léonard

Tree 25-50 m; resiniferous; bole cylindrical, very straight, free to 15-35 m height, 40-130 cm Ø; crown with stout branches.

Firm-ground forest.

PSEUDOMACROLOBIUM / 1

Pseudomacrolobium mengei (De Wild.) Hauman

Tree 6-20 m; bole 15-35 cm Ø; branchlets very ramose, 3-4 mm Ø.

Rain-forest on plateau; secondary or riparian forests; *Musanga cecropioides* formations.

PTEROLOBIUM / 1

Pterolobium stellatum (Forssk.) Brenan – Icon.: F. White & al., *Evergreen forest fl. Malawi*: 308, 2001.

syn.: *Cantuffa exosa* J. F. Gmel.; *Pterolobium lacerans* R. Br., nom. ipse nudum sed cum syn. “Kantuffa” Bruce, nom. illegit.; *Fillaea brucei* Fresen.; *Acacia kantuffa* Poir.; *Mimosa kantuffa* DC., nom. illegit.; *Quartinia abyssinica* A. Rich.; *Pterolobium kantuffa* (DC.) Steud., nom. illegit.; *P. abyssinicum* (A. Rich.) A. Rich.; *Cantuffa stellata* (Forssk.) Chiov.

Scrambling or climbing, rarely semi-erect, multi-stemmed shrub 2-15 m tall; stems *viciously* armed with reflexed prickles paired at nodes and often also with scattered ones between the nodes, in older stems raised on corky bosses as in *Mezoneuron angolense*; pods samaroid, brick-red to scarlet, ultimately brown.

Dry evergreen forest; evergreen bushland; riverine forest; deciduous woodland; sometimes on termite mounds in grassland; near waterfall; forest regrowth with *Syzygium*; rain-forest with *Albizia*, *Macaranga*, *Croton*, *Ocotea*, climber at forest edge; at rocks; clearings; 750-2500 m alt.

S. Africa (Transvaal); Arabia (Yemen).

SCHOTIA / 2

Schotia brachypetala Sond.syn.: *S. rogersii* Burt Davy

Tree (5-)10-16 m, with a rounded crown.

Open, deciduous woodland; drier types of woodland and scrub forest; thicket; frequently associated with termite mounds; also along river banks (in S. Africa); near sea-level-1350 m alt.

Cultivated in Uganda and Kenya (sub nom. *S. latifolia* Jacq.).**S. capitata** Bolle – Neotype: Balsinhas 204, K.syn.: *S. tamarindifolia* Afzel. ex Sims var. *forbesiana* Baill.; *S. transvaalensis* Rolfe; *Theodora capitata* (Bolle) Taub.

Shrub or tree to 7 m tall, sometimes semi-climbing, often forming tangled thickets.

Near river; sandy plains; dry woodland, scrub forest; 0-300 m alt. S. Africa, Swaziland.

SYNONYMS:

Schotia africana (Baill.) Keay = **Leonardoxa***bequaertii* (De Wild.) De Wild., incl. var. *bergeri* (De Wild.) J. Léonard and var. *rubriflora* (De Wild.) J. Léonard = **Normandiendron***bergeri* De Wild. = **N. bequaertii***claessensii* (De Wild.) Lebrun = **N. bequaertii***fischeri* (Taub.) J. Léonard = **Scorodophloeus***humboldtoides* Oliv. = **Leonardoxa africana***latifolia* sensu Dale, non Jacq. = **Schotia brachypetala***rogersii* Burt Davy = **S. brachypetala***romii* De Wild. = **Normandiendron***rubriflora* (De Wild.) De Wild. = **N. bequaertii***semireducta* Merxm. = **Schotia brachypetala***simplicifolia* Vahl ex DC. = **Griffonia***suaheliensis* (Taub.) Harms = **Cynometra***tamarindifolia* Afzel. ex Sims var. *forbesiana* Baill. = **Schotia capitata***transvaalensis* Rolfe = **S. capitata**

SCORODOPHLOEUS / 3

TEMU, R. P. C. (1990). Taxonomy and biogeography of woody plants in the eastern arc Mts, Tanzania: case studies in Zenkerella, Scorodophloeus and Peddiea. *Acta Univ. Upsal., Comprehensive Summaries of Uppsala Dissertations from the Faculty of Science* 286. 68 pp.**Scorodophloeus fischeri** (Taub.) J. Léonardsyn.: *Schotia fischeri* (Taub.) Harms; *Cynometra fischeri* (Taub.) Bak.

Tree 6-25 m.

Dry evergreen and riverine forests; sometimes in wooded grassland; 30-670 m alt.

S. torrei Lock, Fl. Zambes. 3/2: 56, 2007.

Shrub or tree, 20 m tall.

Coastal forest, N Mozambique.

S. zenkeri Harms – Icon.: Rev. Bot. Appl. Agric. Trop. 26: 617, 1946; Notizbl. Kön. Bot. Gart. Mus. Berlin, Appendix 21(2): 47, 1911; Bull. Jard. Bot. Etat, Brux. 21: 419, 1951.

SCORODOPHLOEUS ZENKERI

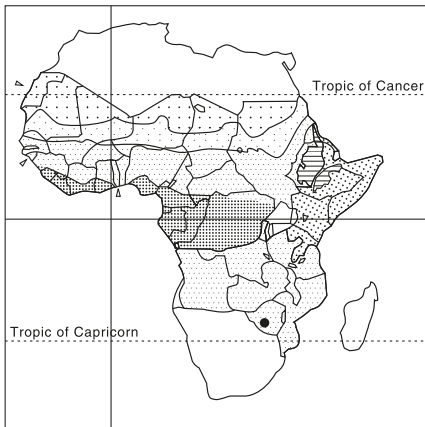
Tree 10-40 m; bole slightly fluted at the base, free to 12-25 m height, straight, 40-100 cm Ø; bark garlic-scented.

Mixed forest on firm ground with *Scorodophloeus* sensu Louis; common, sometimes gregarious.

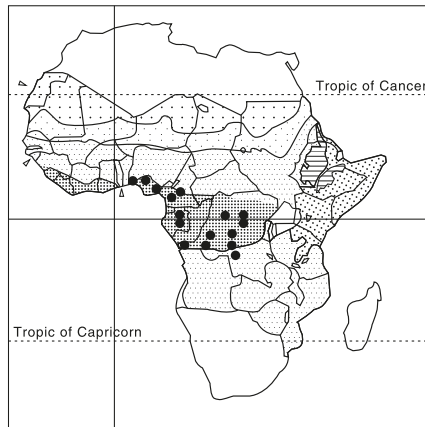
(SENNA)

SYNONYMS:

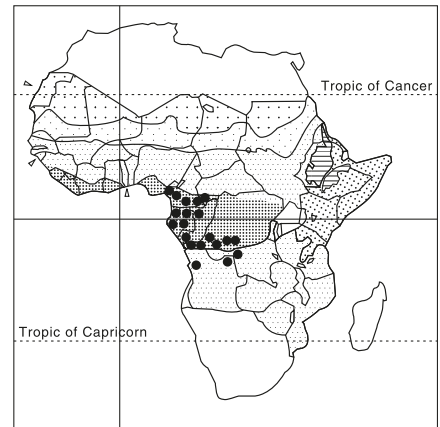
Senna acutifolia (Del.) Batka = **Cassia senna***alata* (L.) Roxb. = **Cassia** (introd.)*alexandrina* Miller = **C. senna**var. *obtusata* (Brenan) Lock = **C. senna** var.*auriculata* (L.) Roxb. = **Cassia** (introd.)*baccarinii* (Chiov.) Lock = **Cassia***bacillaris* (L. f.) Irwin & Barneby = **Cassia** (introd.)*bicapsularis* (L.) Roxb. = **Cassia** (introd.)*didymobotrya* (Fresen.) Irwin & Barneby = **Cassia***dimidiata* Roxb. = **C. hochstetteri***ellisae* (Brenan) Lock = **Cassia***gossweileri* (Baker f.) Lock = **Cassia***hirsuta* (L.) Irwin & Barneby = **Cassia** (introd.)*holosericea* (Fresen.) Greuter = **Cassia***hookeriana* Batka = **C. adenensis***humifusa* (Brenan) Lock = **Cassia***italica* Miller = **Cassia***ligustrina* (L.) Irwin & Barneby = **Cassia** (introd.)*multiglandulosa* (Jacq.) Irwin & Barneby = **Cassia** (introd.)*multijuga* (L. C. Rich.) Irwin & Barneby = **Cassia** (introd.)*obtusifolia* (L.) Irwin & Barneby = **Cassia***occidentalis* (L.) Link = **Cassia***pendula* (Willd.) Irwin & Barneby, incl. var. *glabrata* (Vogel) Irwin & Barneby = **Cassia** (introd.)*petersiana* (Bolle) Lock = **Cassia***podocarpa* (Guillemin & Perrottet) Lock = **Cassia***polyphylla* (Jacq.) Irwin & Barneby = **Cassia** (introd.)*ruspolii* (Chiov.) Lock = **Cassia***septemtrionalis* (Viv.) Irwin & Barneby = **Cassia** (introd.)*siamea* (Lam.) Irwin & Barneby = **Cassia** (introd.)*singueana* (Del.) Lock = **Cassia***sopha* (L.) Roxb. = **Cassia** (introd.)*spectabilis* (DC.) Irwin & Barneby = **Cassia** (introd.)*splendida* (Vogel) Irwin & Barneby = **Cassia** (introd.)*surattensis* (Burm. f.) Irwin & Barneby = **Cassia** (introd.)*tora* (L.) Roxb. = **Cassia** (introd.)*truncata* Brenan = **Cassia***tuhovalyana* (Aké Assi) Lock = **Cassia**



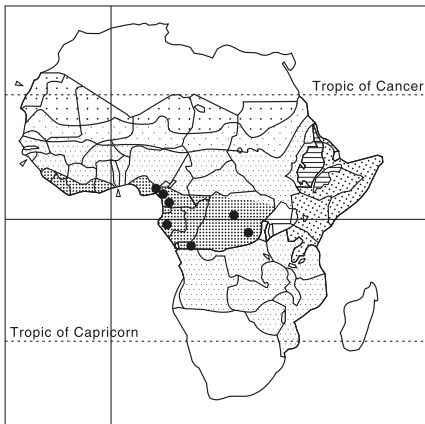
Pomaria burchellii



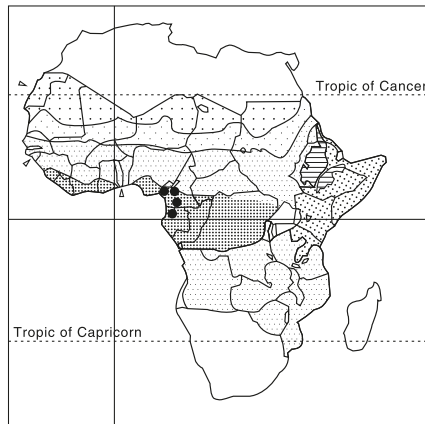
Prioria balsamifera



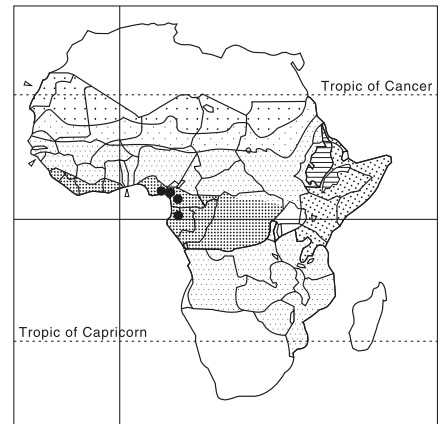
Prioria buchholzii



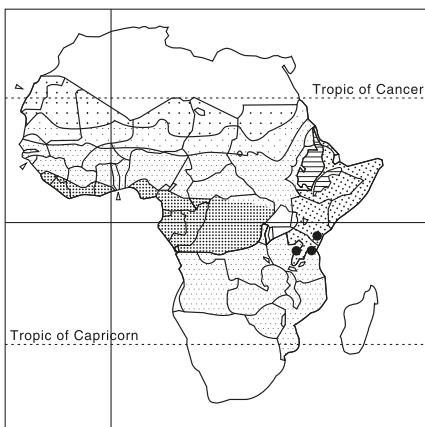
Prioria gilbertii



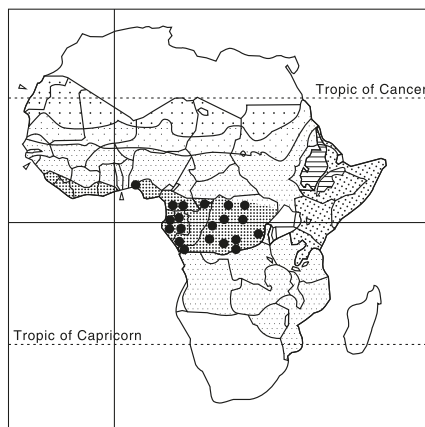
Prioria joveri



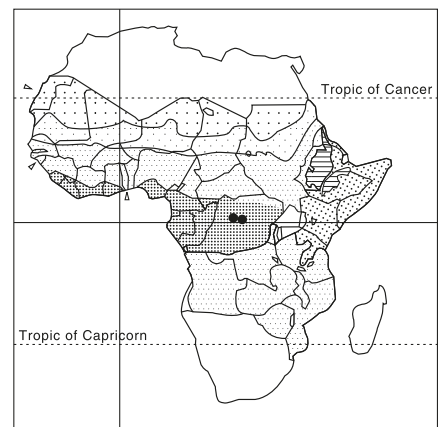
Prioria mannii



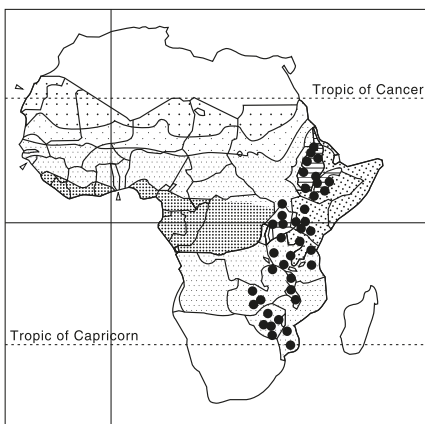
Prioria msou



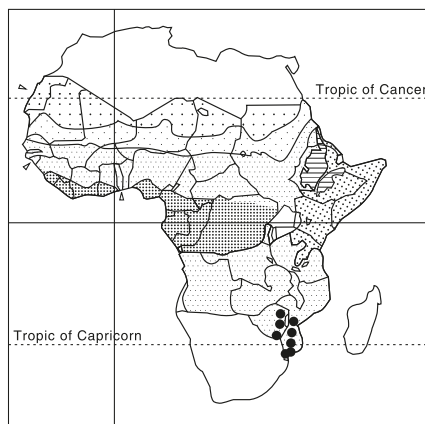
Prioria oxyphylla



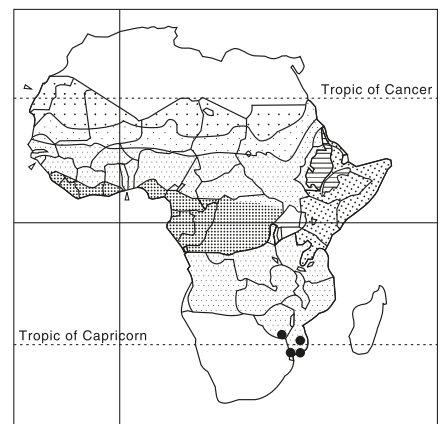
Pseudomacrolobium mengei



Pterolobium stellatum



Schotia brachypetala



Schotia capitata

SINDORA / 1

Sindora klaineana Pierre ex Pellegr.

Resiniferous tree with straight, cylindrical bole, ± 15 m tall, thickened at the base to 1 m Ø.

Humid ground at the mangrove edge; also at the edge of small savanna parallel to the coast, with short grass.

The only African taxon of an Indo-Malaysian genus with ± 20 species. A remarkable disjunct distribution in contrast to the continuity of localities yielding fossils closely related to *Sindora* (See Rev. Palaeobot. Palynol. 107: 191-199, 1999).

SINDOROPSIS / 1

Sindoropsis letestui (Pellegr.) J. Léonard

Resiniferous tree ± 15 m, with straight, cylindrical bole, buttressed or thickened at the base; buttresses thick.

Rain-forest.

STACHYOTHRYSUS / 2

Stachyothrysus stapfiana (A. Chev.) J. Léonard & Voorhoeve

Evergreen tree to 30 m tall, with ?buttresses and sometimes with aerial stilt-roots, or sharp root ridges; bole may be straight and free of branches to 16 m, 60 cm Ø; crown small, dense, rounded.

Rain- and secondary forests, semi-deciduous forest; sometimes in understorey (the tree usually has a very poor stem-form, angular, knotty and branched); with gregarious tendency and often forming the major part of the understorey; locally dominant; swampy conditions, in rolling country and on steep rocky hills; also in pure stands and in secondary bush in the neighbourhood of old town sites.

S. staudtii Harms

Tree 20-25 m or more with much fluted base; bole irregular, sinuous, tortuous, ± 40 cm Ø.

Rain-forest; swampy forest with *Copaifera*.

STEMONOCOLEUS / 1

Stemonocoleus micranthus Harms – Icon.: Bot. Jahrb. Syst. 38: 76, 1907.

Tree 15-30-45 m, bole 80-150 cm Ø, cylindrical, straight, regular; with small, winged buttresses at the base; bark scented; flowers extremely fragrant.

Rain-forest; often rare.

STUHLMANNIA / 1

Stuhlmannia moavi Taub.

syn.: *Caesalpinia dalei* Brenan & J. B. Gillett; *C. insolita* (Harms) Brenan; *Hoffmannseggia insolita* Harms

Tree 7,5-9 m tall, apparently evergreen.

Dry evergreen and riverine forests; 15-150 m alt.

(SWARTZIA)

TUCKER, S. C. (2003). Floral ontogeny in Swartzia (Leguminosae: Papilionoideae: Swartzieae): distribution and role of the ring meristem. *Amer. J. Bot.* 90: 1271-1292 [segregation of *Bobgunnia* asserted].

Swartzia fistuloides Harms = **Bobgunnia**

madagascariensis Desv. = **Bobgunnia**

TALBOTIELLA / 4

Talbotiella bakossiensis sp. nov. sensu M. Cheek & al., Pl. Kupe...: 316, 2004.

Evergreen tree c. 20 m; fruit and seeds unknown.

Submontane forest; 859-1350 m alt.

T. batesii Bak. f.

Tree.

Riversides.

Only known from the type collected probably *ante* 1929.

T. eketensis Bak. f.

Bushy dwarf shrub 1 m tall or tree 4-6 m; new leaves very pale green shaded mauvy pink, older leaves dark glossy green, much like those of *Cynometra hankei*; fruit unknown.

Estuary; freshwater swamp forest; in profusion in rather loose drift sand.

Decorative: white flowers with orange stamens and bright pink bracteoles.

T. gentii Hutch. & Greenway

Tree to 15 m, with heavy, shady, spreading crown.

Forming a belt between savanna and deciduous rain-forest (in species-poor, very dry forest); gregarious.

Decorative: flowers pinkish white, sweet-scented.

Almost extinct.

[TAMARINDUS]

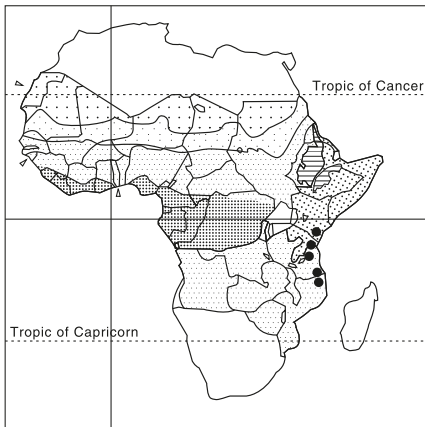
[*Tamarindus indica* L.]

Tree to 25 m with stout bole to 65 cm Ø, often with several trunks; crown dark, evergreen, low-branching, rounded.

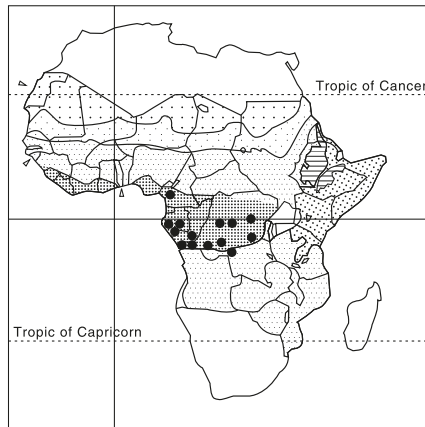
Considered spontaneous, at least in an area from Mali to Niger, by certain botanists, in the drier parts of the sub-Saharan savanna, SC and E Africa across to W India, dispersed by man world-wide. But area of origin uncertain, probably Madagascar.

Cultivated in the E Mediterranean since Antiquity (mentioned first by Theophrastus, 4th century BC). – See H. M. Burkill, *Useful Pl. W. Trop. Afr.* 3: 169-176, 1995.

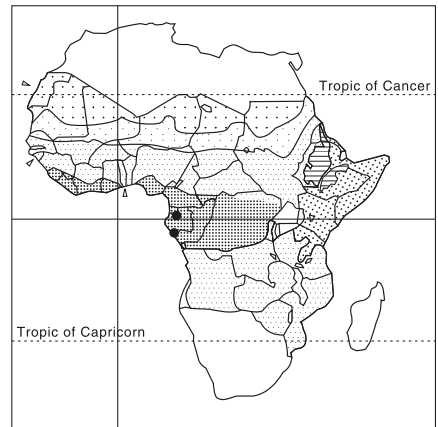
Not mapped.



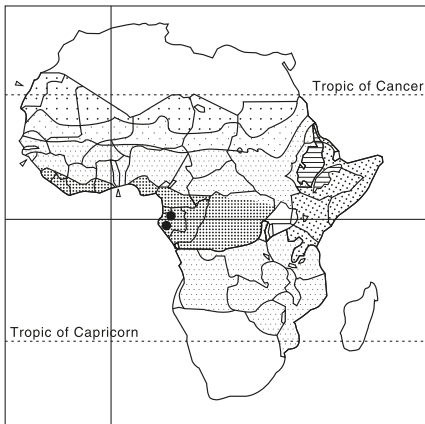
Scorodophloeus fischeri



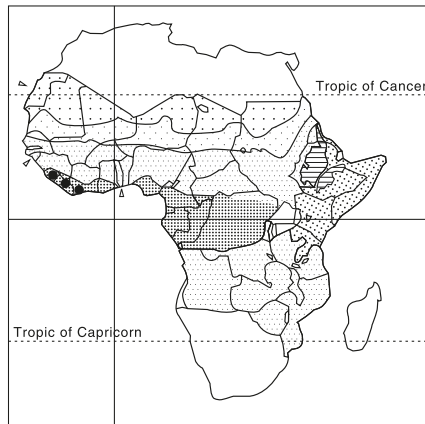
Scorodophloeus zenkeri



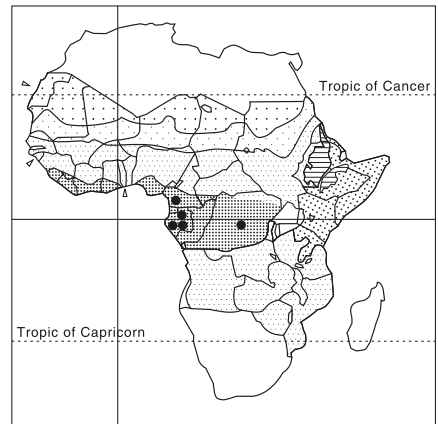
Sindora klaineana



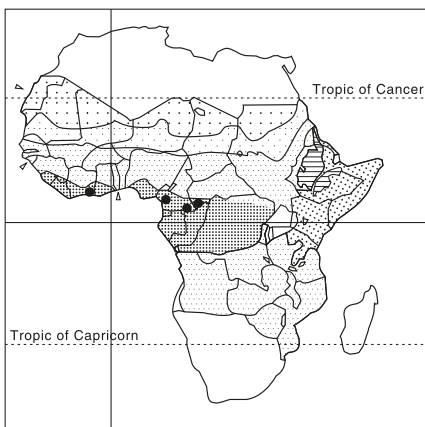
Sindoropsis letestui



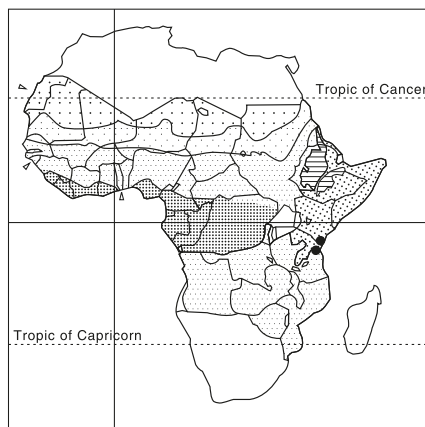
Stachyothrsus stapfiana



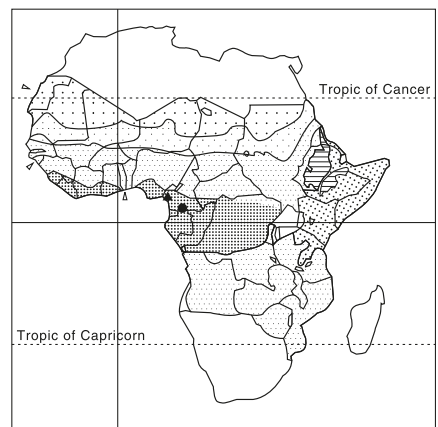
Stachyothrsus staudtii



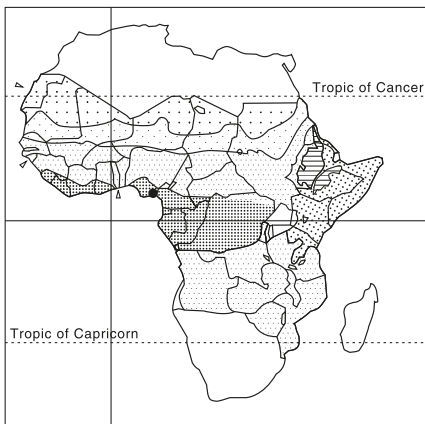
Stemonocoleus micranthus



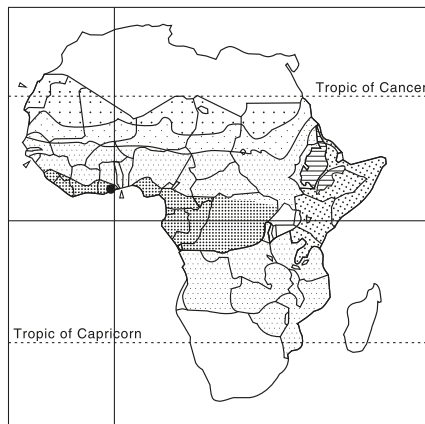
Stuhlmannia moavi



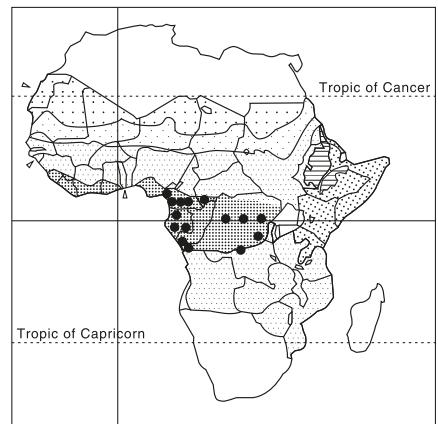
Talbotiella bakossiensis ▲
Talbotiella batesii ●



Talbotiella eketensis



Talbotiella gentii



Tessmannia africana

TESSMANNIA / 12

Tessmannia africana Harms – Icon.: Publ. Inst. Natl. Etude Agron. Congo Belge (I.N.E.A.C.), Sér. Sci. 45: pl. I, 1950.

syn.: *T. claessensii* De Wild.

Tree 30-50 m; bole 0,7-1,2 m Ø, straight, free to 15-30 m height, cylindrical at and from the base.

Rain-forest on firm ground; rather common in Yangambi region (Zaire); evergreen or not; stream sides.

T. anomala (Micheli) Harms – Icon.: Publ. Inst. Natl. Etude Agron. Congo Belge (I.N.E.A.C.), Sér. Sci. 45: pl. I, 1950.

bas.: *Baikiaea anomala* Micheli

syn.: *Tessmannia parvifolia* Harms; *T. moesiekei* De Wild.

Tree 30-50 m; bole 20-30 m, 0,75-1,3 m Ø, cylindrical with small fluted buttresses at the base.

Rain-forest on firm ground; rather common in *Scorodophloeus zenkeri* forest in Yangambi region (Zaire); evergreen or not; transition forests; forest gallery on sandy soil and old river beds.

Comprises 2 vars.

T. baikiaeoides Hutch. & Dalziel

Tree 8-10 m tall with round, straight, smooth bole to 0,3 m Ø; slightly buttressed.

Forest in valley on granitic soils; ± 500 m alt.

T. burttii Harms

Tree 4-12 m; spectacular when flowering.

Riverine forest with *Aphanocalyx richardsiae*; riverine woodland, termite mound thickets; 850-1400 alt.

Range of distribution similar to that of *Aphanocalyx richardsiae*.

Rarely collected (truly rare plant).

T. camoneana Torre

Multi-stemmed shrub, 4-5 m tall.

With *Guibourtia* sp.; ± 100 m alt.

Discovered in 1966.

T. copallifera J. Léonard

syn.: *Amherstiae* sp. sensu J. Léonard

Tree to 35 m; bole cylindrical, free to 18 m height; flower unknown.

Swampy- and riverine forests.

T. dawei J. Léonard

Tree; flower and inflorescence unknown.

It forms the principal shade tree in the *Sansevieria cylindrica* forests.

Near *T. burttii*.

Only known from the type collected in 1921.

T. densiflora Harms

Tree 20-25 m, with an open crown; quite mature fruit unknown.

? On sandy ground; 200-300 m alt.

TESSMANNIA

T. dewildemaniana Harms, incl. var. *leucocalyx* Harms – Icon.: Publ. Inst. Natl. Etude Agron. Congo Belge (I.N.E.A.C.), Sér. Sci. 45: pl. I, 1950.

Large tree with rather strong buttresses; bole ± irregular.

Along water or gallery on humid ground; rare.

T. lescrauwaetii (De Wild.) Harms – Icon.: Publ. Inst. Natl. Etude Agron. Congo Belge (I.N.E.A.C.), Sér. Sci. 45: pl. I, 1950.

bas.: *Baikiaea* ? *lescrauwaetii* De Wild.

Tree 25-30 m tall, 0,8 m Ø with straight bole.

Forests.

T. martiniana Harms

? Shrub or tree; fruit unknown.

On sea shore.

Comprises 2 vars.

T. yangambiensis Louis ex J. Léonard – Icon.: Publ. Inst. Natl. Etude Agron. Congo Belge (I.N.E.A.C.), Sér. Sci. 45: pl. I, 1950.

Tree 40-48 m; bole free to 25-30 m height, 0,6-1,3 m Ø, cylindrical from the base.

Rain-forest on firm ground, with *Scorodophloeus zenkeri*.

SYNONYMS (not incl. 4 new spp., ined. Breteler, Gabon):

Tessmannia claessensii De Wild. = **T. africana**

moesiekei De Wild. = **T. anomala**

parviflora Harms = **T. anomala**

TETRABERLINIA / 7

WIERINGA, J. J. (1999). See under **Aphanocalyx** p. 86.

Tetraberlinia baregarum Wieringa – Icon.: Wieringa, o.c.: 257.

syn.: *Julbernardia microphylla* sensu Troupin, Bull. Jard. Bot. Etat, Brux. 20: 320-321, 1950 quoad p.p. specim. Michelson 520 (520b fide Wieringa); *Michelsonia microphylla* (Troupin) Hauman idem.

Large tree; trunk swollen at base; inflorescence unknown.

Dominant (or co-dominant) in small populations on hill tops and slopes (Ulindi riverside forest); ± 650 m alt. – These trees were logged in large numbers around 1943.

Only known from the type collected around 1943.

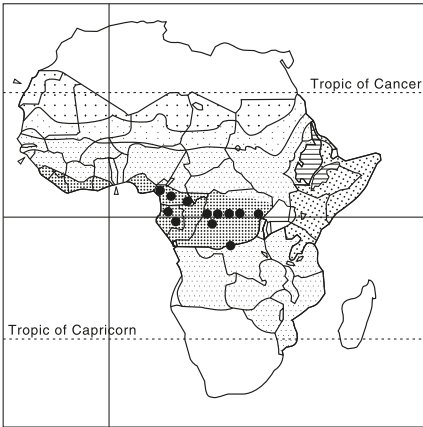
T. bifoliolata (Harms) Hauman

syn.: *Westia bifoliolata* (Harms) J. F. Macbride

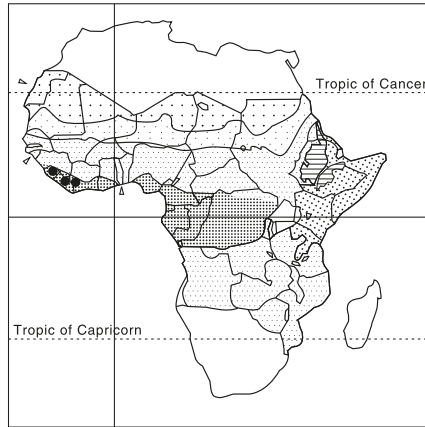
Tree 5-50 m; bole cylindrical, branchless for to 20 m, DBH 5-100(-150) cm; base sometimes widening; crown rather open and narrow, broader in large trees.

Dry-land rain-forest; sometimes found in riverine forest where the temporary inundations do not last for very long; only on nutrient-poor soils; occasionally occurring very commonly and may even become the most important tree species over large forest areas (Rabi area, Gabon); to the margins of its distribution area becoming rare and often found solitary; 0-900 m alt.

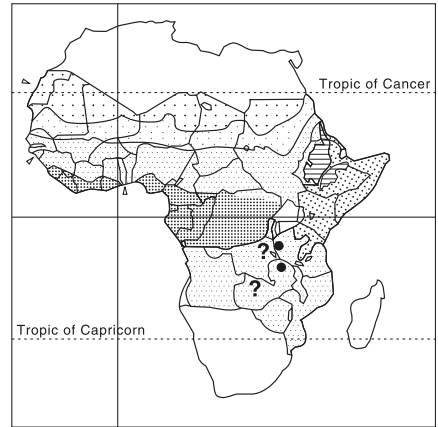
The holoparasitic *Berlinianche aethiopica* (*Rafflesiaceae*) has been found once on its branches (1°57' S × 9°53' E, Rabi-Kounga, Gabon).



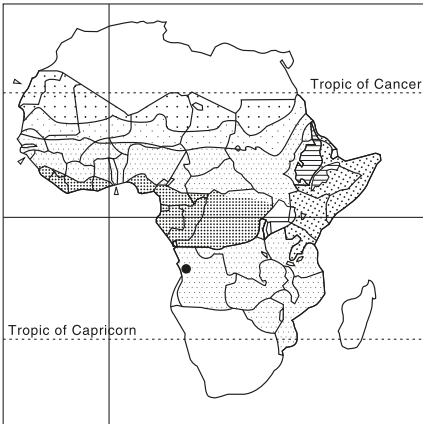
Tessmannia anomala



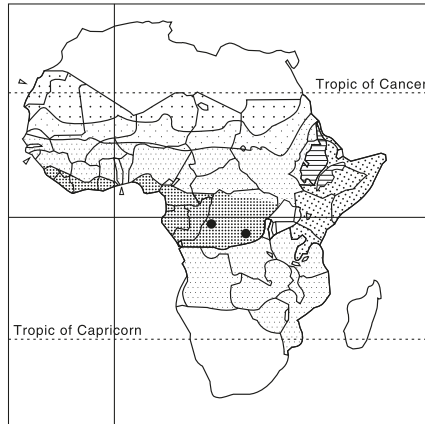
Tessmannia baikiaeoides



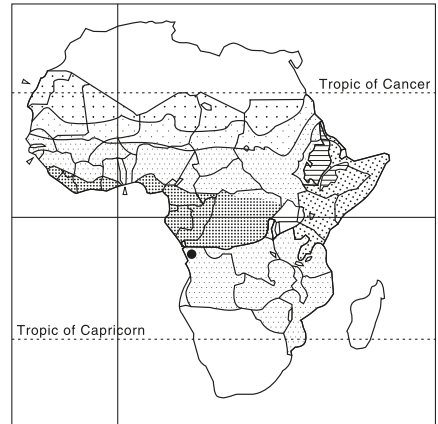
Tessmannia burttii



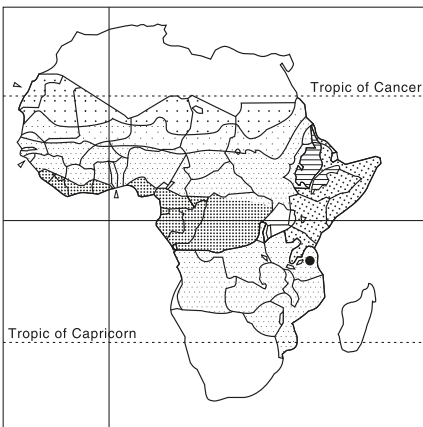
Tessmannia camoneana



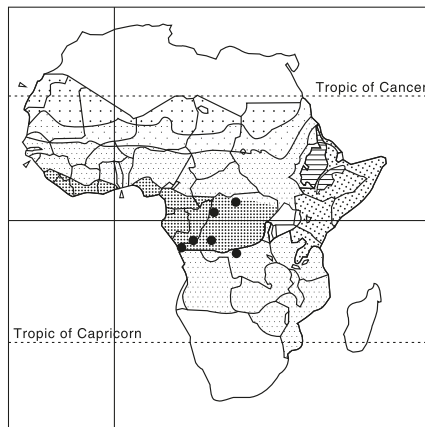
Tessmannia copallifera



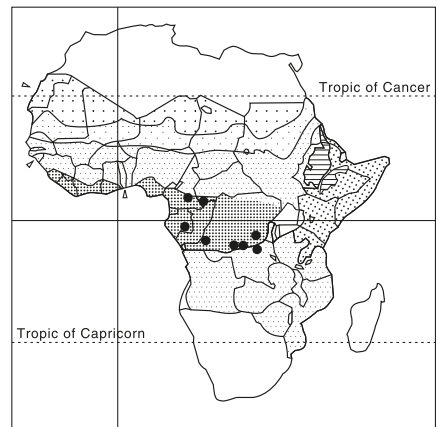
Tessmannia dawei



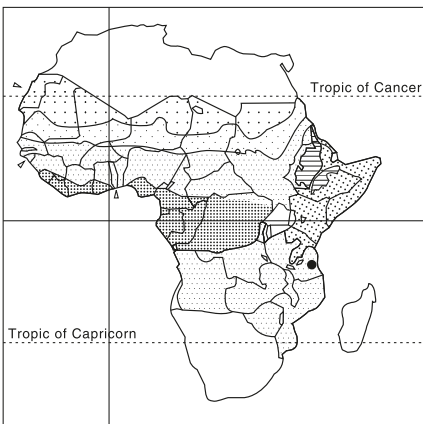
Tessmannia densiflora



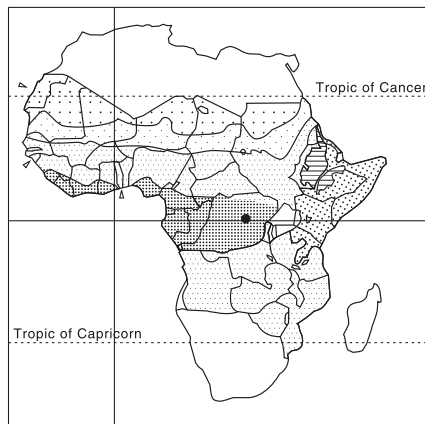
Tessmannia dewildemaniana



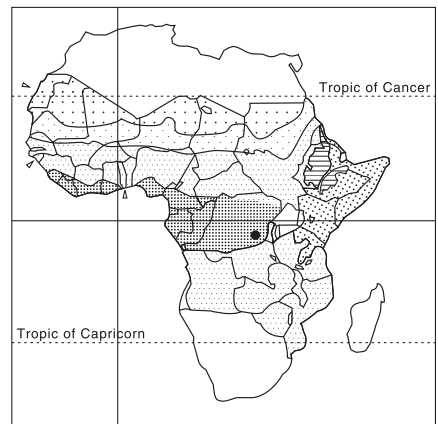
Tessmannia lesrauwaetii



Tessmannia martiniana



Tessmannia yangambiensis



Tetraberlinia baregarum

TETRABERLINIA

T. korupensis Wieringa – Icon.: Wieringa, o.c.: 269.

Tree to 55 m; bole cylindrical, DBH to 150 cm and sometimes slightly swollen at base.

Primary and secondary rain-forest (Atlantic Caesalpinioideae forest); on sandy soils; very abundant but in a restricted area; 50-170 m alt. (See New Phytologist 109: 433-450, 1988; Ecological Monographs 67: 367-409, 1997).

T. longiracemosa (A. Chev.) Wieringa – Icon.: Wieringa, o.c.: 273.

bas.: *Monopetalanthus longiracemosa* A. Chev.

Tree 25-42 m; bole cylindrical, branchless for to at least 16 m, DBH 55-115 cm; base somewhat swollen with small buttresses; crown rather broad and flattened.

Dry-land rain-forest; usually occurring single or in small (<10 large trees) groups; larger populations occur in the Tandous Mountains (fide de Saint Aubin, 1963); 0-250 m alt.

T. moreliana Aubrév. – Icon.: Wieringa, o.c.: 279.

syn.: *Monopetalanthus macrophyllus* J. Morel ms.

Tree 12-51 m; bole straight, cylindrical, branchless for to ± 30 m, DBH 60-120 cm; base often widening in lower metre, sometimes with <1 m high buttresses (in large trees usually with some tumours); crown hemispherical.

Dry-land rain-forest; it may occur dominant in extensive stands in the area between the Ndougou lagoon and the Ogooué River (Gabon).

T. polyphylla (Harms) J. Léonard ex Voorh. – Icon.: Wieringa, o.c.: 283 – Typ. cons: Fleury in Chevalier 26690 (Taxon 49: 805, 2000; 48: 167-168, 1999). – Ledermann 821 = ? *Tetraberlinia moreliana*; Mildbraed 5549 = *Monopetalanthus letestui*.

Tree 10-30(-40) m; bole straight, fairly cylindrical, branchless for to 20 m, DBH at least attaining 70 cm; base sometimes with small feet.

Dry-land rain-forest and riverine forest; not typically gregarious; 0-250 m alt.

T. tubmaniana J. Léonard – Icon.: Wieringa, o.c.: 289.

Tree 9-30(-42) m (rarely a shrub), with straight bole, branchless for to 21 m height, DBH to 8-90(-110) cm; base without buttresses but often somewhat swollen or with to 50 cm high root swellings; crown rather open, rarely reaching at least 75 m Ø.

Dry-land evergreen rain-forest; gregarious; precipitation of over 2300 mm/ year and dry season of over 4 months. Only growing on flat to slightly undulate terrain with deep soils; the terrain should not be inundated nor have a high water-table. Some of the forests in Liberia are dominated by this tree.

T. apiphilia Wieringa, ined., in Sosef & al., Check-list Gabon: 228, 2006.

SYNONYM:

Tetraberlinia microphylla (Troupin) Aubrév. = **Michelsonia**

TRIPLISOMERIS / 3

Triplisomeris ernae (Dinkl.) Aubrév. & Pellegr.

Shrub or tree, 3-6 m tall; fruit unknown. Night-blooming; flowers yellow white with sweet clove-like fragrance resembling certain orchids and increasing in the evening.

Near a shore, in open palm plantation on sandy ground, with *Haemanthus*, *Sansevieria*.

Only known from the type collected in 1922 (Dinklage 2805 or s.n.).

T. explicans (Baill.) Aubrév. & Pellegr.

syn.: *Macrobium heudelotii* Planch. ex Benth., non *M. macrophyllum* (P. Beauv.) J. F. Macbr. var. *heudelotianum* (Baill.) Bak. f.; non *M. heudelotianum* (Baill.) Aubrév. (= *Anthonotha macrophylla*).

Scandent shrub or tree to 4-8 m tall, with slender branches.

Dry ground, dry places.

T. pellegrinii Aubrév.

Shrub 5 m tall; fruit unknown.

Ecology unknown. – Cf. **Anthonotha triplisomeris** in Sosef & al., Gabon 2006.

Only known from the type collected in 1925.

TYLOSEMA / 5

Species delimitation problematic; morphological variation even within the same population great; an undercollected genus. Heterostyly in all species (unknown in the family elsewhere).

CASTRO, S. & al. (2005). Systematic studies in Tylosma (Leguminosae). *Bot. J. Linn. Soc.* 147: 99-115 [with map].

Tylosema angolense P. Silveira & S. Castro, *Bot. J. Linn. Soc.* 147: 111, 2005. – Icon.: *ibid.*: 112.

Tuberous suffrutex with trailing stems to 2,5 m long, herbaceous or woody below; young parts sparingly to ± densely pubescent with intense rusty hairs on young branches, leaves and inflorescence, becoming whitish to greyish on adult leaves; tendrils absent.

Open scrub woodland, on sandy soils, sometimes on ferric soils; 1150-1670 m alt.

Has been confused with *T. esculentum* (which lacks tendrils but has another leaf shape).

T. argenteum (Chiov.) Brenan – Icon.: Chiovenda, *Result. Sci. Miss. Stefan. Paoli Somal. Ital.*: 7, 1915.

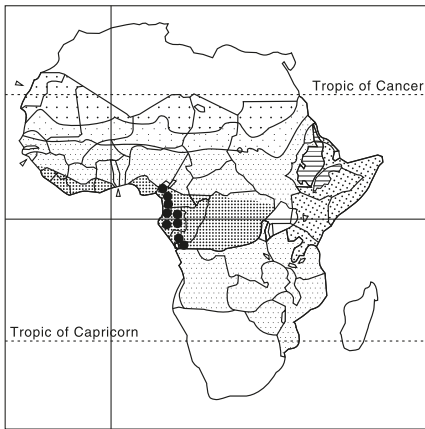
Herbaceous climber, with stems to 2 m or more long; tendrils present, forked. Pods and seeds known! (*Fl. Somalia* 1: 351, 1993).

Acacia-Commiphora open scrub on edge of red sand; riversides or on rocky soils of old alluvial slope; to 550 m alt.

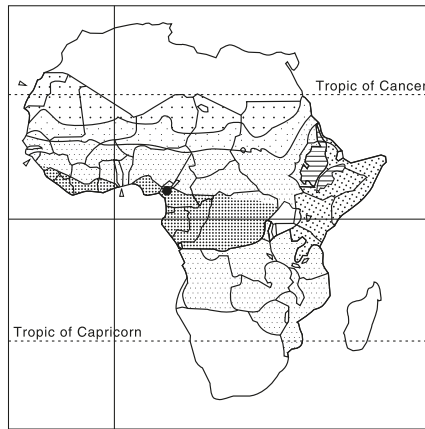
T. esculentum (Burch.) A. Schreiber; R. R. Schippers, *Légumes africains indigènes...*: 95-96, 2004.

bas.: *Bauhinia esculenta* Burch.

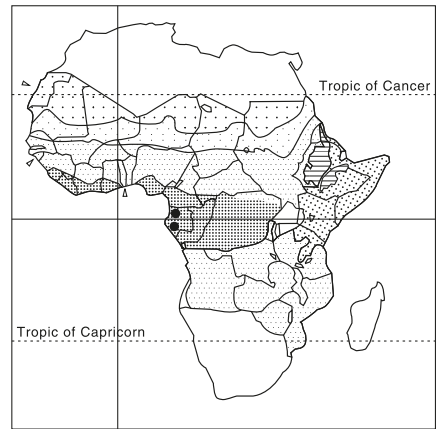
syn.: *B. burkeana* (Benth.) Harv.; *B. bainesii* Schinz; *Phanera burkeana* Benth.



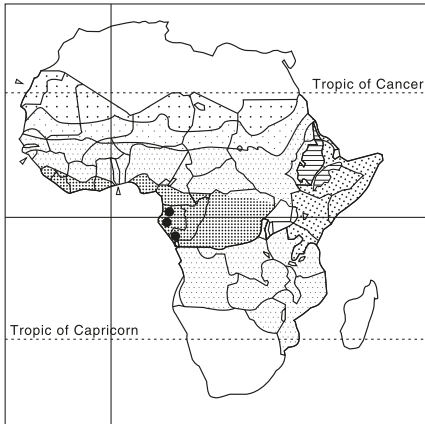
Tetraberlinia bifoliolata



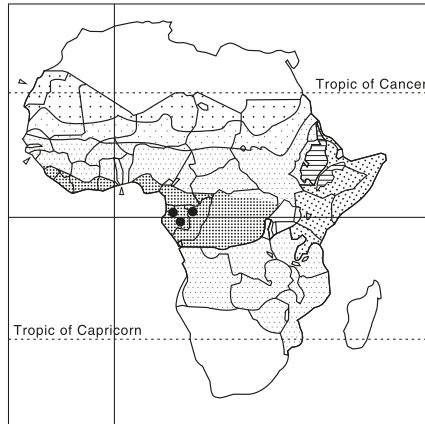
Tetraberlinia korupensis



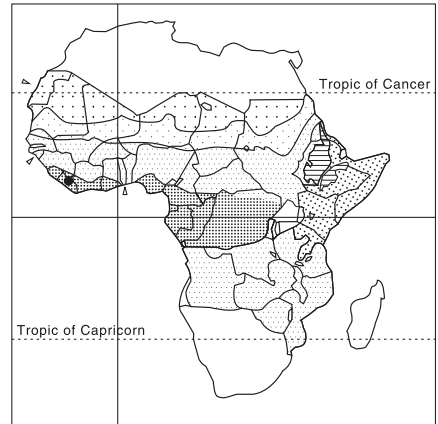
Tetraberlinia longiracemosa



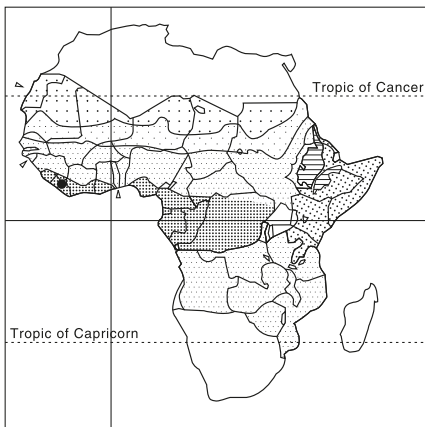
Tetraberlinia moreliana



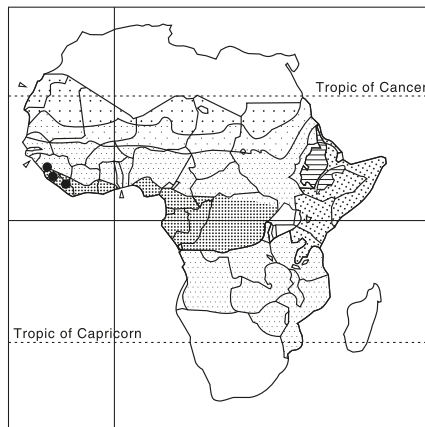
Tetraberlinia polyphylla



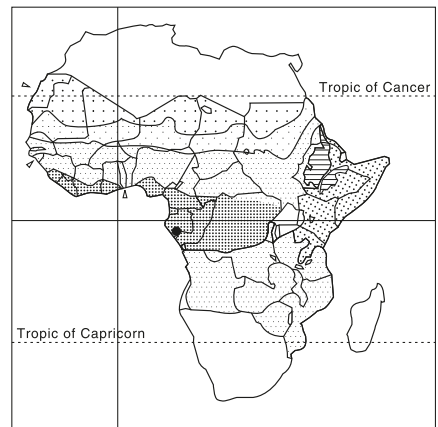
Tetraberlinia tubmaniana



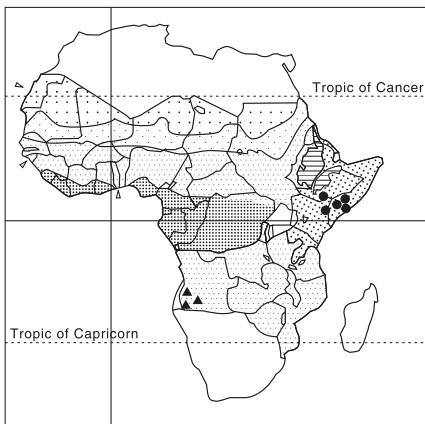
Triplisomeris ernae



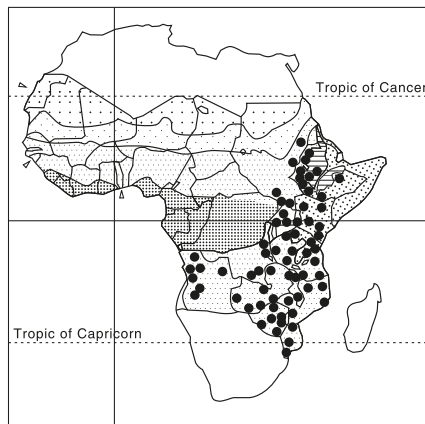
Triplisomeris explicans



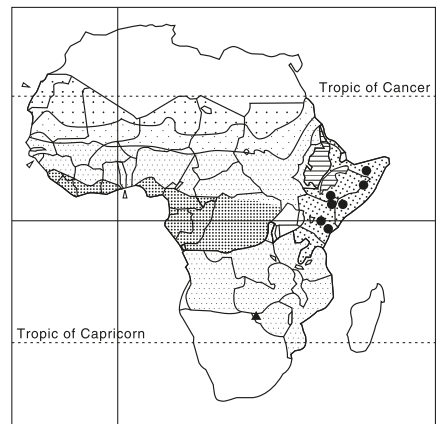
Triplisomeris pellegrinii



Tylosema angolense ▲
Tylosema argenteum ●



Tylosema fassoglense



Tylosema esculentum ▲
Tylosema humifusum ●

TYLOSEMA ESCULENTUM

Herbaceous climber, or trailing, to 3 m long, sometimes woody below, arising from a large tuber; tendrils forked, opposite to leaves.

Mostly on sandy plains, also flat grassy places, on dolomite or limestone outcrops; 900-1100 m alt. (S. Africa). In Zimbabwe near Victoria Falls.

Namibia, Botswana, S. Africa.

T. fassoglense (Schweinf.) Torre & Hillc., incl. fa. *cissoides* (Oliv.) Bak. f.; Rand, J. Bot. 47: 84-86, 1909.

syn.: *Bauhinia cissoides* Oliv.; *B. welwitschii* Oliv.; *B. kirkii* Oliv.; *B. bequaertii* De Wild., incl. var. *hockii* De Wild.

Stems prostrate and trailing, or climbing to 6 m or more (-40 m) long, herbaceous or woody below; tendrils present, forked. Habit of *Vitis* or *Cissus*.

Wooded grassland, grassland, deciduous bushland; on rocky grounds; wooded savanna; shrubby meadows in valley, bank of stream; rocky ferruginous ground with herbs and shrubs; shrubby grasslands; rocky thickets near river; by a grand cataract; bushy slopes with tall herbage; Kalahari sand; heavy red soil; rocky slope with many loose boulders, *Combretum molle* dominant, and much *Xerophyta simulans* growing on the bare rocks; sometimes in cultivated areas, also periodically flooded; 30-2100 m alt.

Extremely variable: indumentum, leaf size, length of inflorescence axis, position of tendrils.

S. Africa, Swaziland, Namibia.

T. humifusum (Pichi-Serm. & Roti-Michelozzi) Brenan

Stems apparently herbaceous, creeping along the ground for 0,45-1 m or more; tendrils *absent*; seeds known!

Acacia-Commiphora open scrub or pale limestone soils; ± 360-1000 m alt.

Very variable in leaf shape (± bilobed).

ZENKERELLA / 4

LÉONARD, J. (1951). See under *Cynometra* (vide p. 408-416), p. 126.

Zenkerella capparidacea (Taub.) J. Léonard

Tree 6-30 m; bole DBH to 30 cm.

Rain-forest with *Allanblackia ulugurensis*, *Podocarpus* sp., *Ocotea usambarensis* (subsp. **capparidacea**); ground water forests with *Aningeria adolfi-friederici*, *Ocotea usambarensis*, *Podocarpus usambarensis*, *Parinari excelsa*, *Newtonia buchananii* [subsp. **grotei** (Harms) Temu]; 900-2000 m alt.

Comprises 2 subspp.

Z. citrina Taubert – Icon.: Bull. Jard. Bot. Etat, Brux. 21: 411, 1951.

syn.: *Cynometra leptoclada* Harms

Tree 20-25 m, with broad crown, or a shrub; fruit unknown.

Rain-forest; 500 m alt. (Cameroon).

Bioko/Fernando Poo.

Z. egregia J. Léonard

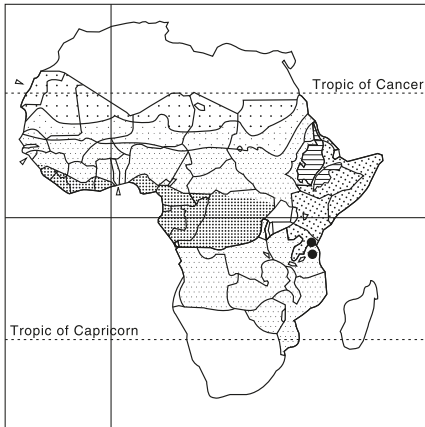
Tree 10-18 m; branches bushy, pendulous. Young fruit known! [See J. Léonard, *Genera des Cynometreae et des Amherstieae africaines...* Acad. Roy. Belg., Cl. Sci., Mémoires in 8°, 30(2): 95, 1957].

Rain-forest; swamp forest, near water (on black soil on limestone formation); riverine formation of small trees with *Khaya nyassica*, *Dialium*, *Sorindeia*, *Erythrophloeum guineense*; 270-400 m alt.

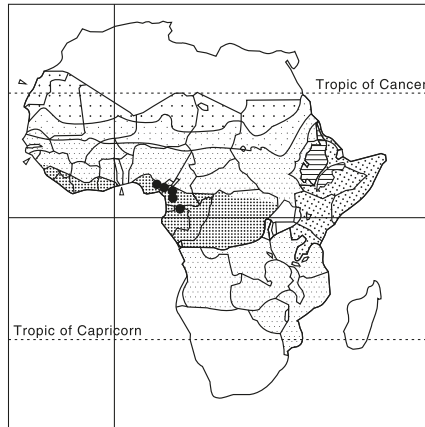
Z. perplexa Temu

Tree to ± 12 m; bole with DBH to 20 cm; branches slender, pendulous.

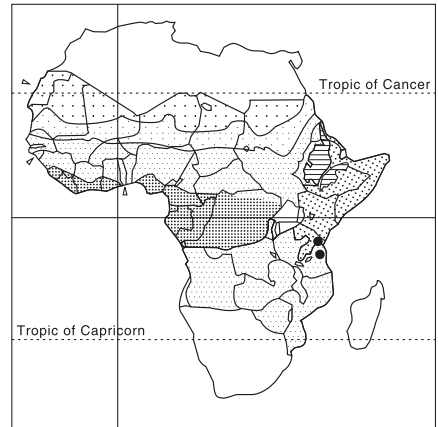
On the edge of a primary rain-forest on rocks near a river bank, with *Albizia* spp.; only a single tree has been seen (1987, 1989). Threatened.



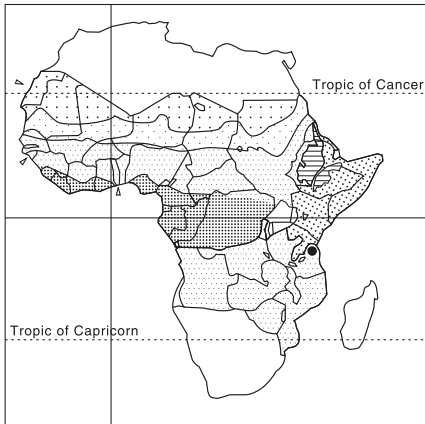
Zenkerella capparidacea



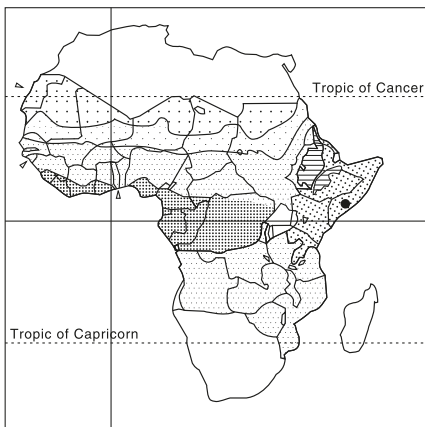
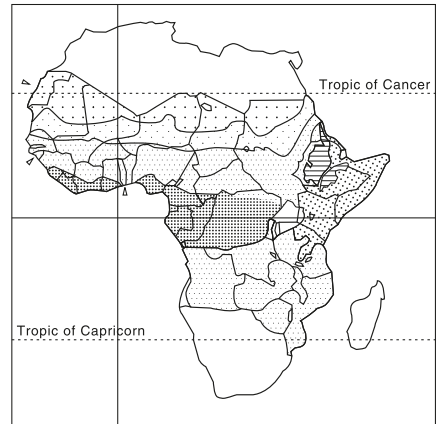
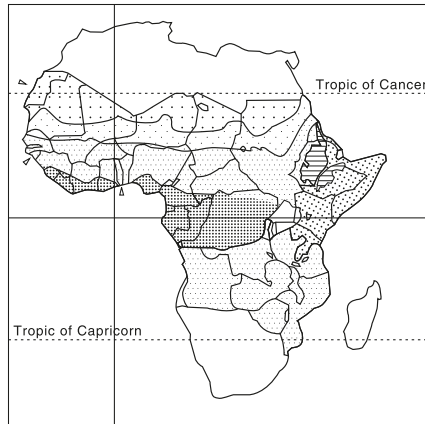
Zenkerella citrina



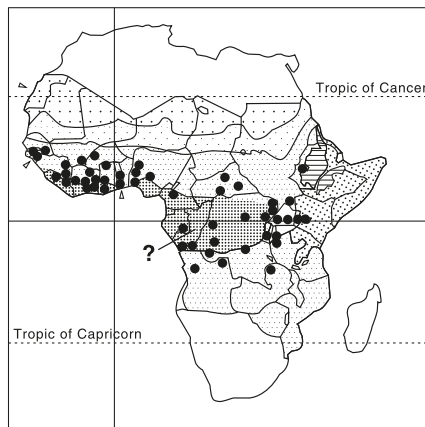
Zenkerella egregia



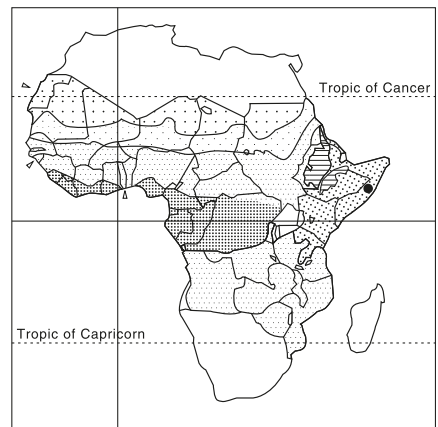
Zenkerella perplexa



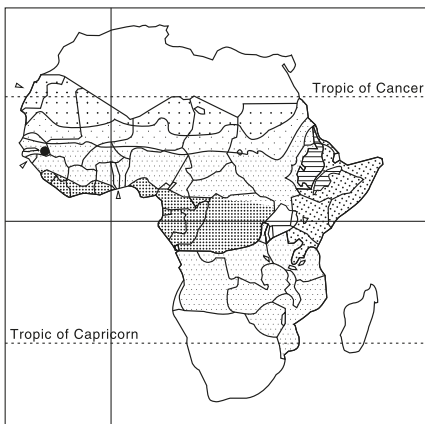
Abrus baladensis



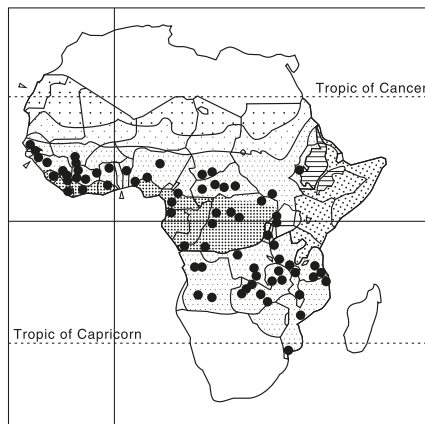
Abrus canescens



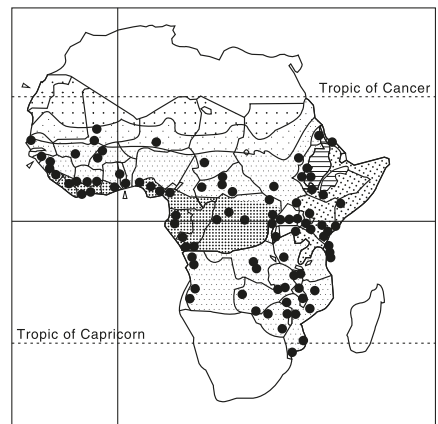
Abrus gawenensis



(*Abrus gorsei* = *A. melanospermus*)



Abrus melanospermus



Abrus precatorius subsp. *africanus*

FABACEAE / 138 g. / 2111 spp.

Papilionaceae; *Leguminosae* subfam. *Papilionoideae* (see also R. Govaerts' proposal to remove alternative family names, in *Taxon* 53: 603-604, 2004).

This is the largest family of flowering plants in tropical Africa (c. 12.150 spp. worldwide = c. 17% in tropical Africa), occurring in a variety of habitats, from deserts to dense forests. It includes some of the largest genera of angiosperms in the world, viz. *Astragalus*, *Indigofera* and *Crotalaria* (cf. p. 220).

In our area *Crotalaria* is the largest genus of the flowering plants: 459 species (world c. 600 spp. = 75% in tropical Africa). In the same context *Indigofera* (286 spp.) is the fourth largest genus (world c. 720 spp. = 43% in tropical Africa).

Although the family has been widely studied taxonomically, various levels of knowledge are extant. A few genera seem to be poorly known (and under-collected), in particular: *Adenodolichos*, *Dolichos*, *Droogmansia*, *Eriosema*, *Humularia*, *Kotschya*, *Lotononis*, *Millettia*, *Onobrychis*, *Ophrestia*, *Physostigma*, *Platysepalum*, *Pseudeminia*, *Pseudoeriosema*, and *Schefflerodendron*. In the larger genera it is worth noting that details on fruits and seeds need to be filled in, e.g. *Aeschynomene*, *Baphia*, *Crotalaria* (in spite of Polhill's thorough monographic studies), *Dalbergia*, *Indigofera*, *Rhynchosia*, and *Tephrosia*. In addition, many species of all the above-mentioned genera are known from very few collections, if not only from the type gathering. This is also true for a number of smaller genera, such as, *Bolusia*, *Bryaspis*, *Microcharis*, *Physostigma*, *Platysepalum*, *Schefflerodendron*, and *Trifolium*.

For each genus figuring in our list below, details of gaps in our knowledge are presented.

Summary of our lack of information (cf. also Table 1 p. 9):

- no underground tuber known: 1 sp.;
- no rootstock: 1 sp.;
- no leaves: 2 spp.;
- no stipules: 1 sp.;
- no flower: 10 spp. (= < 0,5%);
- no mature flower: 1 sp.;
- no flower colour: 4 spp.;
- no fruit: 159 (+ 28 ?) spp. (= c. 7,5%);
- no ripe fruit: 79 (+ 3 ?) spp. (= > 3%);
- no seeds: 142 (+ 23 ?) spp. (= c. 7%);
- no ecology: 76 (+ 15 ?) spp. (= > 3%).
- Species known only from the type: 198 (+ 3 + 17 ?) spp. (= c. 9,5%).

* * *

The largest flowers are found in *Camoensia scandens*. The only peltate leaves: *Indigofera peltata*.

* * *

FABACEAE

GENERAL BIBLIOGRAPHY (See also under *Leguminosae* p. 14-15):

- ALLAN, G. J. & al. (2003). Molecular phylogenetic analyses of tribe Loteae (Leguminosae): Implications for classification and biogeography. In: KLITGAARD, B. B. & A. BRUNEAU, Eds., *Advances in Legume Systematics, part 10, Higher Level Systematics*: 371-393. Royal Botanic Gardens, Kew.
- BARKER, N. P. & al. (2000). Generic relationships in the tribe Indigoferae (Leguminosae: Papilionoideae) based on sequence data and morphology. In: HERENDEEN, P. S. & A. BRUNEAU, Eds., *Advances in Legume Systematics* 9: 311-337. Royal Botanic Gardens, Kew.
- BUTLER, A. (2002). Investigations of pod characters in the Viciae. *Veget. Hist. Archaeobot.* 11: 127-132.
- ENDO, Y. & H. OHASHI (1999). Morphological variation and distribution of the cotyledon areoles in Papilionoideae (Leguminosae) and their systematic utility. *J. Japan. Bot.* 74: 296-306.
- GASSON, P. (2000). Does wood anatomy support tribal and generic classification in papilionoid Leguminosae? In: HERENDEEN, P. S. & A. BRUNEAU, Eds., *Advances in Legume Systematics* 9: 201-215. Royal Botanic Gardens, Kew.
- HEGNAUER, R. & M. HEGNAUER (2001). *Chemotaxonomie der Pflanzen Band XIIb-2. Leguminosae Teil 3: Papilionoideae*. Birkhäuser Verlag, Basel, etc. XV + 1494 pp.
- IRELAND, H. & al. (2000). Molecular systematics of the Swartzieae. In: HERENDEEN, P. S. & A. BRUNEAU, Eds., *Advances in Legume Systematics* 9: 217-231. Royal Botanic Gardens, Kew.
- JER-MING HU (2000). Phylogenetic relationships of the tribe Millettieae and allies – the current status. In: HERENDEEN, P. S. & A. BRUNEAU, o.c.: 299-310.
- JER-MING HU & al. (2002). Phylogenetic analysis of nuclear ribosomal ITS/5.8S sequences in the tribe Millettieae (Fabaceae): Poecilanthe-Cyclobolium, the core Millettieae, and the Callerya group. *Syst. Bot.* 27: 722-733.
- KAJITA, T. & al. (2001). rbcL and legume phylogeny, with particular reference to Phaseoleae, Millettieae, and allies. *Syst. Bot.* 26: 515-536.
- KIRKBRIDE, J. H. & al. (2003). Fruits and seeds of genera in the subfamily Faboideae (Fabaceae). Vols. 1-2. *USDA Techn. Bull.* 1890. V + 1208 pp.
- MORRIS, J. B. (1997). Special-purpose legume genetic resources conserved for agricultural, industrial, and pharmaceutical use. *Econ. Bot.* 51: 251-263.
- PENNINGTON, R. T. & al. (2001). Phylogenetic relationships of basal papilionoid legumes based upon sequences of the chloroplast trnL intron. *Syst. Bot.* 26: 537-556.
- SCHRIRE, B. D. (1995). Evolution of the tribe Indigoferae (Leguminosae-Papilionoideae). In: CRISP, M. & J. J. DOYLE, Eds., *Advances in Legume Systematics 7: Phylogeny*: 161-244. Royal Botanic Gardens, Kew.
- SCHIRE, B. (1999). A legume is a legume is a legume... *Plantlife* 20: 20.
- SCHUTTE, A. L. & B.-E. VAN WYK (1998). Evolutionary relationships in the Podalyricae and Liparicaceae (Fabaceae) based on morphological, cytological, and chemical evidence. *Pl. Syst. Evol.* 209: 1-31.
- STEELE, K. P. & M. F. WOJCIECHOWSKI (2003). Phylogenetic analyses of tribes Trifolieae and Viciae, based on sequences of the plastid gene matK (Papilionoideae: Leguminosae). In: KLITGAARD, B. B. & A. BRUNEAU, Eds., *Advances in Legume Systematics, part 10, Higher Level Systematics*: 355-370. Royal Botanic Gardens, Kew.
- WESTERKAMP, C. & A. WEBER (1997). Keel flowers of Polygalaceae and Fabaceae: how far do similarities reach? *Scripta Bot. Belg.* 15: 165 (E. Smets & al., 13th Symp. Morph. Anat. & Syst., Progr. & Abstr.).
- WESTERKAMP, C. & A. WEBER (1999). Keel flowers of the Polygalaceae and Fabaceae: a functional comparison. *Bot. J. Linn. Soc.* 129: 207-221.
- WYK, B.-E. VAN (2003). The value of chemosystematics in clarifying relationships in the genistoid tribes of papilionoid legumes. *Biochem. Syst. Ecol.* 31: 875-884.

ABRUS / 7

Ecology not recorded for one species in our area, and pod unknown in one species.

TEIXEIRA, G. & M. A. DINIZ (2003). Contribution of micromorphology to the taxonomy of *Abrus* (Leguminosae-Papilionoideae). *Blumea* 48: 153-162.

Abrus baladensis Thulin

Woody climber to 3 m tall; young stems densely pubescent with appressed to spreading ferruginous hairs; flowers lilac.

Fixed sand dunes in bushland with *Acacia* ssp., *Commiphora* spp., *Grewia* spp., *Cordia somaliensis*, *Lonchocarpus kanurii*, *Albizia obbiadensis*, *Boswellia microphylla*, *Entada leptostachya*; 130-150 m alt.

Some local endemics of the area of *Abrus baladensis* are known: *Basananthe merolae*, *Dasysphaera hyposericea*, *Cucumis baladensis*.

Near *A. gawenensis*.

A. canescens Welw. ex Bak.

Woody climber or subshrub 0,5-3-6 m tall from a thick woody rootstock; stems with appressed or spreading ferruginous hairs, later glabrescent; flowers usually deep red-purple.

Grasslands without or with scattered trees; often in seasonally wet or marshy places (river and swamp sides, hollows, gallery); savannas; humid ferruginous pan; humid savanna; rocky outcrops with wet flushes and thin soil with *Selaginella njamnjamensis*, *Aeollanthus* spp., *Aloe* sp. and many annuals, along small brook between rocks; sandy soil; to 525-1500 m alt.

A. gawenensis Thulin

Woody climber to ± 3 m long, sometimes forming low cushions with twining branches; young stems sparsely pubescent with appressed white hairs; flower pale blue.

Acacia-Commiphora bushland in a limestone gorge; open plain with white sand over limestone; 100-200 m alt.

A local endemic like: *Polygala gawenensis*, *Chlorophytum applanatum*, *Amphiasma gracilicaulis*, *Monadenium gillettii*.

(*A. gorsei* Berhaut)

Twining herb with slender, hirsute stems; flower pale rose. Edges of swamps and rice-fields; palm-grove.

Is an intermediate between *A. melanospermus* subsp. *tenuiflorus* and subsp. *suffruticosus* (fide Verdcourt in Kew Bull. 24: 249, 1970).

A. melanospermus (Hassk.) D. K. Harder, Novon 10: 124, 2000 (type from Java).

syn.: *Abrus pulchellus* Wall. ex Thwaites

Climbing woody vine 1,8-6 m tall (subsp. ***tenuiflorus***), or procumbent or ascending woody-based herb or woody shrub 0,2-1 m long (subsp. ***suffruticosus***) with a woody rhizomatous rootstock; indumentum of vegetative parts usually sparse, ± appressed (subsp. ***tenuiflorus***), or dense with appressed or spreading ferruginous hairs (and dense silky grey hairs on leaflets; subsp. ***suffruticosus***); flowers white, cream, yellow, orange, red to purple, usually pale pink drying yellowish; pod thin, rounded at apex, pubescent but not tuberculate (cf. *A. schimperi*).

ABRUS MELANOSPERMUS

A pantropical complex species divided into 5 subspp. three of which in Asia, two in Africa.

– Subsp. ***suffruticosus*** (Boutique) D. K. Harder

bas.: *A. suffruticosus* Boutique (type from Zaire).

syn.: *A. repens* Tiss.; *A. fruticosus* Wall. ex Wight & Arn. (cf. subsp. *tenuiflorus* below; Breteler in *Blumea* 10: 614-617 (1960); *H. pulchellus* subsp. *suffruticosus* (Boutique) Verdc.; *A. pulchellus* sensu Hepper in F.W.T.A., Ed. 2, 1: 574, 1958 p.p.

Streamside thickets; evergreen forest near dambo, mushitu fringes; *Brachystegia* thicket; termite mounds; bushy savanna on limonite; lateritic gravels; open forest; miombo and various woodlands on Kalahari sand; 400-1800 m alt.

– Subsp. ***tenuiflorus*** (Benth.) D. K. Harder (type from Brazil).

bas.: *A. tenuiflorus* Benth.

syn.: *A. fruticosus* Wall. ex Wight & Arn. (cf. also above); *A. pulchellus* sensu auctt., e.g. Boutique in Fl. Congo Belge 6: 84, 1954; Hepper in F.W.T.A., Ed. 2, 1: 574, 1958; *A. stictosperma* Berhaut; *A. pulchellus* subsp. *tenuiflorus* (Benth.) Verdc.; *A. pulchellus* fa. *latifoliolatus* De Wild.; *A. pulchellus* var. *latifoliolatus* (De Wild.) De Wild.; *A. precatorius* var. *latifoliolatus* De Wild.; *A. gracilis* Pires de Lima

Gallery forest; grassy rocky places; mushitu (fringes); evergreen forest near dambo; streamside thicket; open forest with *Isoberlinia doka*; associations on old cultivated land; seems to prefer wetter places than subsp. ***suffruticosus***; 0-1500 m alt.

Madagascar; New Caledonia; India, China, SE Asia to Borneo and Papua, Philippines; Bolivia, Brazil, Venezuela, Suriname.

The two subspecies are distinct in the central and eastern parts of range, but in the western part they merge gradually. Intermediates are frequent in Sierra Leone, Guinea, Mali. *A. gorsei* Berhaut is such an intermediate.

The very wide concept used by Breteler treating the complex *A. schimperi-A. pulchellus* under *A. fruticosus* Wall. ex Wight & Arn., is not followed here (cf. Enum. 2: 59, 1992).

A. precatorius L. subsp. ***africanus*** Verdc.; Anonymous, Fiche espèce sur *Abrus precatorius* L. Fabaceae, in Rev. Méd. Pharmacop. Africaines 5(1): 67-80, 1991.

syn.: *A. precatorius* sensu auctt., non L. 1767 s. str.; *A. minor* Desv.; *A. squamulosus* E. Mey.; *A. tunguensis* Pires de Lima; *A. cyaneus* sensu R. Vig. 1952, p.p. typo excl.

Woody, sub-woody or herbaceous climber 1-4,5 m long, stems often attaining over 1,5 cm Ø, 5 cm in girth; stems usually greenish, sparsely appressed or somewhat spreading pubescent or glabrous; pod persistent, finely tuberculate.

Grassland with scattered thicket; bushland; cultivations; often in rocky places; forest galleries; slightly humid places; termite mounds in sandy-clayey zones; on Kalahari sand; savannas; waste, fallow, grazed, disturbed land; woodlands; lake shore; 0-1350 m alt. – Weedy plant.

Caprivi Strip; Botswana, S. Africa; Seychelles, Marquesas, Madagascar, Mauritius. Introduced into Australia and the New World. – Fl. Zambes. 3/3: 212, 2007.

Subsp. ***precatorius*** in tropical Asia and Australia.

ABRUS

A. schimperi Hochst. ex Bak.

Woody shrub 0,9-3,6 m tall, virgately branched; stems appressed pubescent, finally glabrescent; bark smooth, red to red-brown; flowers cream, yellow or blue and mauve; pod woody, tapering at apex, ± covered with tubercles (in *A. pulchellus* rounded at apex, pubescent but not tuberculate).

Thickets, bushland, (open) woodland, forest edges; *Acacia*, *Delonix-Markhamia* and *Brachystegia* woodland often on rocky outcrops; wooded rocky hillsides; rocky river banks; *Euphorbia* scrub (subsp. **oblongus**, thicket-forming); (50-)300-1700 (-2100) m alt.

Comprises 3 subsp.: – subsp. **schimperi** with golden indumentum of inflorescence-rhachis and calyx in N part of range; – subsp. **africanus** (Vatke) Verdc. (bas.: *Hoepfnera africana* Vatke); – subsp. **oblongus** Verdc. (tubercles on pod inconspicuous); the true origin of the Mozambique record (Chase 4182, MS) is uncertain, perhaps from nearby Zimbabwe; fide Fl. Zambes. 3/3: 215, 2007).

A. somalensis Taub.

Woody climber to c. 1 m tall; young stems densely pubescent with subappressed ferruginous hairs (also on the calyx); pod unknown.

Rocky slopes on limestone; 400-1000 m alt.

Poorly known species, only collected on the escarpment Maydh-Cerigaabo.

* * *

Abrus wittei Bak. f. (an erect shrub) is a doubtful taxon; perhaps a synonym under **A. schimperi** subsp. **oblongus**; or under **A. precatorius**.

* * *

Abrus laevigatus E. Mey. occurs in S. Africa.

(ACOSMIUM)

Acosmium stipulare (Harms) Yakovl. = **Dicraeopetalum**

ADENOCARPUS / 1

COSTA, E. & E.S. MARTINS (1999). Pollen morphology in *Adenocarpus* DC. (Genisteeae: Papilionoideae, Leguminosae) from Angola. In: TIMBERLAKE, J. & S. KATIVU (Eds.) *African Plants, Biodiversity, Taxonomy and Uses*: 355-361. Royal Botanic Gardens, Kew.

PERCY, D. M. & Q. C. B. CRONK (2002). Different fates of island brooms: contrasting evolution in *Adenocarpus*, *Genista*, and *Teline* (Genisteeae, Fabaceae) in the Canary Islands and Madeira. *Amer. J. Bot.* 89: 854-864.

Adenocarpus mannii (Hook. f.) Hook. f.

bas.: *Cytisus mannii* Hook. f.

syn.: *Adenocarpus benguellensis* Bak.

Low growing, semi-prostrate or erect shrub or tree, much ramose, 1-4,5-6 m tall; stem to 15 cm Ø and branches with dense, patent, villous hairs; leaves clustered on short shoots.

Margins of rain-forest; grassland; moor; rocky mountain summits; fallow land; clearings; thickets; evergreen bushland; scrub;

ADENOCARPUS MANNII

edge between forest and meadow but also in small stands or single; fire- and wind-proof; pioneer plant appearing before *Lasiosiphon glaucus* succeeded by *Lachnopylis mannii*, *Schefflera* sp., *Rapanea neurophylla*, bamboo, etc.; ± 500-4000 m alt.

Bioko/Fernando Poo.

Comprises 2 vars. (the species exhibits considerable morphological variation throughout its range).

ADENODOLICHOS / 19

Insufficiently known genus: no leaves seen in one species, no pods in 7 species, no seeds in 8 species, no ripe seeds in another species and 4 species known only from the type.

Adenodolichos acutifoliolatus Verdc., non *A. harmsianus* De Wild. var. *acutifoliolatus* Bak. f. (= **A. punctatus** subsp. **bussei**).

Erect subshrubby perennial herb ± 0,9 m tall; stems somewhat angular, pubescent and glandular; pod unknown.

Brachystegia woodland with *Strychnos*, *Pseudolachnostylis*, *Dalbergia*, *Vitex*, *Pterocarpus angolensis*, *Combretum*; ± 1100 m alt.

Leaflets conspicuously reticulate beneath as in *A. salviifoliolatus*.

Only known from the type collected in 1962.

A. baumii Harms

Erect, ramose shrub or perennial shrubby herb, 1-2 m tall, with striate stems.

Open forests with *Brachystegia*, *Daniellia*, *Marquesia*; hill on sandy-clayey soil; thickets; 1230-1350 m alt.

A. bequaertii De Wild., *excl.* var. *purpureus* De Wild. (= **A. punctatus** subsp. **punctatus**).

Perennial herb with a woody rootstock; floriferous stems erect, without leaves, to 70 cm tall, precocious (before the leafy stems); leaves unknown.

Wooded savanna; open forests.

A. brevipetiolatus R. Wilczek

Perennial, creeping herb with a woody rootstock; stems half-woody, striate; pods unknown.

Forests on scree; open forests on ± clayey sand; savannas.

A. caeruleus R. Wilczek

Erect, ramose shrub to 1,5 m tall, with striate stems; fruit and seeds unknown.

Open forest on rocky soil; open forests with *Brachystegia*.

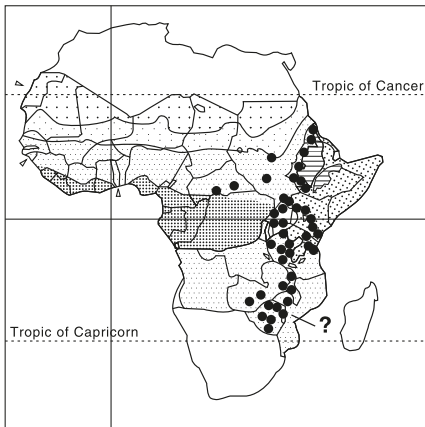
A. exellii Torre

Shrub ± 2,5 m tall; stems and branches striate; fruit unknown.

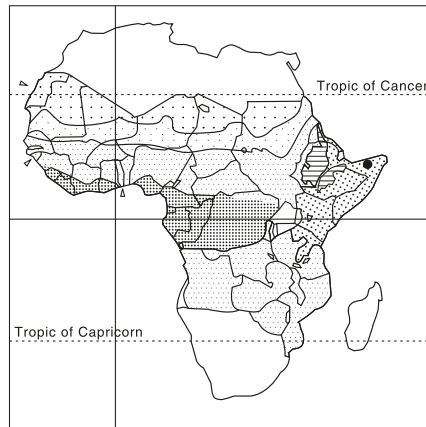
Xerophilous scrub; 1200 m alt.

Only known from the type collected in 1937.

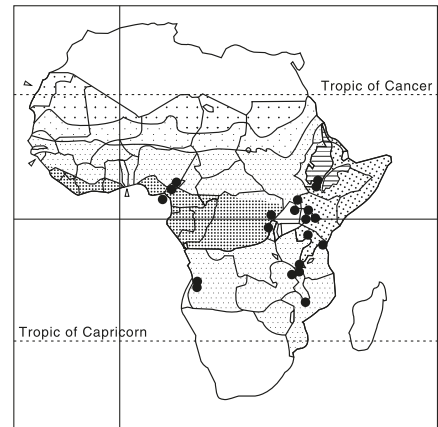
Near *A. kaessneri*.



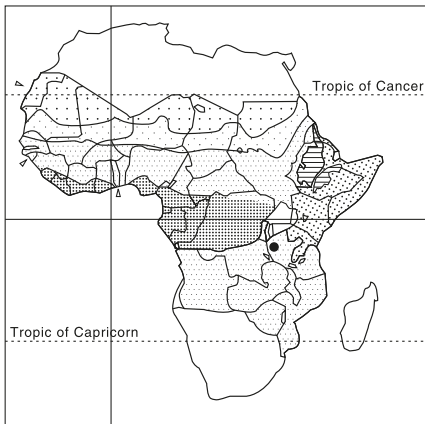
Abrus schimperi



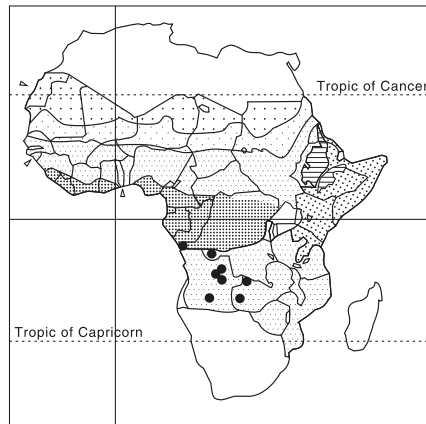
Abrus somalensis



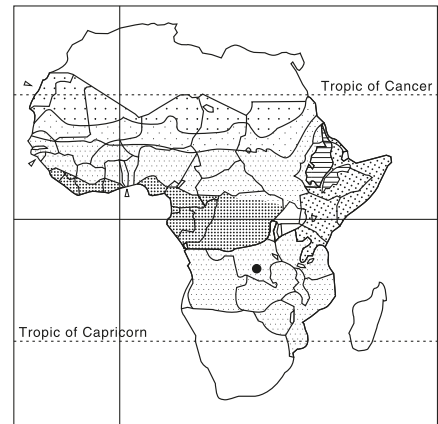
Adenocarpus mannii



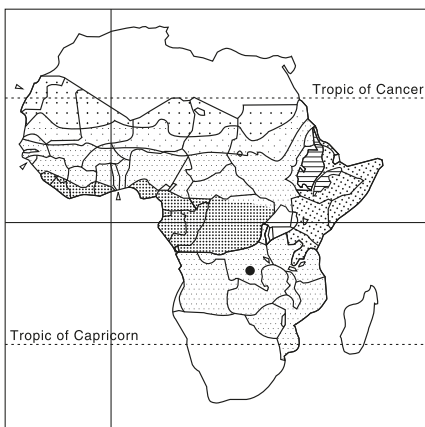
Adenodolichos acutifoliolatus



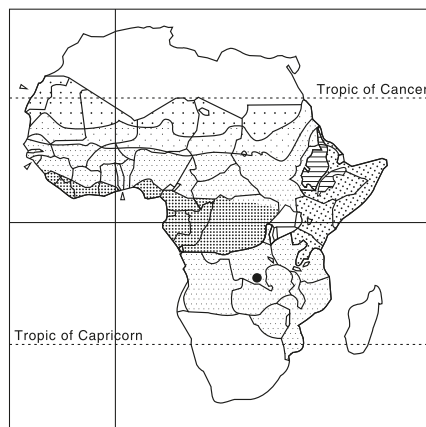
Adenodolichos baumii



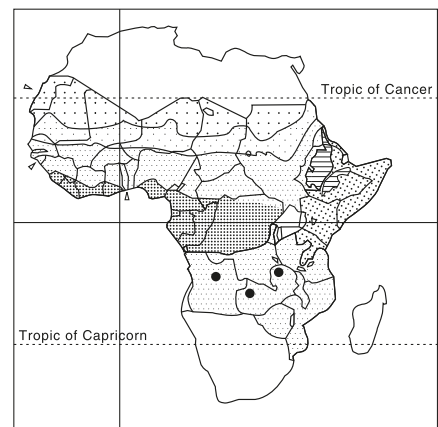
Adenodolichos bequaertii



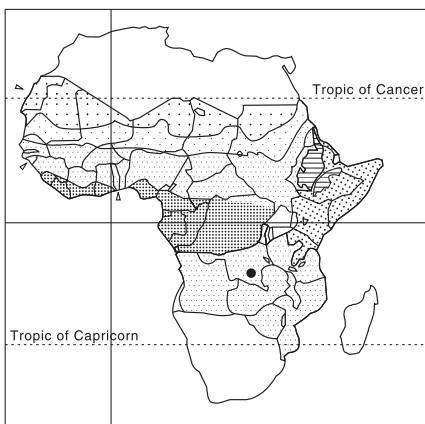
Adenodolichos brevipetiolatus



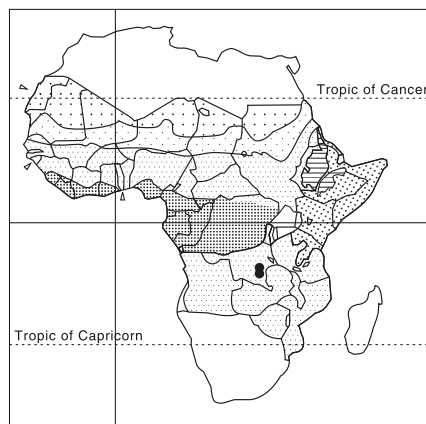
Adenodolichos caeruleus



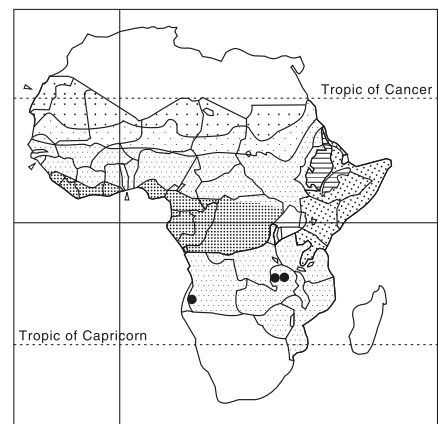
Adenodolichos exellii



Adenodolichos grandifoliolatus



Adenodolichos harmsianus



Adenodolichos huillensis

ADENODOLICHOS

A. cf. exellii Torre

Subshrub 0,9 m tall; stems ridged, shortly ferruginous pubescent; ripe seeds unknown.

Open bushland; *Brachystegia* woodland; 1350-2000 m alt.

Material uniform? Field observations needed.

A. grandifoliolatus De Wild.

Perennial herb with a woody rootstock; many floriferous erect stems without leaves, 10-30 cm tall, precocious; leaflets 17-30 cm long, 7-21 cm broad; seeds unknown.

Gallery forest; open forests.

A. harmsianus De Wild., *excl.* var. *acutifoliolatus* Bak. f. (= **A. punctatus** subsp. **bussei**).

Erect, ramose shrub with striate stems; pod unknown.

Forest with *Berlinia tomentosa*.

Perhaps a minor variant of **A. punctatus** subsp. **bussei**.

(A. helenae Buscal. & Muschl.)

Erect much-branched shrub to 90 cm tall; stems with white patent hairs; calyx ferruginous velvety; standard with 2 appendages; pod unknown.

Tree steppe ("Baumsteppe"); 1200 m alt.

A dubious species described from near River Luapula, N Zambia. Perhaps a form of *A. punctatus* (fide Fl. Zambes. 3/5: 249, 2001). Known only from the type (B, lost) and a drawing (of a specimen collected in 1910, von Aosta 641). – Not mapped.

A. huillensis Torre

Rhizomatous shrub with creeping stems to 2 m long; or erect subshrub 60-90 cm tall; branches striate; seeds unknown.

Deciduous forest; *Brachystegia* woodland; chipya woodland; dry bushland near mushitu; dambo margins; 1200-1750 m alt.

Comprises 2 vars.: – var. **huillensis**; var. **kawambwaensis** Verdc. [Fl. Zamb. 3(5): 247, 2001].

A. kaessneri Harms

Erect shrub 0,9-1,8 m tall; stems woody, dark brown, ridged or distinctly angular, at first with appressed brown-yellowish hairs, later with only a minute pulverulence and some glands. Some shoots flower before the leaves appear. Seeds known!

Brachystegia woodland; between rocks; 1350 m alt. (Tanzania).

A. katangensis R. Wilczek

Shrub with a woody rootstock; stems erect, 1-1,5 m tall, ramose, ridged, with grey-yellowish hairs or glabrous.

Wooded savannas; swamps.

A. mendesii Torre

Shrub with a woody rootstock and many erect stems to 1 m tall; branches ridged.

Quite common in thickets and plentiful in open forests; 1900 m alt.

ADENODOLICHOS

A. oblongifoliolatus R. Wilczek

Shrub, erect, ramose, to 0,6 m tall; stems ridged, greenish; pod unknown.

Wooded savannas; 1450 m alt.

Only known from the type collected in 1948.

A. paniculatus (Hua) Hutch. & Dalziel

bas.: *Dolichos paniculatus* Hua

syn.: *D. macrothyrsus* Harms; *Adenodolichos macrothyrsus* (Harms) Harms

Half-woody, erect shrub or subshrub 1,5-4,5 m tall; stems flattened when young, velvety-ferruginous at first, later glabrescent.

Woodland; scrub; grassland with scattered low trees; wooded savannas on hardpan; regrowths; 900 (? and less) -1350 m alt.

A. punctatus (Micheli) Harms

bas.: *Vigna punctata* Micheli

Woody subshrub, erect, ascending or more rarely prostrate, 0,4-1,5 m tall, with a stout and woody rootstock; stems often flowering when leafless and sometimes from very short burnt-off stems nearly at ground level.

Brachystegia, *Julbernardia*, *Combretum* woodland; *Brachystegia longifolia* or *Brachystegia* woodlands; dambo; 1200-1800 m alt.

Comprises 3 subspp.: – subsp. **punctatus** [syn.: *Adenodolichos bequaertii* De Wild. var. *purpureus* De Wild.; *A. obtusifolius* R. E. Fries]; – subsp. **bussei** (Harms) Verdc. [bas.: *A. bussei* Harms; syn.: *A. adenophorus* (Harms) Harms; *Dolichos adenophorus* Harms; *A. harmsianus* De Wild. var. *acutifoliolatus* Bak. f. (non *A. acutifoliolatus* Verdc.); – subsp. **decumbens** (Verdc.) Verdc. [bas.: *A. punctatus* var. *decumbens* Verdc.].

A. bussei Harms var. *moxicoensis* Torre described from Angola is excluded from the description, and needs reevaluation.

Plants described as *Adenodolichos adenophorus* seem to be a variant perhaps induced by differences in the burning of the area. White and purple flowers sometimes occur on the same plant, and both colours in a single flower (fide Verdcourt, Fl. Trop. E. Afr., Legumin., Pap.: 706, 1971).

A. rhomboideus (O. Hoffm.) Harms

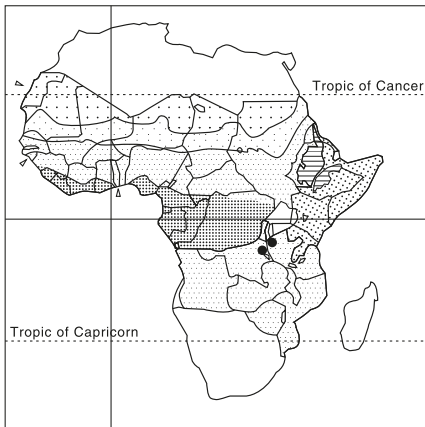
bas.: *Dolichos rhomboideus* O. Hoffm.

syn.: *Adenodolichos pachyrhizus* De Wild.; *A. nanus* N. E. Br.; *A. anchietae* (Hiern) Harms; *Dolichos anchietae* Hiern; *Adenodolichos euryphyllus* Harms

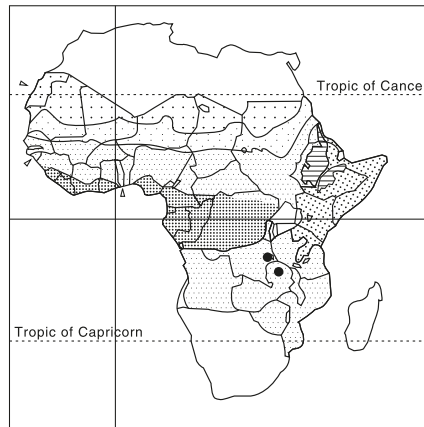
Trailing subshrub from a woody rootstock or a creeping underground rhizome; stems ridged, pubescent or glabrescent, to several metres long, forming large patches; flowering shoots erect or ± prostrate; leafy shoots erect, 16-80 cm long; leaves and flowers appearing at the same time but often on different shoots.

Brachystegia-Julbernardia open woodland; sandy ground in open forest; wooded thickets; open bushland with tall grasses; periodically wet sand; sandy ground; sometimes abundant; part of the pre-fire flora; 1200-1900 m alt.

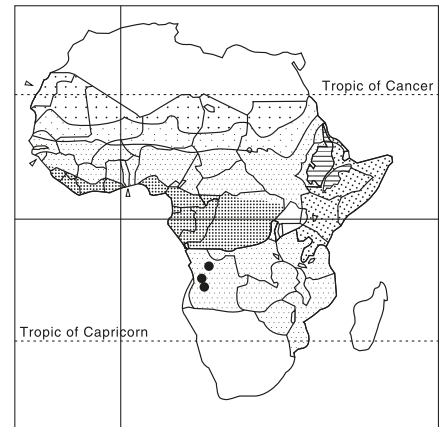
Comprises 3 vars.: – var. **rhomboideus**; var. **kundelungensis** R. Wilczek; var. **lanceolatus** R. Wilczek



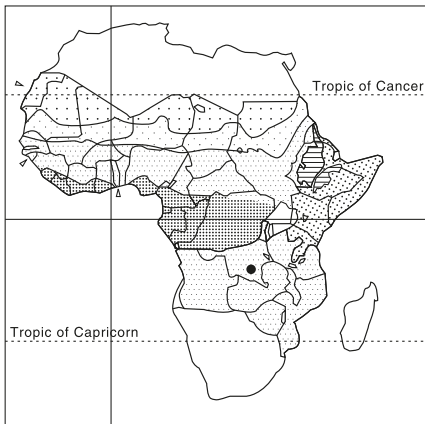
Adenodolichos kaessneri



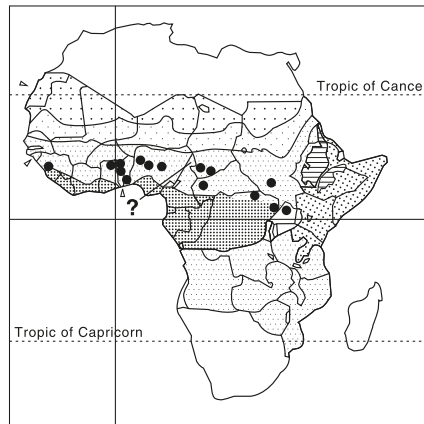
Adenodolichos katangensis



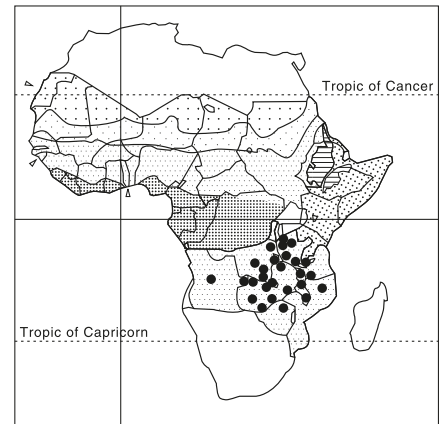
Adenodolichos mendesii



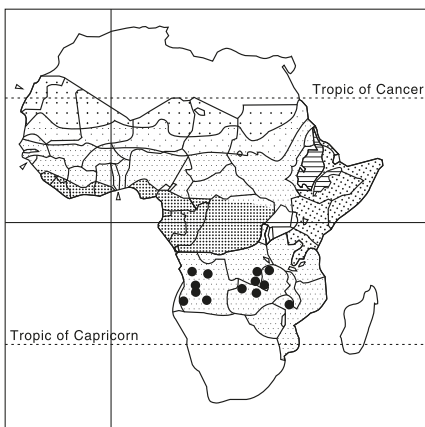
Adenodolichos oblongifoliolatus



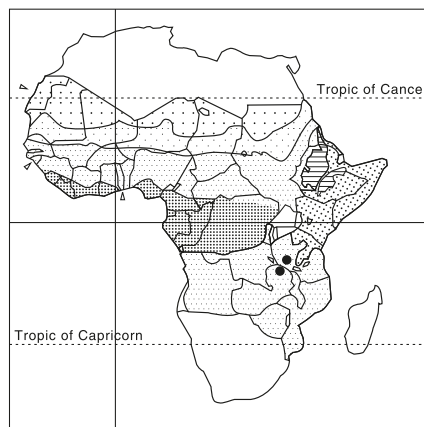
Adenodolichos paniculatus



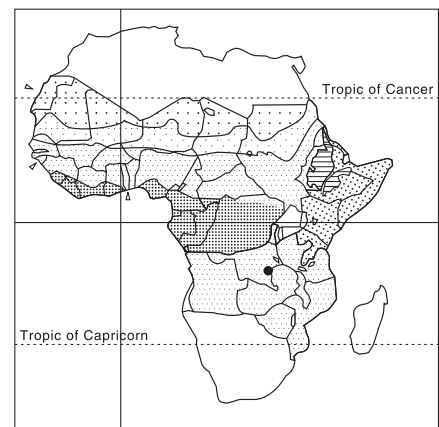
Adenodolichos punctatus



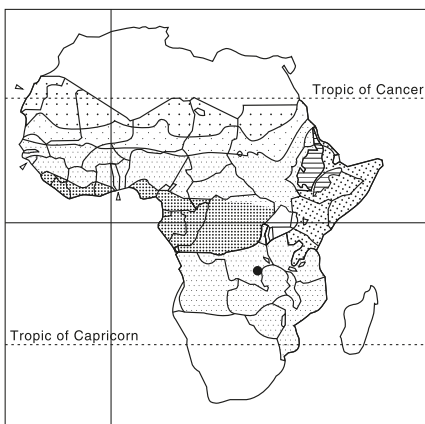
Adenodolichos rhomboideus



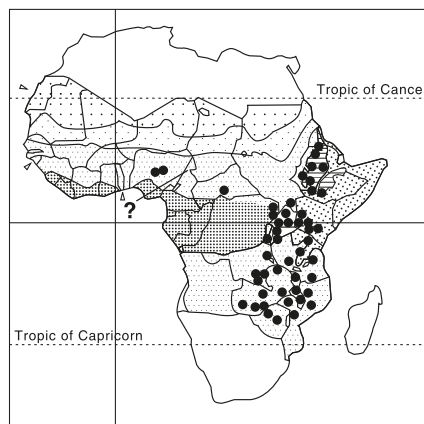
Adenodolichos rupestris



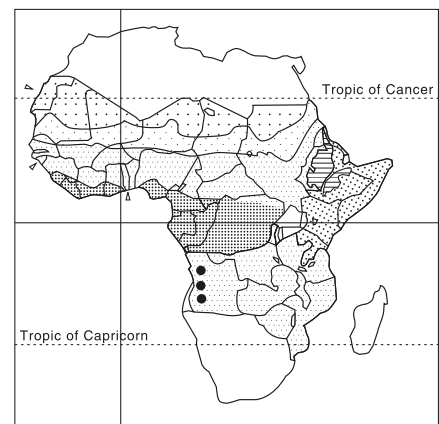
Adenodolichos salviifoliolatus



Adenodolichos upembaensis



Aeschynomene abyssinica



Aeschynomene acutangula

ADENODOLICHOS

A. rupestris Verdc.

Trailing woody herb ± 1 m long arising from a woody rootstock; stems somewhat angular.

Rocks at head of waterfall; top of gorge, among rocks in loam soil; very stony ground in woodland; clayey or sandy roadside; *Brachystegia* woodland on brown soil and in open spaces; 900-1650 m alt.

Leaves folding and drooping as in *Oxalis* at night.

A. salviifoliolatus R. Wilczek

Ramose, erect shrub to 1,5 m tall, with ridged stems; pod unknown.

Open forest; ± 1120 m alt.

Only known from the type collected in 1949.

A. upembaensis R. Wilczek

Erect ramose shrub with subcylindrical stems.

Wooded savannas.

SYNONYMS:

Adenodolichos adenophorus (Harms) Harms = **Adenodolichos punctatus** subsp. **bussei**

anchietae (Hiern) Harms = **A. rhomboideus**

bequaertii De Wild. var. *purpureus* De Wild. = **A. punctatus** subsp. **punctatus**

bussei Harms = **A. punctatus** subsp. **bussei**

var. *moxicoensis* Torre = ? (cf. under **A. punctatus** subsp. **bussei**)

dinklagei (Harms) Roberty = **Dolichos**

euryphyllus Harms = **Adenodolichos**

harmsianus De Wild. var. *acutifoliolatus* Bak. f. = **A. punctatus** subsp. **bussei**

macrothyrsus (Harms) Harms = **A. paniculatus**

nanus N. E. Br. = **A. rhomboideus**

obtusifolius R. E. Fries = **A. punctatus** subsp. **punctatus**

pachyrrhizus De Wild. = **A. rhomboideus**

punctatus (Micheli) Harms var. *decumbens* Verdc. = **A. punctatus** subsp. **decumbens**

AESCHYNOMENE / 72

A large genus of c. 150 species, mainly in S. America and in Africa. Species from Central Africa are poorly known. In our area still much work needs to be done: no leaves known for 1 species, no mature flower for another one, no fruits for 2 species, no seeds for 10 (+ 2?) species (= ± 14%) and no mature seeds for another one, no ecology for 2 (+ 1 ?) species. Six species are known only from the type (= c. 8%).

Aeschynomene abyssinica (A. Rich.) Vatke

bas.: *Rueppellia abyssinica* A. Rich.

syn.: *Aeschynomene ruppellii* Bak., nom. illegit.; *A. kilimandscharica* Taub. ex Engl.; *A. glutinosa* Taub. 1896, non Schinz 1902 (= *A. rehmannii* var. *leptobotrya*); *A. kapiriensis* De Wild.; *A. claessensii* De Wild.

AESCHYNOMENE ABYSSINICA

Erect branched shrub or herb 0,8-4,5 m tall; stems puberulous with sometimes viscid tubercular-based hairs when young, later glabrous; epidermis at length peeling in thin pieces; leaves often fasciculate.

Scrub in rocky places; swamp edges; *Brachystegia*, *Uapaca* woodland; bamboo-forest edges; beside streams; humid places; neglected *Cedrela* plantation with regenerating mixed woodland of *Combretum collinum*, *Stereospermum kunthianum*, *Acacia hockii*, *Albizia grandibracteata* on ground with rocky outcrops; *Loudetia arundinacea* grassland with scattered trees; 580-3300 m alt.

A. acutangula Welw. ex Bak.

Glaucous, glabrous undershrub 60-90 cm tall, with strong triquetrous striated branches.

Sparingly, in marshy reedy places, at the banks of river; in herb-grown woods; ± 1110-1200 m alt.

A. afraspera J. Léonard; C. D. K. Cook, Aquatic & wetland plants south. Africa: 135-136, 2004.

Shrub 1-3 m tall with soft hollow, thick, glabrous pithy stems; or annual or sometimes perennial shrubby herb; leaves sensitive.

Along waters; humid or swampy places; floodplains, lagoons; often in water; 0-1050 m alt.

S. Africa.

[**A. americana** L.]

Erect or decumbent semi-woody herb 0,3-1,5(2) m tall, with glandular-hispid to subglabrous stems; leaves 20-60-foliolate.

Native of tropical America. Introduced into W Africa and naturalized around Lake Malawi. Also cultivated. – Widespread in tropical Asia to New Guinea.

A. angolensis Rossberg

Subshrub, rhizomatous, with erect stems 15-30 cm tall.

Dry grassland.

Near *A. katangensis*.

A. aphylla Wild – Icon.: Kew Bull. 8: 96, 1953.

Branched shrub 0,6-1 m tall; young stems densely covered with stout tubercular-based glandular hairs which become stiffer on the older shoots; older stems glabrescent, purplish and slightly ridged; *leaves and petioles reduced* to a simple brown scale 0,3-0,5 mm long; seeds unknown.

Grassland and scrub, by streams; 1170-1800 m alt.

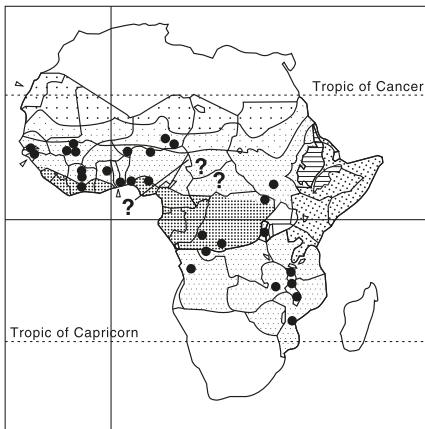
Very closely related to *A. inyangensis*, with very similar ecology; also a heather-like habit very reminiscent of *Erica*, *Stoebe*, *Cliffortia* spp.

A. batekensis Troch. & Koechlin

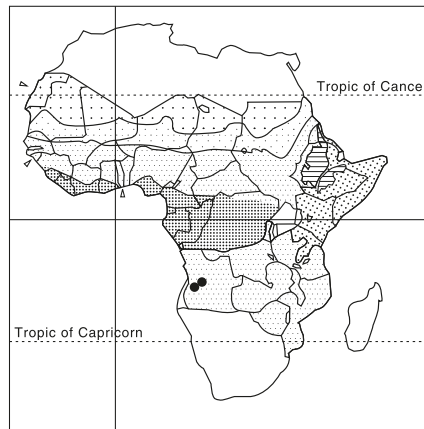
Subshrub to 0,6 m tall; stems ridged, glabrous; rhizomatous at the base with fusiform and thick roots.

Savannas with *Loudetia demeusii*, *Trachypogon thollonii*, ± wooded, exposed to burning, on plateau.

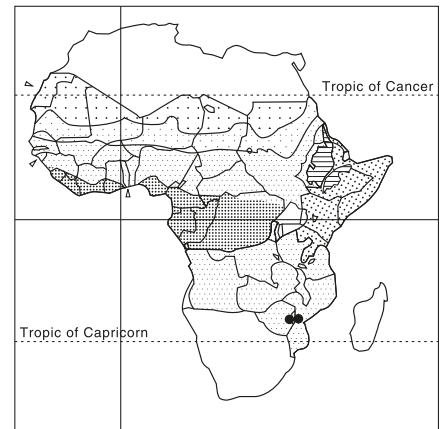
Near *A. glabrescens* and *A. leptophylla* (? hybride). *A. glabrescens* has the same distribution as *Dialium englerianum* (*Caesalpinaceae*).



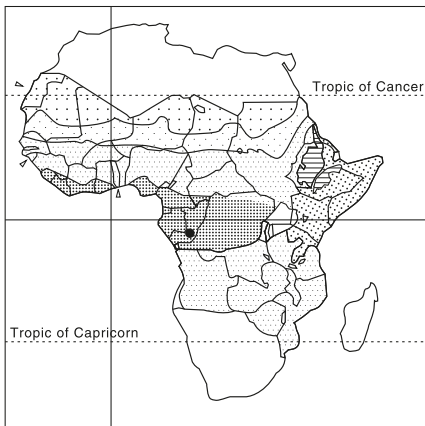
Aeschynomene afraspera



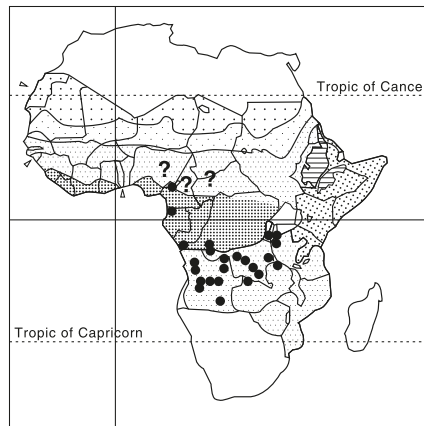
Aeschynomene angolensis



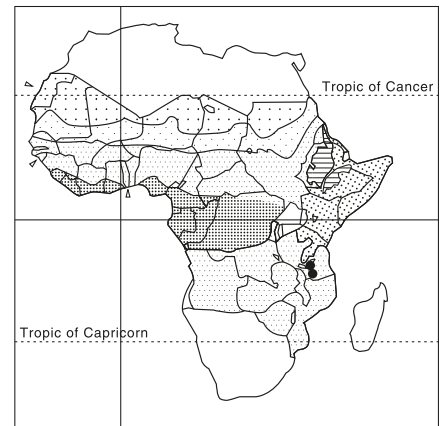
Aeschynomene aphylla



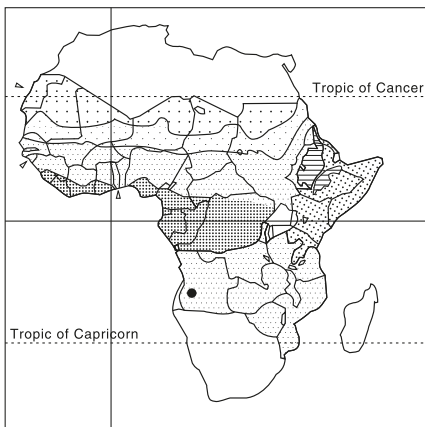
Aeschynomene batekensis



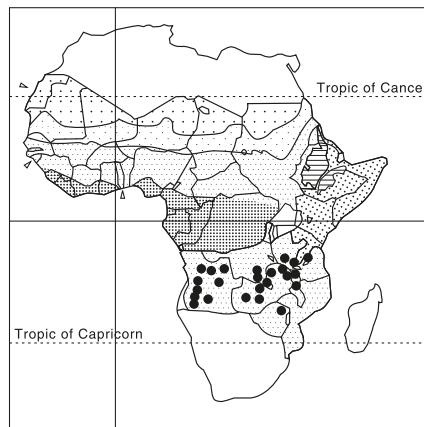
Aeschynomene baumii



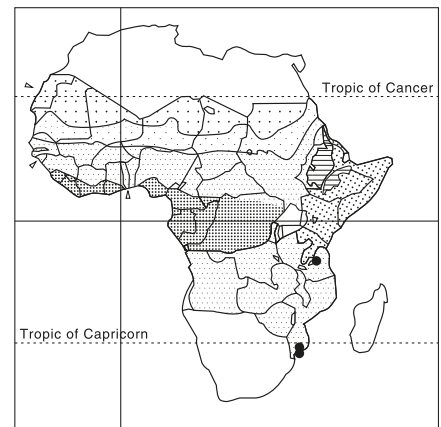
Aeschynomene bella



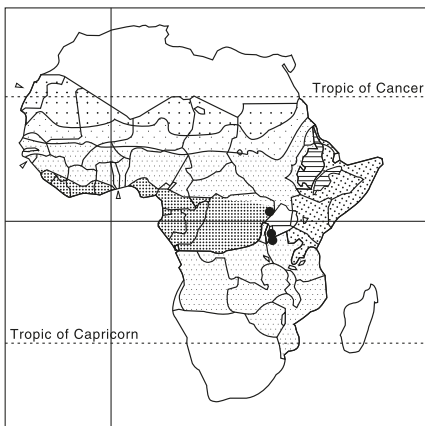
Aeschynomene benguellensis



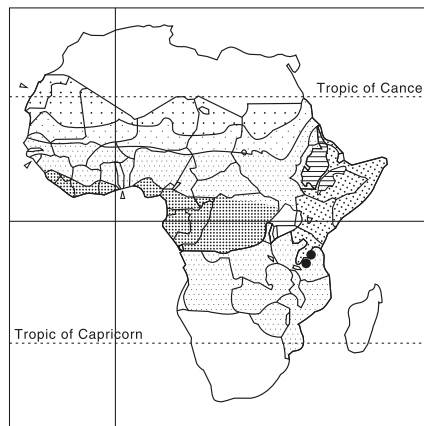
Aeschynomene bracteosa



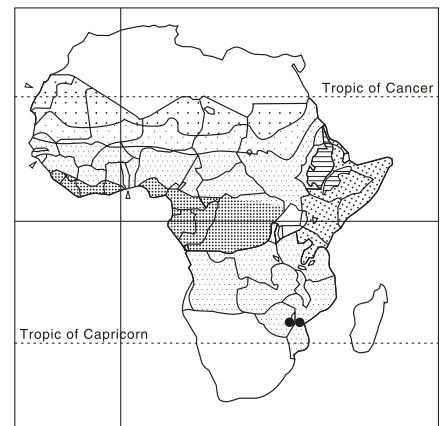
Aeschynomene brevifolia



Aeschynomene bullockii



Aeschynomene burtii



Aeschynomene chimanimaniensis

AESCHYNOMENE

A. baumii Harms

syn.: *A. praticola* Bak. f.

Subshrub or shrub (0,6-)1-2,4(-6) m tall, or in fireswept situations, a woody herb or subshrub 0,2-1 m tall, with erect flowering stems from a thick woody rootstock, some leafy, others not; stems glabrous to covered with tubercular-based hairs.

Peaty soil near evergreen forest (mshito); *Brachystegia* and “Chipya” woodland; short grassland; scrub; dambos; usually on sandy soil, sometimes on rocky slopes; grassland with scattered bushes subject to seasonal burning; 1200-1800 m alt.

Comprises 2 vars.

A. bella Harms

Erect shrub, with numerous stems from the base, 1,8-3 m tall; stems at first viscid pubescent with short dense markedly tubercular-based hairs.

Edges of rain-forest; 1500-2500 m alt.

A. benguellensis Torre

syn.: *A. sp. aff. dissitiflora* sensu Rossberg, Feddes Repert. 39: 163, 1936.

Procumbent shrub 1 m? long with glabrous stems and branches slightly hirsute-pubescent.

Open woodland with *Acacia*; 1700 m alt.

Near *A. debilis*.

A. bracteosa Bak., incl. fa. *glabra* Bak. f.

syn.: *A. zigzag* De Wild.; *A. nambalensis* Harms; *A. elisabethvilleana* De Wild. – All of var **bracteosa**.

Erect, somewhat spreading or almost procumbent, intricately branched, sticky subshrub, 0,4-1,5 m tall; or tufted pyrophyte, 7-35 cm tall, with a thick woody rootstock; stems several-30, glabrous to densely pubescent with sticky tubercular-based short hairs, ± rugose.

Brachystegia, *Pterocarpus* woodland (mostly seasonally burnt); sometimes by marshes and streamsides; grassland; on sandy, rocky or gravelly ground; bushland; 900-1800 m alt.

Comprises 3 vars.

A. brevifolia Poir. (1798). – Icon.: D. J. Du Puy & al., Leguminosae Madag.: 646, 2002. – Op. Bot. 59: 44, 1980.

syn.: *Hedysarum micranthum* Poir. (“micranthos”) 1805; *Aeschynomene micrantha* (Poir.) DC.; *A. obovalis* Baill.; *Patagonium racemosum* E. Mey.

Short-lived perennial herb with slender prostrate stems 10-60 cm long, rather densely pubescent, with short grey usually spreading hairs and also with some longer bristly tubercular-based hairs on the young shoots.

Sandy places; dunes; grassland; woodland; 0-150 m alt.

S. Africa; Madagascar, Mascarenes, Comoros.

Extremely close to several American species (*A. falcata*, etc.).

A. bullockii J. Léonard, incl. var. *volubilis* J. Léonard

Erect, very glandular subshrubby herb, 10-35 cm tall, with several shoots from a woody rootstock, mostly flowering after fires; or a woody, ramose trailer or climber 0,5-1 m long; stems covered with short tubercular-based hairs; seeds unknown.

Poor grassland on very stony grey soil; *Brachystegia* woodland; savanna; 1300-1500 m alt.

AESCHYNOMENE

A. burttii Bak. f.

Dense bushy shrub 1,2-3,6 m tall; stems at first pubescent, but bark soon flaking away in thin papery pieces to reveal a dark rusty brown powdery or granular layer beneath.

Julbernardia, *Protea*, *Faurea*, *Philippia* scrub woodland; very open *Brachystegia* woodland; 1650-2040 m alt.

A. chimanimaniensis Verdc.

Shrub ± 90 cm tall; young stems densely covered with glandular tubercular-based hairs; older stems appearing jointed at the nodes due to the scars formed by the deciduous stipules.

On rocky ground or rocks; 1500 m alt.

A. crassicaulis Harms

Stem thick, pithy, procumbent and rooting, 1-3 m long; root hairs much developed on full-grown stems.

Rooting in mud and half-spongy, or often half-submerged and floating.

A. cristata Vatke

syn.: *A. dewevrei* De Wild. & Th. Durand; *A. mazangayana* Baill.; *Hedysarum aquaticum* Bojer, nom. nud. in sched. – All of var. **cristata**.

Shrub or herb, perennial, with immersed procumbent rooting stems covered with prominent lenticels and erect branches, forming dense coppice-like growths 0,9-3(-6) m tall; stems thick and soft at the base, glabrous to densely covered with sticky tubercular-based golden-brown hairs; wood light and buoyant.

Permanent and seasonal swamps; edges of dams, lakes and rivers; 0-1250 m alt.

Caprivi Strip, Botswana; Madagascar (var. **cristata**).

Comprises 2 vars.: – var. **cristata**; var. **pubescens** J. Léonard

A. debilis Welw. ex Bak.

Undershrub with stems 60-90 cm long, thin, weak, half scandent; branches crowded, elongated, lying on neighbouring shrubs.

Bushy damp places at edges of forest; ± 1500-2000 m alt.

A. deightonii Hepper

syn.: *A. djalonensis* A. Chev., nom.

Herb 0,6-1-2 m tall, with rather weak straggling branches with yellow hairs; leaves sensitive.

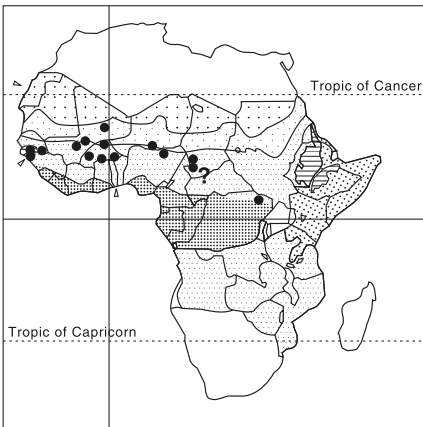
Roadside ditch in the sun; grassfield; marsh.

A. dimidiata Welw. ex Bak.

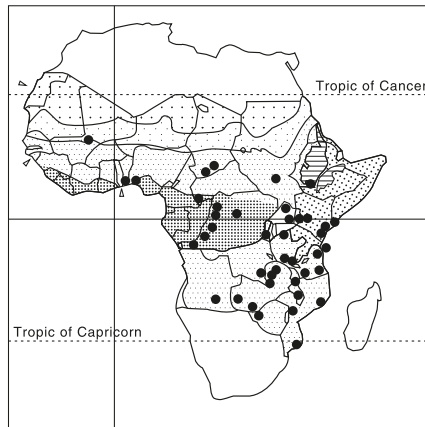
Undershrub, 60-90 cm tall; stems several (sometimes some leafy, sterile, and others without leaves, fertile), sub-erect or oblique; branches elongated, bearing at the apex paniculate racemes; plant viscid and muricate; leaves sensitive.

Bushy hills, in damp places, with tall herbage; swamps; 1500 m alt.

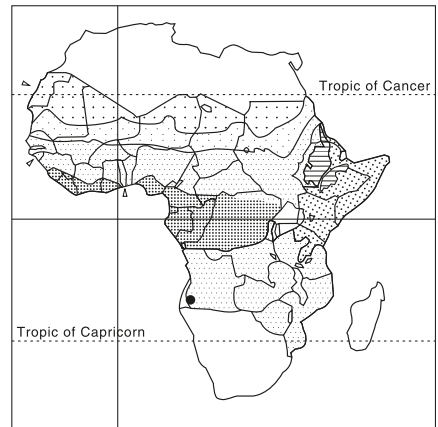
Comprises 2 subspp.: – subsp. **dimidiata**; subsp. **bequaertii** (De Wild.) J. Léonard



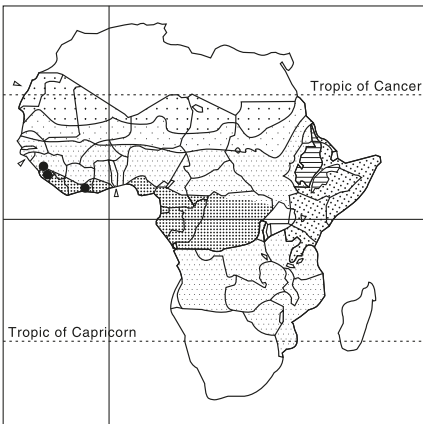
Aeschynomene crassicaulis



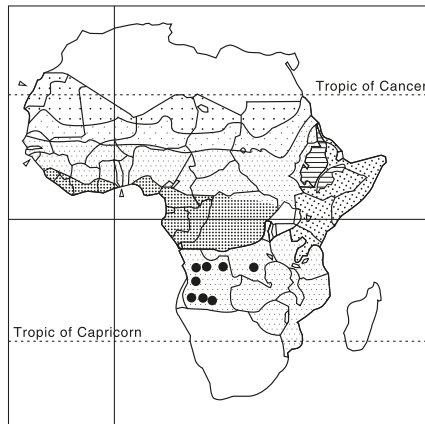
Aeschynomene cristata



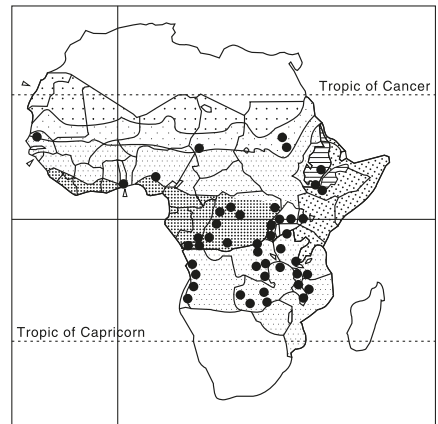
Aeschynomene debilis



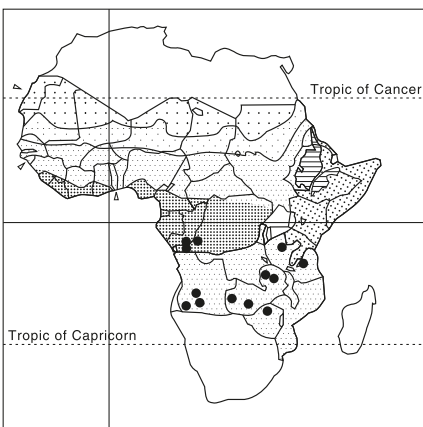
Aeschynomene deightonii



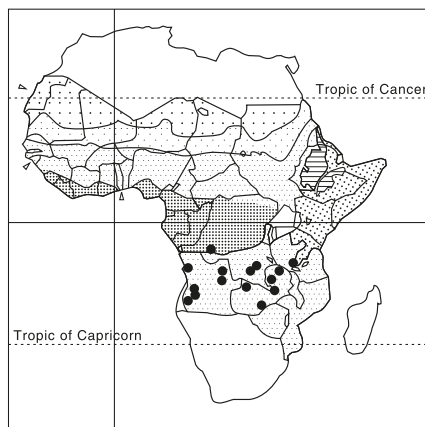
Aeschynomene dimidiata



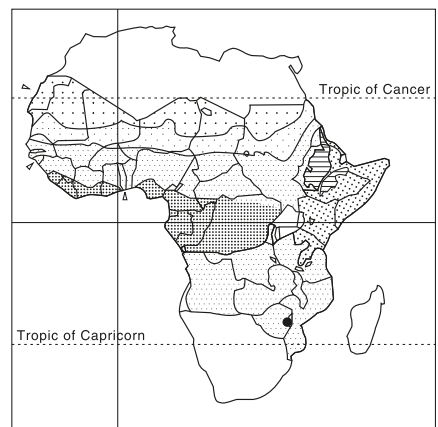
Aeschynomene elaphroxylon



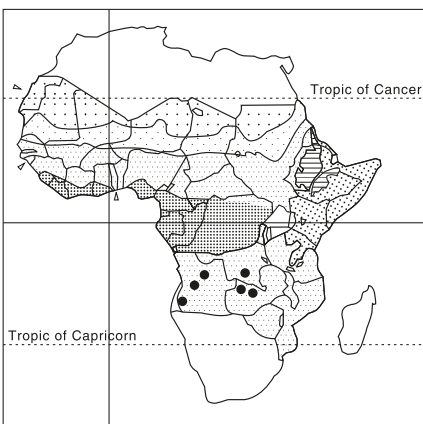
Aeschynomene fluitans



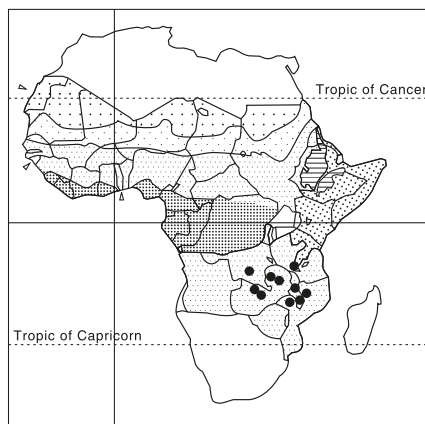
Aeschynomene fulgida



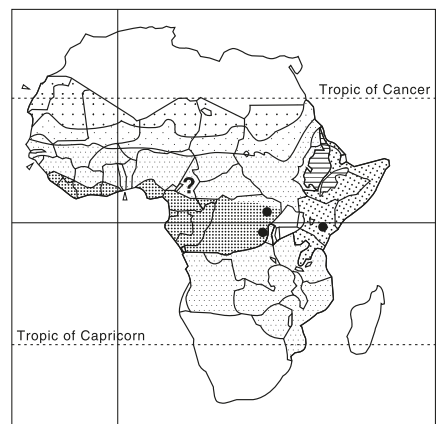
Aeschynomene gazensis



Aeschynomene glabrescens



Aeschynomene glauca



Aeschynomene gracilipes

AESCHYNOMENE

A. elaphroxylon (Guill. & Perr.) Taub.; Preslia 41: 220-226, 1969.

bas.: *Herminiera elaphroxylon* Guill. & Perr.

syn.: *Smithia elaphroxylon* (Guill. & Perr.) Baill.; *S. grandidieri* Baill.

Shrub or tree, 2-9(-12) m tall, with a swollen pithy often almost conical stem acting as a float; stems with short and long sticky hairs and nearly always with short sharp spines 2-15 mm long; flowers yellow, 30-45 mm.

Lakesides and pools; swamps bordering lakes; usually standing in 1-2 m of water (with dense mats of adventitious roots); often in extensive stands; 70-1850 m alt. – Rapidly colonizing rivers and swamps.

Madagascar (probably introduced); cultivated in Egypt, Java, S. America.

A. fluitans Peter; Aqua-Planta 27: 92-95, 2002; C. D. K. Cook, Aquat. & wetland plants south. Africa: 136, 2004.

syn.: *A. schlechteri* Harms ex Bak. f.

Perennial herb, or sometimes annual, 1-4,5 m long, floating; stems hollow, spongy, thick, 0,5-1 cm Ø, densely covered with adventitious roots.

Permanent swamps; sand banks; floodplains; slow-river and pond margins; 300-1500 m alt.

Namibia, Botswana.

A. fulgida Welw. ex Bak.

syn.: *A. arbuscula* Bak. f.

Erect, branched shrub or undershrub 0,6-3,6 m tall; stems to 7 cm Ø covered with dense viscid tubercular-based hairs, later glabrescent; flowers of a fulgid-orange colour when fresh (?the most beautiful *Aeschynomene*).

Wet ditch; riverine marshes and banks; dambos; swamp forest and evergreen forest margins; sometimes in very swampy places; even in standing water; sometimes abundant on bushy slopes, on mica-schist; grassy savannas; open forest; edges of forest gallery; 1120-1750 m alt.

A. gazensis Bak. f.

Shrub 0,9-1,8 m tall; young stems densely covered with short bristly tubercular-based hairs; older stems purplish, somewhat ridged and glabrescent; seeds unknown.

Ecology unknown; 1200-1900 m alt.

A. glabrescens Welw. ex Bak.

syn.: ? *A. curtisiae* Johnst. (See Fl. Zambes. 3/6: 114, 2000).

Subshrub 15-45 cm tall, growing almost in a caespitose manner; secondary roots fusiform, thick, woody, several-headed; stems branched from the base, purplish, pluri-sulcate, remotely hispid.

Sandy, sparingly bushy, somewhat damp pastures; rather rare; sandy plains subject to burning; periodically wet sand; 1350 m alt.

Comprises 2 vars.: – var **glabrescens**; var. **pubescens** J. Léonard

A. glauca R. E. Fries

Erect subshrub with tufts of usually many stems 10-40 cm tall, from a very woody rootstock, usually flowering after fires; stems at first with short tubercular-based hairs, later ± glabrous.

Brachystegia, *Uapaca* woodland; *Brachystegia*, *Marquesia* and “Chipya” woodland; open dambos; savanna with clayey-sandy soils; 600-1500 m alt.

AESCHYNOMENE

A. gracilipes Taub.

Subshrub?, erect, little-branched (prostrate to ascending herb in var. **brevistipitata** Verdc.) with woody stems 20-70 cm long, pubescent with tubercular-based hairs; main central nerve blackish-purple beneath.

Open grassland, on lateritic soil; 1000-1500 (or ? 1800) m alt.

Comprises 2 vars.

Not in Tanzania and Uganda.

A. grandistipulata Harms

Shrub 1,2-3 m tall; young stems dark purplish-brown, often glaucous, glabrous or with dense to scattered tubercular-based hairs on some or all internodes, the other ones appearing jointed at the nodes due to the scars formed by the deciduous stipules, glabrous; stipules 1,5-3,7 × 1,3-3 cm, ovate-elliptic.

Bracken scrub, sandstone crags, quartzite rocks; 1200-2100 m alt.

Confined in the Chimanimani Mts like *A. chimanimaniensis*.

A. heurckeana Bak. – Icon.: Du Puy & al., Leguminosae Madag.: 648, 2002.

syn.: *A. dissitiflora* Bak.; *A. filipes* Baill.

Perennial, erect, spreading or trailing subshrub 0,6-4,5 m long or tall; sems glabrescent to densely covered with short tubercular-based hairs; stipules large; flower bracts lobed.

Grassland; secondary bushland; marshes; along streams; humid forest gallery; fallow land; fringing woodland; *Mitragyna-Syzygium* swamp forest edges; fringing evergreen forest; 1050-2200 m alt.

Madagascar.

A. indica L. – Icon.: C. D. K. Cook, Aquat. & wetland plants south. Africa: 136, 2004.

syn.: *A. oligantha* Welw. ex Bak.

Erect subshrubby annual or perennial herb, 0,3-2,5 m tall; stems mostly slender, ± 5 mm Ø at the base but sometimes thick and spongy to 2,5 cm Ø, pubescent, with mostly rather sparse tubercular-based sometimes glandular hairs; leaves sometimes sensitive.

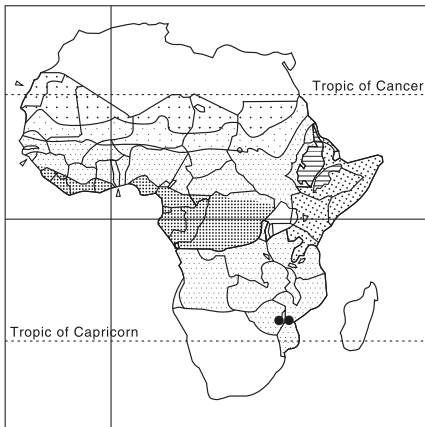
Mostly in wet places, floodplain grassland, flats, pans, swamp margins, pools in *Acacia*, etc. wooded grassland; desert grassland, bushland, woodland; sometimes on black saline clay soils; also in ponds on and crevices in granite and other rocky outcrops; growing amidst tall *Arundo*, *Scirpus*; often growing in standing water; sometimes a (troublesome) weed in irrigated fields; sandy or black clay soils; 15-1530 m alt.

São Tomé; Namibia, Botswana, S. Africa; Madagascar; tropical and subtropical Asia; Australia, N. America. Introduced in the Mascarenes.

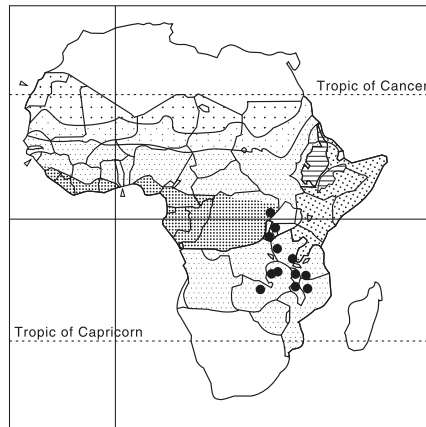
A. inyangensis Wild

Branched shrub 0,3-1,2 m tall; young shoots densely covered with short bristly mostly tubercular-based glandular curved hairs; old shoots grey-brown or purplish, glabrescent, ridged.

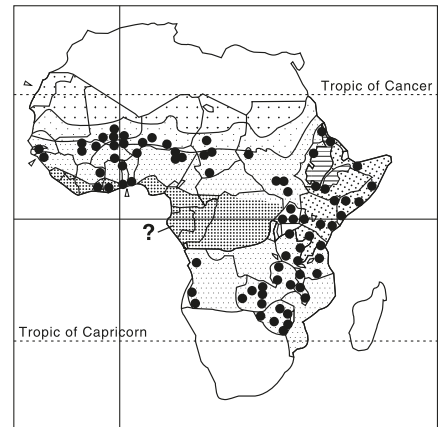
Grassland, scrub, often near streams; 1300-2520 m alt.



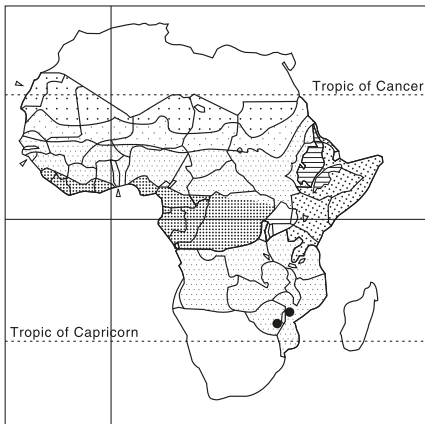
Aeschynomene grandistipulata



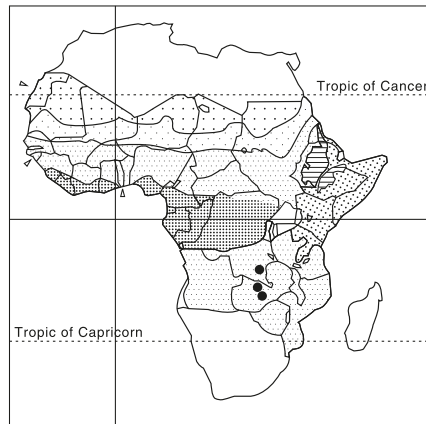
Aeschynomene heurckeaana



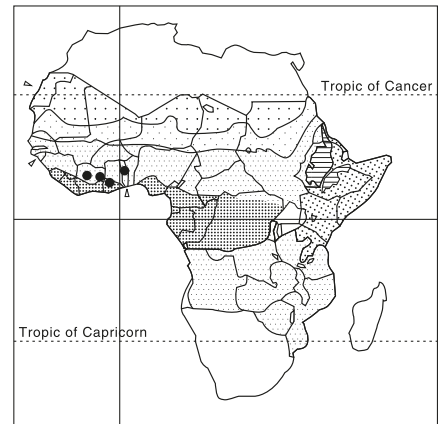
Aeschynomene indica



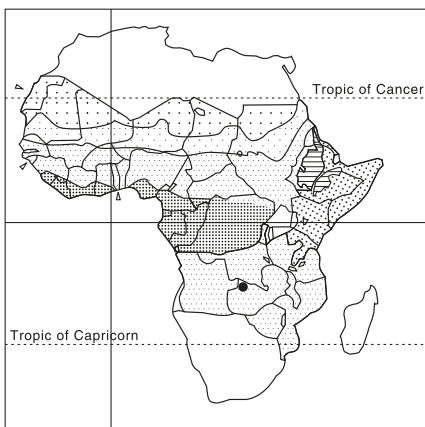
Aeschynomene inyangensis



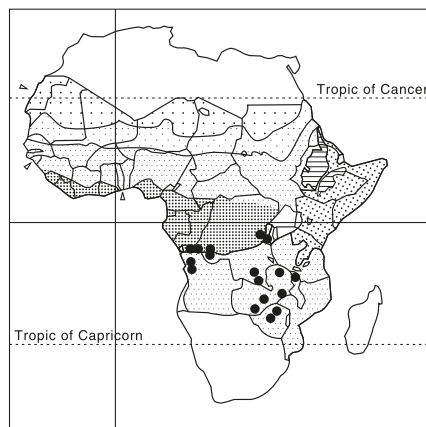
Aeschynomene katangensis



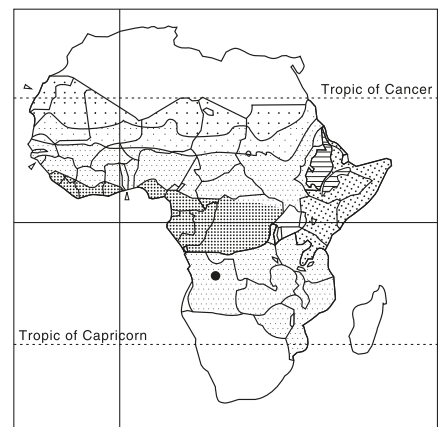
Aeschynomene kerstingii



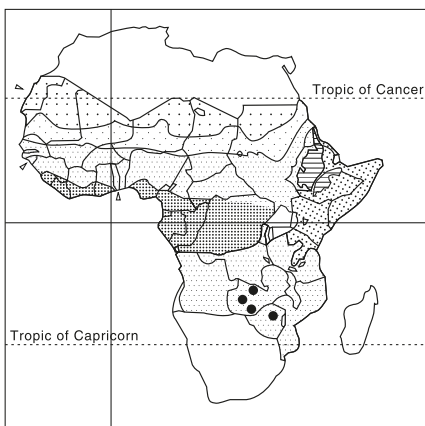
Aeschynomene lateritcola



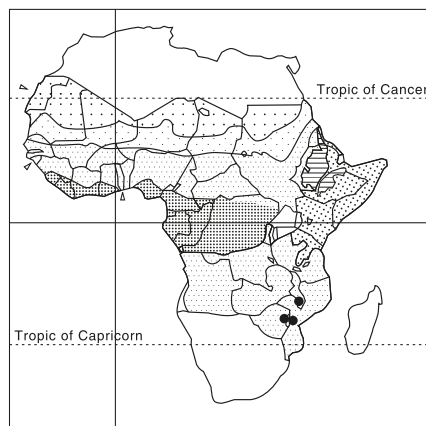
Aeschynomene leptophylla



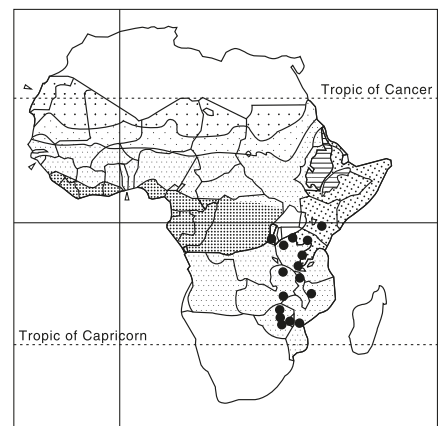
Aeschynomene maximistipulata



Aeschynomene mediocris



Aeschynomene megalophylla



Aeschynomene mimosifolia

AESCHYNOMENE

A. katangensis De Wild.

Subshrub with several stems 9-80 cm tall from a woody rhizome-like rootstock; stems unbranched or sparsely branched, erect, the flowering ones often almost leafless, all pubescent with tubercular-based hairs or glabrescent when young, later glabrous and with a peeling bark.

Brachystegia woodland; 1500 m alt.

Comprises 2 subspp.: – subsp. **katangensis**; subsp. **sublignosa** (De Wild.) J. Léonard [syn.: *A. racemosa* De Wild.; *A. rogersii* N. E. Br.].

A. kerstingii Harms

Herbaceous or half-woody plant with slender, sparsely setulose or glabrous stems.

Savanna.

A. lateritcola Verdc. (“latericola” sphalm.)

Perennial prostrate herb with 2-4 stems 30-45 cm long from a woody rootstock; stems much-branched, densely covered with setiform hairs 1-1,5 mm long; seeds unknown.

Shallow soil overlying laterite; 1350 m alt.

Only known from the type collected in 1938.

A. leptophylla Harms

syn.: *A. striata* De Wild.; *A. siifolia* Welw. ex Bak. var. *gossweileri* Bak. f.

Erect subshrub or shrub 0,4-3 m tall, with several shoots, sometimes leafless when flowering, from a woody rootstock, some of the roots being tuberous; mostly appearing after burns; stems glabrous to densely viscid scabrid-pubescent or rarely stiffly spinulose with persistent hair-bases.

Brachystegia woodland and bushland; often on rocky hillsides; grassy savanna with *Loudetia* or *Andropogon*; savanna ± wooded; more rarely in open forests; here and there along road; 900-2280 m alt.

Comprises 2 subspp., incl. 2 vars.: – subsp. **leptophylla** with var. **leptophylla** and var. **crassituberculata** Verdc.; subsp. **magnifoliolata** J. Léonard (Katanga).

A. maximistipulata Torre

Erect shrub ± 1,5 m tall; young stems and branches glabrous, bark rigid; stipules 5-8 × 1,3-3 cm.

Ecology unknown (? humid gully); 1200 m alt.

Only known from the type collected in 1937.

A. mediocris Verdc.

Weak annual herb to 0,9 m tall, sometimes forming a spreading mat to 45 cm Ø from the taproot; main stem somewhat woody at the base; young branches glabrous to densely covered with tubercular-based yellowish bristly hairs.

Dambo or swampy grassland by stream; gravel bed of drying stream; 1230-1280 m alt.

A. megalophylla Harms

Shrub or tree 1,2-6 m tall; bark brown, smooth with conspicuous white lenticels; stems densely covered with short glandular tubercular-based hairs or glabrous; older stems appearing jointed at the nodes due to the scars formed by the deciduous stipules.

AESCHYNOMENE MEGALOPHYLLA

Secondary forest and edges of *Widdringtonia* relict patches; forest-woodland boundaries; scrubland on rocky grass slopes and ridges; 1400-2550 m alt.

A. mimosifolia Vatke

syn.: *A. walteri* Harms; *A. nyikensis* Bak. var. *gracilis* Suess.

Subshrub with slender somewhat woody erect or prostrate stems 0,3-2,7 m tall, from a woody rootstock; stems pubescent with glandular tubercular-based hairs.

Brachystegia, *Julbernardia* and other deciduous woodlands; drainage ditches in grassland; sometimes on stony red soils; open woodland on sandy soil; vleis edges; savanna with *Loudetia* or *Andropogon*; swamp sides; 1050-2430 m alt.

Not in Angola.

A. minutiflora Taub.

Erect annual herb, 15-60 cm tall, rather sparsely branched with some of the lower lateral branches spreading; stems glabrous.

Brachystegia, *Julbernardia* or *Uapaca* scrub or woodland on sandy soil; *Brachystegia* and *Colophospermum* woodland on thin sandy soil over rocks; sandy river beds, etc.; near sea-level to 1830 m alt.

Comprises 2 subspp.

A. mossambicensis Verdc.; Opera Bot. 59: 44, 1980.

Spreading ± prostrate annual or sometimes perennial herb 60-90 cm long, usually distinctly branched; stems glabrous or with sparse short glandular somewhat tubercular-based hairs.

Brachystegia-*Julbernardia* woodland; dry rocky places; usually on sandy soil; road banks; *Terminalia spinosa* woodland; 10-430 m alt.

Comprises 2 subspp.

A. mossoensis J. Léonard

Erect subshrub 0,4-1(-1,5) m tall; stems densely pubescent, mostly sticky, glabrescent.

Grassy hillsides; grassland with scattered trees; *Brachystegia* woodland (incl. on recently burnt ground); mostly in rocky places; 1280-1650 m alt.

Comprises 3 vars.: – var. **mossoensis**; var. **parvifolia** Verdc.; var. **pubescens** J. Léonard

A. multicaulis Harms

syn.: *A. wittei* Bak. f.

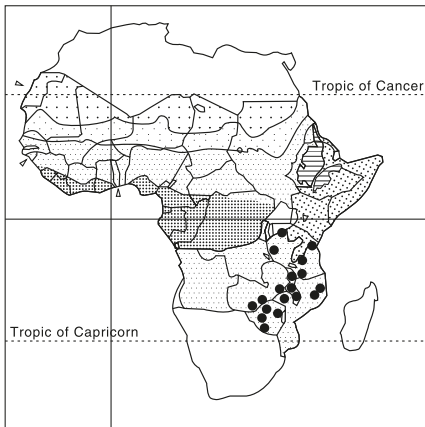
Erect subshrub, 7-40 cm tall, with many stems from a woody rootstock, flowering after burns; stems glabrous or sparsely pubescent with tubercular-based hairs; seeds unknown.

Burnt grassland; open *Brachystegia* woodland on stony soil; often in areas just above the bamboo zone; termite mounds; forest; 1350-1800 m alt.

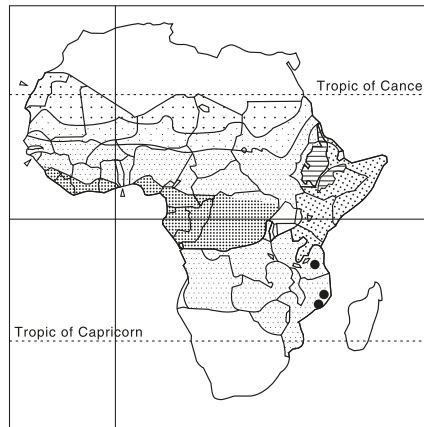
A. nematopoda Harms

Diffuse annual trailing herb ± 30 cm long; stems slender, glabrous or almost so; fruit (geocarpic) and seed known! (Opera Bot. 59: 44-45, 1980).

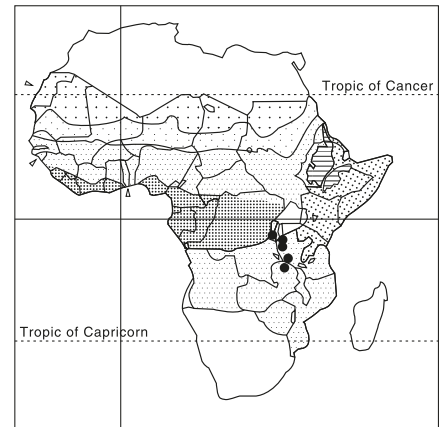
Julbernardia, *Brachystegia* woodland in sandy places; 340-400 m alt.



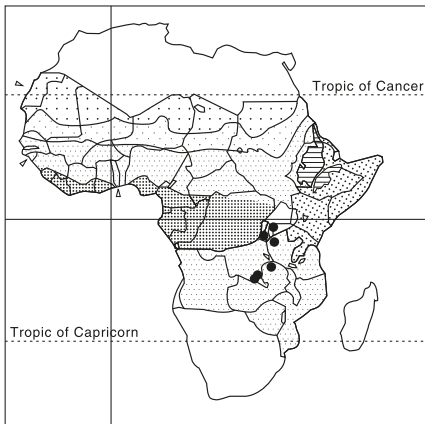
Aeschynomene minutiflora



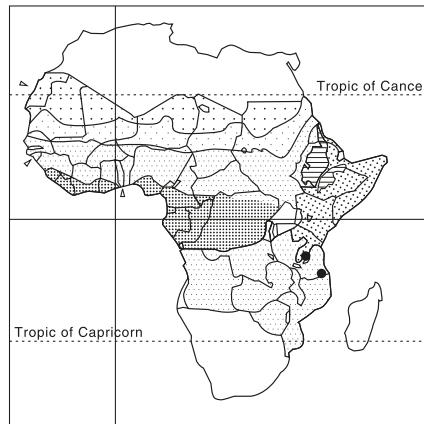
Aeschynomene mossambicensis



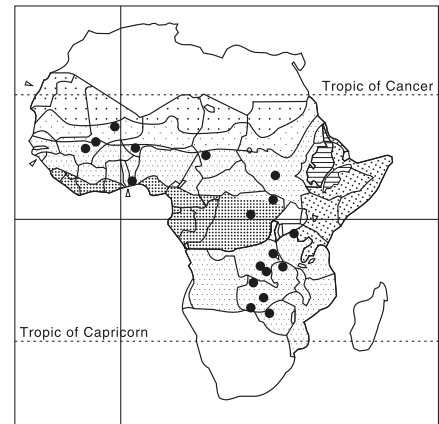
Aeschynomene mossoensis



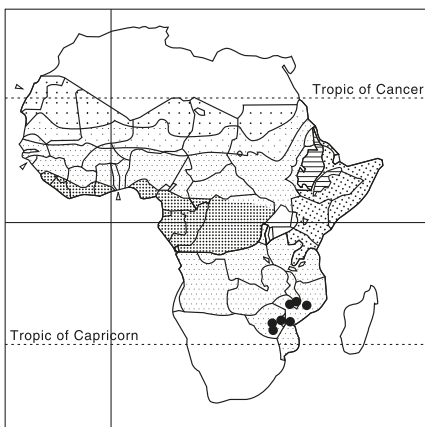
Aeschynomene multicaulis



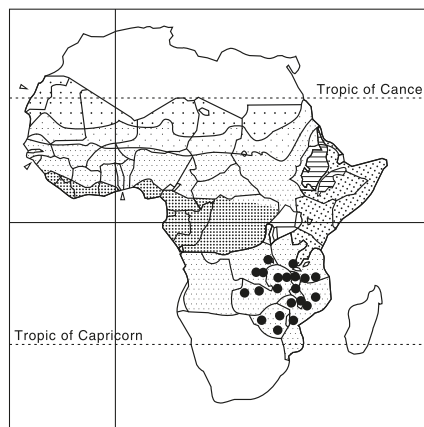
Aeschynomene nematopoda



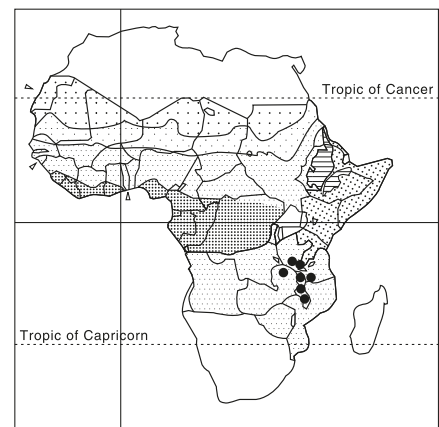
Aeschynomene nilotica



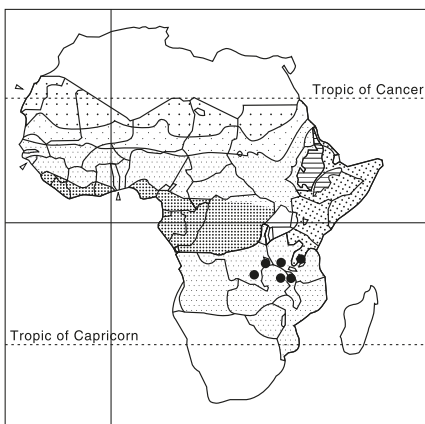
Aeschynomene nodulosa



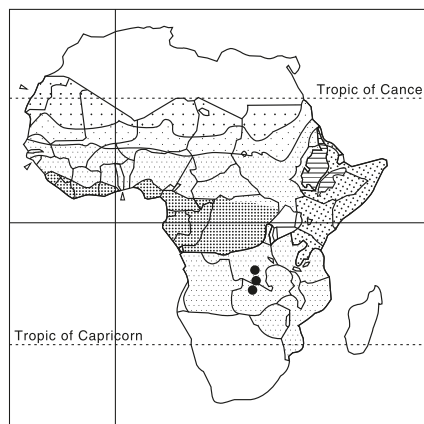
Aeschynomene nyassana



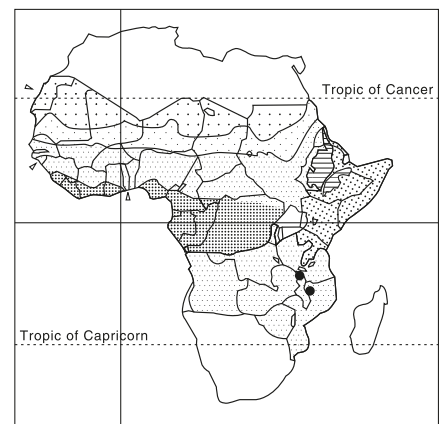
Aeschynomene nyikensis



Aeschynomene oligophylla



Aeschynomene pararubrofarinacea



Aeschynomene pawekiae

AESCHYNOMENE

A. nilotica Taub.; C. D. K. Cook, Aquat. & wetland plants south. Afr.: 136-137, 2004.

syn.: *A. morumbensis* Bak. f.

Perennial shrubby herb or shrub 1-2,5 m tall, floating in deep water, but erect and rooting in the soil when in shallow water, the lower stems thick, hollow, covered densely with adventitious roots and black tubercles.

Swamps, marshes, floodplains, around water holes, etc.; *Alchorneetum*; swamps with *Echinochloa stagnina*; 850 (and less)-1350 m alt.

Namibia, Botswana.

A. nodulosa (Bak.) Bak. f.

bas.: *Smithia nodulosa* Bak.

syn.: *Aeschynomene shirensis* Taub.

Shrub 1,2-6 m tall; stems densely covered with short glandular tubercular-based hairs, or more rarely glabrous and glaucous; older stems appearing jointed at the nodes due to the scars formed by the deciduous stipules, glabrescent, often quite nodular due to remnants of petiole bases. Aromatic.

Grassland; bracken scrub; open woodland (*Uapaca* -bamboo); exposed rocky (mostly quartzite) slopes and summits; sometimes in scrub on streamsides; forest margins; open veld; 600-1900 m alt.

S. Africa.

Comprises 2 vars.: – var **nodulosa**; var. **glabrescens** J. B. Gillett

A. nyassana Taub.

Subshrub or shrub 0,15-3 m tall, mostly erect with several stems from a woody rootstock, often coming up after burns and then frequently flowering when leafless or when the leaves are only slightly developed; stems glabrous to densely viscid pubescent or scabrid.

Grassland with scattered *Protea*, etc., particularly at edge of *Brachystegia*, *Uapaca* woodland; usually in places subject to burning; bushland; often by swamps, dambo edges; sometimes in rocky places; 60-2300 m alt.

S. Africa.

Distinct from *A. siifolia* ?

A. nyikensis Bak., excl. var. *gracilis* Suess. (= **A. mimosifolia**) and var. *mossambicensis* Bak. f. (= **A. schliebenii** var. **mossambicensis**).

Erect branched shrub 1,5-2,5(-?4,5) m tall; stems at first pubescent with viscid tubercular-based hairs, sometimes peeling to leave a roughened surface.

Secondary bushland; coarse grassland, etc.; often near forest edges; *Brachystegia* woodland; edges of woodland; marshland margins; 1200-2255 m alt.

A. oligophylla Harms

Erect subshrub 6-45 cm tall, with many stems from a woody rootstock, flowering after burns.

Grassland; *Brachystegia* woodland, particularly in rocky places; 1550-2400 m alt.

AESCHYNOMENE

A. pararubrofarinacea J. Léonard

syn.: *Humularia bianoensis* P. A. Duvign.

Shrub 1,5-4,5 m tall; all but the youngest branchlets covered with thick brownish-red powdery bark; young stems with short glandular tubercular-based hairs.

Wooded savanna; open forests with *Brachystegia utilis*; often in rocky places; ± 1470-2000 m alt.

A. pawekiae Verdc. – Icon.: Fl. Zambes. 3(6): 89, 2000.

Diffuse ± glaucous herb with horizontal stems or prostrate, to 1 m long, with sparse white ± stiff hairs 0,5-1 mm long, from thickened base, but otherwise glabrous; older stems minutely tuberculate where hairs have broken off.

Brachystegia allenii woodland with *Julbernardia globiflora*, *Parinari curatellifolia*, etc. on gravelly soil; 700-1260 m alt.

A. pfundii Taub.

Shrub 1,2-4,5 m tall, often with swollen pithy floating stems; stems densely hispid with golden-brown tubercular-based glandular hairs.

Permanent and seasonal swamps; edges of rivers, lakes (particularly crater lakes); river floodplains, etc.; often standing in a metre of water; 300-1590 m alt.

A. pseudoglabrescens Verdc.

Subshrubby herb with 1-5 erect stems 15-35 cm tall from a woody rootstock bearing some long tuberous roots; young stems glabrous or very sparsely setulose; seeds unknown.

Margins of *Brachystegia* woodland; on damp loam at edge of marsh in woodland; 1200 m alt.

A. pygmaea Welw. ex Bak.

Herb or subshrub with several caespitose stems from a tough woody rhizome-like rootstock; stems 0,07-1,5 m tall, in burnt areas mostly unbranched and often leafless when flowering, but in the absence of fire forming a branched leafy shrub; young shoots densely covered with short and rather long bristly tubercular-based yellowish hairs.

Open *Brachystegia* woodland and bushland; grassland; dambo margins; thinly-bushy sandy pastures, along the borders of forests, with *Thesium* spp., *Thunbergia* spp.; edge of dry forest land; ± 1200-2000 m alt.

Comprises 2 vars.: – var. **pygmaea**; – var. **hebecarpa** J. Léonard (syn.: *A. hockii* De Wild.; *A. homblei* De Wild.; *A. humilis* N. E. Br.; *A. recta* N. E. Br.; *A. youngii* Bak. f.).

[**A. rehmannii** Schinz var. **leptobotrya** (Harms ex Bak. f.) J. B. Gillett]

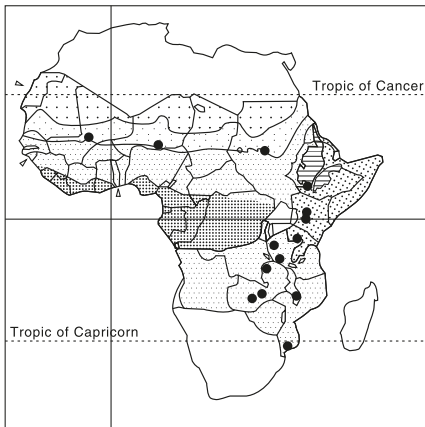
syn.: *A. glutinosa* Schinz 1902, non Taub. 1896.

Slender shrub, sometimes erect, but branches usually decumbent, 50 cm tall, densely covered with glandular hairs.

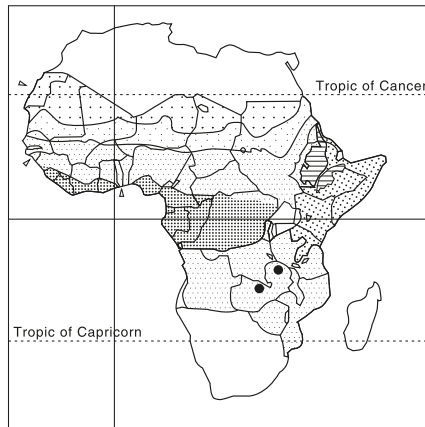
S. Africa.

Perhaps in Zaire but Gillett writes (Kew Bull. 14: 333, 1960): “Rogers 10066... is said to have been collected at Elisabethville... Its label has been altered from S. Africa to Congo and, as Rogers collected in both the Transvaal and the Katanga, this will seem to be an instance of the displacement of a label unless further material is obtained from the Congo”.

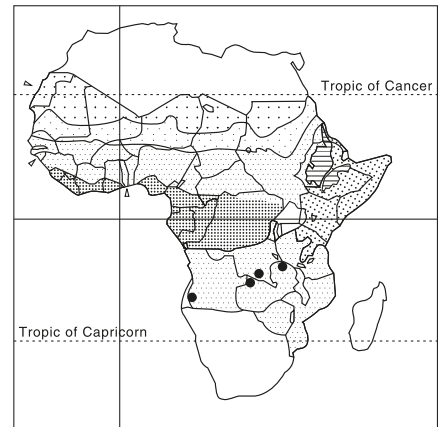
Not mapped.



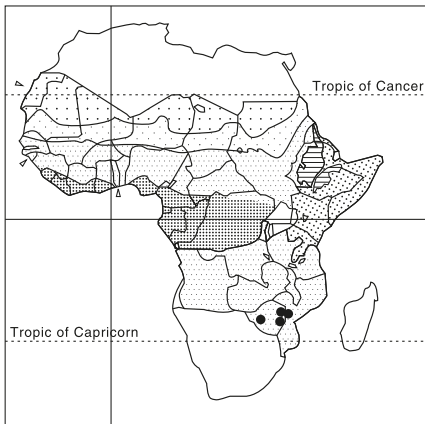
Aeschynomene pfundii



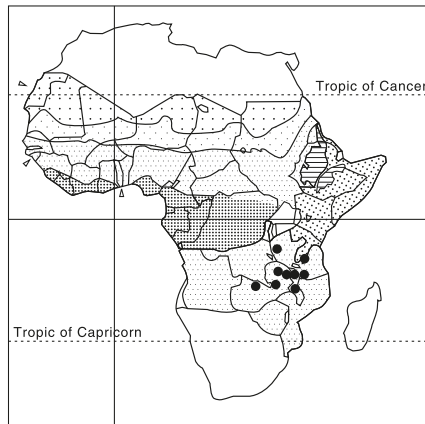
Aeschynomene pseudoglabrescens



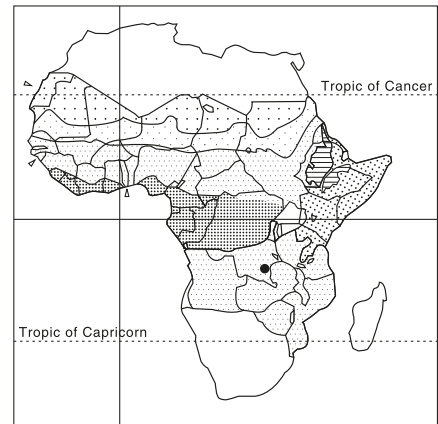
Aeschynomene pygmaea



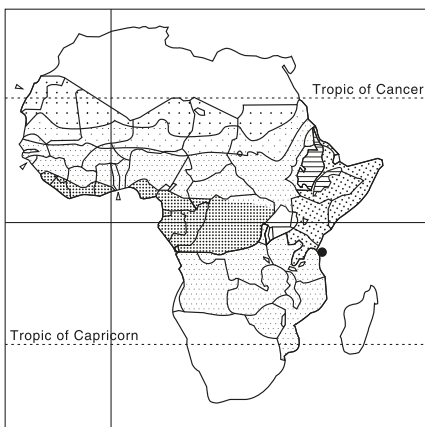
Aeschynomene rhodesiaca



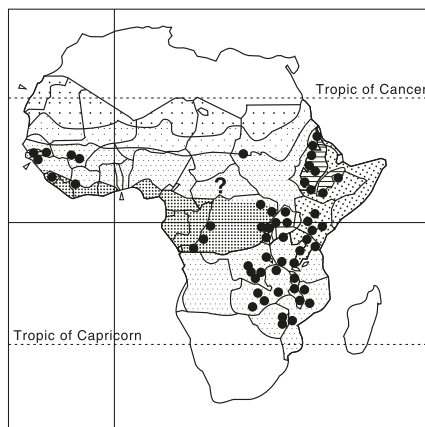
Aeschynomene rubrofarinacea



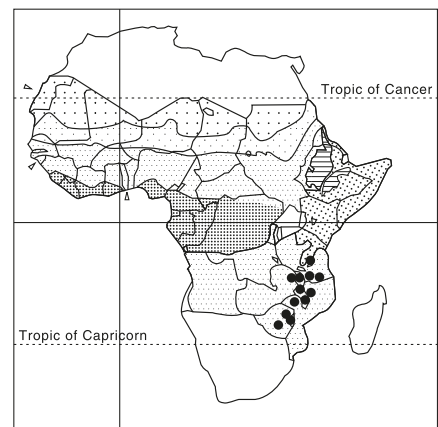
Aeschynomene rubroviolacea



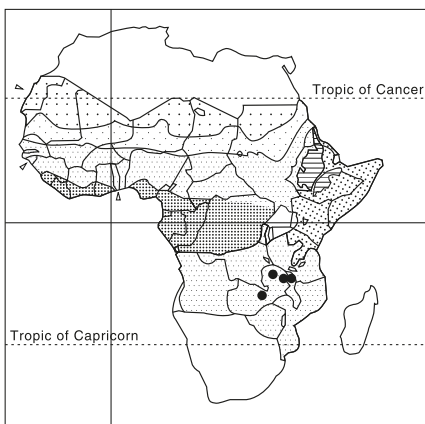
Aeschynomene sansibarica



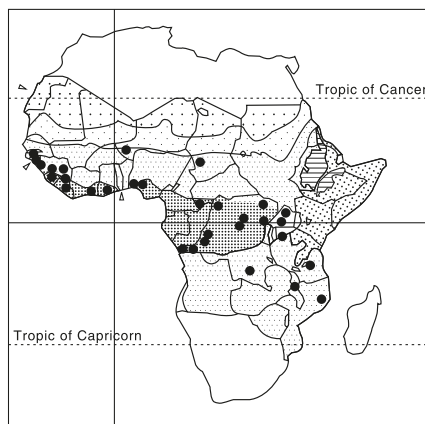
Aeschynomene schimperi



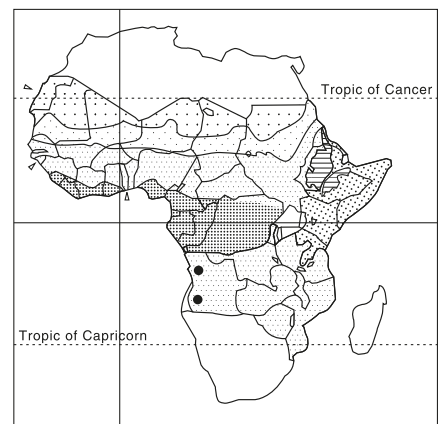
Aeschynomene schliebenii



Aeschynomene semilunaris



Aeschynomene sensitiva



Aeschynomene siifolia

AESCHYNOMENE

A. rhodesiaca Harms

Perennial herb with prostrate or straggling stems 15-60 cm long from a woody rootstock; young shoots glabrous or with sparse tubercular-based sticky hairs, soon glabrous.

Grassland; often in damp rocky places; 1050-2250 m alt.

A. rubrofarinacea (Taub.) F. White

syn.: *Geissaspis clevei* De Wild.; *G. macclouniei* De Wild.; *G. scott-elliottii* De Wild.; *G. chiruiensis* R. E. Fr.; *Humularia rubrofarinacea* (Taub.) P. A. Duvign.; *H. macclouniei* (De Wild.) P. A. Duvign.

Lax erect shrub 0,6-4,5 m tall; branchlets covered with thick brownish-red powdery bark; young stems densely covered with sticky tubercular-based hairs. Aromatic.

Grassland; also with scattered *Protea*, *Brachystegia*, *Erythrina*, etc.; *Brachystegia-Combretum* woodland; abandoned cultivations; 1170-2250 m alt.

A. rubroviolacea J. Léonard

Shrublet with ? erect stems, 50-60 cm tall, ramose, leafless, ridged and with areas of tubercular-based hairs; leaves unknown; mature flowers and seeds unknown.

Very abundant on plateau and abrupt slopes.

Only known from the type collected in 1939.

(A. ruspoliana Harms)

Herb 1 m tall, similar to *A. abyssinica* and perhaps just a large-fruited variant (segments 9×6 mm) of the latter.

Grassy places.

Only known from the type collected in 1893.

Not mapped.

A. sansibarica Taub.

Erect annual herb, branched at the base; stems graceful, together with leaf- and inflorescence-rhachides sparsely bristly-hairy. Ecology unknown; near sea-level.

Perhaps just a variety of *A. minutiflora*.

Only known from the type (Stuhlmann 894) collected c. 1888-1890?

A. schimperii A. Rich., incl. var. *grandiflora* Peter and var. *crasicaulis* A. Rich.

syn.: *A. telekii* Schweinf.; *A. paludicola* Harms; *A. mearnsii* De Wild.; *A. gillettii* De Wild.; *A. mukuluensis* De Wild.

Shrubby perennial herb or shrub 0,6-3 m tall, usually erect but rarely straggling; stems soft at the base becoming swollen, hollow or pithy, pubescent to hispid with yellow often viscid tubercular-based hairs, sometimes glabrous, often reddish. Aromatic.

Swampy places; stream banks, lake sides; rock pools in grassland or wooded areas; often standing in water; dambos; flooded grassland; 60-2340 m alt.

Exceptionally variable plant.

Madagascar.

A. schliebenii Harms

Erect, irregularly branched shrub 1-5 m tall; stems at first pubescent, glabrescent or setulose-hairy, but bark soon breaking down to form a distinctive reddish-brown powdery coating.

AESCHYNOMENE SCHLIEBENII

Brachystegia, *Uapaca* woodland; bushland including secondary *Brachystegia*, *Julbernardia* associations; often on rocky slopes; 480-2200 m alt.

Comprises 2 vars.

A. semilunaris Hutch.

Shrub 1,5-4,5 m tall; bark rough, greyish-brown, appearing jointed at the nodes due to the scars formed by the deciduous stipules; young shoots densely covered with glandular tubercular-based hairs.

Rocky slopes and ridges in *Brachystegia-Protea* woodland; on margins of evergreen forest; 1200-2150 m alt.

A. sensitiva Sw.

Erect much-branched sometimes slightly viscid perennial herb or subshrub 1-2 m tall, mostly blackening on drying; stems pubescent with tubercular-based hairs or glabrescent; leaves sensitive.

Lake shores; swampy ground; aquatic meadows; sand banks; 0-1150 m alt.

Madagascar; introduced in the Mascarenes and Comoros. – West Indies; tropical America.

A. siifolia Welw. ex Bak., excl. var. *gossweileri* Bak. f. (= **A. leptophylla** subsp. **leptophylla**).

Strictly erect herb 0,9-1,5 m tall; stem sub-simple, very rough with acute crowded papillae (but in the upper part nearly smooth on dried specimens); leaves, especially the stem ones, rather resembling those of some species of *Sium*; fruit unknown.

Damp places amidst reeds; in *Phoenix reclinata* groves; marshy banks of river; dry grassland; \pm 1200 m alt.

Near but perhaps different from *A. nyassana*.

A. solitariiflora J. Léonard

Erect herb or subshrub with many tufted stems, 10-30 cm long, from a woody rootstock, mostly appearing after burns; stems glabrous or with very sparse tubercular-based hairs.

Steep grassy banks on stony soil; damp sandy pans; open forests with *Brachystegia* on lateritic hardpan covered by clay; 1200-2340 m alt.

A. sparsiflora Bak.

Straggling subshrub?, 10-30 cm tall, with many sub-erect or spreading slender stems from a woody rootstock; stems mostly glabrous; seeds unknown.

Brachystegia woodland, montane grassland; 600-2100 m alt.

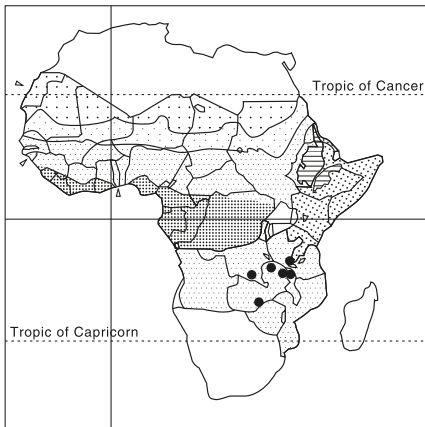
Only five specimens known dating from 1896, 1914, 1973.

A. stipulosa Verdc.

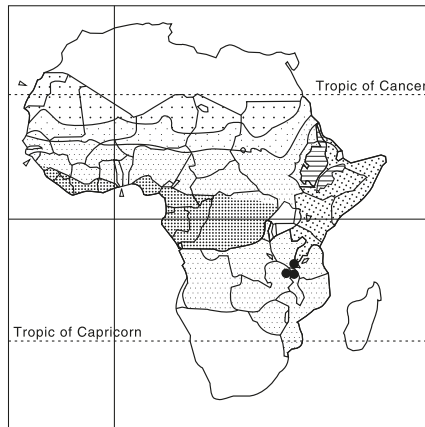
Perennial prostrate herb with 5-20 branches 8-20 cm long radiating from a tuberous rootstock which bears narrow roots 11-15 cm long; young shoots sparsely setulose; mature seeds unknown.

Degenerate *Brachystegia* woodland; 1310 m alt.

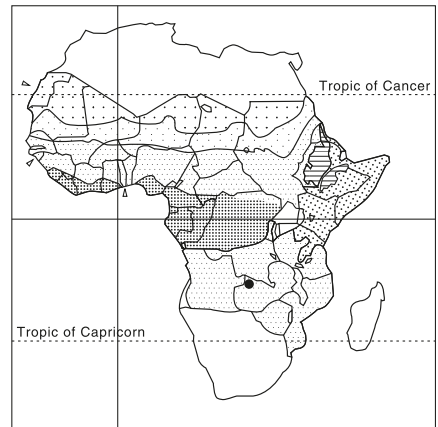
Only known from the type collected in 1937.



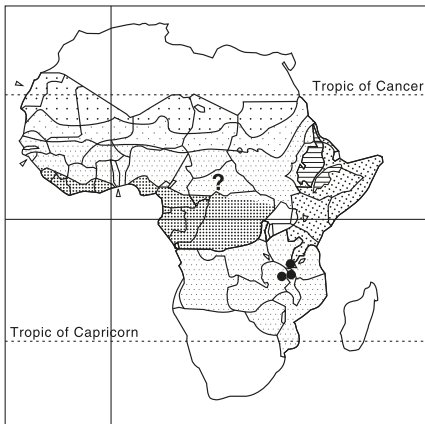
Aeschynomene solitariiflora



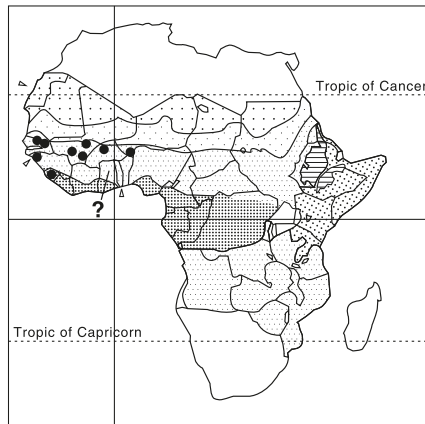
Aeschynomene sparsiflora



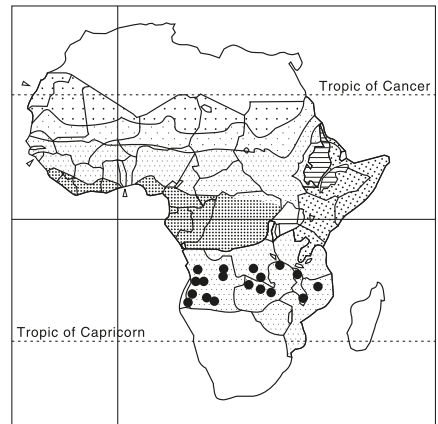
Aeschynomene stipulosa



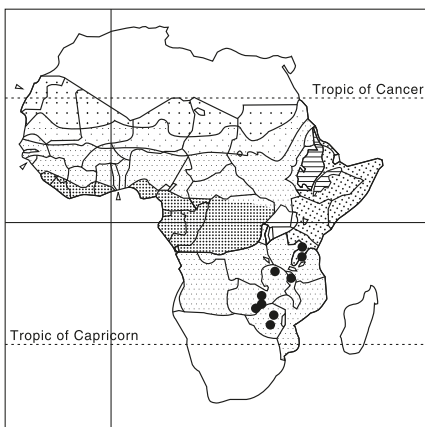
Aeschynomene stolzii



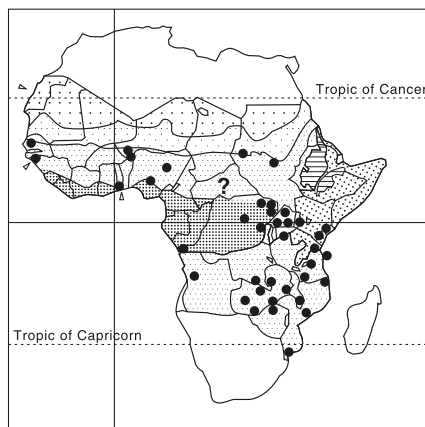
Aeschynomene tambacoundensis



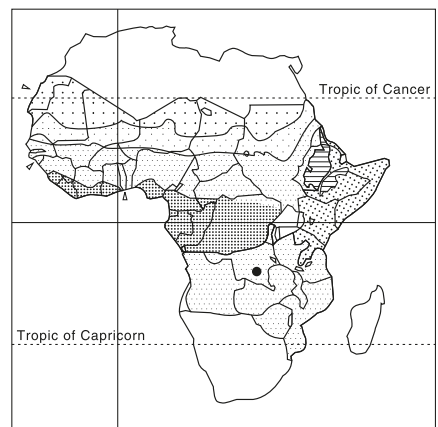
Aeschynomene tenuirama



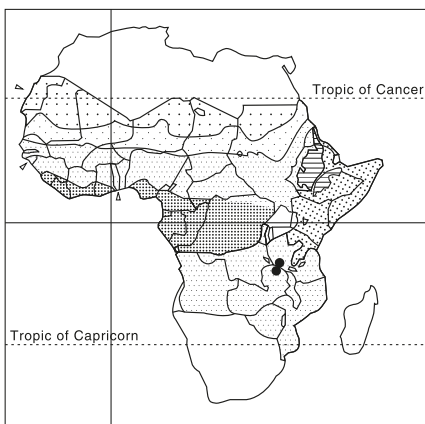
Aeschynomene trigonocarpa



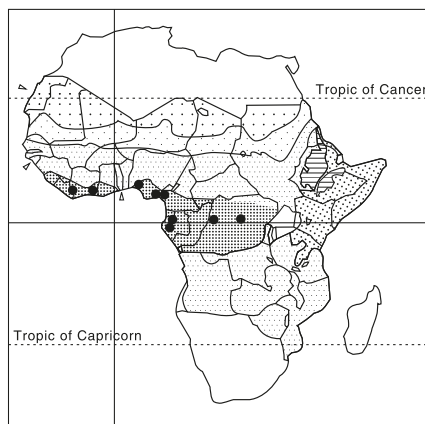
Aeschynomene uniflora



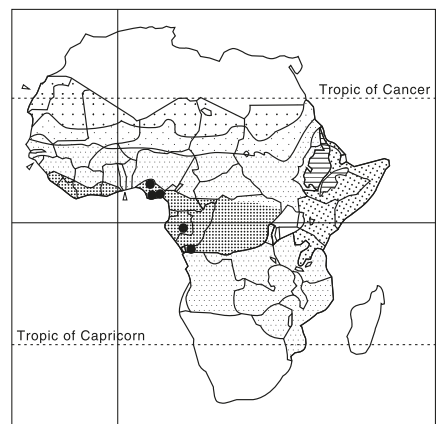
Aeschynomene upembensis



Aeschynomene venulosa



Aganope gabonica



Aganope impressa

AESCHYNOMENE

A. stolzii Harms

Much-branched prostrate cushion-forming subshrub or forming mats or sometimes an erect bushy herb 0,2-1,3(-1,5) m tall; stems glabrous or almost so or pubescent with tubercular-based hairs; seeds unknown.

Thick vegetation; sometimes by rivers; forest fringe; 1740-2700 m alt.

A. tambacoundensis Berhaut

Annual herb, 50-80 cm or more tall.

Pool-sides on lateritic hardpans; edges of swamp; withering after the rainy season.

A. tenuirama Bak., incl. var. *sculpta* Welw. ex Hiern and var. *huillensis* Welw. ex Hiern (= var. **tenuirama**).

syn.: *A. newtonii* Schinz; *A. subaphylla* De Wild.

Subshrub with several branched or unbranched, sometimes almost leafless erect stems 0,3-2 m tall, pubescent with short tubercular-based glandular hairs when young, from a woody rhizome-like rootstock; branchlets slender, rigidly erecto-patent, finely setose in the upper part.

Bushy borders of primitive forests; exposed primitive woods at river-banks; shortly-bushy pastures; by streams or rivulets; sand; wooded savanna on clayey soil; *Brachystegia* and *Uapaca-Monotes* woodland; grassland; 700-2300 m alt.

Comprises 3 vars.

Not in East Africa.

A. trigonocarpa Taub. ex Bak. f.

syn.: *A. trigonocarpa* Taub., nom.; ? *A. goetzei* Harms

Shrub 0,8-3 m tall, or sometimes an ascending woody herb; stems slender, at first glandular pubescent with tubercular-based hairs, later glabrous; bark on older stems at length peeling to reveal a powdery rusty-red surface.

Open *Brachystegia* woodland and derived bushland; *Julbernardia* woodland; *Acacia-Commiphora* thicket-woodland; often on rocky hills, less often in grassland or old cultivations; 1200-1740 m alt.

A. uniflora E. Mey.

syn.: *A. papulosa* Welw. ex Bak.; *A. bracteosa* Boivin nom. nud. in sched.; *Smithia bernieri* Baill.

Erect shrubby herb, often an annual (or short-lived perennial) with shoots to 1 m tall but spreading \pm horizontally through grass to 4 m (? 4,5); stems covered with tubercular-based hairs; leaves sensitive.

Swamps; marshy grassland; riverside bushland, etc.; also a weed in rice fields; wet places; even in water; dambo fringes; sandy river beds; *Echinochloa* grassland; 0-1650 m alt.

S. Africa; Madagascar; Comoros; Mascarenes (naturalized).

Comprises 2 vars.

Formerly cultivated in Java.

A. upembensis J. Léonard

Rhizomatous undershrub with leafy stem, ?simple, erect, 1,4 m tall, glabrous near the base, glandular-viscid higher up; fruit unknown.

Grassy savanna; \pm 1750 m alt.

Only known from the type collected in 1948.

AESCHYNOMENE

A. venulosa Verdc.

Spreading or suberect subshrub or woody herb \pm 40 cm tall; stems glabrous or even slightly glaucous when young, the bark soon peeling off in thin longitudinal strips; seeds unknown.

Brachystegia woodland on stony soil; steep stony bank; common; 1200-1650 m alt.

Comprises 2 vars.

An isolated species without obvious affinities.

* * *

Several unnamed species (cited as A-H in Fl. Trop. E. Afr., and as A-E in Fl. Zambes. 3/6, 2000) are listed by Verdcourt.

SYNONYMS:

Aeschynomene aculeata Schreb. = **Sesbania bispinosa**

arbuscula Bak. f. = **Aeschynomene fulgida**

aspera sensu Baker, non L. = **A. afraspera**

bequaertii De Wild. = **A. dimidiata** subsp.

bispinosa Jacq. = **Sesbania**

bracteosa Boivin, nom. nud. = **Aeschynomene uniflora**

bracteosa sensu Baker = **A. katangensis** subsp. **sublignosa**

claessensii De Wild. = **A. abyssinica**

curtisiae Johnston = **A. ? glabrescens**

delicatula Bak. f. = **A. bracteosa** var.

dewevrei De Wild. & Th. Durand = **A. cristata** var. **cristata**

dissitiflora Baker = **A. heurckeana**

djalonensis A. Chev., nom. = **A. deightonii**

elisabethvilleana De Wild. = **A. bracteosa** var. **bracteosa**

filipes Baill. = **A. heurckeana**

gilletii De Wild. = **A. schimperii**

glutinosa Schinz = **A. rehmannii** var. **leptobotrya**

glutinosa Taub. = **A. abyssinica**

goetzei Harms = **A. ? trigonocarpa**

hockii De Wild. = **A. pygmaea** var. **hebecarpa**

homblei De Wild. = **A. pygmaea** var. **hebecarpa**

humilis N. E. Br. = **A. pygmaea** var. **hebecarpa**

kapiriensis De Wild. = **A. abyssinica**

kassneri Harms = **A. baumii** var.

kilimandscharica Taub. ex Engl. = **A. abyssinica**

lateritia Harms = **Bakerophyton**

leptobotrya Harms ex Bak. f. = **Aeschynomene rehmannii** var.

mazangayana Baill. = **A. cristata** var. **cristata**

mearnsii De Wild. = **A. schimperii**

morumbensis Bak. f. = **A. nilotica**

mossambicensis Verdc. var. *longistipitata* (Verdc.) Vollesen = **A. mossambicensis** subsp. **longistipitata**

mukuluensis De Wild. = **A. schimperii**

nambalensis Harms = **A. bracteosa** var. **bracteosa**

neglecta Hepper = **Bakerophyton**

newtonii Schinz = **Aeschynomene tenuirama** var. **tenuirama**

AESCHYNOMENE

- nyikensis* Baker var. *gracilis* Suess. = **A. mimosifolia**
var. *mossambicensis* Bak. f. = **A. schliebenii** var.
mossambicensis
- obovalis* Baill. = **A. brevifolia**
- oligantha* Welw. ex Bak. = **A. indica**
- paludicola* Harms = **A. schimperi**
- papulosa* Welw. ex Bak. = **A. uniflora**
- praticola* Bak. f. = **A. baumii**
- pubescens* Vahl ex DC. = **Sesbania sericea**
- pulchella* Planch. ex Bak. = **Bakerophyton**
- pulchra* Vatke = ? **Rhynchosia**
- racemosa* De Wild. = **Aeschynomene katangensis** subsp.
sublignosa
- recta* N. E. Br. = **A. pygmaea** var. **hebecarpa**
- remota* Poir. = **Desmodium repandum**
- rogersii* N. E. Br. = **Aeschynomene katangensis** subsp.
sublignosa
- ruppellii* Baker = **A. abyssinica**
- saxicola* Taub. = **Bakerophyton pulchellum**
- schlechteri* Harms ex Bak. f. = **Aeschynomene fluitans**
- sesban* L. = **Sesbania sesban**
- shirensis* Taub. = **Aeschynomene nodulosa**
- siifolia* Welw. ex Baker var. *gossweileri* Bak. f.
= **A. leptophylla** subsp. **leptophylla**
- sp. aff. *A. dissitiflora* sensu Rossberg = **A. benguellensis**
- stellaris* Afzel. ex Bak. = **Cyclocarpa**
- striata* De Wild. = **Aeschynomene leptophylla** subsp.
leptophylla
- subaphylla* De Wild. = **A. tenuirama** var. **tenuirama**
- sublignosa* De Wild. = **A. katangensis** subsp.
- telekii* Schweinf. = **A. schimperi**
- tenuirama* Welw. ex Baker var. *huillensis* Welw. ex Hiern
= **A. tenuirama** var. **tenuirama**
- var. *sculpta* Welw. ex Hiern = **A. tenuirama** var.
tenuirama
- trigonocarpa* Taub., nom. = **A. trigonocarpa**
- walteri* Harms = **A. mimosifolia**
- wittei* Bak. f. = **A. multicaulis**
- youngii* Bak. f. = **A. pygmaea** var. **hebecarpa**
- zigzag* De Wild. = **A. bracteosa** var. **bracteosa**

AFRORMOSIA – SEE PERICOPSIS

AGANOPE / 4

Aganope gabonica (Baill.) Polhill

bas.: *Andira gabonica* Baill.

Liane to 40 m long; stem 12 cm Ø; branches 8-12 mm Ø with numerous, brown ridges; panicle to 75 cm long, much branched, brown-red; flowers white or pinkish.

Rain-forest on firm ground or flooded; old cultivations.

AGANOPE

A. impressa (Dunn) Polhill

Climbing shrub or tree to 10-15 m tall; young branches 3 mm Ø, softly pubescent; flowering branches 6-10 mm Ø, glabrous or nearly so with fine ridges; fruit known?

Forests; sometimes common.

A. leucobotrya (Dunn) Polhill

Scrambling shrub or straggling tree to 9 m tall; stem 30 cm in girth, with several erect branches and stout twigs; panicles red-brown tomentellous, terminal, with conspicuous bracts; flowers white (of ornamental value).

Thickets of secondary forests; rain-forest.

A. lucida (Welw. ex Bak.) Polhill, ? incl. var. *intermedia* Hauman
syn.: *Dalbergia laurentii* De Wild.; *Ostryocarpus laurentii* (De Wild.) Harms; *O. lucidus* (Welw. ex Bak.) Dunn; *Millettia breviflora* De Wild.; *Pterocarpus lucidus* (Welw. ex Bak.) O. Kuntze; *Deguelia lucida* (Welw. ex Bak.) O. Kuntze

Evergreen liane or scrambling shrub to 30 m long; stem 18 cm Ø; branches 5-7 mm Ø, glabrous; panicle terminal, to 70 cm long, 40 cm broad.

Plateau rain-forest; flooded rain-forest; river sides; fallow land; forest gallery; ± 720-1100 m alt. (Angola).

SYNONYMS:

- Ostryoderris brownei* Hoyle = **Andira inermis** subsp. **rooseveltii**
chevalieri Dunn = **Xeroderris stuhlmannii**
gabonica (Baill.) Dunn = **Aganope**
impressa Dunn = **Aganope**
leucobotrya Dunn = **Aganope**
lucida (Welw. ex Bak.) Bak. f. = **Aganope**
var. *intermedia* Haumann = (see **A. lucida**)
stuhlmannii (Taub.) Dunn ex Harms = **Xeroderris**

AIRYANTHA / 1

Genus with disjunct area: Africa – Malesia.

YAKOVLEV, G. P. (1967). Novye nomenklatornye kombinacii dlja dvukh vidov Baphia. *Bot. Žurn.* 52: 1645.

Airyantha schweinfurthii (Taub.) Brummitt

Woody climber, erect shrub or tree to 8 m tall; young stems and inflorescences covered with a rather dark chocolate brown indumentum; seeds scarlet.

Gallery forest; river banks; riverine and secondary forests; rain-forest; secondary bush; farm regrowth thicket.

Bioko/Fernando Poo.

Comprises 2 subsp.: – subsp. **schweinfurthii** [syn.: *Baphia spathacea* Hook. f. var. *scandens* De Wild.; “*Baphiastrum spathaceum* (Hook. f.) Staner” (sensu Yakovlev)]; – subsp. **confusa** (Hutch. & Dalziel) Brummitt.

The specimen Chaper s.n. (comm. 1882) is probably not from Central African Republic but from Ivory Coast.

ALHAGI / 1

AWMACK, C. S. & J. M. LOCK (2002). The genus *Alhagi* (Leguminosae: Papilionoideae) in the Middle East. *Kew Bull.* 57: 435-443.

Alhagi maurorum Medik. subsp. **graecorum** (Boiss.) Awmack & Lock

bas.: *A. graecorum* Boiss.

syn.: *A. maurorum* DC. var. *karduchorum* Boiss.; *A. mannifera* Desv., nom. nud.; *A. brevispinum* Maire nov. sp. ad interim.

Erect perennial herb 30-90 cm tall, glabrous or sparingly hairy, woody at the base; stems branched, grooved, the branchlets spiny, spines spreading, ± 2,5 cm long; flowers solitary or in pairs from the spines.

? Ecology unknown in Sudan. Not in Jebel Uweinat (Léonard, Syst. Geogr. Plants 69: 220, 1999).

Algeria (Tassili-n-Ajjer), Libya, Egypt; Israel, Jordan, Lebanon, Saudi Arabia, Bahrein, Iraq. – Introduced in Greece, Rhodes, Cyprus. – Cultivated in Chad (Tibesti), 1300-1400 m alt.

Subsp. **maurorum** in W and C Asia, S Russia. Its var. **turcorum** (Boiss.) Meikle of uncertain status.

Mainly reproducing itself vegetatively by its long creeping rhizomes pushing up specimens to a wide distance (V. Täckholm).

ALYSICARPUS / 8

Alysicarpus ferrugineus Hochst. & Steud. ex A. Rich., excl. var. *quartinianus* (A. Rich.) Schindler (= **A. quartinianus**).

syn.: *Fabricia ferruginea* (Hochst. & Steud. ex A. Rich.) Kuntze
Ascending perennial herb to 50 cm tall with a woody rootstock; young stems brownish pilose.

Grassland, often on clay; 1600-2400 m alt.

A. glumaceus (Vahl) DC.

Erect or sometimes procumbent, ramose annual herb, often somewhat woody at the base 0,15-1,5 m tall; stems pubescent sometimes only in a narrow longitudinal line, or densely covered with spreading hairs.

Grassland; also with scattered *Acacia* etc.; rocky places; abandoned cultivations; coastal bushland; grassland seasonally waterlogged on black clay; weed in maize on heavy black clay or seasonally wet; sand-dunes close to the sea, even within the spray zone; short grassland on cliffs; *Acacia-Combretum* woodland with *Themeda*; *Sterculia*, *Millettia*, *Androstachys* woodland on alluvial soils; dunes with *Cyperaceae-Sporobolus*; dried pools; sometimes in dense populations, on fine gravels and sandy soils; 0-1750 m alt.

S. Africa; Arabia.

Comprises 3 subsp. with 4 varieties: – subsp. **glumaceus** with 2 vars.: var. **glumaceus** [bas.: *Hedysarum glumaceus* Vahl; syn.: *H. violaceum* Forssk. 1775, non L., nom. illegit.; *Alysicarpus hochstetteri* A. Rich.; *A. violaceus* (Forssk.) Schindl. p.p.; *A. porrectus* Welw. ex Bak.; *Fabricia porrecta* (Welw. ex Bak.) Kuntze] – and var. **intermedius** Verdc.: – subsp. **hispidicarpus** (F i o r i) J. Léonard [syn.: *A. squamosus* Gand.] with 2 vars.: var. **hispidicarpus** and var. **patulopedicellatus** J. Léonard; – subsp. **macalusoi** (Mattei) Verdc. [syn.: *A. glumaceus* (Vahl) DC. var. *macalusoi* (Mattei) Chiov.].

ALYSICARPUS

A. monilifer (L.) DC.

bas.: *Hedysarum monilifer* L.

Slender diffuse tufted annual or biennial herb, with pubescent, tough, slightly silky stem 10-50 cm long.

Humid sands; grassland; also as a weed; roadsides; bushlands; to ± 1000 m alt.

Pakistan, India. – Possibly introduced in Madagascar.

A. ovalifolius (Schumach.) J. Léonard

syn.: *A. vaginalis* (L.) DC. var. *paniculatus* Bak. f.; *A. harnieri* Schweinf.; *A. paradoxus* Boivin ex Baill.

Erect or spreading annual herb, sometimes woody at the base, 20-60 cm tall; stems puberulous or pubescent, later almost glabrous.

Grassland with scattered trees; in grass in very rocky places; waste ground; weed in cultivations; sandy open places; sometimes very common; disturbed places; sandy river beds; in soil pockets or cracks in granite outcrops; roadsides; footpaths; savanna woodland (incl. mopane, etc.); 0-900 m alt.

Socotra; Madagascar; Comoros; SE Asia.

† MANNETJE, L. (2002). *Alysicarpus ovalifolius* (Schumach.) J. Léonard. In: OYEN, L. P. A. & R. H. M. J. LEMMENS, Eds., *Ressources végétales de l'Afrique tropicale. Précurseur*: 48-50. [Traduction de: Plant Resources of Tropical Africa. Precursor.] Programme PROTA, Wageningen.

A. quartinianus A. Rich.

syn.: *A. rugosus* (Willd.) DC. var. *quartinianus* (A. Rich.) Bak.; *A. ferrugineus* var. *quartinianus* (A. Rich.) Schindl.; *Fabricia rugosa* (Willd.) Kuntze var. *quartiniana* (A. Rich.) Taub.

Erect annual herb to 60 cm tall; young stems white or brown to black pilose.

Grassland; also a weed in cultivations; 1650-2100 m alt.

A. rugosus (Willd.) DC., excl. var. *quartinianus* (A. Rich.) Bak. (= *A. quartinianus*).

bas.: *Hedysarum rugosum* Willd.

syn.: *Alysicarpus violaceus* (Forssk.) Schindl. p.p. (non *Hedysarum violaceum* Forssk., nec *H. violaceum* L.), incl. var. *pilosus* Schindl.

Erect prostrate or ascending annual or perennial somewhat suffruticose herb 0,3-1(-2) m tall; stems pubescent, pilose or practically glabrous.

Grassland particularly on seasonally wet black clay and muddy lake shores; grassland with scattered trees; old cultivations; short or course dry grassland; sometimes in rocky places; *Commiphora*, *Acacia*, *Adansonia*, etc. deciduous bushland; swampy places; arable land; *Acacia* and Mopane wooded grassland; sandy river banks; rice paddy fallow fields; sandy beaches; termite mounds; dambo; 10-2500 m alt.

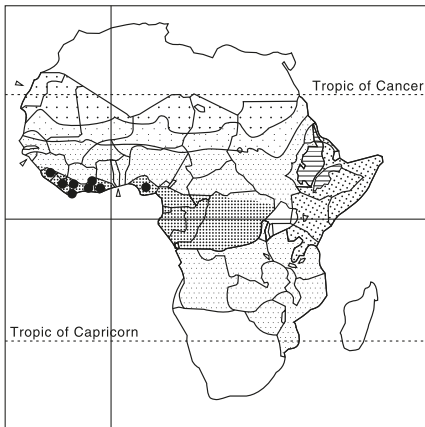
Botswana, Namibia; Madagascar.

Comprises 3 subsp. in Africa: – subsp. **rugosus** var. **rugosus**; – subsp. **perennirufus** J. Léonard; – subsp. **reticulatus** Verdc. – subsp. **rugosus** var. **heyneanus** (Wight & Arn.) Bak. in India.

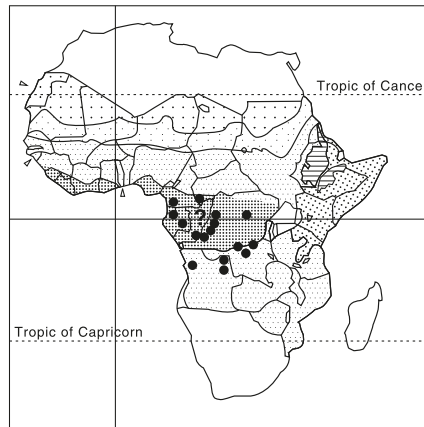
A. vaginalis (L.) DC., excl. var. *paniculatus* Bak. f. (= **A. ovalifolius**).

bas.: *Hedysarum vaginale* L.

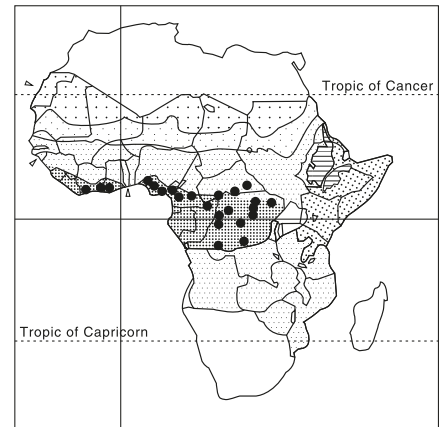
Erect or spreading procumbent perennial herb, woody at the base, 10-60 cm tall, from a thickened taproot; stems densely to sparsely pubescent or puberulous, at length ± glabrous.



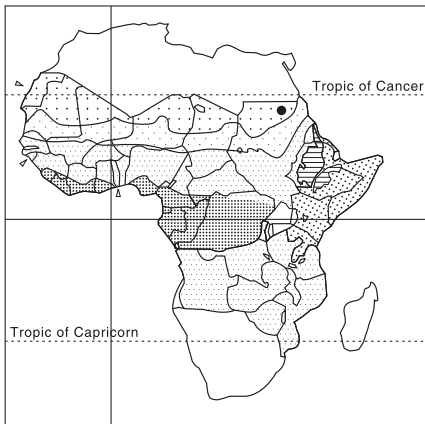
Aganope leucobotrya



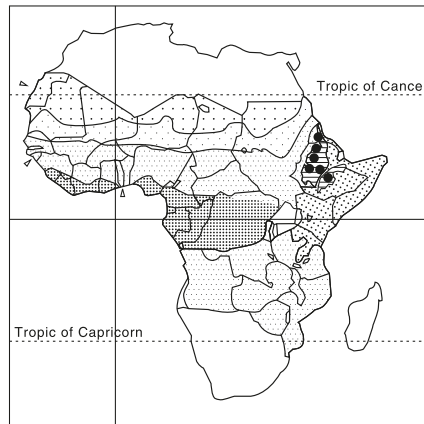
Aganope lucida



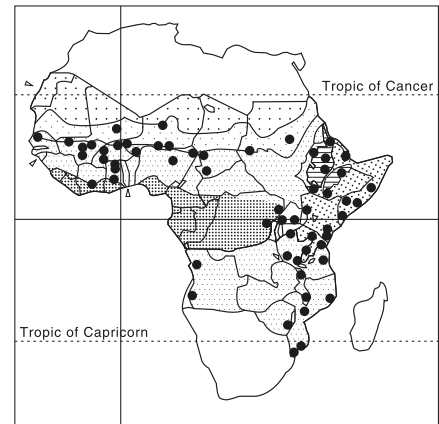
Airyantha schweinfurthii



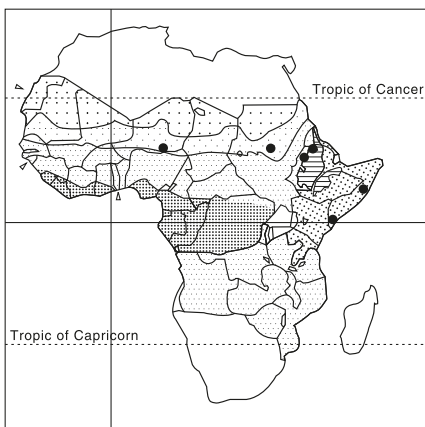
Alhagi maurorum subsp. *graecorum*



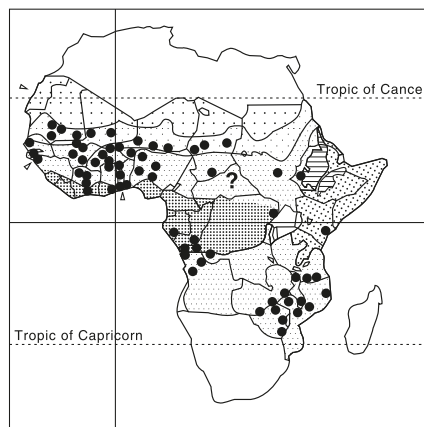
Alysicarpus ferrugineus



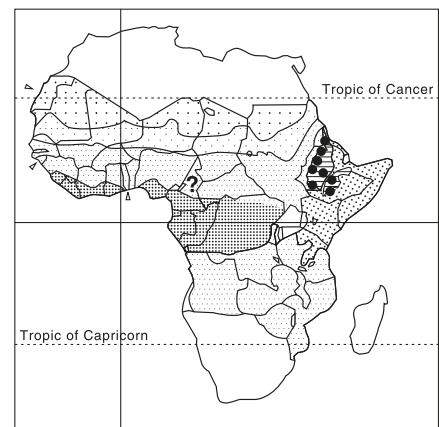
Alysicarpus glumaceus



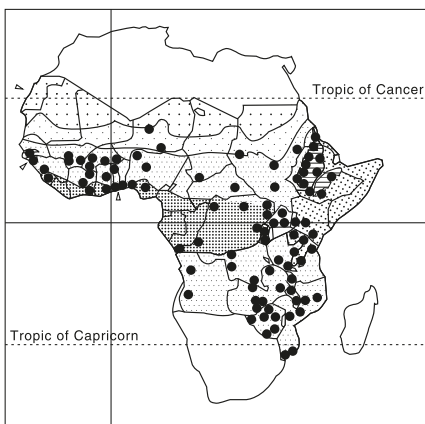
Alysicarpus monilifer



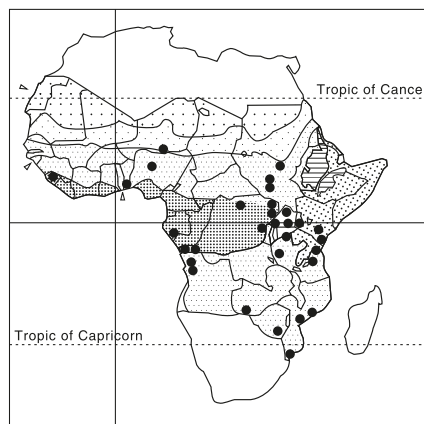
Alysicarpus ovalifolius



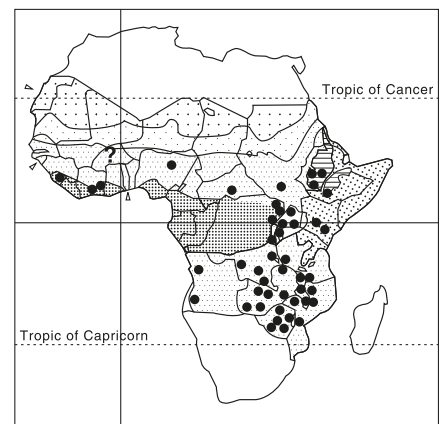
Alysicarpus quartianus



Alysicarpus rugosus



Alysicarpus vaginalis



Alysicarpus zeyheri

ALYSICARPUS VAGINALIS

Dry grassy and rocky places; old cultivations; roadsides; bushland; open woodland; humid or swampy soils; sandy flats; *Acacia* savanna; *Brachystegia* woodland; floodplain grasslands; sandy dunes near the sea; lateritic hardpan; 0-1580 m alt.

São Tomé; Madagascar; Comoros; Mauritius; Seychelles; Old World tropics. – Introduced into America.

Comprises 3 vars.

A. zeyheri Harv.

syn.: *Fabricia zeyheri* (Harv.) Kuntze

Erect or somewhat spreading herb 0,1-1,2 m tall from a tough woody rootstock; stems glabrous to pubescent.

Grassland (often swampy or seasonally waterlogged); but also on seasonally burnt grassland; open wooded grassland; old cultivations; dambo; open woodland with *Acacia*, *Combretum*, *Brachystegia*, etc.; sandy soil; 60-2400 m alt.

S. Africa.

SYNONYMS:

Alysicarpus ferrugineus Hochst. & Steud. ex A. Rich. var. *quartiniianus* (A. Rich.) Schindl. = **Alysicarpus quartiniianus glumaceus** (Vahl) DC. var. *macalusoi* (Mattei) Chiov.

= **A. glumaceus** subsp. **macalusoi**

harnieri Schweinf. = **A. ovalifolius**

hochstetteri A. Rich. = **A. glumaceus** subsp. **glumaceus** var. **glumaceus**

macalusoi Mattei = **A. glumaceus** subsp. **macalusoi**

paradoxus Boivin ex Baill. = **A. ovalifolius**

polygonoides Welw. ex Romariz = ?

porrectus Welw. ex Bak. = **A. glumaceus** subsp. **glumaceus** var. **glumaceus**

rugosus (Willd.) DC. var. *hispidicarpus* Fiori = **A. glumaceus** subsp. **hispidicarpus**

var. *quartiniianus* (A. Rich.) Bak. = **A. quartiniianus**

squamosus Gand. = **A. glumaceus** subsp. **hispidicarpus**

vaginalis (L.) DC. var. *paniculatus* Bak. f. = **A. ovalifolius**

violaceus (Forssk.) Schindl. p.p. = **A. glumaceus** subsp. **glumaceus** var. **glumaceus** and **A. rugosus**

var. *pilosus* Schindl. = **A. rugosus** subsp. **rugosus**

AMPHICARPAEA / 1

Genus with disjunct area: America – Africa – Asia.

Amphicarpaea africana (Hook. f.) Harms

bas.: *Shuteria africana* Hook. f.

Perennial climbing herb 0,6-3,6 m long; stems slender, ± 1 mm Ø, covered with reflexed ferruginous hairs; fruit not geocarpous but cleistogamous; flowers present.

Rain-forest with *Albizia*, *Macaranga*, *Croton*, *Ocotea*; forest edges; bamboo forest; grassland derived from forest (in tangle colonising *Hagenia abyssinica* grassland); lava; old cultivations; savannas; stream sides; clearings; sometimes rather common; 1050-2700 m alt.

AMPHIMAS / 2

Amphimas ferrugineus Pierre ex Pellegr.

syn.: *A. klaineanus* Pierre & Pellegr.

Tree to 30-40 m; bole cylindrical ± 20 m high, ± 1-1,5 m Ø with buttresses. Deciduous just before flowering.

Rain-forest; sometimes sporadic at the margins of forest.

A. pterocarpoides Harms

Tree to 50 m; bole 2,75 m in girth, rarely exceeding 1,2 m Ø, straight, cylindrical, 20-30 m high, without or with buttresses to 1,5-2 m high, 10 cm thick; crown table-like, with tortuous branches inserted at right angle or half globular to almost globular; branches stout, rusty-tomentellous; leaves in tufts at the end of the branches as in *Entandophragma*; flowers heavily and sweetly fragrant.

Evergreen rain-forest on firm ground; deciduous forest; secondary formations; river banks, gallery, on alluvial soils; more frequently in the drier regions in Liberia; to 900 m alt. – A conspicuous feature of farm bushland.

ANDIRA / 1

A genus of 29 species in Tropical America; one species with disjunct area: New World tropics – Africa.

BRUMMITT, R. K. (2004). (1533). To amend the conservation of *Andira* Lam. and conserve a new type for it (Leguminosae-Caesalpinioideae). Proposed by R. T. Pennington in *Taxon* 51: 385-386 (2002). *Taxon* 53: 821-822 [acceptance recommended].

PENNINGTON, R. T. (2003). Monograph of *Andira* (Leguminosae-Papilionoideae). *Syst. Bot. Monogr.* 64: 1-143.

Andira inermis (Wright) DC.; *Bot. Mag.* 17: 188-194, 2000; Pennington (2003): 42 ff.

bas.: *Geoffraea inermis* Wright

syn.: *A. jamaicensis* Urban, nom. superfl.; *Geoffraea acutifolia* Stokes, nom. superfl.

Tree 7,5-10(-35) m; bole curved and with a somewhat columnar or pyramidal crown; branchlets with reddish-brown mostly spreading hairs at the tips, soon glabrescent, covered with closely arranged lenticels; panicle to 40 (-? 60) cm long. *Fleshy drupe* dispersed by vertebrates.

Riverine forest; rain-forest; woodland on grey clay with *Ficus sycomorus*, *Piliostigma thonningii*, *Lonchocarpus laxiflorus*; fine gravelly places; hollows; marigot edges; sands; scattered; rather rare; 700-1200 m alt.

West Indies, continental tropical America [dispersal by sea currents, fide S. Renner, *Int. J. Pl. Sci.* 165 (4 Suppl.): S23-S33, 2004].

Comprises 2 subsp. in Africa: – subsp. **inermis** [syn.: *A. grandiflora* Guill., Perr. & A. Rich.; *A. inermis* subsp. *grandiflora* (Guill., Perr. & A. Rich.) J. B. Gillett ex Polhill; *Lonchocarpus? staudtii* Harms]; – subsp. **roosevelti** (De Wild.) J. B. Gillett ex Polhill [bas.: *Millettia roosevelti* De Wild.; syn.: *Ostryoderris brownii* Hoyle]; – subsp. **glabricalyx** R. T. Pennington in Mexico.

SYNONYM:

Andira gabonica Baill. = **Aganope**

ANGYLOCALYX / 6

The ecology not recorded for one species.

Angylocalyx boutiqueanus Toussaint

Shrub 1-6 m tall, branched near the base; stem 5 cm Ø; flowers in racemes on the old wood.

Locally abundant in undergrowth; heterogenous rain-forest on firm ground; riparian forest along rapids with *Brachystegia laurentii*; ± 470-500 m alt.

A. braunii Harms

Straggling tree 6-10,5 m tall; racemes produced severally from knobs on the old wood, sometimes 1-2-branched.

Understorey of rain-forest; dry evergreen and riparian forest; to 800 m alt.

A. oligophyllus (Bak.) Bak. f.

bas.: *Sophora oligophylla* Bak.

syn.: *Angylocalyx ramiflorus* Taub.; *A. claessensii* De Wild.; *A. wellensii* De Wild.; *A. trifoliatus* Bak. f.

Shrub 1-2-10 m tall or small tree with a single main stem.

Vegetation with *Gossweilerodendron balsamiferum*, *Terminalia superba*; rain-forest; thickets of scrubland, secondary formations; 1-600 m alt.

Comprises 2 vars.

A. pynaertii De Wild.

syn.: *A. gossweileri* Bak. f.

Tree to 30-35 m, with a straight bole 8-17 m high, to 95 cm Ø; crown compact; racemes on old wood.

Forest on firm ground.

A. schumannianus Taub.

Shrub 3-5 m tall; racemes on old wood.

Ecology unknown.

Comprises 2 vars.

A. talbotii Bak. f. ex Hutch. & Dalziel

Shrub to 3 m tall; inflorescence cauliflorous.

Forest gaps and margins, in understorey; 170-180 m alt.

SYNONYMS:

Angylocalyx claessensii De Wild. = **Angylocalyx oligophyllus** var. **oligophyllus**

gossweileri Bak. f. = **A. pynaertii**

ramiflorus Taub. = **A. oligophyllus** var. **oligophyllus**

trifoliatus Bak. f. = **A. oligophyllus** var. **oligophyllus**

vermeulenii De Wild. = **A. schumannianus** var.

wellensii De Wild. = **A. oligophyllus** var. **oligophyllus**

zenkeri Harms, incl. var. *gossweileri* (Bak. f.) Pellegr.

= **A. pynaertii**

ANTHYLLIS / 1

NANNI, L. & al. (2004). Molecular phylogeny of *Anthyllis* spp. *Pl. Biol.* 6: 454-464.

Anthyllis vulneraria L. subsp. **abyssinica** (Sagorski) Cullen
bas.: *A. dillenii* "Unterrasse" *A. abyssinica* Sagorski

Annual or short-lived perennial herb, with stems often 20 cm or more high with indumentum in upper part usually appressed, sericeous; lower cauline leaves inequifoliate, with conspicuously long-ciliate margins; petals all purple; calyx 10,5-11 mm long.

Roadside rocks; ± 2500-3000 m alt.

The most southerly of the 30 or more subspecies of the complex.

ANTOPETITIA / 1

Antopetitia abyssinica A. Rich.

syn.: *Ornithopus coriandrinus* Fielding & Gardner; *Hormolotus johnstonii* Oliv., nom. nud.

Spreading or, less often, erect tap-rooted pubescent annual herb 15-120 cm tall.

Grassland; rocky outcrops; also as a weed in cultivations; roadsides; footpath; scrub; 1000-3400 m alt.

SYNONYM:

Antopetitia cancellata Hochst. = **Vermifruax abyssinica**

ARGYROLOBIUM / 15

Seeds unknown in one species.

EDWARDS, T. J. (2005). A synopsis of *Argyrolobium* (tribe Genisteae, Papilionoideae) in South Africa. *S. Afr. J. Bot.* 71: 380-417.

HARMS, H. (1909). Über Kleistogamie bei der Gattung *Argyrolobium*. *Ber. Deutsch. Bot. Ges.* 27: 85-96.

HARMS, H. (1917). Weitere Beobachtungen über Kleistogamie bei afrikanischen Arten der Gattung *Argyrolobium*. *Ibid.* 35: 175-186.

Argyrolobium aequinoctiale Welw. ex Bak., *excl. fa. elongatum* R. Wilczek (= **A. fischeri**).

syn.: *Tephrothamnus aequinoctialis* (Welw. ex Bak.) Hiern, nom. illegit.

Undershrub, erect, ramose 0,25-1,5 m tall, with a woody rootstock; stems and branches cylindrical, the young ones striate, tomentose to pubescent with yellow, gold-fulvous or greyish long hairs.

Savanna with *Hyparrhenia*; formation with *Andropogon*; clearing; hollow; granitic rocks; open wood near river; dry shortly-bushy pasture; 1550-3200 m alt.

Not in East Africa (= *A. fischeri*).

A. arabicum (Decne.) Jaub. & Spach

bas.: *Cytisus arabicus* Decne.

syn.: *Argyrolobium abyssinicum* Jaub. & Spach *fa. caespitosum* Lanza, *fa. diffusum* Lanza, var. *caespitosum* (Lanza) Fiori, and var. *diffusum* (Lanza) Fiori

ARGYROLOBIUM ARABICUM

Annual or short-lived perennial herb to 50 cm tall, spreading or ascending.

Rocky places; hillsides (incl. galb, kedia); weed of arable land and waste places; 850 (and less)-2700 m alt.

Algeria (Tassili n'ajjer, Hoggar); Egypt (Jebel Elba); Arabia, Yemen; Iran.

A. confertum Polhill

Perennial herb with numerous procumbent or ascending stems 10-15(-35) cm long; stems densely silvery tomentose.

Woodland; bushland; rocky grassland; hillsides; waste ground; 1100-2600 m alt.

Arabia.

A. eylesii Bak. f.

Erect bushy herb or suffrutex to 10-30 cm tall, from a woody taproot; stems slender; seeds unknown.

Rather local; serpentine; aluminium and chrome soils; 1000-1300 m alt.

A. fischeri Taub.

Woody bushy herb or subshrub 0,3-2 m tall, from a woody rootstock; stems rather stout at the base, densely covered with subappressed or spreading silvery or golden-brown hairs. Rather variable.

Margins of rain-forest; evergreen bushland; grassland with *Protea* and other grasslands subject to fires; woodland with *Brachystegia boehmii*, *Julbernardia globifera*; stream sides; clearings; 900-2400 m alt.

Closely allied to *A. frutescens* Burt Davy in NE S. Africa.

A. friesianum Harms

Bushy herb or shrub 0,7-2 m tall; branches thinly to densely covered with long weak spreading tawny hairs.

Clearings and margins of rain-forest; (1800-)2400-3000 m alt. Seems to replace *A. fischeri* at higher altitudes; much less variable than *A. fischeri*.

A. harveianum Oliv. ("harveyanum"). – Icon.: Hook. Ic. Pl. 16: tab. 1525, 1886; Edwards (2005): 409.

syn.: *A. uniflorum* Harv. 1862, non Jaub. & Spach 1843, nom. illegit.

Slender, erect, sub-simple, glabrescent or thinly appressed-puberulent herb, 25-45 cm tall; from a small tuberous rootstock or slender rhizome; stems 0,6-0,8 mm Ø.

Grassland, shrubland; ± 1980-2100 m alt.

S. Africa.

A. macrophyllum Harms, incl. var. *mendesii* Torre

Suffrutex with a number of erect simple or sparsely branched annual stems from a small woody rootstock, 60-80 cm tall; or in less exposed places a low spreading subshrub to 2-7 m tall; stems rather slender, subappressed pubescent, often with longer weakly spreading hairs interspersed.

Grassland; grassy places in *Brachystegia* woodland; 1000-2250 m alt.

ARGYROLOBIUM

A. ramosissimum Bak.

Perennial plant with numerous often rather woody spreading or ascending stems from a woody stock and (under favourable conditions) also from narrow spreading rhizomes, to 10-70 cm tall; stems slender, much branched, rather thinly spreading pilose, ultimately glabrescent.

Evergreen bushland; margins of rain-forest; 2000-3550 m alt. Variable.

A. rupestre (E. Mey.) Walp.; Edwards (2005): 404.

bas.: *Chasmone rupestre* E. Mey.

syn.: *Argyrolobium rhodesicum* Bak. f.; *A. tysonii* Harms; *A. rogersii* N. E. Br.; *Lotus nubicus* sensu Cufod., non Hochst. ex Bak. – Of subsp. **rupestre**.

Diffuse perennial herb with numerous prostrate, straggling and ascending or shortly erect stems, from a woody taproot or spreading rhizomes; stems mostly less than 1(-2) mm Ø at the base, to 10-40 cm long, sparsely to densely pilose.

Grassland; grassy clearings in rain-forest; miombo woodland; moor; rocky area with grassland and scattered, low ericaceous scrub, low subshrubs and herbs in rock crevices; sometimes quite common on scattered mountain peaks in Ethiopia.

S. Africa, Lesotho; Yemen.

Comprises 4 subspp. [incl. subsp. **remotum** (Hochst. ex A. Rich.) Polhill; syn.: *Genista anabaptizata* Briq.].

A. schimperianum Hochst. ex A. Rich.

Shrub with long woody branches, densely clothed with white- or brown-silky pubescence.

Bushland; grassland; 2100-3500 m alt.

Not in Sudan (= *Crotalaria atrorubens*).

A. stolzii Harms

Perennial herb with several laxly branched trailing and ascending stems from a woody taproot, to 25-75 cm tall; stems rather slender, spreading pilose.

Grassland; grassy places along rivers and marsh edges; 1200-2200 m alt.

Certain specimens from Malawi approaching *A. rupestre* subsp. *aberdaricum* (occurring in the same area).

A. tomentosum (Andrews) Druce – Icon.: Edwards (2005): 395.

bas.: *Cytisus tomentosus* Andrews

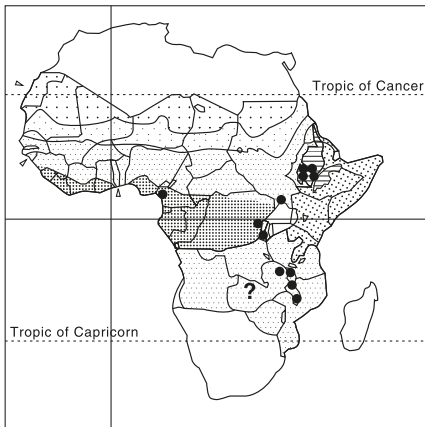
syn.: *Chasmone andrewsiana* E. Mey., nom. illegit., incl. var. *umbellata* E. Mey., nom. illegit.; *Argyrolobium andrewsianum* (E. Mey.) Steud., incl. var. *racemosum* Harv., nom. nud., and var. *pauciflorum* Harv., nom. nud., and var. *helvolum* Harv.; *Tephrothamnus tomentosus* (Andrews) Sweet

Bushy woody herb or subshrub to 0,7-2 m tall; stems to 7 mm Ø at base; branches thinly to densely appressed or spreading pubescent, ultimately glabrescent; with cleistogamous flowers.

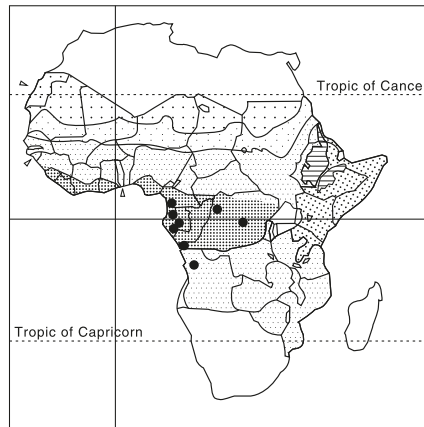
Brachystegia woodland on rocky slopes; gully forest; rarely growing in water; margins of rain-forest and riverine forest and swamps; evergreen bushland; grassland; roadsides; cultivated ground; 600-2400 m alt.

S. Africa.

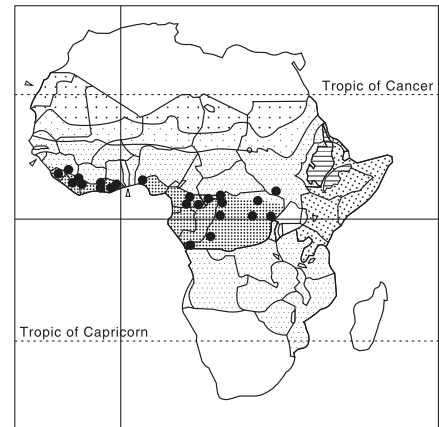
Not in Australia.



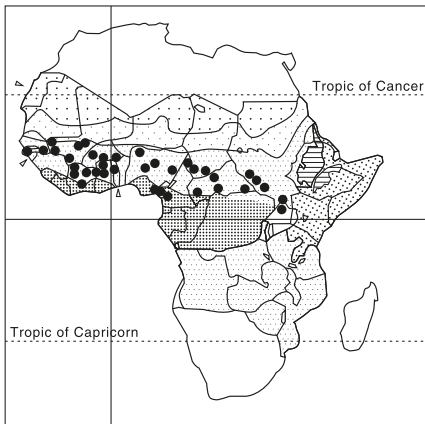
Amphicarpaea africana



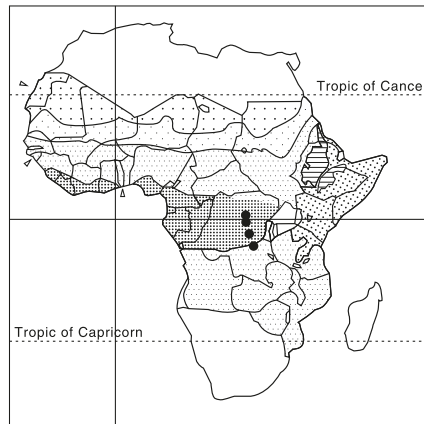
Amphimas ferrugineus



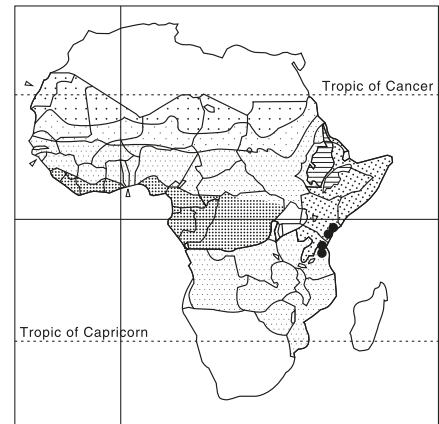
Amphimas pterocarpoides



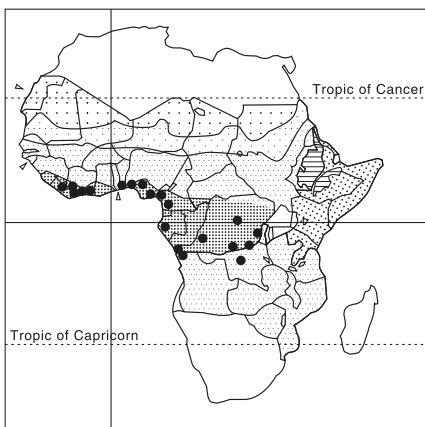
Andira inermis



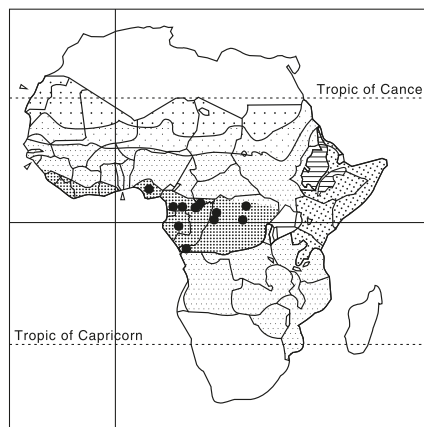
Angylocalyx boutiqueanus



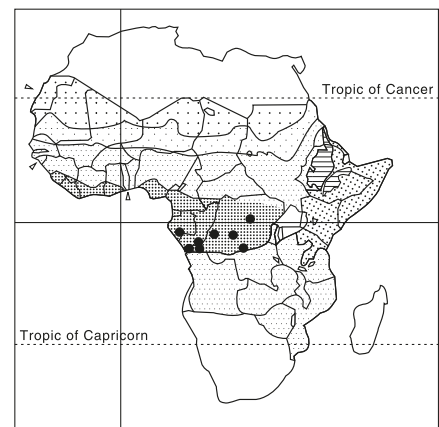
Angylocalyx braunii



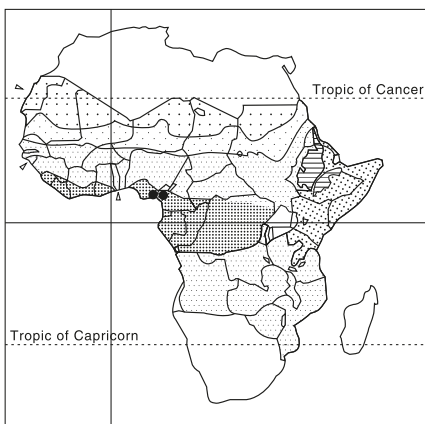
Angylocalyx oligophyllus



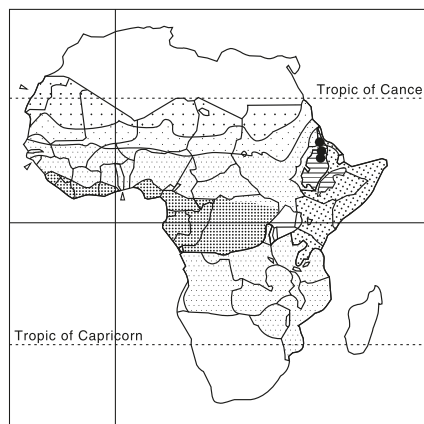
Angylocalyx pynaertii



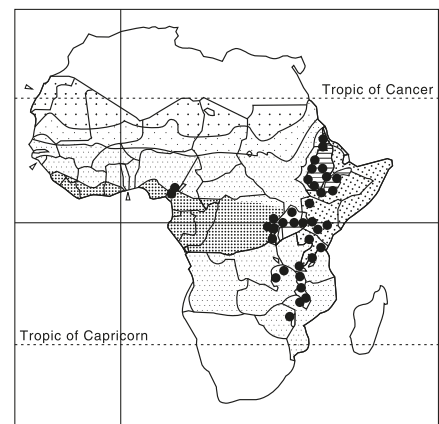
Angylocalyx schumannianus



Angylocalyx talbotii



Anthyllis vulneraria



Antopetitia abyssinica

ARGYROLOBIUM

A. tuberosum Eckl. & Zeyh.; Edwards (2005): 411-412.

syn.: *A. angustifolium* Eckl. & Zeyh.; *Chasmone tuberosa* (Eckl. & Zeyh.) Meissn.; *Argyrobium woodii* Dümmer; *A. lydenburgense* Harms; *A. glaucum* Schinz

Slender, unbranched or slightly branched, erect herb arising from a tuberous rootstock; stems few-branched, erect or ascending, 0,4-1,5 mm Ø, 3-angled near the top, glabrescent or minutely silky, 60-90 cm tall; sometimes straggling.

Sandy river banks; grassland; ± 1700 m alt.

S. Africa, Lesotho.

A. vaginiferum Harms

Bushy woody herb or subshrub, to 0,3-1 m tall; branches terete, sparsely to densely subappressed pubescent or pilose, sometimes with other long spreading hairs interspersed, usually glabrescent.

Margins of rain-forest and plantations; streamsides in rain-forest; 2000-2750 m alt.

SYNONYMS:

Argyrobium aberdaricum Harms = **Argyrobium rupestre** subsp.

abyssinicum Jaub. & Spach with forms and vars.
= **A. arabicum**

aequinociale Welw. ex Baker fa. *elongatum* R. Wilczek
= **A. fischeri**

aequinociale sensu auctt. = **A. fischeri**

andrewsianum (E. Mey.) Steud. = **A. tomentosum**

angustifolium Eckl. & Zeyh. = **A. tuberosum**

angustistipulatum De Wild. = **A. tomentosum**

bequaertii De Wild. = **A. fischeri**

buaricum Harms = **A. aequinociale**

deflexiflorum Baker = **Lotonis angolensis**

dekindtii Harms = **Argyrobium fischeri**

dorycnoides Bak. = **A. ramosissimum**

glaucum Schinz = **A. tuberosum**

"*harveyanum*" Drummond = **A. harveianum**

helenae Buscal. & Muschl. = **A. fischeri**

keniense Harms = **A. fischeri**

kilimandscharicum Taub. = **A. rupestre** subsp.

lejeunei R. Wilczek = **A. vaginiferum**

leucophyllum Baker = **A. fischeri**

lydenburgense Harms = **A. tuberosum**

mildbraedii Harms = **A. fischeri**

monticolum Bak. f. = **A. fischeri**

petitianum A. Rich. = **A. schimperianum**

reflexum N. E. Br. = **Dichilus**

remotum Hochst. ex A. Rich. = **Argyrobium rupestre** subsp.

rhodesicum Bak. f. = **A. rupestre** subsp. **rupestre**

rivae (Harms) Cufod. = **A. fischeri**

rogersii N. E. Br. = **A. rupestre** subsp. **rupestre**

rufopilosum De Wild. = **A. fischeri**

shirense Taub. = **A. tomentosum**

shirense Taub. var. *elgonense* Harms = **A. fischeri**

shirense sensu De Wild. = **A. fischeri**

ARGYROLOBIUM

stuhmannii Taub. = **A. tomentosum**

tysonii Harms = **A. rupestre** subsp. **rupestre**

uniflorum Harv. = **A. harveianum**

uniflorum sensu auctt., non (Decne.) Jaub. & Spach, nec Harv. = **A. ? confertum**

virgatum Bak. = **A. rupestre** subsp. **remotum**

virgatum sensu auctt., non Bak. = **A. rupestre** subsp. **aberdaricum**

woodii Dümmer = **A. tuberosum**

(ARTHROCARPUM)

Arthrocarpum somalense Hillcoat & J. B. Gillett
= **Chapmannia**

ASTRAGALUS / 9

Astragalus, excl. subgen. *Tragacantha* (= *Astracantha* with 214 species), is the largest genus of Angiosperms on earth with ± 2743 species (or 2000, or 1500 species according to various sources), distributed around the N hemisphere and S. America. Particularly rich in temperate Asia. Closely related genera occur in Australia (*Swainsonia* with 54 species) and in S. Africa (*Lessertia* with 37 species). – *Oxytropis* is closely related, only differing in the presence of a beak on the keel of the corolla (with ± 300 species in the cold mountainous regions of Europe, Asia and N. America).

* * *

KAZEMPOUR OSALOO, S. & al. (2003). Molecular systematics of the genus *Astragalus* L. (Fabaceae): Phylogenetic analyses of nuclear ribosomal DNA internal transcribed spacers and chloroplast gene *ndhF* sequences. *Pl. Syst. Evol.* 242: 1-32 [with description of genus *Podlechiella* Maassoumi & Kazempour Osaloo comprising one species, *P. vogelii*, with 2 subspecies].

MAASSOUMI, A. A. (1998). *Astragalus in the Old World: Check-List*. Research Institute of Forests and Rangelands, Ministry of Jihad-e Sazandgi, Islamic Republic of Iran. 617 pp.

Astragalus akkensis Coss., incl. subsp. *occidentalis* Quézel & Santa, nom. inval. and subsp. *uzzararum* (Maire) Quézel & Santa, comb. inval., and var. "*eu-akkensis*" Maire, var. *integrifolius* Maire, var. *intermedius* Maire, var. *maurorum* (Murb.) Maire, var. *pinoyi* Maire, var. *uzzararum* Maire, var. *ceardii* Maire Caespitose, perennial herb, often multi-stemmed; stems 6-35 cm tall, erect, thick, woody at the base, with subsistent petioles. Sandy wadis and regs; rather rare.

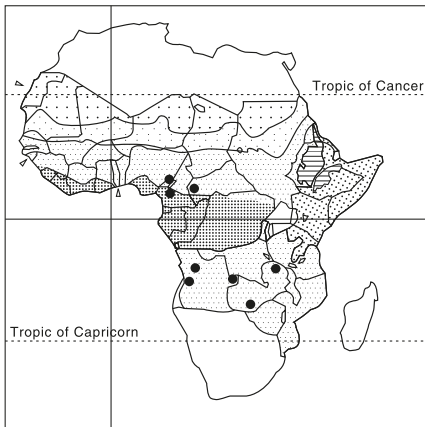
Morocco, Algeria (to 1400-2100 m in the Hoggar), Libya (Wilde-
nowia 9: 246, 1979).

A member of the *A. gombo* aggr.; in need of revision.

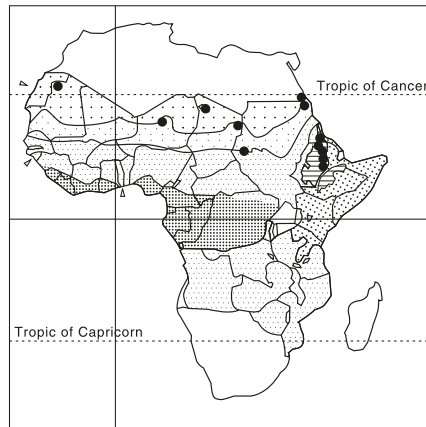
A. atropilosulus (Hochst.) Bunge (for complete synonymy see Mitt. Bot. Staatssamml. München 30: 33-34, 1991, and Fl. Zambes. 3/7: 20, 2003).

bas.: *Diplothea atropilosula* Hochst.

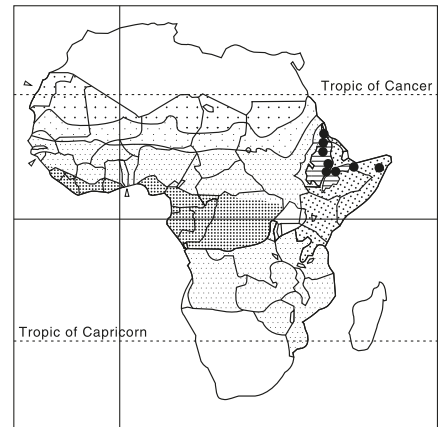
Perennial, or perhaps sometimes biennial herb or subshrub 0,5-1(-2) m tall; stems often numerous, erect or ascending, 1,5-12 mm Ø, glabrous to densely white-hairy; rootstock thick, to 2 cm Ø.



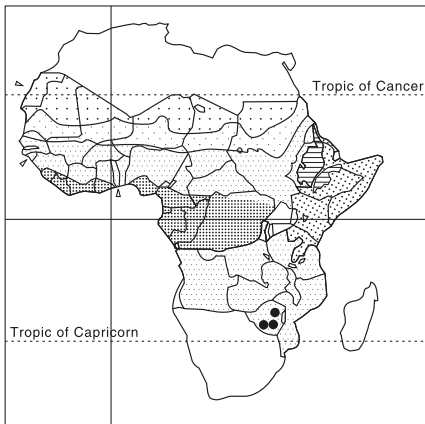
Argyrolobium aequinoctiale



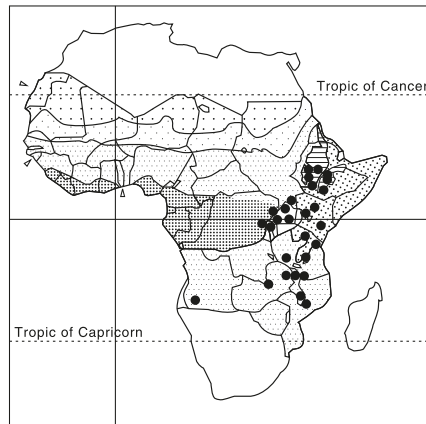
Argyrolobium arabicum



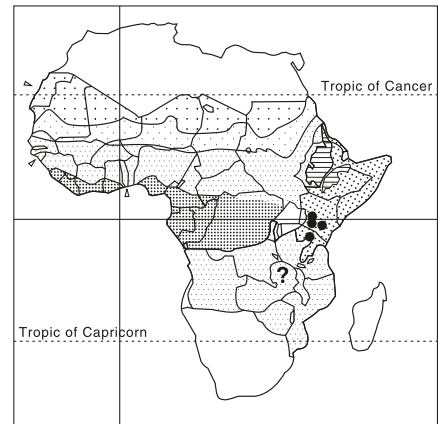
Argyrolobium confertum



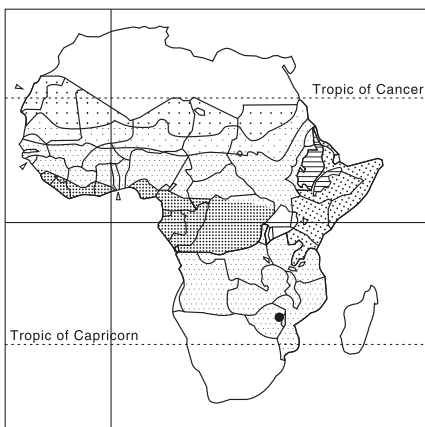
Argyrolobium eylesii



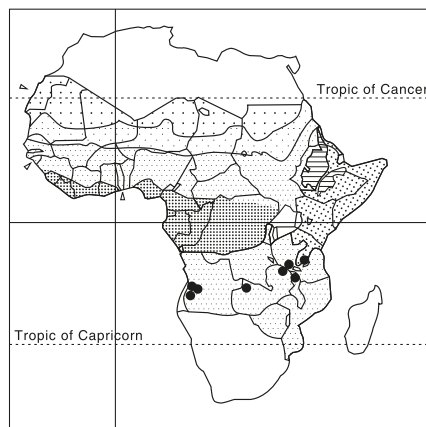
Argyrolobium fischeri



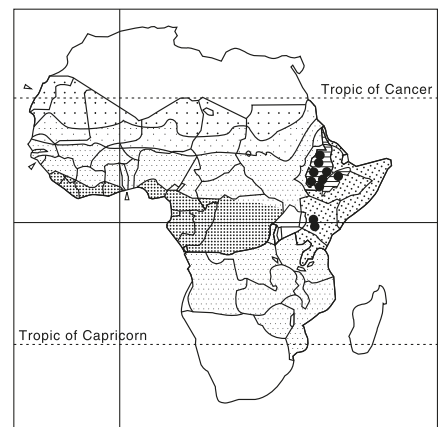
Argyrolobium friesianum



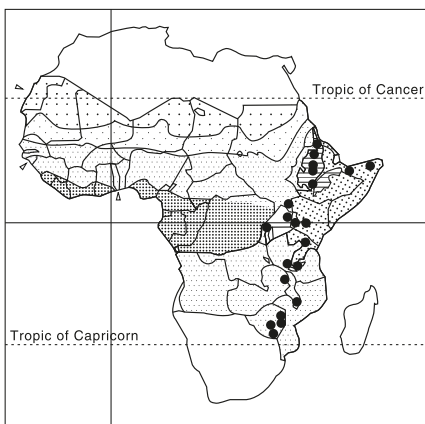
Argyrolobium harveianum



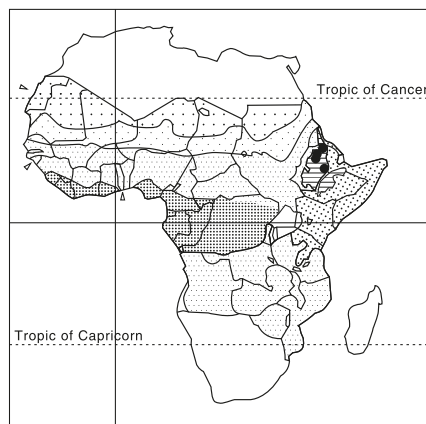
Argyrolobium macrophyllum



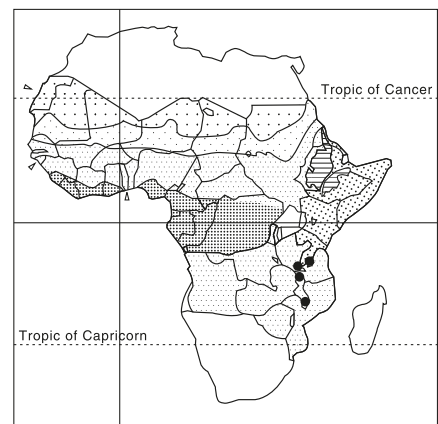
Argyrolobium ramosissimum



Argyrolobium rupestre



Argyrolobium schimperianum



Argyrolobium stolzii

ASTRAGALUS ATROPILOSULUS

Grassland, especially where disturbed; abandoned cultivations; forest and thicket margins; grassy river-banks; more open part of bamboo-forest; scrub; rocky places; *Loudetia arundinacea* grassland with scattered trees; sometimes on termite mounds; roadsides; 900-3900 m alt.

S. Africa; Yemen, Arabia.

Following J. Weninger (Mitt. Bot. Staatssaml. München 30: 30 ff., 1991) the species consists of 2 subspp. (4 with several vars. listed in our Enum. 2: 64-65, 1992). In the Fl. Zambes. Area (Fl. Z. 3/7: 19 ff., 2003) this seems the best solution as the morphological variation is continuous between varieties. – Subsp. **atropilosulus**, incl. var. *mooneyi* J. B. Gillett (in Ethiopia); subsp. **abyssinicus** (Hochst.) J. B. Gillett [with synonyms cited in Enum. 2, l.c. under the other infraspecific taxa; to add: *Tragacantha abyssinica* (Hochst.) O. Kuntze; *Diplothea tigrensis* Hochst.; *Astragalus venosus* (Hochst.) A. Rich.; *Tragacantha venosa* (Hochst.) O. Kuntze; *T. burkeana* (Benth. ex Harvey) O. Kuntze; *Lessertia stipulata* Bak. f.; *A. burkeanus* Benth. ex Harvey var. *randii* Bak. f.].

Not in Somalia.

A. crenatus Schultes; Podlech, Sendtnera 2: 67, 1994.

syn.: *A. corrugatus* Bertol. with var. *tenuirugis* (Boiss.) Coss. & Kralik and subsp. *tenuirugis* (Boiss.) Eig and var. *brevipes* Post, and var. *brevipedunculatus* Parsa; *Tragacantha corrugata* (Bertol.) Kuntze; *Astragalus cruciatus* Link, incl. var. *garamantum* Maire; *A. cruentus* Balbis; *A. quadrisulcatus* Bunge and var. *glaber* Bornm.; *Tragacantha quadrisulcata* (Bunge) Kuntze; *A. tenuirugis* Boiss.; *Tragacantha tenuirugis* (Boiss.) Kuntze

Annual herb, ramose from the base, with white and also with black hairs, rarely glabrous; stems several 0,5-20(-65) cm tall, prostrate to ascending rarely erect.

Association with *Astragalus eremophilus*, *Bidens pilosa* on mountain slopes or in crater (muddy-sandy hollows); 2050-2750 m alt.

Morocco, Algeria, Tunisia, Libya, Egypt; Arabia, Israel, Jordan, Syria, Iraq, Turkey, Azerbaidjan, Turkmenistan, Uzbekistan, Iran, Afghanistan, Pakistan.

A. eremophilus Boiss. [incl. var. *falcinellus* (Boiss.) Širj. and var. *astacurus* Maire] subsp. **eremophilus**; Podlech, Sendtnera 2: 72, 1994.

syn.: *Tragacantha eremophila* (Boiss.) Kuntze; *Astragalus falcinellus* Boiss.; *Tragacantha falcinella* (Boiss.) Kuntze; *Astragalus arabicus* Kotschy; *A. chudaei* Batt. & Trab.; *A. geniorum* Maire; *A. schimperii* sensu Cufod. Enum.: 289, 1955, non Boiss.

Annual herb, ramose from the base with white hairs, rarely glabrous (named *A. geniorum*); stems 3-20(-50) cm long, prostrate or ascending.

Sandy wadis; sandy regs; sandy hollows in hamada with *Acacia seyal* s.l., *Panicum turgidum*; sandy places; association with *Astragalus eremophilus*, *Bidens pilosa* (vide *A. crenatus*); near sea-level- 2750 m alt.

Morocco, Algeria, Libya, Egypt; Arabia, Israel, Iran, Pakistan. – Subsp. **makranicus** in Iran, Pakistan.

A. mareoticus Del.; Podlech, Sendtnera 2: 80, 1994.

syn.: *Tragacantha mareotica* (Del.) Kuntze; *Astragalus mareoticus* var. *typicus* Širj. and var. *handiensis* Bolle, and subsp. *handiensis* (Bolle) Kunkel

ASTRAGALUS MAREOTICUS

Annual herb branched from the base, with white and also black hairs; stem 10-35 cm tall, prostrate to ascending.

Sandy and muddy soils; garden (in desert, semi-desert and steppe area).

Canary Isl. (Fuerteventura); Morocco, Algeria, Libya, Egypt; Arabia.

A. solandri Lowe, incl. var. *bubaloceras* (Maire) Emb. & Maire (incl. subvar. *pilosus* Sauvage) and var. *maroccanus* Širj., and subsp. *pseudohamosus* Širj.; Podlech, Sendtnera 2: 105, 1994. syn.: *A. bubaloceras* Maire

Annual herb often ramose from the base with white hairs (also black hairs in the inflorescence); stem 5-45 cm tall, prostrate to ascending.

Sands; clayey-sandy grara with *Euphorbia balsamifera*, *E. echinus*.

Canary Isl.; Madeira; Morocco.

A. stella Gouan, incl. var. *acutifolius* DC.; Gazer, Sendtnera 1: 131, 1993.

syn.: *Tragacantha stella* (Gouan) O. Kuntze; *Astragalus arenicola* Pomel; *A. sesameus* var. *ambiguus* Rouy; *A. ambiguus* (Rouy) Sennen; *A. cruciatus* var. *polyactinus* Hochr. and var. *algeriensis* Širj. and var. *canariensis* Širj.; *A. tribuloides* Del. var. *medians* Maire; *A. polyactinus* Boiss., nom. invalid.; *A. stellatus* Lam., nom. illegit.; *Tragacantha acutifolia* (DC.) O. Kuntze

Annual herb, branched at the base or not, covered with white hairs and also black hairs; stems 4-36(-50) cm long, procumbent to ascending, finely sulcate.

Ecology unknown in Western Sahara (all kinds of soil under Mediterranean and semidesert conditions); 30 m (to 2050 m in the Hoggar).

Rather variable in shape, length and number of fruits within one inflorescence.

France, Portugal, Spain; Canary Isl.; Morocco, Algeria, Tunisia, Libya, Egypt.

[A. tribuloides Del., incl. var. *minutus* (Boiss.) Boiss. and var. *paucijugus* Bornm. and var. *leiocarpus* Boiss. and many others (vide Gazer)]; Gazer, Sendtnera 1: 139, 1993.

syn.: *Oxyglottis tribuloides* (Del.) Nevski; *Astragalus minutus* Boiss.; *A. ammocryptus* Boiss.; *A. erpocaulos* Boiss.; *A. perpusillus* Bertol.

Annual herb branched at the base, covered with white hairs, rarely nearly glabrous; stems from nearly absent to 40 cm long, prostrate to ascending.

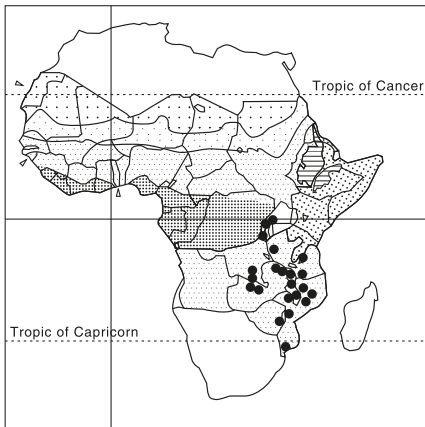
Clayey grara with *Euphorbia balsamifera*, *E. echinus*.

The presence of this species in Western Sahara is doubtful; the nearest locality is in Egypt; possible confusion with *A. stella*, or introduced as a weed. – Not mapped.

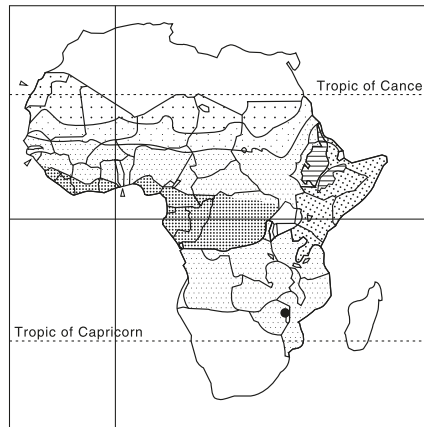
A. trigonus DC., incl. var. *franchii* (Trotter) Maire & Weiller

syn.: *Tragacantha trigona* (DC.) Kuntze; *Astragalus franchii* Trotter; *A. leucacanthus* Boiss.; *Tragacantha leucacantha* (Boiss.) Kuntze; *A. pseudotrigonus* Batt. & Trab.

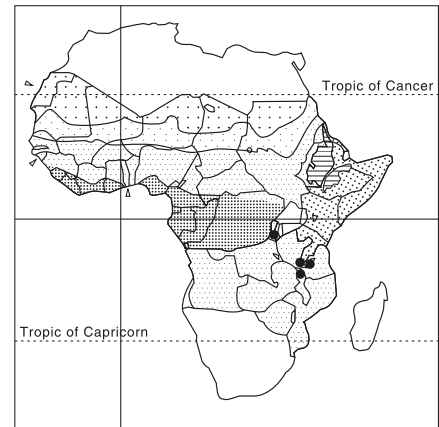
Subshrub or herb, spiny, branched from the base, or erect, 5-50 cm tall, densely leafy, often with many stems, 2-5 mm Ø, stout, yellow to dark brown, appearing greyish-white because of the indumentum, rarely ribbed.



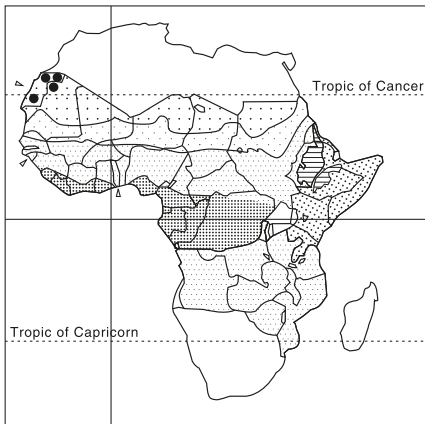
Argyrolobium tomentosum



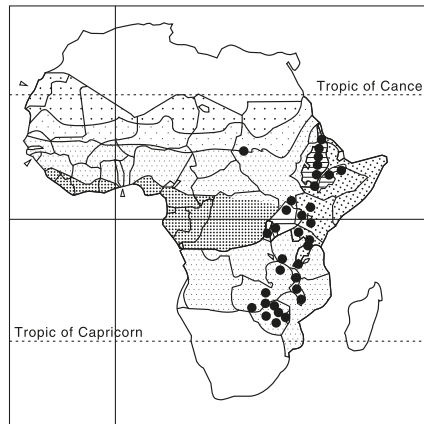
Argyrolobium tuberosum



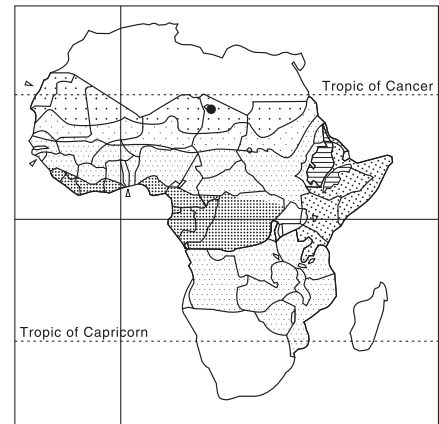
Argyrolobium vaginiferum



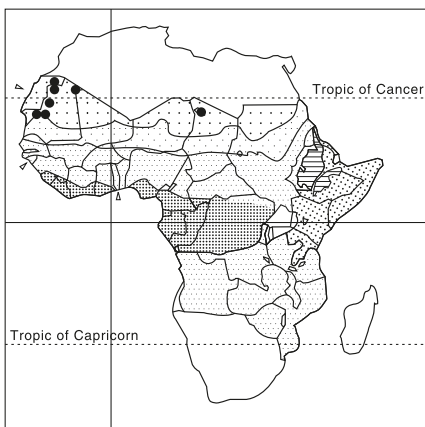
Astragalus akkensis



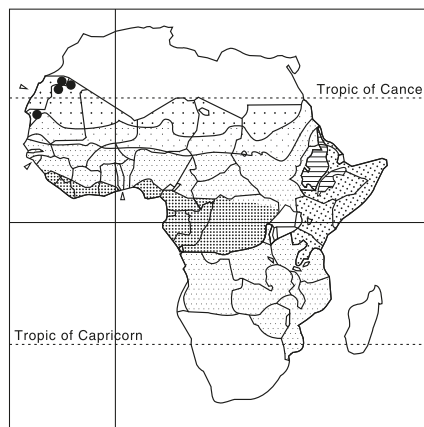
Astragalus atropilosulus



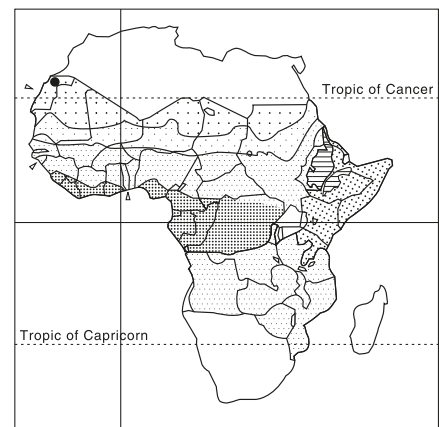
Astragalus crenatus



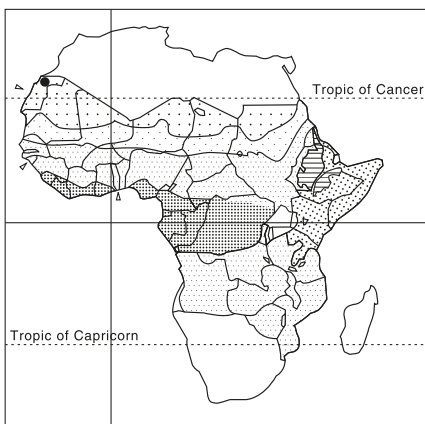
Astragalus eremophilus



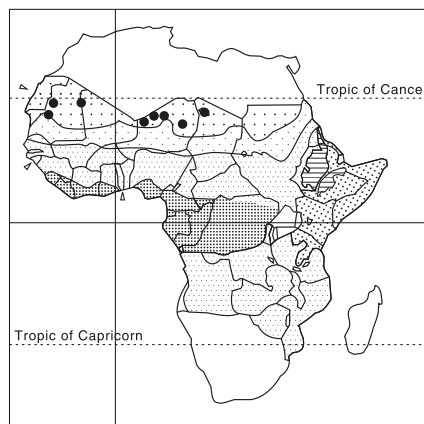
Astragalus mareoticus



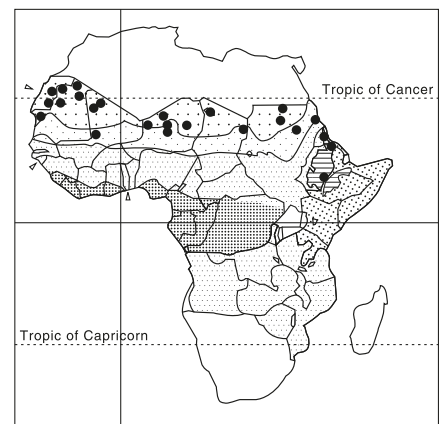
Astragalus solandri



Astragalus stella



Astragalus trigonus



Astragalus vogelii

ASTRAGALUS TRIGONUS

Ecology unknown in Tibesti (Chad); overgrazed area around gardens (S Bilma, Niger); wadi zones; sand; 1850-1900 m alt. Morocco, Algeria, Libya, Egypt; Israel, Syria.

A. vogelii (Webb) Bornm.; Kazempour Osaloo & al., l.c.

bas.: *Phaca vogelii* Webb

syn.: *Tragacantha prolixa* (Bunge) O. Kuntze; *Astragalus prolixus* Bunge; *A. gautieri* Batt. & Trab.; *A. vogelii* subsp. *prolixus* (Bunge) Maire, nom. illegit., incl. var. “*eu-prolixus*” Maire fa. *melanocephalus* Maire and var. *brevipedunculatus* Maire; *Podlechiella vogelii* (Webb) Maassoumi & Kazempour Osaloo, Pl. Syst. Evol. 242: 22, 2003.

Annual sprawling herb with several to many prostrate or ascending, straight or flexuous stems, 10-40 cm tall; much-branched, loosely to densely clothed with medifixed white hairs.

Muddy soils; thin light soils; sands; volcanic tuff humid in depth with very short (2-3 cm high) grass; association with *Aristida coerulescens*, *Linaria sagittata* var. *linearifolia* on stony, rocky or eroded soils; association with *Astragalus eremophilus*, *Bidens pilosa*; woodland; bushland; to 1500-2050- more than 3000 m in Tibesti (Chad).

Cape Verde Isl.; Algeria, Libya, Egypt; Saudi Arabia, Yemen, Oman, Iran, Pakistan, India.

Comprises 2 subspp.: – subsp. **vogelii**; subsp. **fatmensis** (Hochst. ex Chiov.) Maire (*fatmensis*) [bas.: *A. fatmensis* Hochst. ex Chiov.; syn.: *A. arabicus* Bunge 1868, non Kotschy 1866; *Podlechiella vogelii* subsp. *fatmensis* (Hochst. ex Chiov.) Maassoumi & Kazempour Osaloo (“*fatmensis*”), l.c.; Enum. 2: 65, 1992].

SYNONYMS:

See under the above-mentioned species, and Enum. 2: 64-65, 1992.

BAKEROPHYTON / 3

Bakerophyton lateritium (Harms) Hutch. ex Maheshw.

Slender much-branched annual herb, prostrate or like a liane, 30-100 cm long, woody at the base, *Phyllanthus*-like; branchlets, petioles, rachis of leaves, inflorescence-axis, and pedicels with erect, yellowish hairs; stems wiry.

Wooded savanna; savanna with *Hyparrhenia*; roadsides; cultivations; often on humid, sandy soil; rock crevices.

B. neglectum (Hepper) Maheshw.

Very slender annual herb, almost glabrous or slightly setose, 40-60 cm tall, ± prostrate.

Wet places; rocks and plains; sometimes in masses.

B. pulchellum (Planch. ex Bak.) Maheshw.

syn.: *Aeschynomene saxicola* Taub.

Copiously branched shrub ± 30 cm tall with very slender but tough and woody glabrous or slightly viscous bright chestnut-brown terete branches; from a woody rootstock.

Laterite; bare rocky slope; lateritic fine gravel; savanna after fire; to 1100-1250 m alt.

BAPHIA / 46

Many species incompletely known: 9 species without pod and further 2 without mature pod (together = c. 26 %); 15 species (= c. 35 %) without seeds; 2 species (= c. 4 %) known only from the type collection. In addition, for one subspecies (of *B. incerta*) no pod and no seeds are recorded.

Baphia abyssinica Brummitt

Tree 4-30 m, with rounded crown.

Dominant tree in hanging forest; fringing forest with *Mimusops*; sometimes forming pure woodland in rocky gorge; river bank; 2nd storey in rain-forest; often left as a specimen in clearings; 500-1400 m alt.

B. angolensis Welw. ex Bak.

Shrub 1,8-3 m tall or tree 4,5-18 m, with slender, terete, glabrous, spreading branches; branchlets very slender, always ± nodding; mature fruit and seeds unknown.

High forest; 0-400 m alt.

B. aurivellera Taub.

Subshrub or shrub to 2 m tall; branchlets densely brown or yellowish brown tomentose to densely pubescent.

Dry forest; clearings; 800-1230 m alt.

B. bequaertii De Wild., non *Baphiastrum bequaertii* De Wild. (= **Baphia pilosa**).

syn.: *B. ringoetii* De Wild.

Much-branched shrub or tree 3-10 m tall; trunk to 25 cm Ø; branches erect, densely greyish brown or yellowish brown tomentose; mature branches glabrescent.

Brachystegia, *Cryptosepalum*, *Julbernardia*, *Isoberlinia* woodland (miombo); chipya woodland; open forest; 1200-1800 m alt.

B. bergeri De Wild.

Sarmentous shrub or tree to 6-8 m tall; trunk to 10 cm Ø; branchlets ferruginous brown tomentose, lenticellate; seeds unknown.

Rain-forest with *Gilbertiodendron dewevrei*; 450-920 m alt.

B. brachybotrys Harms

syn.: *B. sublucida* De Wild.

Shrub to 3 m tall; branchlets densely brown tomentose or puberulous, finally glabrescent; pod and seeds unknown.

Coastal forest; open areas in high forest; 0-600 m alt.

B. breteleariana Soladoye

Tree to ± 6 m; branchlets glabrous; seeds unknown.

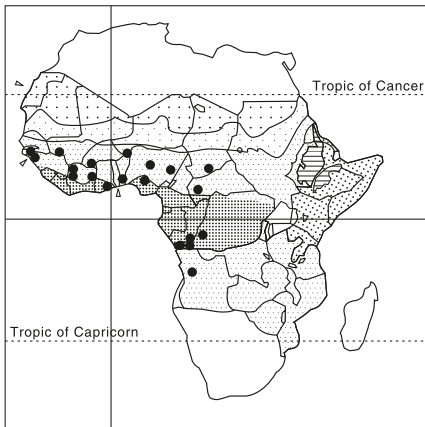
High forest especially in coastal region; 0-600 m alt.

B. buettneri Harms

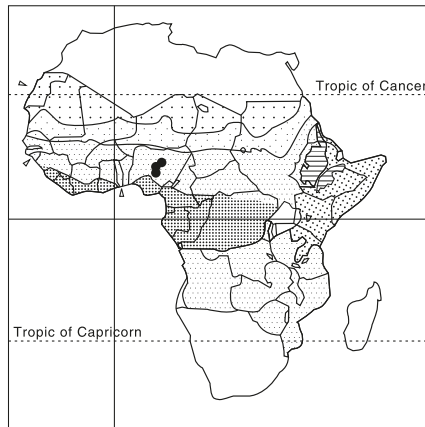
Shrub or tree to 20 m tall; branchlets glabrous or yellowish brown puberulous; pod and seeds unknown.

High forest; 0-400 m alt.

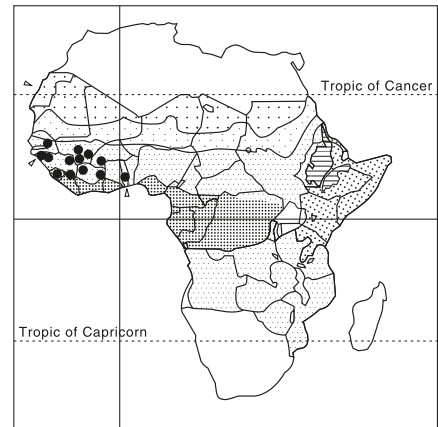
Comprises 2 subspp.



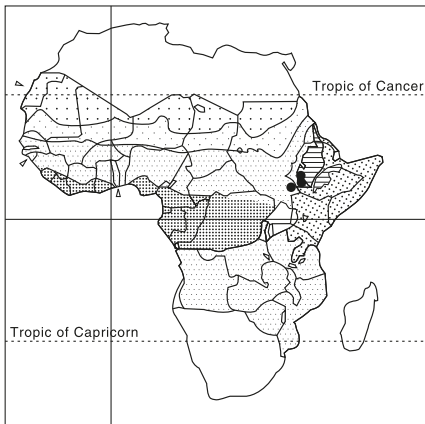
Bakerophyton lateritium



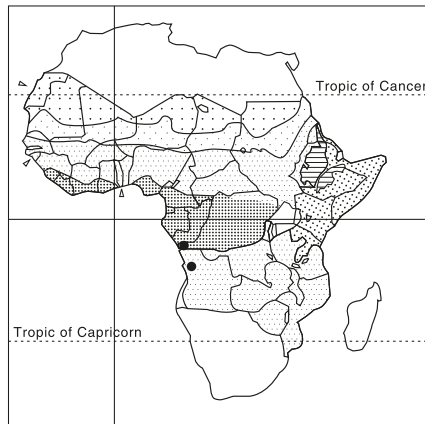
Bakerophyton neglectum



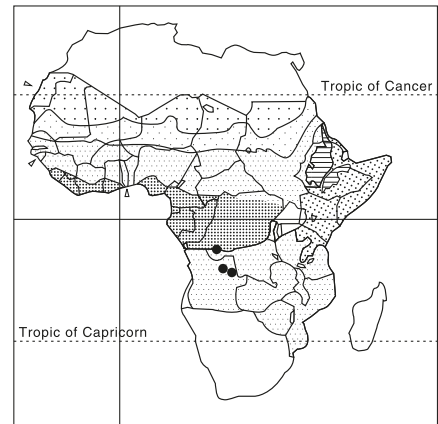
Bakerophyton pulchellum



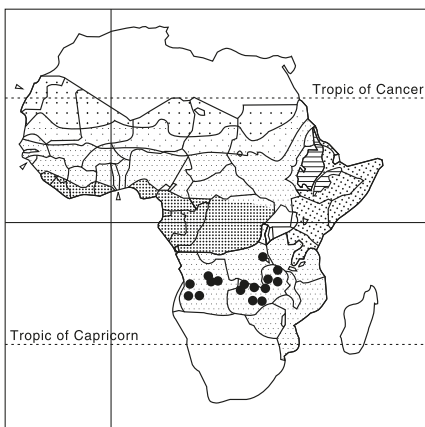
Baphia abyssinica



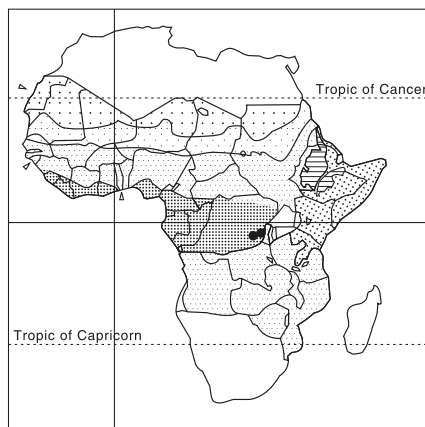
Baphia angolensis



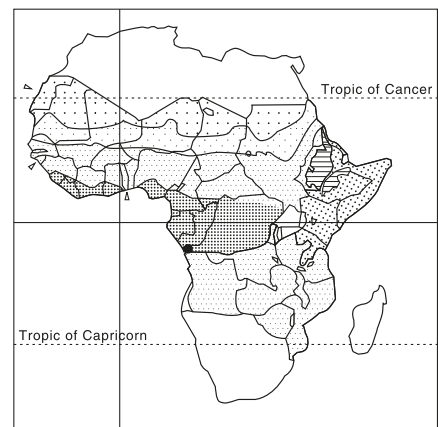
Baphia aurivellera



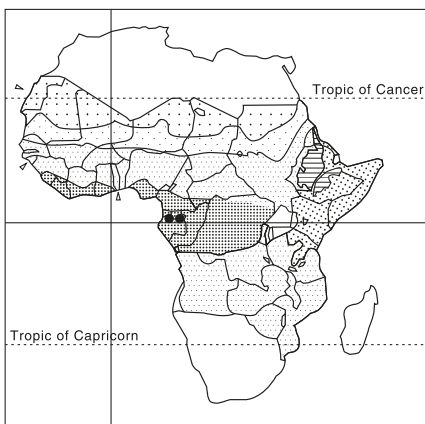
Baphia bequaertii



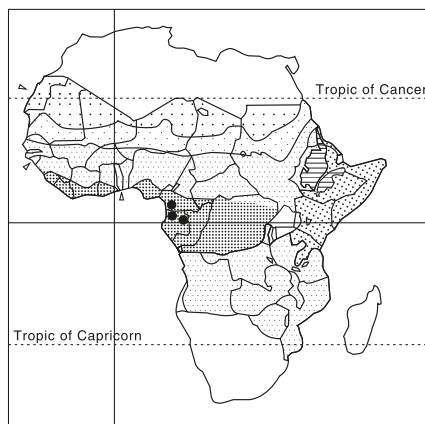
Baphia bergeri



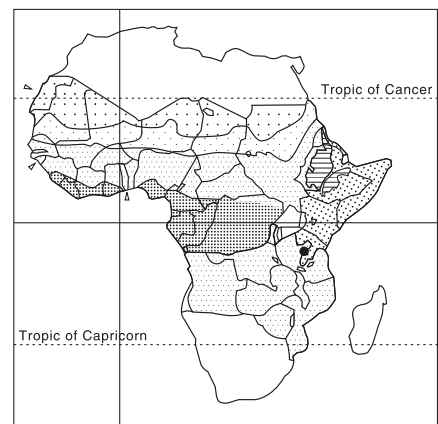
Baphia brachybotrys



Baphia breteleriana



Baphia buettneri



Baphia burttii

BAPHIA

B. burtii Bak. f.

Much-branched shrub 3-5 m tall, with an erect stem spreading only near the apex; branchlets yellowish brown pubescent but soon glabrescent; seeds unknown.

Locally co-dominant and growing side by side with *B. massaiensis* in thickets on brown sandy loam; 100-1600 m alt.

B. capparidifolia Bak. (in mainland Africa).

Scrambling or climbing shrub or liane to 4(-6) m tall; branchlets sparsely yellowish or rusty brown appressed pubescent to densely spreading tomentose.

Gallery forest; thickets; rocky ground; forest; savanna; secondary forest, especially along edges of plantations and roads; 0-1650 m alt.

Very variable.

Madagascar (subsp. **capparidifolia**).

In our area, comprises 3 subsp.: – subsp. **bangweolensis** (R. E. Fries) Brummitt (syn.: *B. giorgii* De Wild.); – subsp. **multiflora** (Harms) Brummitt (syn.: *B. zenkeri* Taub.; *B. pynaertii* De Wild.; *B. albido-lenticellata* De Wild.; *B. goossensii* De Wild. s. str.); – subsp. **polygalacea** Brummitt (syn.: *Carpolobia dubia* G. Don, non *Baphia dubia* De Wild.; *Bracteolaria polygalacea* Hook. f., nom. illegit.; *Baphia leptobotrys* Harms var. *nigerica* Bak. f.).

B. chrysophylla Taub.

syn.: *B. gillettii* De Wild. (of subsp. **chrysophylla**).

Shrub or tree to 6,5 m tall; branchlets golden brown pubescent; mature branches conspicuously lenticellate; pod and seeds unknown.

Savanna and transitional zone between forest and savanna; 300-800 m alt.

Comprises 2 subsp. (but boundaries between them are not entirely clear).

B. cordifolia Harms

Shrub or tree to 10-14 m tall; branchlets yellowish brown tomentose; seeds unknown. With unusual winged pods; axillary vegetative buds to 1,2 cm long.

Deciduous woodland and thicket, especially by river courses drying up for part of the year; ? 50-1300 or 500-900 m alt.

B. cuspidata Taub.

Large slender liane with ferruginous brown tomentose branchlets, later glabrescent and conspicuously lenticellate; leaves ovate, glabrous, with length of leaf acumen variable; pod and seeds unknown.

High forest; coastal; 0-400 m alt.

B. cymosa Breteler – Icon.: Novon 4: 84, 1994.

Treelet 3-4 m tall; branches rather soon longitudinally fissured; branchlets densely brown-tomentose; fruit and seeds unknown.

Rain-forest.

Only known from the type collected in 1986.

Arrangement of the flowers in *cymes*, and not in fascicles, racemes, pseudo-racemes, the normal situation in the genus.

BAPHIA

B. dewevrei De Wild., incl. var. *fluminea* Vermeesen, but *excl.* var. *inequalis* Vermeesen (= **B. incerta**).

syn.: *B. nannanii* Bak. f. ex Lester-Garl.; *B. ovato-acuminata* De Wild.

Shrub or tree to 25 m tall; branchlets ferruginous brown tomentose or glabrous.

Swampy- or periodically flooded forests.

B. dewildeana Soladoye

Tree to 8 m tall; branchlets glabrous or rarely rusty brown tomentose; pod and seeds unknown.

High forest and margins; 0-600 m alt.

B. dubia De Wild.

syn.: *B. goossensii* De Wild. var. *grandifolia* De Wild.

Erect shrub or tree to 10 m tall; branchlets drooping, glabrous to sparsely hairy, not lenticellate.

Rain-forest; 500-1350 m alt.

B. eriocalyx Harms

Scrambling shrub or liane; branchlets densely greyish white, rarely rusty brown pubescent; pod and seeds unknown.

High forest; riverine areas in dry forest; 0-700 m alt.

B. gossweileri Bak. f.; Consp. Fl. Angol. 3: 379, 1966, *excl.* specim. Gossweiler 8940 (= *B. letestui*).

Xerophytic, evergreen shrub 3-5 m tall; branchlets densely ferruginous brown pubescent.

Sandy hills; gregarious; 50-400 m alt.

B. heudelotiana Baillon

Erect shrub or tree 3,5-6 m tall; branchlets drooping, yellowish brown tomentose, not lenticellate; seeds unknown. Flower-buds deflexed ± at right-angle on the pedicel.

Dry stony places in river bed; among rocks in dry savanna area.

B. incerta De Wild.

syn.: *B. vermoesensii* De Wild.; *B. dewevrei* De Wild. var. *inequalis* Vermeesen

Shrub or tree to 8 m tall; branchlets densely or sparsely hairy.

Dry forests; transition zone between forest and savanna; 300-1350 m alt.

Comprises 2 subsp. [pod and seeds unknown in subsp. **lebrunii** (Toussaint) Soladoye].

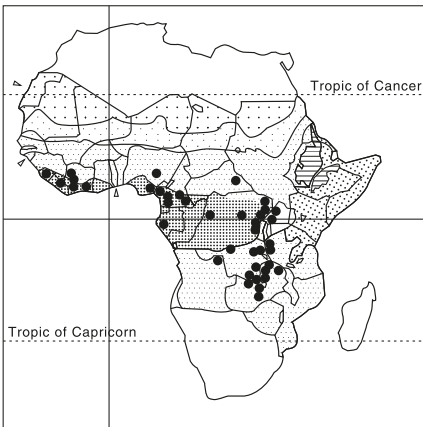
B. kirkii Bak., *excl.* subsp. *ovata* (Sim) Soladoye (= *B. ovata*).

syn.: *Millettia pyrifolia* Vatke, non *Delaria pyrifolia* Desv. [= *Baphia pyrifolia* (Desv.) Baill., nom. illegit. = **B. nitida**].

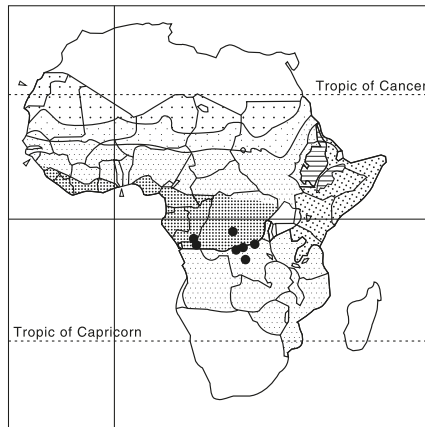
Much-branched round-topped tree to 27 m; branchlets pendulous, ferruginous brown tomentose, to glabrescent.

Dry evergreen- and riverine forests; coastal bushland, thickets, forest and savanna; 0-400(-900) m alt.

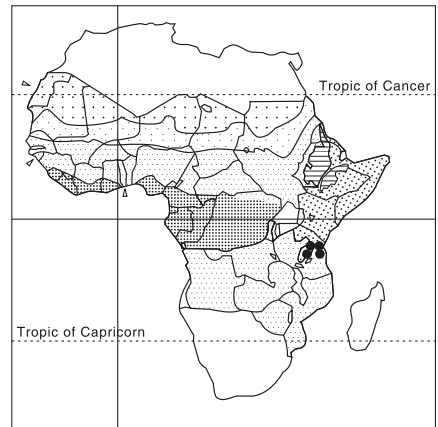
Also cultivated in East Africa.



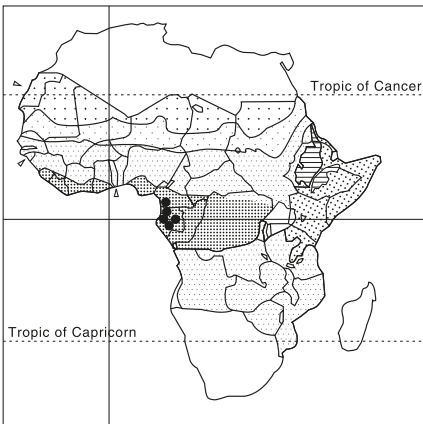
Baphia cappariifolia



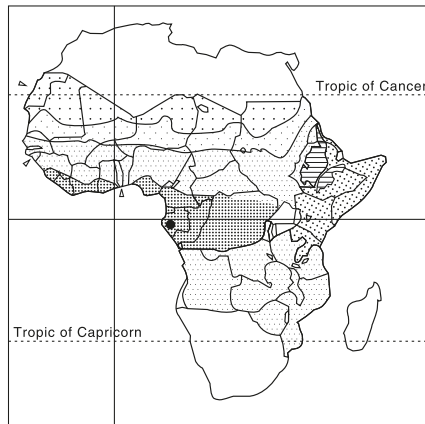
Baphia chrysophylla



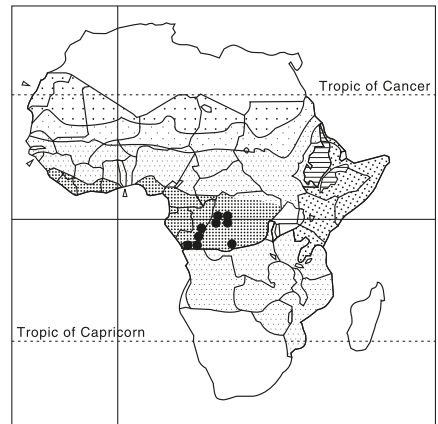
Baphia cordifolia



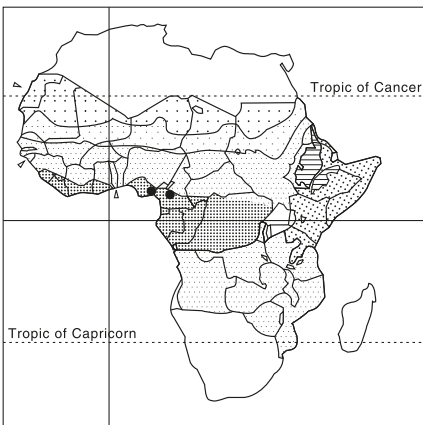
Baphia cuspidata



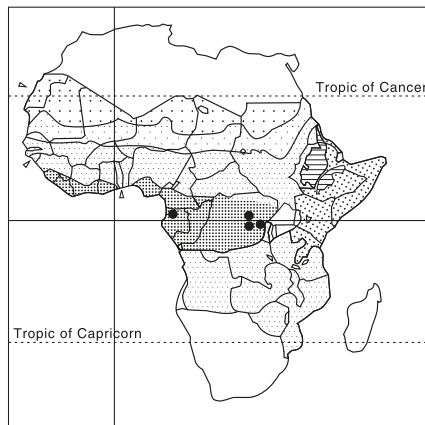
Baphia cymosa



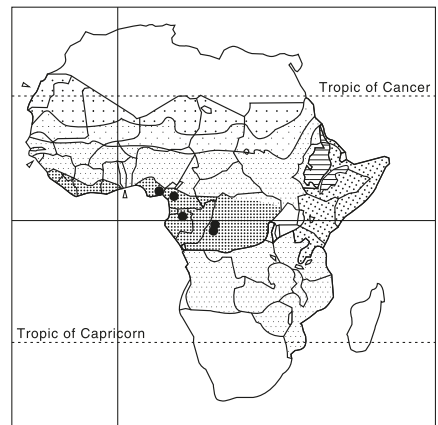
Baphia dewevrei



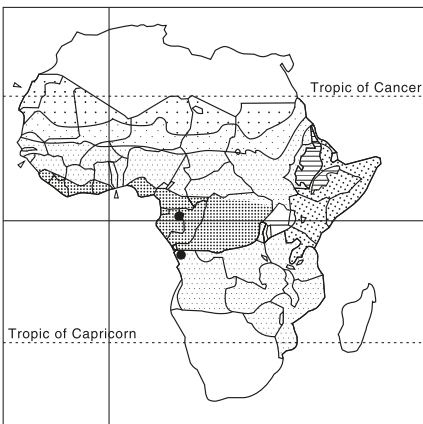
Baphia dewildeana



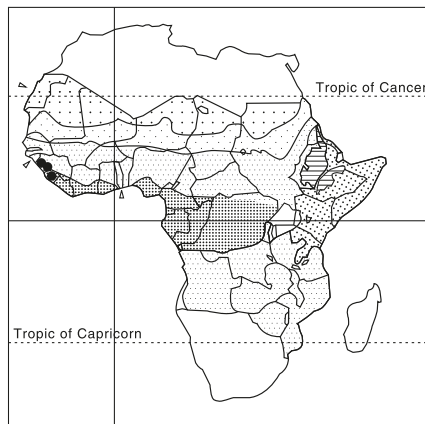
Baphia dubia



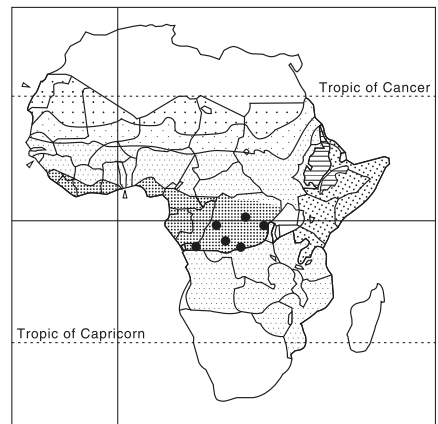
Baphia ericalyx



Baphia gossweileri



Baphia heudelotiana



Baphia incerta

BAPHIA

B. latiloi Soladoye

Shrub or tree to 9 m tall; branchlets slender, villous with rusty brown hairs, soon glabrescent; mature pod unknown.

High forest; 90-400 m alt.

B. laurentii De Wild.

syn.: *B. lescrauwaetii* De Wild.

Shrub or tree 4-10 m tall; stem to 25 cm Ø; branchlets yellowish brown tomentose, not lenticellate.

Dry secondary forest; more rarely along rivers; 200-800 m alt.

B. laurifolia Baillon

syn.: *B. lancifolia* Baill. (err. cal.); *B. crassifolia* Harms, incl. var. *dusenii* Harms; *B. odorata* De Wild.; *B. myrtifolia* Lester-Garl.

Shrub or tree to 18-20 m tall; branchlets densely ferruginous brown tomentose; mature branches glabrescent; sometimes cauliflorous.

Coastal forests; swampy- or periodically flooded and gallery forest; 0-600 m alt.

B. leptobotrys Harms, excl. var. *nigerica* Bak. f. (= **B. caparidifolia** subsp. **polygalacea**).

Shrub, erect or scrambling, or tree sometimes lianescent; branchlets glabrous.

Riverine areas in high forest or secondary forest; abandoned farmland; near sea-level to 700(-922) m alt.

Comprises 2 subspp.

B. leptostemma Baill.

syn.: *B. gabonensis* De Wild.

Shrub or tree to 12 m tall; branchlets very slender, glabrous, puberulous or sparsely hairy.

High forest; riverine areas of dry forest; 0-600 m alt. (and possibly more in W Cameroon).

Comprises 2 subspp.; subsp. **gracilipes** (Harms) Soladoye with 2 vars.

B. letestui Pellegr.

Xerophytic, much-branched shrub 4 m tall; branches tortuous; branchlets ferruginous brown tomentose; mature branches glabrescent, lenticellate. – Unique in having the largest flowers in the genus: calyx 20-25 mm, standard 26-28 × 13-17 mm.

Gallery forest; riverine areas in dry forest; sometimes gregarious; 30-1000 m alt.

B. longipedicellata De Wild.

syn.: *B. gracilipedicellata* De Wild. (of subsp. **longipedicellata**).

Shrub 5-8 m tall, stem 10 cm Ø or tree to 30 m tall; branchlets glabrous or sparsely hairy; seeds unknown.

Riverine areas in forest with *Raphia*, *Chlorophora*; 0-1500 m alt.

Comprises 2 subspp.

BAPHIA

B. macrocalyx Harms – Icon.: Bot. Jahrb. Syst. 40: 34, 1908.

syn.: *B. mocimboensis* Pires de Lima

Tree to 10 m; branchlets ferruginous brown tomentose.

Deciduous woodland thickets and open forest with *Xylopia collina*, *Diospyros eggelingii*, *Bussea eggelingii*, *Mimosa busseana*, *Cola discoglypsemnophylla*, etc.; open woodland on sandy soil, sometimes forming small communities; to 200-1000 m alt.

B. mambillensis Soladoye

Shrub or tree to 25 m tall; branchlets glabrous, rarely yellowish brown tomentose.

River banks in fringing forest; roadsides in forest; 500-1670 m alt.

B. marceliana De Wild.

Shrub or tree to 10-15 m tall; stem 70 cm Ø; branchlets glabrous, sparsely hairy or densely ferruginous brown tomentose.

Dry forests; near river; 300-800 m alt.

Comprises 2 subspp.

B. massaiensis Taub.

Shrub or tree to 8-10 m tall; branchlets puberulous to tomentose; mature branches glabrescent, lenticellate.

Caprivi Strip, Namibia, Botswana, S. Africa.

Comprises 5 subspp.: – subsp. **obovata** with 3 vars.: – var. **whitei** (Brummitt) Soladoye (*B. whitei* Brummitt) is treated as a good species distinct from *B. massaiensis* in Fl. Zambes. 3/3, 2007.

– Subsp. **massaiensis**:

In the Great Itigi Thicket (Central Tanzania): with *B. burtti*; occasionally in *Brachystegia* woodland; 1000-1600 m alt.

– Subsp. **busseana** (Harms) Soladoye:

Savanna woodland (Malawi). – Doubtfully distinct from subsp. *massaiensis*.

– Subsp. **floribunda** Brummitt:

Dry savanna woodland and thickets on sandy soil; often in clearings; also by lakes and streams; 580-1500 m alt. (Zambia, Katanga).

– Subsp. **gomesii** (Bak. f.) Brummitt:

Quite frequent in the subcanopy layer of dry deciduous forest; evergreen forest and woodland, thickets; with *Fernandoa*, *Markhamia*, *Tabernaemontana*, *Deinbollia*, *Hugonia*, *Combretum*; 150-800 m alt. (N Mozambique, SE Tanzania?).

– Subsp. **obovata** (Schinz) Brummitt (syn.: *B. henriquesiana* Taub.): – See note above referring to var. *whitei* [cf. also under (*B. whitei*) below].

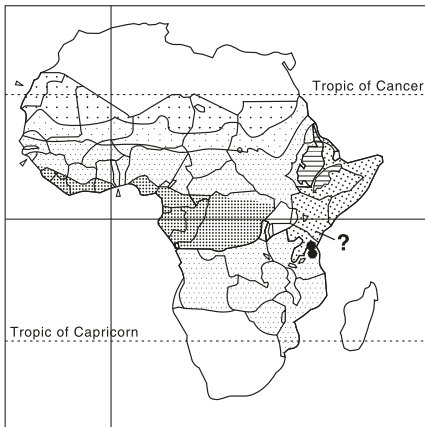
Very common in woodlands on Kalahari sand with *Acacia*, *Combretum*, *Indigofera*, *Diospyros*, *Brachystegia*, *Burkea*, *Ochna*, *Terminalia*, *Zizyphus*, *Hyparrhenia*; also savanna forest and dry *Cryptosepalum* woodland; 300-1400 m alt. (Zambia, Zimbabwe, Angola, whole southern Africa).

B. maxima Bak.

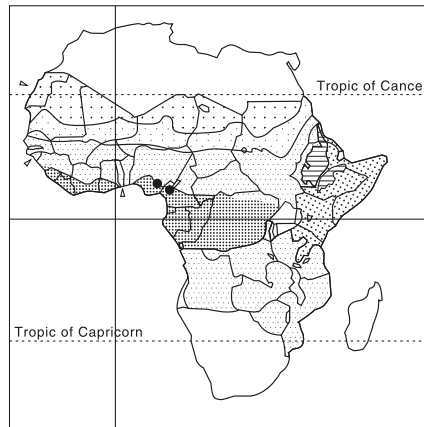
syn.: *B. longipetiolata* Taub.; *B. orbiculata* Bak. f.

Lianescent shrub 3 m long, or tree to 12-14 m; branchlets yellowish or ferruginous brown tomentose; mature branches glabrescent.

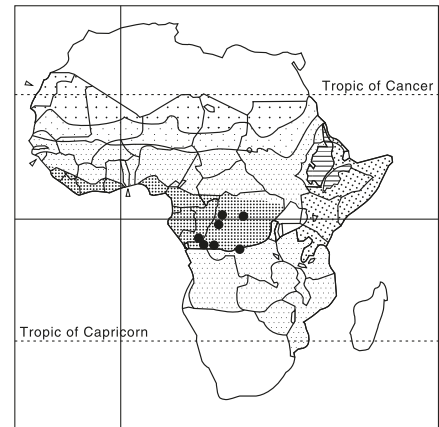
High forest; riverine areas; abandoned farmlands; 200-600 m alt.



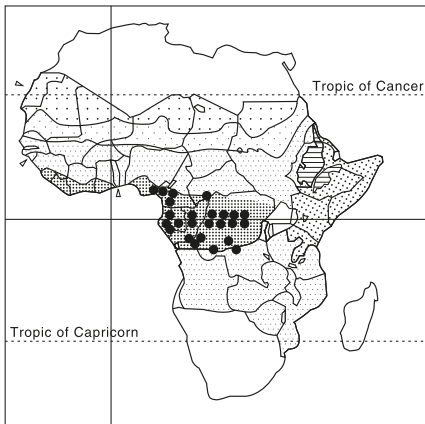
Baphia kirkii



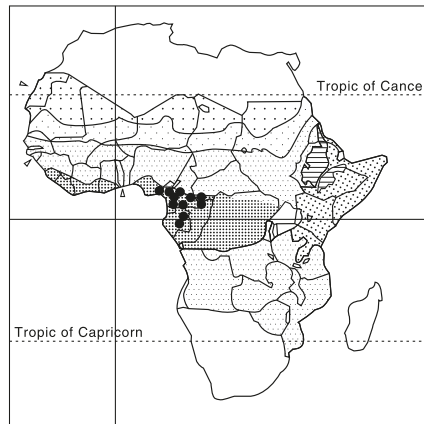
Baphia latiloi



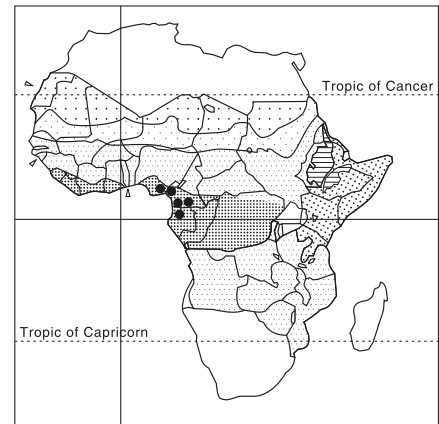
Baphia laurentii



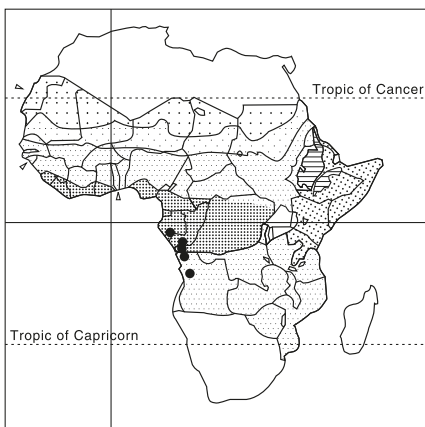
Baphia laurifolia



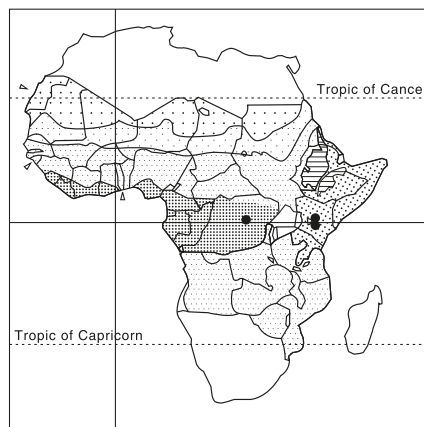
Baphia leptobotrys



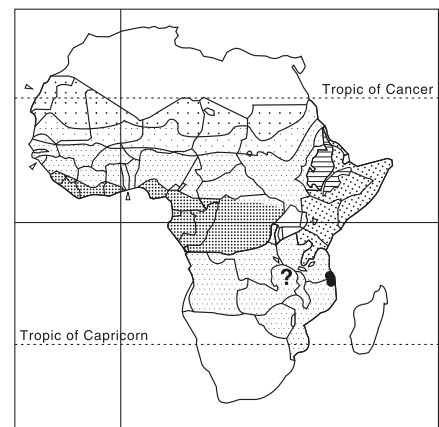
Baphia leptostemma



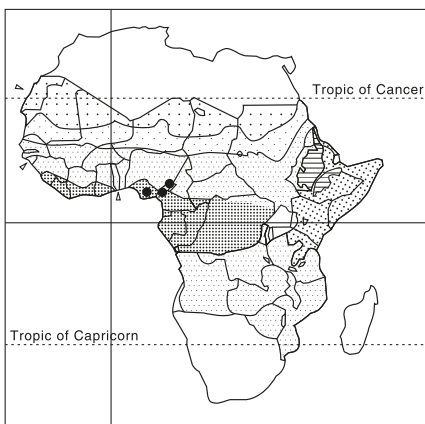
Baphia letestui



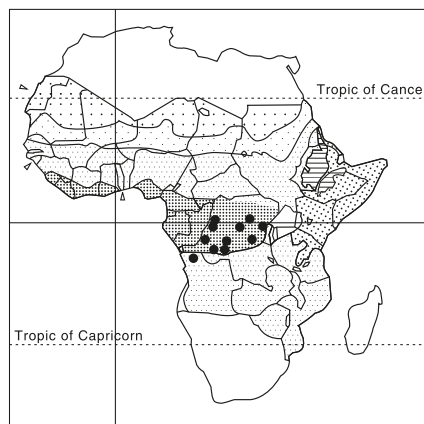
Baphia longipedicellata



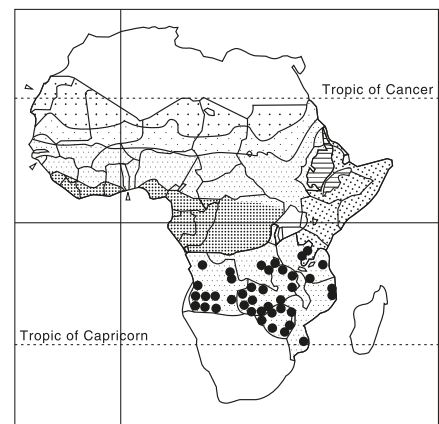
Baphia macrocalyx



Baphia mambillensis



Baphia marceliana



Baphia massaiensis (incl. *B. whitei*)

BAPHIA

B. nitida Lodd., incl. var. *pubescens* A. Chev.

syn.: *Delaria pyrifolia* Desv., non *Millettia pyrifolia* Vatke (= **B. kirkii**); *Podalyria haematoxylon* Schumach. & Thonn.; *Carpolobia versicolor* G. Don; *Baphia haematoxylon* (Schumach. & Thonn.) Hook. f.; *B. barombiensis* Taub.

Many-stemmed erect shrub or tree to 9 m tall; branchlets glabrous or densely pubescent; sometimes cauliflorous.

Rain-forest in coastal regions; secondary forest; abandoned farmlands; 0-600 m alt.

Variable.

B. obanensis Bak. f. emend. Soladoye

(short or elongated pseudoracemes occur side by side with fascicles of flowers in the axils of leaves).

Tree to ± 10 m; branchlets ferruginous brown tomentose to densely pubescent; bark of mature branches flaking in patches; pod and seeds unknown.

High forest; 200-400 m alt.

Sometimes cauliflorous.

B. ovata Sim

syn.: *B. kirkii* Bak. subsp. *ovata* (Sim) Soladoye; *B. kirkii* sensu Bak., Legum. Trop. Afr.: 588, 1929, p.p. quoad syn. *B. ovata* Sim

Tree 4-10 m; branches pendulous; flowers smaller than in *B. kirkii* (10-13 mm long vs. 15-22 mm) and calyx glabrous except for a tuft of hairs at the tip.

Lake shores; ecology badly known.

Related to *B. kirkii* and *B. racemosa* (Hochst.) Bak. from S. Africa.

B. pauloi Brummitt

Tree with sparsely hairy branchlets; pod and seeds unknown.

Forest on limestone; 400 m alt.

Only known from the type collected in 1953.

B. pilosa Baill.

Climbing shrub or liane to 15 m long; stem to 5-6 cm Ø.

Coastal forests; riverine areas; seashore to inland in marshy- or periodically inundated forests; 0-500 m alt.

Variable.

Comprises 2 subsp.: – subsp. **pilosa**; – subsp. **batangensis** (Harms) Soladoye [syn.: *B. klainei* De Wild., incl. var. *patulo-pilosa* De Wild.; *Baphiastrum klainei* (De Wild.) De Wild., incl. var. *patulo-pilosum* (De Wild.) De Wild.; Enum. 2: 66 (1992); *Baphia elegans* Lester-Garl.; *Baphiastrum elegans* (Lester-Garl.) De Wild.].

B. pubescens Hook. f.

syn.: *B. solheidii* De Wild.; *B. acuminata* De Wild.

Shrub or tree 6-15 m tall; sometimes with a distinct trunk, to 20 cm Ø; branchlets yellowish or ferruginous brown tomentose to densely pubescent.

Marshy-, closed forest; sometimes common; half-deciduous forests and forests in the transitional zone to evergreen forests.

BAPHIA

B. puguensis Brummitt

Shrub or tree to 14 m tall; young branchlets glabrous or sparsely hairy.

Dry evergreen forest on coastal hills; below 200 m alt.

B. punctulata Harms

Shrub or tree 5-7 m tall; young stems shortly brown pubescent; pod and seeds known!

Deciduous, sometimes dense bushland or thicket; deciduous woodland in coastal forest; transitional zone between forest and savanna; 100-1300 m alt.

Comprises 3 subsp.

B. semseiana Brummitt

Tree to 10 m; branchlets ferruginous brown tomentose, lenticellate.

Riverine forest; stony river-banks; open thickets and bush; open woodland; to 500 m alt.

B. spathacea Hook. f.

syn.: *V. dinklagei* Harms (of subsp. **spathacea**).

Straggling or climbing shrub 1,8-4,5 m tall, huge liane or tree 8-15 m; branchlets ferruginous brown pubescent.

Coastal- or secondary forest; in plantations on laterite; 0-700 m alt.

Comprises 2 subsp.

B. speciosa J. B. Gillett & Brummitt

Shrub or tree to 7-8 m tall; sometimes scrambling; branchlets chocolate brown pubescent; mature branches glabrescent; pod and seeds known!

Charred margins of dense thickets on sandy soil; sand dunes; edge of flood plain in long grass; sometimes common in, and confined to, dense deciduous scrub; with *Baphia bequaertii*, *Boscia cauliflora*, *Brachystegia glaberrima*, *Combretum celastroides*, *Cryptosepalum exfoliatum*, *Diospyros mweruensis*, etc.; 780-1066 m alt.

(**B. whitei** Brummitt – See *B. massaiensis* subsp. *obovata* var. *whitei*).

Shrub or tree to 10 m tall; different from *B. massaiensis* subsp. *obovata* in leaf shape and indumentum according to Fl. Zambes. 3/3: 45, 2007.

Cryptosepalum woodland; 900-1500 m alt.

Occurs in W Zambia and Angola.

B. wollastonii Bak. f.

syn.: *B. mildbraedii* Harms; *B. dewevrei* De Wild. var. *fluminea* Vermoesen fa. *intermedia* Vermoesen; *B. brevipedicellata* De Wild.; *B. glabra* De Wild. and var. *oblongifolia* De Wild.

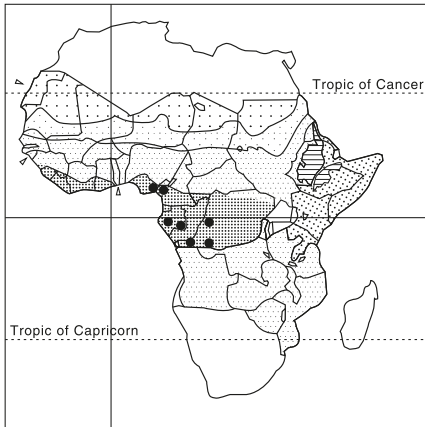
Shrub 3-5 m tall or tree to 10 m; young stems glabrous.

Understorey and margins of rain-forest; gallery forest; riparian formations; 600-1500 m alt.

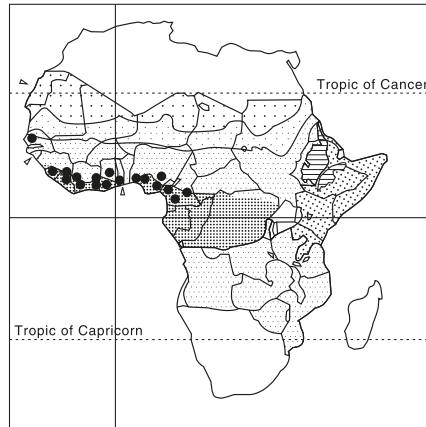
SYNONYMS (cf. also Enum. 2: 67, 1992):

Baphia acuminata De Wild. = **Baphia pubescens**

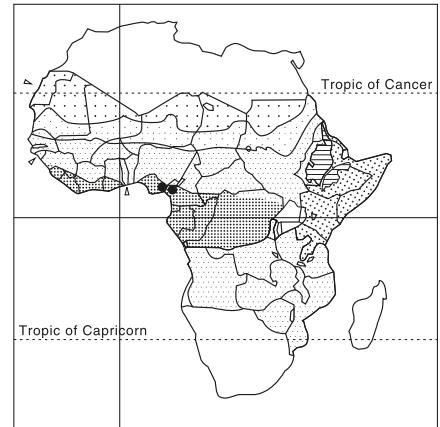
albido-lenticellata De Wild. = **B. capparidifolia** subsp. **multiflora**



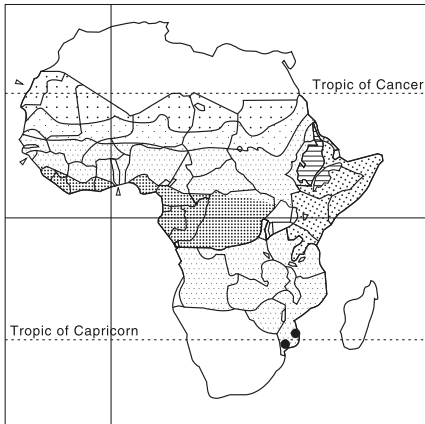
Baphia maxima



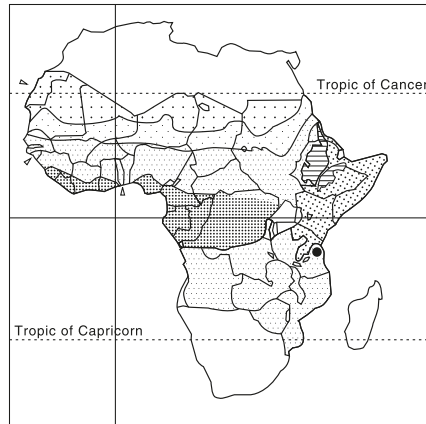
Baphia nitida



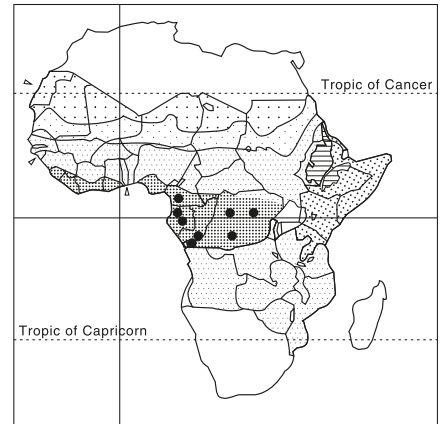
Baphia obanensis



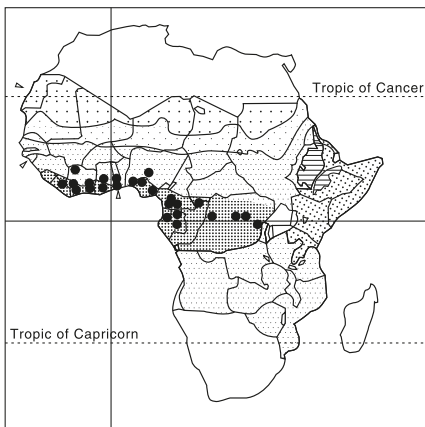
Baphia ovata



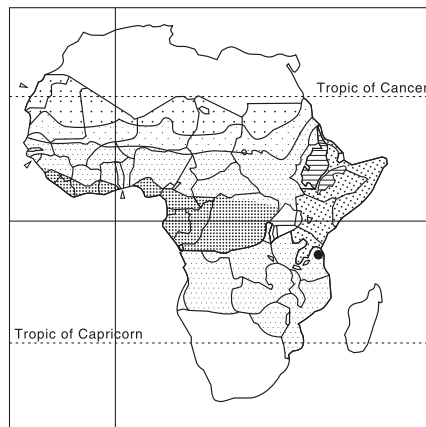
Baphia pauloi



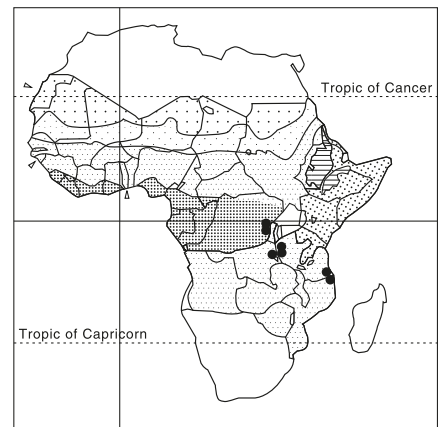
Baphia pilosa



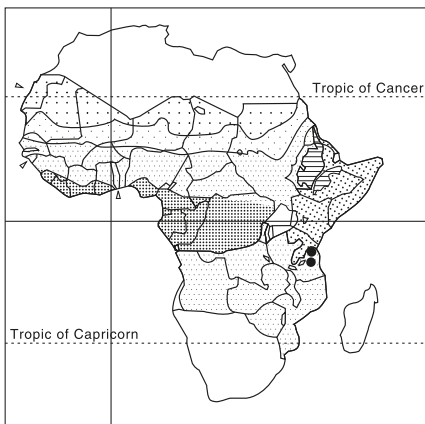
Baphia pubescens



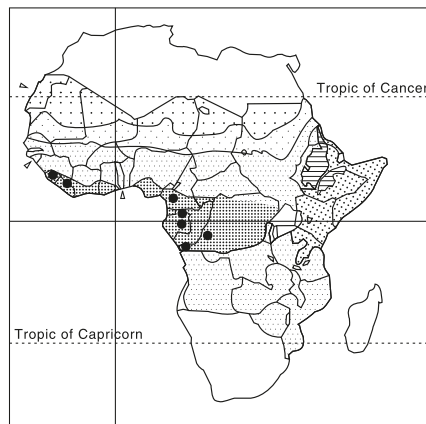
Baphia punguensis



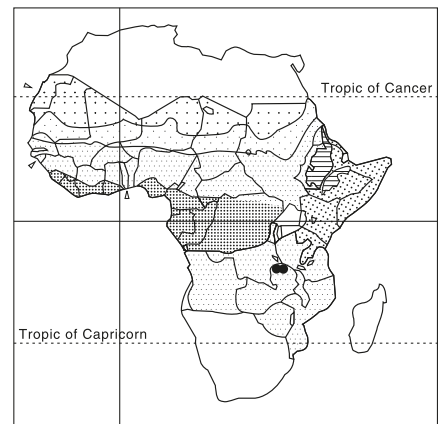
Baphia punctulata



Baphia semseiiana



Baphia spathacea



Baphia speciosa

BAPHIA

- bancoensis* Aubrév. = **B. pubescens**
bangweolensis R. E. Fr. = **B. capparidifolia** subsp.
barombiensis Taub. = **B. nitida**
batangensis Harms = **B. pilosa** subsp.
bipindensis Harms = **B. buettneri** subsp. **hylophila**
bipindensis sensu auctt. = **B. leptostemma**
boonei De Wild. = **Leucomphalos brachycarpus**
brevipedicellata De Wild. = **Baphia wollastonii**
busseana Harms = **B. massaiensis** subsp.
calophylla Harms = **B. pilosa** subsp. **batangensis**
claessensii De Wild. = **B. chrysophylla** subsp.
compacta De Wild. = **B. maxima**
confusa Hutch. & Dalziel = **Airyantha schweinfurthii**
subsp.
congolensis sensu auctt., non Welw. ex Bak. = **Baphia dewevrei**
conraui Harms = **B. leptostemma** subsp. **gracilipes** var.
cornifolia Harms = **B. massaiensis** subsp. **obovata** var.
cornifolia
crassifolia Harms, incl. var. *dusenii* Harms = **B. laurifolia**
densiflora Harms = **B. laurifolia**
descampsii Vermeesen ex De Wild. = **B. punctulata**
subsp.
dewevrei De Wild. var. *fluminea* Vermeesen fa. *intermedia*
Vermeesen = **B. wollastonii**
var. *inequalis* Vermeesen = **B. incerta**
var. *kassaiensis* Vermeesen = **B. marceliana** subsp.
marceliana
dewevrei sensu De Wild. var. *kassaiensis* Vermeesen
= **B. marceliana** subsp. **marceliana**
dinklagei Harms = **B. spathacea** subsp. **spathacea**
elegans Lester-Garl., incl. var. *vestita* Lester-Garl. = **B.**
pilosa subsp. **batangensis**
gabonensis De Wild. = **B. leptostemma** subsp. **lep-**
tostemma
gillettii De Wild. = **B. chrysophylla** subsp. **chrysophylla**
giorgii De Wild. = **B. capparidifolia** subsp. **bangweolen-**
sis
glabra De Wild., incl. var. *oblongifolia* De Wild.
= **B. wollastonii**
gomesii Bak. f. = **B. massaiensis** subsp.
goossensii De Wild. = **B. capparidifolia** subsp. **multiflora**
var. *grandifolia* De Wild. = **B. dubia**
gracilipedicellata De Wild. = **B. longipedicellata** subsp.
longipedicellata
gracilipes Harms = **B. leptostemma** subsp.
gracilipes sensu Hepper = **B. dewildeana**
haematoxylon (Schumach. & Thonn.) Hook. f. = **B. nitida**
henriquesiana Taub. = **B. massaiensis** subsp. **obovata**
hylophila Harms = **B. buettneri** subsp.
hylophila sensu auctt. = **B. leptostemma**
keniensis Brummitt = **B. longipedicellata** subsp.
kirkii Bak. subsp. *ovata* (Sim) Soladoye = **B. ovata**
kirkii sensu Bak. 1929 p.p. = **B. ovata**

BAPHIA

- klainei* De Wild. = **B. pilosa** subsp. **batangensis**
var. *patulo-pilosa* De Wild. = **B. pilosa** subsp. **pilosa**
lancifolia Baill., err. cal. = **B. laurifolia**
laurifolia sensu auctt., non Baillon = **B. mambillensis**
lebrunii Toussaint = **B. incerta** subsp.
leptobotrys Harms var. *nigerica* Bak. f. = **B. capparidifo-**
lia subsp. **polygalacea**
lescrauwaetii De Wild. = **B. laurentii**
longipetiolata Taub. = **B. maxima**
marquesii Exell = **B. marceliana** subsp.
massaiensis Taub. subsp. *cornifolia* (Harms) Brummitt
= **B. massaiensis** subsp. **obovata** var. **cornifolia**
subsp. *floribunda* Brummitt = **B. massaiensis** subsp. **obo-**
vata var. **obovata**
mildbraedii Harms = **B. wollastonii**
mocimboensis Pires de Lima = **B. macrocalyx**
multiflora Harms = **P. capparidifolia** subsp.
myrtifolia Lester-Garl. = **B. laurifolia**
nannanii Bak. f. ex Lester-Garl. = **B. dewevrei**
obovata Schinz = **B. massaiensis** subsp. **obovata**
var. **obovata**
odorata De Wild. = **B. laurifolia**
orbiculata Bak. f. = **B. maxima**
ovato-acuminata De Wild. = **B. dewevrei**
pierrei De Wild. = **B. laurifolia**
polyantha Harms = **B. spathacea** subsp.
polygalacea (Hooker f.) Baker = **B. capparidifolia** subsp.
var. *hepperi* Cavaco = **C. capparidifolia** subsp. **multi-**
flora
pynaertii De Wild. = **B. capparidifolia** subsp. **multiflora**
racemosa sensu auctt., non (Hochst.) Bak. = **B. dubia**
ringoetii De Wild. = **B. bequaertii**
schweinfurthii Taub. = **Airyantha schweinfurthii** subsp.
silvatica Harms = **Baphia leptobotrys** subsp.
solheidii De Wild. = **B. pubescens**
sublucida De Wild. = **B. brachybotrys**
sublucida sensu Bak. f. = **B. angolensis**
vermoesensii De Wild. = **B. incerta**
vermuelenii De Wild. = **B. pilosa**
verschuerenii De Wild. = **B. angolensis**
verschuerenii sensu Toussaint = **B. brachybotrys**
whitei Brummitt = **B. massaiensis** subsp. **obovata**
var. **whytei**
zenkeri Taub. = **B. capparidifolia** subsp. **multiflora**

(BAPHIASTRUM)

- Baphiastrum bequaertii* De Wild. = **Baphia pilosa** subsp. **pilosa**
boonei (De Wild.) Vermeesen = **Leucomphalos brachy-**
carpus
brachycarpum Harms = **L. brachycarpus**
calophyllum (Harms) De Wild. = **Baphia pilosa** subsp.
batangensis
claessensii De Wild. = **B. pilosa** subsp. **pilosa**

BAPHIASTRUM

confusum (Hutch. & Dalziel) Pellegr. = **Airyantha schweinfurthii** subsp.

elegans (Lester-Garl.) De Wild. = **Baphia pilosa** subsp. **batangensis**

klainei (De Wild.) De Wild. = **B. pilosa** subsp. **katangensis**
var. *patulo-pilosum* (De Wild.) De Wild. = **B. pilosa**
subsp. **pilosa**

pilosum (Baill.) De Wild. = **B. pilosa**

spathaceum (Hook. f.) Staner = **Airyantha schweinfurthii**
subsp. **schweinfurthii**

tisserantii Pellegr. = **A. schweinfurthii** subsp. **schweinfurthii**

vermuelenii (De Wild.) De Wild. = **Baphia pilosa** subsp. **pilosa**

BISERRULA / 1

Biserrula pelecinus L., incl. var. *subintegra* Bak. f.

Annual ± pilose herb to 40 cm tall.

Rather dry short grassland; scrub; 1400-2700 m alt.

Canary Isl.; Mediterranean region.

Comprises 2 subspp.: – subsp. **pelecinus**; – subsp. **leiocarpa** (A. Rich.) J. B. Gillett [bas.: *B. leiocarpa* A. Rich. pro maj. parte excl. specim. Schimper 1762; syn.: *B. pelecinus* var. *leiocarpa* (A. Rich.) Chiov.].

BOBGUNNIA – SEE CAESALPINIACEAE

(**BOLUSAFRA** – Not present in tropical Africa)

BOLUSANTHUS / 1

Bolusanthus speciosus (Bolus) Harms (fa. **speciosus**).

bas.: *Lonchocarpus speciosus* Bolus

Deciduous graceful usually multistemmed tree 4-9 (-12) m; stem 30 cm d.b.h.; branchlets slender, pendulous; crown upright narrow; flowering with the young leaves.

Coastal scrub; on Karroo basalt and with “mopane”; open woodland; to 900(-1350) m alt.

Botswana; S. Africa. – Cultivated in Uganda.

Fa. **albescens** Yakovlev with white flowers in Transvaal, but has also been reported from Zimbabwe.

One of the most beautiful of the wild trees (flowers blue to mauve, pea-shaped, in loose terminal sprays to 30 cm long); an excellent garden subject. Also grown as a street tree (Zambia). Fl. Zambes, 3/3: 37, 2007.

BOLUSIA / 5

One species only known from the type. Another one poorly known. *B. resupinata* with inverted flowers.

Bolusia amboensis (Schinz) Harms; Fragm. Florist. Geobot. 40: 907, 1995.

bas.: *Phaseolus amboensis* Schinz

syn.: *Bolusia rhodesiana* Corbishley

Shrublet 20-50 cm tall, erect to procumbent, woody at the base, with rounded, glabrous, glaucous green or brown-glaucous green branches. Perennial (? sometimes annual).

River-mouth on sandy slope; sand in savanna; open grassland; woodland; lake margins; disturbed area; flat sandy areas, often on Kalahari Sands; 1000 m-1250 m alt.

Caprivi Strip, Namibia, Botswana.

B. ervoides (Welw. ex Bak.) Torre

Stems several from a woody rootstock, slender, decumbent, quite glabrous as well as the whole plant, 30-60 cm tall, 2-3 times dichotomously forked.

Marshy meadows, dried up, with *Trifolium* spp., *Indigofera* spp.; to 1800 m alt.

B. grandis B.-E. van Wyk – Icon.: Fl. Zambes. 3(7): 232, 2003 (also description).

Procumbent, trailing, perennial herb, to 0,5 m across, silky pubescent.

Sandy soil in woodland; 1050-1350 m alt.

Easily recognized by the large leaves: petiole 10-17 mm long, leaflets 25-75 × 4-20 mm; flower 12-16 mm; pod ± 48 × 10-14 mm; also, stipules dentate 6-18 × 3-11 mm.

B. polhilliana Lisowski

Perennial herb, woody at base, 25-31 cm tall with erect to ascendent, cylindrical, pubescent-scabrous stems.

Open forest on rocky slopes; ±1400 m alt.

Only known from the type collected ante 1976.

B. resupinata Milne-Redh.

Perennial herb 20-90 cm tall; stems erect or ascendent to procumbent, cylindrical, shortly white pilose to glabrescent; flowers inverted (connected with pollination).

Poor white soil derived from quartzites and sandstones near the top of a rocky ridge; fairly frequent on ground incompletely colonized by herbs and grasses, with *Antheophora acuminata*, *Cyperus* sp., *Xyris* sp.; 1050-1700 m alt.

Poorly known species very near **B. amboensis** but with silky hairs on stems and leaves.

SYNONYM:

Bolusia rhodesiana Corbishley = **Bolusia amboensis**

(BOWRINGIA)

SYNONYMS:

Bowringia discolor J. B. Hall = **Leucomphalos**
mildbraedii Harms = **Leucomphalos**

BRYASPIS / 2

One of the species with 2 subspecies, each of which known only from the type.

Bryaspis humularioides Gledhill

Slightly woody annual herb 0,4-1,5 m tall; stems hispid to setose-pilose with long (to 3 mm), pale yellowish hairs.

Peaty soil over rock; grassland and sandy areas in wet sites; weed in rice fields.

Comprises 2 subspp. (each only known by the type).

B. lupulina (Planch.) P. A. Duvign.

syn.: *Soemmeringa psittacorhyncha* Webb; *Geissaspis heudelotiana* Baill. ex Tisserant; Enum. 2: 68, 1992.

Slightly woody herb, erect or straggling, 25-60 cm tall; stems glabrous, straw-coloured.

Humid meadow; characteristic component of the vegetation supported by the thin peaty soils over surface lateritic hardpans; even in the wetter forest area on the coast in Sierra Leone.

Very beautiful plant with bright yellow flowers 1 cm long, in dense oblong scorpioid strobiles 1-6 cm long and hidden by large imbricate reticulate orbicular-reniform bracts ±1,5 cm broad, 1-1,5 cm long, bright-red or violaceous.

CADIA / 1

TUCKER, S. C. (2002). Floral ontogeny in Sophoreae (Leguminosae: Papilionoideae). III. Radial symmetry and random petal aestivation in *Cadia purpurea*. *Amer. J. Bot.* 89: 748-757.

Cadia purpurea (G. Piccioli) Ait.

bas.: *Panciatia purpurea* G. Piccioli

syn.: *Cadia varia* L'Hérit.

Graceful obconical shrub 0,8-5 m tall, the branches diverging from near the base and curving slightly outwards; twigs brown, shortly appressed pubescent.

On slopes just outside (? and in) *Juniperus procera* forest; locally codominant; rift valley escarpment; bushland; 490-2700 m alt.

Yemen, Oman.

Seems to be abundant wherever it occurs; remarkable 650 km gap between its most northerly locality in Kenya (Mt Kulal) and its southermost locality in Ethiopia, near Harar.

CAJANUS / 1

[**Cajanus cajan** (L.) Millsp.] – Pigeon Pea, Congo Bean.

syn.: *Cajanus indicus* Spreng.

Annual or short-lived perennial evergreen shrub to 3 m tall, with erect ribbed, densely pubescent stems; leaflets silvery beneath. Very variable.

Not known in the wild state; cultivated throughout the tropics. Probably of African origin; or Indian.

Can be confused with *Dolichos pseudocajanus*. Also resembling a *Crotalaria* species.

C. kerstingii Harms

Erect shrub 0,9-2 m tall; branches green to brown-purple, white-silky pubescent, faintly striate, glandular-punctate.

Open savanna; *Isoberlinia* forest; lateritic hill; soil with fine gravel; ±50-500 m alt.

[C. scarabaeoides (L.) Thouars]

bas.: *Dolichos scarabaeoides* L.

Twining herb with slender stems to 1 m tall from a perennial woody rootstock.

Introduced from India, SE Asia; grassy places, open scrub; drought tolerant.

CALPURNIA / 1

BEAUMONT, A. J. & al. (1999). Revision of the genus *Calpurnia* (Sophoreae: Leguminosae). *Bothalia* 29: 5-23.

Calpurnia aurea (Ait.) Benth. subsp. **aurea**, incl. var. *major* Oliver & Bak. ex Bak. f.

bas.: *Sophora aurea* Ait.

syn.: *Robinia subdecandra* L'Hérit.; *Podalyria aurea* (Ait.) Willd.; *Virgilia aurea* (Ait.) Lam.; *Calpurnia lasiogyne* E. Mey.; *C. subdecandra* (L'Hérit.) Schweick.

Bush or slender tree 1-15 m tall (sometimes much branched shrub in dryer habits); young branches densely puberulous-tomentose.

Margins and clearings of rain-forest and riverine forest; evergreen bushland; grassland; favoured by overgrazing; 920-3000 m alt.

S. Africa; India. – Disjunct area: Africa – India (see Wild, Webbia 19: 497-505, 1965).

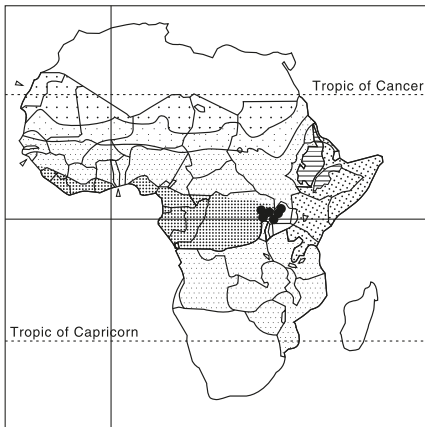
Comprises 2 subspp. in Africa. Subsp. **sylvatica** (Burch.) Brummitt in S. Africa (also introduced in our area), but “intermediates” with subsp. **aurea** found in C Zimbabwe. – A third subspecies (**indica** Brummitt) occurs in S India.

Cultivated in Africa, Europe, India and elsewhere (ornamental or as a shade tree in tea and coffee plantations).

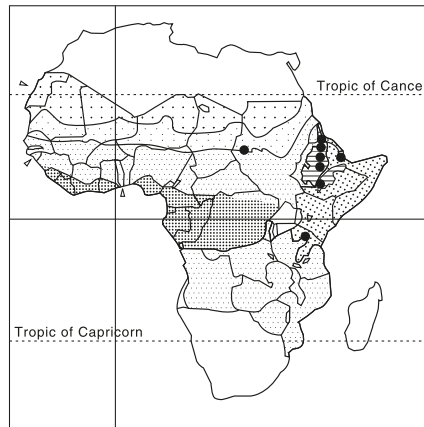
Not in Zambia.

SYNONYMS:

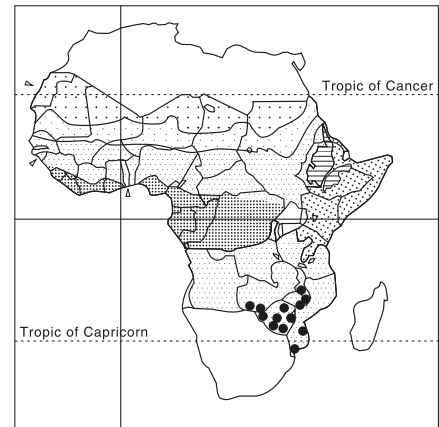
Calpurnia antunesii Taub. = **Pterocarpus lucens** subsp. *uarandensis* Chiov. = **Dalbergia**



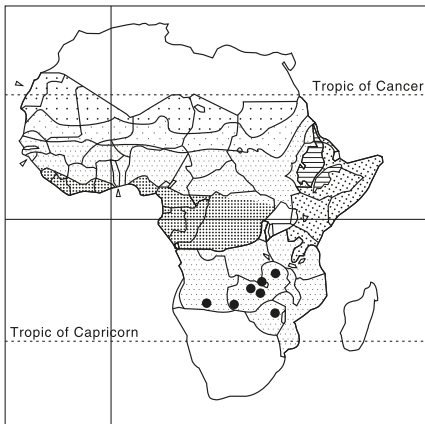
Baphia wollastonii



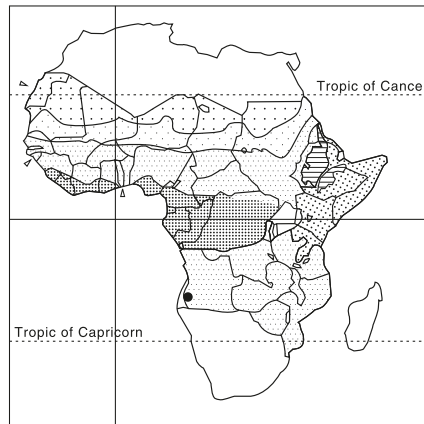
Biserrula pelecinus



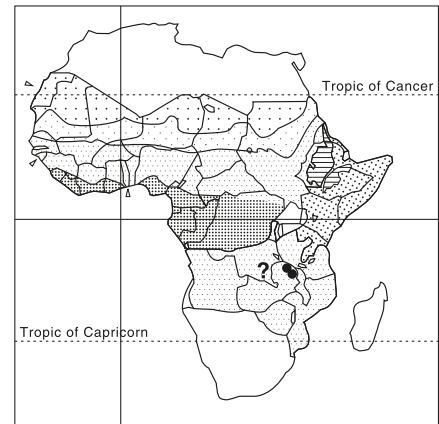
Bolusanthus speciosus



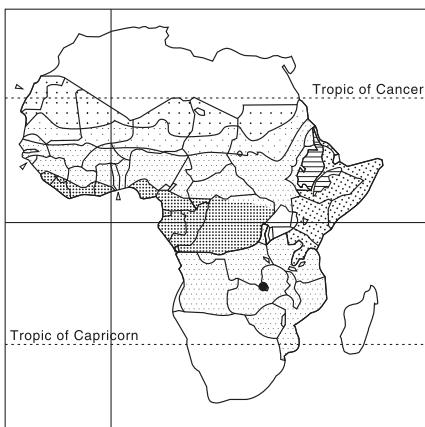
Bolusia amboensis



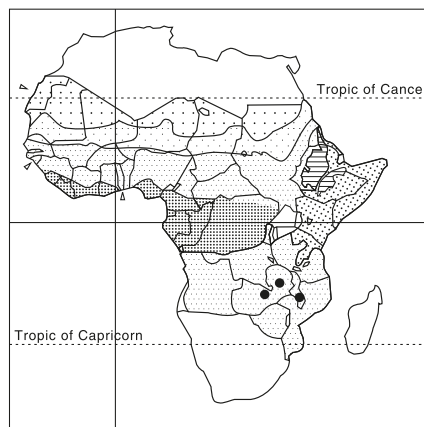
Bolusia ervoides



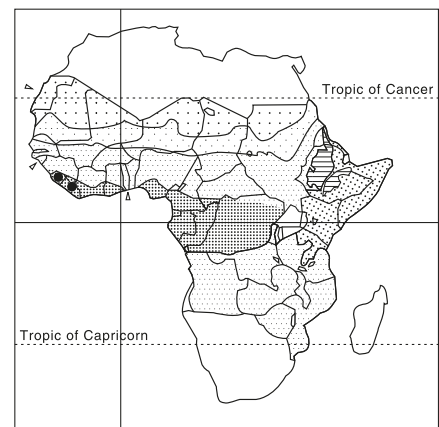
Bolusia grandis



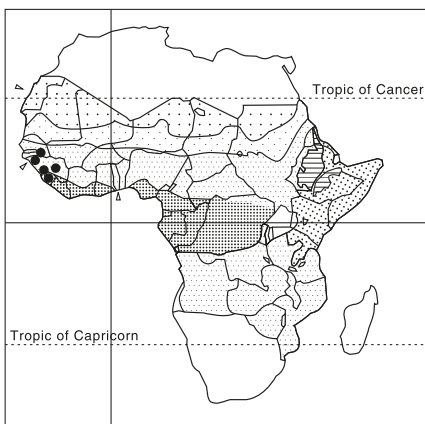
Bolusia polhilliana



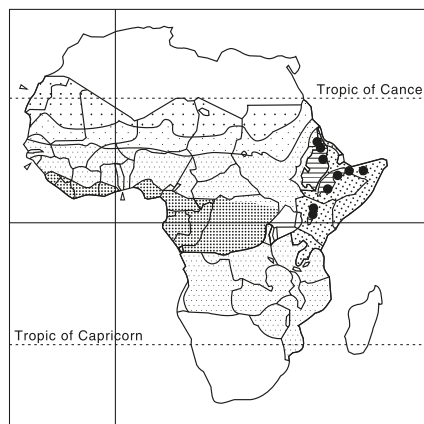
Bolusia resupinata



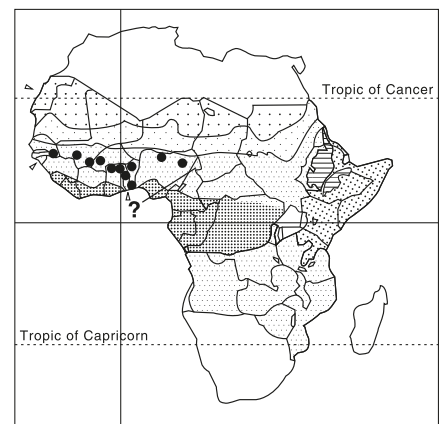
Bryaspis humularioides



Bryaspis lupulina



Cadia purpurea



Cajanus kerstingii

CAMOENSIA / 2

Seeds not seen in one species. *C. scandens* with very large flowers.

Camoensia brevicalyx Benth.

syn.: *C. laurentii* De Wild.

Liane 30-35 m long; stem 3 cm Ø; branches pubescent to glabrescent, rust coloured; seeds unknown.

Lake, brook, lagoon sides; swampy forest.

C. scandens (Welw.) J. B. Gillett

syn.: *C. maxima* Benth.

Sarmentous shrub or liane to 30 m long; branches densely fulvous-tomentose to glabrescent; flower very large: standard 4-15 cm long, 8-11 cm broad; calyx 15-18,5 cm long; calyx + corolla: to 25 cm.

Forest edges; savanna in process of reforestation; sometimes abundant in the denser forests; elegantly decking the tallest trees; lofty forest by stream; 50 m alt.

“Splendid bunches of pendulous milk-white flowers tinged with gold on the edge of the petals” (Welwitsch).

CANAVALIA / 3

AYMARD C. G. (1998). *Canavalia rosea* (Sw.) DC. versus *Canavalia maritima* (Aubl.) Thouars (Papilionoideae). *Ernstia* [N. S.] 8: 19-25 (see p. 24-25 for full synonymy).

For introduced species:

ADEMA, F. (1997). Notes on Malesian Fabaceae (Leguminosae – Papilionoideae) 2. The genus *Canavalia* Adans. *Blumea* 42: 249-253 [distinction between *C. ensiformis* and *C. gladiata*].

Canavalia africana Dunn

syn.: Enum. 2: 68, 1992.

Perennial herbaceous climber or trailer 3-15 m long, on bare ground or reaching the tops of quite tall trees; stems mostly appressed ferruginous pubescent when young, later glabrous, very tenacious, hard.

Grassland; bushland with scattered trees; thickets; sometimes by lake shores and river banks; also cultivated as a cover crop and shade plant on fences and houses and coffee seed-beds; 100-1800 m alt.

S. Africa; S Arabia, Socotra; India.

C. cathartica Thouars

syn.: Enum. 2: 68, 1992.

Perennial climber 4,5-7,5 m long; stems sparsely pubescent or glabrous.

Open shores but mostly in coastal bushland on coral some distance above the shore; forest fringing mangrove swamps; also cultivated as a sand binder; 0-420 m alt.

Seychelles; tropical Asia from India and Malesia throughout Polynesia, N Queensland, Ryukyu Isl., Hawaiian Isl.

CANAVALIA

C. rosea (Sw.) DC.

bas.: *Dolichos roseus* Sw.

syn.: *Dolichos maritimus* Aubl.

Perennial robust herbaceous climber or trailer 1,8-10 m long; stems silky hairy when young, later glabrous.

Beach sand and furthest edges of coastal bushland bordering high-tide mark; usually with *Ipomoea pes-caprae*; rarely found inland to any extent; 0-30 m alt.

Tropics of both hemispheres; extending into the subtropics; one of the commonest and most characteristic sea-coast plants.

CAULOCARPUS – SEE TEPHROSIA

CHAPMANNIA / 1

syn.: *Arthrocarpum* Balf.; *Pachecoa* Standl. & Steyerl.

Disjunct genus America – Africa.

Seeds unknown for *C. somalensis*.

THULIN, M. (1999). *Chapmannia* (Leguminosae-Stylosanthinae) extended. *Nord. J. Bot.* 19: 597-607.

Chapmannia somalensis (Hillcoat & J. B. Gillett) Thulin

bas.: *Arthrocarpum somalense* Hillcoat & J. B. Gillett

Shrub to ±2 m tall, low-branching; young branches pale brown, somewhat angular, pubescent with ordinary and tubercle-based viscid hairs; seeds unknown.

Acacia-Commiphora bushland on sandy, silty or rocky ground; 120-340 m alt.

* * *

The disjunctions America – NE Africa are known for *Selinocarpus* (*Nyctaginaceae*), *Bourreria* (*Boraginaceae*); *Buxus hildebrandtii* (*Buxaceae*) is believed to have its nearest relatives in central America; the same is possible for *Tephrosia anomala* (*Fabaceae*); several more complicated disjunctions are known (*Thamnosma*, *Turnera*, *Parkinsonia*, *Calliandra*, *Kissenia*, etc. (vide Thulin in Seyani, J. H. & A. C. Chikuni, Proceedings of the XIIIth plenary meeting of AETFAT, Zomba (Malawi) 2: 1105-1119, 1993; Lavin, M. & al., *Syst. Bot.* 25: 449-467, 2000).

CICER / 1

COLES, S. & al. (1998). Identification aids for *Cicer* (Leguminosae, Cicereae) taxa. *Edinb. J. Bot.* 55: 243-265.

DE LEONARDIS, W. & al. (1995). Correlation between pollen grain and seed size in *Cicer* species. *J. Genet. & Breed.* 49: 21-26 [and *Publ. Dipart. Bot. Univ. Catania* 1995].

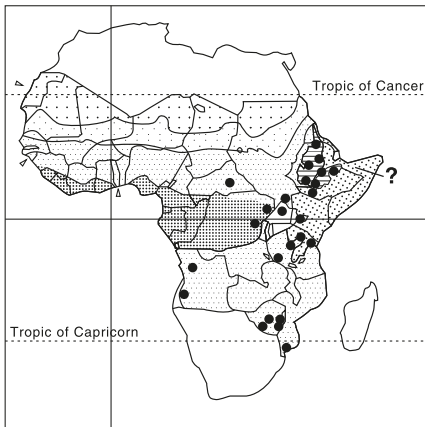
[Cicer arietinum L.] – Chick Pea.

Erect or prostrate pubescent annual herb 12-50(-100) cm tall; tendrils absent.

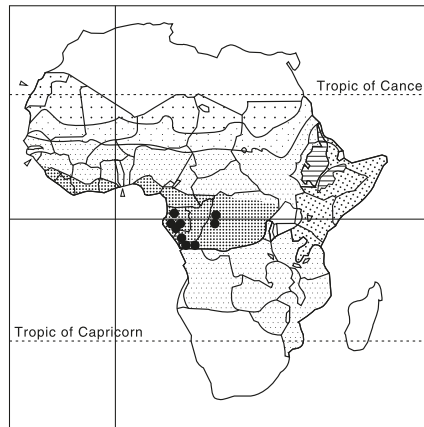
Whole plant very variable.

Cultivated for its seeds; widespread in cultivation in the semi-arid tropics and warm temperate zones; (0-)110-2400 m alt.

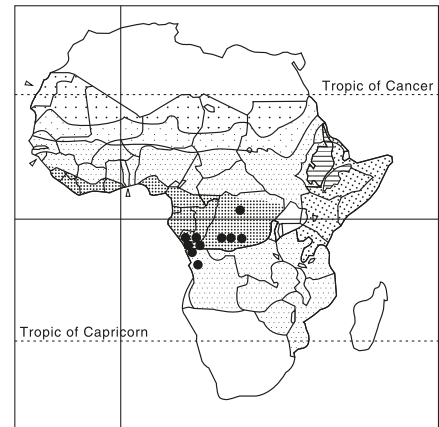
Not found naturally outside cultivations, but escapes occur. Not mapped.



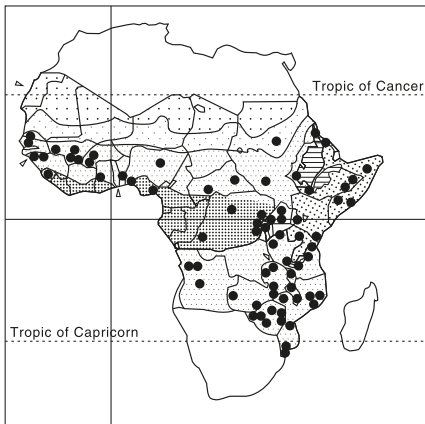
Calpurnia aurea



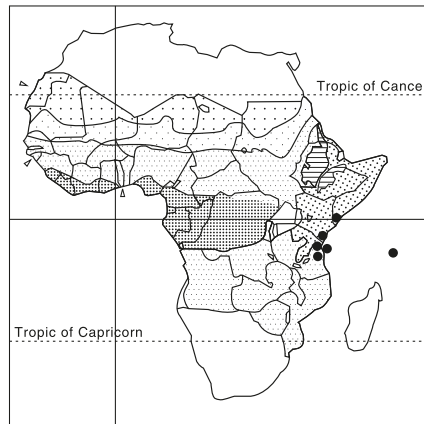
Camoensia brevicalyx



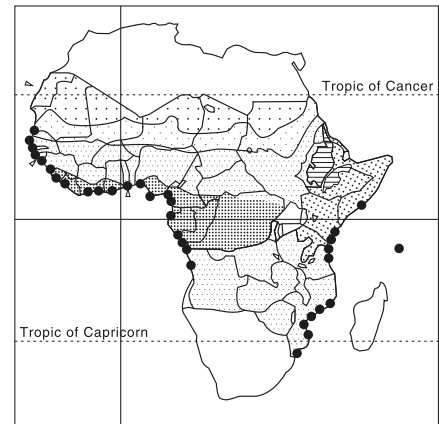
Camoensia scandens



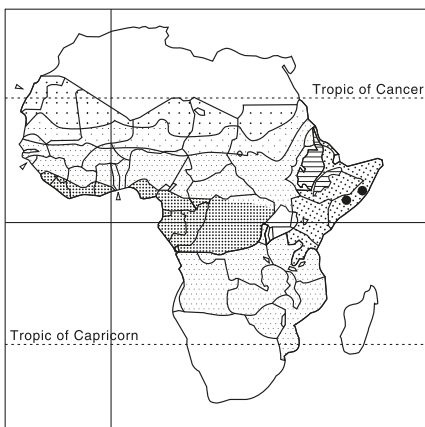
Canavalia africana



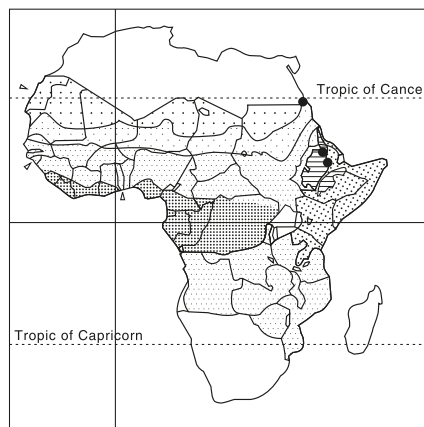
Canavalia cathartica



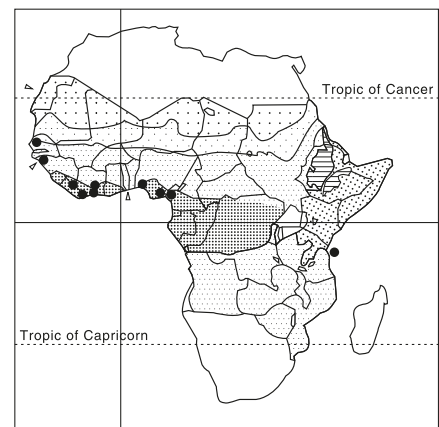
Canavalia rosea



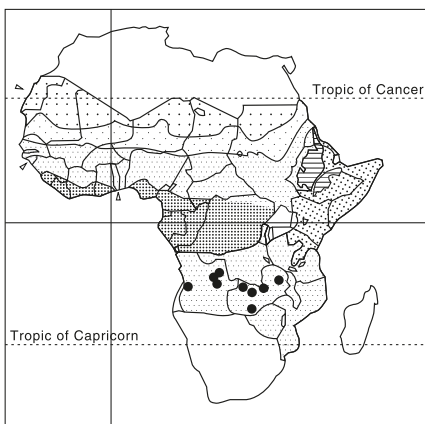
Chapmania somalensis



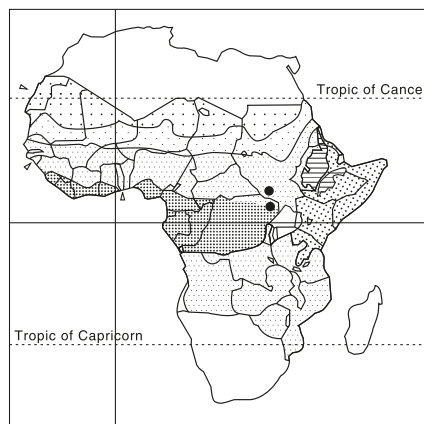
Cicer cuneatum



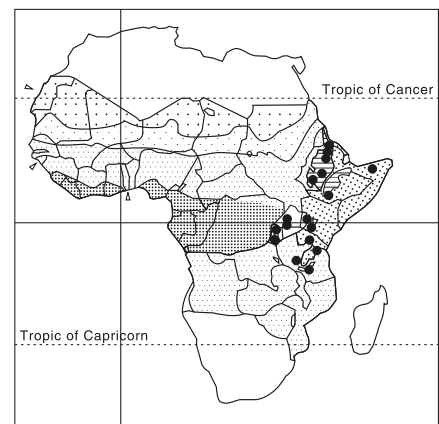
Clitoria falcata



Clitoria kaessneri



Clitoriopsis mollis



Colutea abyssinica

CICER

C. cuneatum Hochst. ex A. Rich.

Erect or ± climbing annual herb 20-40(-60) cm tall with few branches at the base; tendrils present on upper leaves.

Grassland; weed in cultivations (*Sorghum*); 1000-2200 m alt. SE Egypt; Saudi Arabia. Can be expected in inner coastal or coastal areas of the Sudan.

SYNONYM:

Cicer ervoides Brign. = **Lens**

CLITORIA / 3**Clitoria falcata** Lam.

syn.: *C. glycinoides* DC.; *C. rubiginosa* Vent. ex Pers., incl. var. *glabrescens* Verdc.; *Martusia physalodes* Schult.; *M. rubiginosa* (Vent. ex Pers.) Britton in Britton & Wilson

Perennial climbing herb with slender stems, glabrous or sparsely to densely pilose.

Bottoms of eroded area, on sandy soil; niayes; disturbed ground; sea-level to ? m alt.

Madagascar; tropical America.

A. Lourteig in *Phytologia* 65: 394-395, 1988, distinguishes 2 species, viz. *C. falcata* Lam. and *C. rubiginosa* Vent. ex Pers. In *Legumes Africa* (p. 390, 1989), J. M. Lock considers the latter as a synonym under *C. falcata* Lam., and so does H. M. Burkill in *Useful Pl. W. Trop. Afr.* 3: 304, 1995. However, Du Puy & al., *Leguminosae Madag.*: 538-539, 2002, treat the plant occurring in Madagascar and tropical Africa as *C. rubiginosa*, with *C. falcata* sensu auct., non Lam. as a synonym. – Here we have followed Lock, l. c.

C. kaessneri Harms – Icon.: *Fl. Zambes.* 3/5: 35, 2001.

Subshrub with a woody rootstock and numerous erect or trailing stems 0,4-1 m tall, subangular, pubescent, slightly flexuous. Seeds and fruit known.

Miombo and related woodlands; 1000-1410 m alt.

C. ternatea L., incl. fa. *albiflora* (Mattei) Chiov. and fa. *flaviflora* Chiov., and var. *angustifolia* Hochst. ex Bak. f.

syn.: *C. zanzibarensis* Vatke; *C. albiflora* Mattei; *C. tanganicensis* Micheli; *C. mearnsii* De Wild.

Perennial climbing or trailing herb or suberect at base, 0,5-3 m long; rootstock woody; stems slender, glabrescent or appressed pubescent.

Grassland; grassland with scattered trees; scrub; bush; old cultivations; savanna with *Hyparrhenia*; sandy waste place; niayes; torrent sides; bushy places at river banks; bushy hills, on red-clay soil, etc.; 0-1500 m alt.

The true distribution now obscured by widespread cultivation; pantropical. – Not mapped.

SYNONYMS:

Clitoria alba G. Don = **Vigna unguiculata** subsp. **alba**

racemosa G. Don = **Vigna**

viridiflora Bouton ex Hook. = **Macrotyloma axillare** var. **glabrum**

CLITORIOPSIS / 1

For *C. mollis* seeds unknown.

Clitoriopsis mollis R. Wilczek

Shrub 2,5-3 m tall with tomentose to white-pubescent stems; seeds unknown.

Humid savanna; edges of disturbed forest gallery; 960 m alt.

COLUTEA / 1**Colutea abyssinica** Kunth & Bouché, incl. var. *macrophysa* (Chiov.) Browicz

syn.: *C. halepica* Lam. var. *sericea* A. Rich. and var. *abyssinica* Schweinf. ex Gürcke

Abundantly branched shrub (1 m), occasionally a tree to 4,5 m tall; young branches greenish, at first with white appressed hairs, later glabrescent, glabrous or glabrate, light brown; flowers dark reddish brown, nearly black.

Grassland with *Lannea stuhlmannii* var. *brevifolia*, *Rhus glaucescens*, *Allophylus alnifolius*, *Terminalia mildbraedii*, *Ximania americana* var. *tomentosa*, *Cassia edulis*, *Securidaca longepedunculata*, *Senecio petitianus*; evergreen scrub; forest margins; open savanna-woodland with *Olea chrysophylla*, *Acacia lahai*, *A. abyssinica*; rocky slopes; glades of *Juniperus* forest; 1200-4000 m alt. – In its whole area rather rare except in parts of Kenya and Tanzania.

Var. **gillettii** Browicz, described from W Kenya (K3, Gilgil) in *Monogr. Bot.* 14 (1963), with yellow flowers, is what? (not quoted by Beentje, Kenya trees, shrubs..., 1994).

SYNONYM:

Colutea frutescens L. = **Sutherlandia**

CORDYLA – SEE UNDER CAESALPINIACEAE**CORONILLA / 1****Coronilla scorpioides** (L.) W. D. J. Koch

bas.: *Ornithopus scorpioides*

Annual herb, glabrous and glaucous; stems 5-55 cm tall, cylindrical, ramose from the base, main stem erect, lateral branches ascendant.

Weed; ±2450 m alt.

Mediterranean region; Macaronesia; W Asia.

SYNONYMS:

Coronilla aculeata Schreb. = **Sesbania bispinosa**

sericea Willd. = **S. sericea**

somalensis Thulin = **Securigera**

CRAIBIA / 10

For one species fruit and ecology unknown, and for another species fruit probably unknown.

Craibia affinis (De Wild.) De Wild.

bas.: *Lonchocarpus affinis* De Wild.

syn.: *L. dubius* De Wild.; *Craibia dubia* (De Wild.) De Wild.

Tree or shrub to 15 m; trunk 30 cm Ø; or shrub; crown spherical; bark pale grey, thin, smooth; branches drooping; twigs glabrous or very sparsely dark brown pilose, finely striate, 3-4 mm Ø, slightly swollen under the nodes.

Edges of gallery forest; evergreen thickets; forests; sometimes common; 450-1500 m alt.

Intermediates with *C. brevicaudata* subsp. *baptistarum* exist.

C. atlantica Dunn

Tree ±9 m; trunk 10-25 cm Ø.

Secondary bush on rocky soil with *Elaeophorbia grandifolia*; uncommon; forest; 1-200 m alt.

Variable species.

Ghana? Not in Gabon (= *C. laurentii*).

C. brevicaudata (Vatke) Dunn

bas.: *Dalbergia brevicaudata* Vatke

syn.: *Lonchocarpus brevicaudatus* (Vatke) Harms

Shrub or tree 2-20 m tall; twigs sparsely or, less often, densely brown pilose at first, later glabrescent; crown rounded, spreading; bark pale grey, smooth, flaking.

Acacia-Commiphora woodland; evergreen coastal forest; fringing forest; rocky clefts; evergreen forest remnants; deciduous thickets; rain-forest; 70-1800 m alt.

Variable species (the subspecies are not always easy to distinguish).

Comprises 4 subsp.: – subsp. **brevicaudata** [syn.: *Lonchocarpus deguelioides* Harms]; – subsp. **baptistarum** (Buett.) J. B. Gillett [syn.: *Lonchocarpus crassifolius* Harms; *L. wentzelianus* Harms; *Craibia crassifolia* (Harms) Dunn; *Schefflerodendron gazense* Bak. f.]; – subsp. **burtii** (Bak. f.) J. B. Gillett; – subsp. **schliebenii** (Harms) J. B. Gillett

C. brownii Dunn

syn.: *C. elliottii* Dunn

Tree 6-20 m or shrub 3 m tall; twigs 3-4 mm Ø, glabrous or with a few scattered long dark hairs.

Rain-forest with *Chrysophyllum albidum*, *Cola gigantea*, *Erythrophleum suaveolens*, *Alstonia boonei*, *Parinari excelsa*, *Millettia excelsa*; along rivers; 1100-2200 m alt.

C. grandiflora (Micheli) Bak. f.

bas.: *Pterocarpus grandiflorus* Micheli

syn.: *Craibia mildbraedii* Harms

Shrub or tree 9-20 m tall, bole 20-40 cm Ø; bark finely fissured; young stems and other parts of plant densely brown pubescent.

Along rivers (riparian “mushitu”); 900-1500 m alt.

CRAIBIA

C. laurentii (De Wild.) De Wild.

bas.: *Lonchocarpus laurentii* De Wild.

Tree to 10 m; bole 45 cm Ø; twigs almost glabrous, or shortly pubescent when young (usually with a few persistent hairs to 0,5 mm long around the leaf-base).

Dry forest; among rocks; gullies on hillsides; fringing forest with *Coffea canephora*; closed forest; 600-1350 m alt.

C. lujai De Wild., incl. var. *longeacuminata* De Wild.

Tree 15-20 m; trunk to 60 cm Ø; branches striate, reddish; seeds unknown?

Forest.

C. macrantha (Pellegr.) J. B. Gillett

Tree; branches white-grey, glabrous; leaflets 13 cm long × 7 cm broad; fruit unknown.

Ecology unknown (? forest).

C. simplex Dunn

Glabrous shrub 3-4 m tall (? or tree) with leaves 1-foliolate. River mouth.

C. zimmermannii (Harms) Dunn

bas.: *Lonchocarpus zimmermannii* Harms

syn.: *Craibia filipes* Dunn, excl. var. *macrantha* Pellegr. (= **C. macrantha**).

Evergreen tree 4-5 m tall but to 15 m under favourable conditions; bark white or pale grey, scaly or slightly flaking; young twigs almost glabrous or sparsely brown pilose with hairs ± 1 mm long, later glabrescent.

Evergreen forest with *Pterocarpus*, *Xylia*, *Newtonia*, *Erythrophleum*, *Hirtella*); coastal bush on dunes with *Mimusops*, *Bridelia*, *Aloe bainesii*, *Euphorbia*, *Vepris*; mangrove margins; also dry *Azelia* forest; 0-1550 m alt.

S. Africa, possibly Swaziland.

SYNONYMS:

Craibia baptistarum (Buett.) Dunn = **Craibia brevicaudata** subsp.

bequaertii De Wild. = **Millettia psilopetala**

burtii Bak. f. = **Craibia brevicaudata** subsp.

crassifolia (Harms) Dunn = **C. brevicaudata** subsp. **baptistarum**

dubia (De Wild.) De Wild. = **C. affinis**

elliottii Dunn = **C. brownii**

filipes Dunn = **C. zimmermannii**

var. *macrantha* Pellegr. = **C. macrantha**

gazensis (Bak. f.) Bak. f. = **C. brevicaudata** subsp. **baptistarum**

mildbraedii Harms = **C. grandiflora**

schliebenii Harms = **C. brevicaudata** subsp.

utilis M. B. Moss = **C. laurentii**

wentzeliana (Harms) Harms = **C. brevicaudata** subsp. **baptistarum**

CROTALARIA / 459

A genus of over 600 species in the tropics, extending into the subtropics, in particular of the southern hemisphere.

The largest genus of *Fabaceae* in tropical Africa, most numerous in the eastern and southern parts. The flowers are usually yellow, the leaves 3-foliolate sometimes without stipules.

The following treatment is mainly based on R. M. Polhill, "Crotalaria in Africa and Madagascar" (Rotterdam 1982).

* * *

The tropical African species listed below are extremely varied in stature and habit, ranging from tiny annuals (e.g. *C. microphylla* and *C. pygmaea*, 2 cm tall; *C. parvula*, *C. quarrei*, *C. saharae*, *C. sertulifera* and *C. shirensis*, 5 cm tall) to large annuals or short-lived perennials (1,5-3 m tall); from shrublets to 3 m tall shrubs, or perennial plants (pyrophytes of savannas) with a woody rootstock giving rise to aerial stems of different statures and sizes; the largest species in the genus (*C. exaltata*) is a shrub or small tree 3-7,5 m tall.

* * *

A number of species are imperfectly known (e.g. *C. callensii*, *C. herpetoclada*, *C. hypargyrea*, *C. jerokoensis*, *C. jubae*, *C. loandae*, *C. lukomae*, *C. preladoi*, *C. umbellifera*), whereas *C. sengensis* is only known from the description (type lost). Two nomina nuda are recorded (p. 308).

In a table (not published here) we have listed the species that, in one way or the other, are not sufficiently known. This list quotes 127 species (with one subspecies taken apart), equalling approximately 28 % of the total number (459 spp.).

- No flower is known for *C. hypargyrea*, whereas the flower colour of *C. fenarolii* is not recorded (in *C. umbellifera* colour of the type specimen uncertain),
- the fruits are unknown for 30 species (= >6 %),
- no *mature* pods for further 17(+2?) species (= >3 %),
- the seeds of 50(+1?) species are not seen (= <11 %),
- *mature* seeds unknown for further 48(+2?) species (= c. 10 %),
- the ecology is not recorded for 10(+6?) species (= >2 %),
- fifty-one (+5?) species (= >10 %) are known only from the type gathering or locality (one species without any extant specimen),
- further 8 species (= >1 %) are represented by only 2 collections.

The geographical distribution of these "insufficiently" known species (127 out of 459 species) is characteristic. The largest part, i.e. 32 species were collected in SE Zaire (Katanga) 7 of which also occurring in nearby Zambia, Tanzania or Mozambique, further 6 in S Zaire (one of them also in adjacent Angola), and another one in NE Zaire.

Thirty species were collected in Angola (and nearby SW Zaire, Zambia, and one also in a range passing through SE Zaire-WC Tanzania). Five species are known from Zambia only, five others from NE-NC Mozambique. In N and SW Tanzania 13 species were collected, 3 in Malawi, 1 in NE Kenya, 1 in CE Uganda, 2 in N and 1 in SW Zimbabwe, and another one also in Mozambique.

CROTALARIA

Other collections of insufficiently known species come from Ethiopia (10 species, one also occurring in Somalia) and from Somalia (8 species). One of those was collected in an area covering Somalia-Ethiopia-Kenya-N Uganda-N Tanzania. Two poorly known species are native of SW Cameroon, and further two occur in an area ranging from Mauritania to Niger and Mali.

From the figures given above (even if they are too high), it is evident, that our knowledge of the genus is not quite satisfactory, in spite of the outstanding monograph published by R. M. Polhill in 1982. Recent flora accounts have not given much additional information.

KALEAB ASRES & al. (2004). Patterns of pyrrolizidine alkaloids in 12 Ethiopian Crotalaria species. *Biochem. Syst. Ecol.* 32: 915-930.

Crotalaria abbreviata Bak. f.

Erect annual herb to 35 cm tall; lower branches long prostrate, pilose or hirsute with tawny spreading hairs.

Sand along lake shores; grassland, deciduous woodland, thicket in open sandy places, sometimes damp; also roadsides and waste places; 750-2250 m alt.

Most frequently recorded from around Lake Tanganyika.

C. abscondita Welw. ex Bak.

Perennial erect herb, much-branched, with the habit of a *Genista*; densely villous, with grey hairs 2 mm long, very fine and becoming twisted, "torulose"; to 30-70 cm tall, from a well-developed taproot (or rhizomatous rootstock); stipules absent.

Stony and drier rocky sparingly bushy hilly places, rocky grassland, thicket; disturbed places; seasonally wet places in miombo woodland (Fl. Zambes. area); 1200-1500 m alt.

C. aculeata De Wild.

syn.: *C. spinosa* Hochst. ex Benth. var. *pubescens* Benth., and subsp. *aculeata* (De Wild.) Bak. f. (all of subsp. **aculeata**); and Enum. 2: 70, 1992.

Erect spiny short-lived shrub, wiry to bushy, 0,3-1,5(-3) m tall; stems subappressed to crisped pubescent; spines spreading, formed by the spine-tipped inflorescences; flowers mostly solitary.

Open, dry disturbed places in grassland and pastures, on mountain slopes and roadsides; seasonally damp and disturbed places; steep slopes and wet soil on lake shores (Zaire); lowland and medium-altitude deciduous bushland; subsp. **claessensii** in higher rainfall areas; 900-1800 m alt.

Variable in shape of pods.

Madagascar.

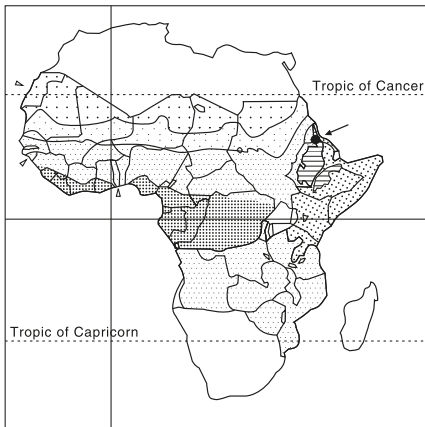
Comprises 2 subspp.: – subsp. **claessensii** (De Wild.) Polhill N of 5°S, subsp. **aculeata** S of 5°S.

C. aculeata and *C. kapiensis* have been included in *C. spinosa*, here kept separate, following Polhill o.c. Localities in Senegal are attributed to *C. spinosa*.

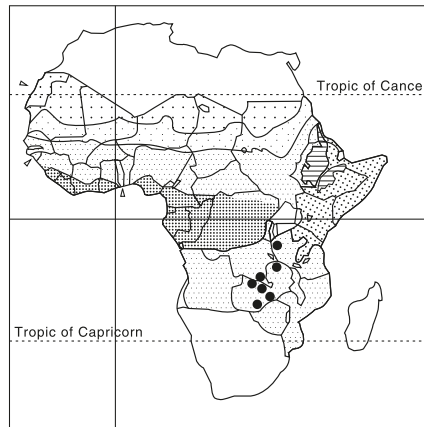
C. adamii R. Wilczek

Erect annual herb with slender stems, shortly branching above, 20-75 cm tall; leaves 1-foliolate, stipules absent; flowers white, bluish flushed.

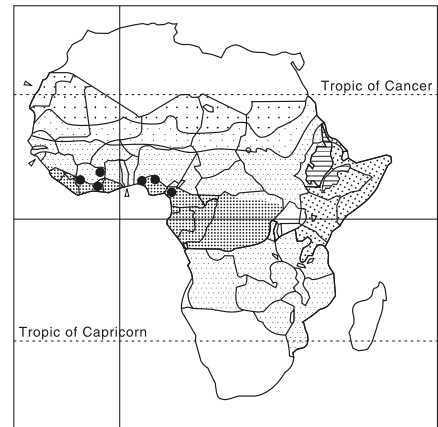
Deciduous woodland; only known from Shaba (Kibara Plateau), Zaire.



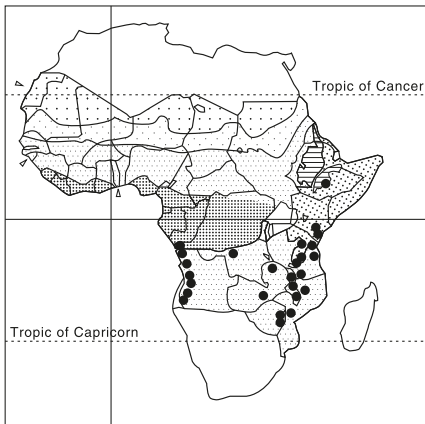
Coronilla scorpioides



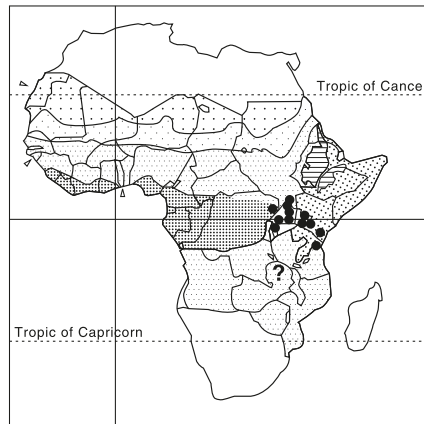
Craibia affinis



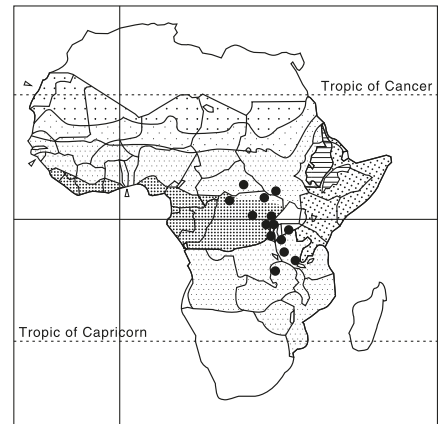
Craibia atlantica



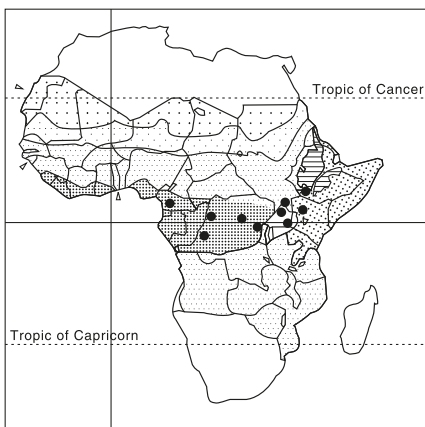
Craibia brevicaudata



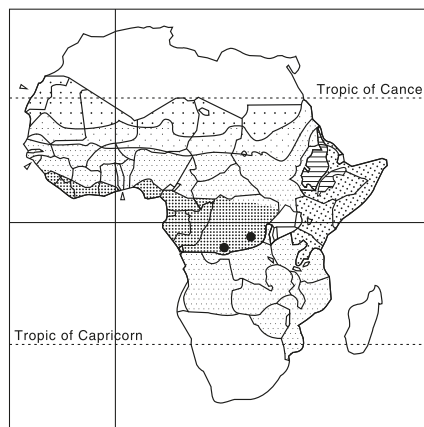
Craibia brownii



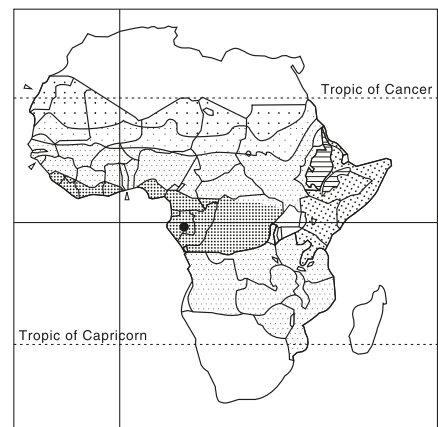
Craibia grandiflora



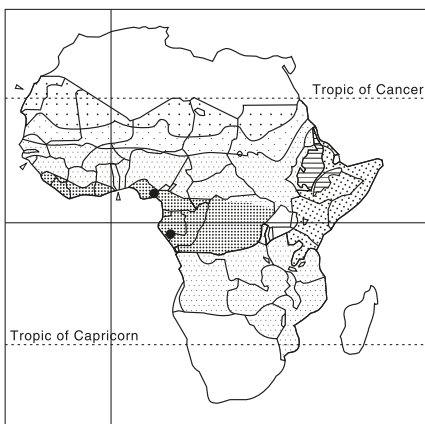
Craibia laurentii



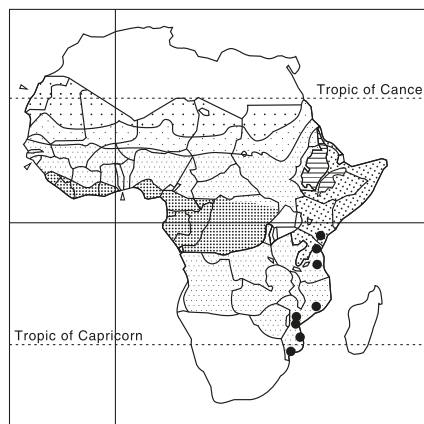
Craibia lujai



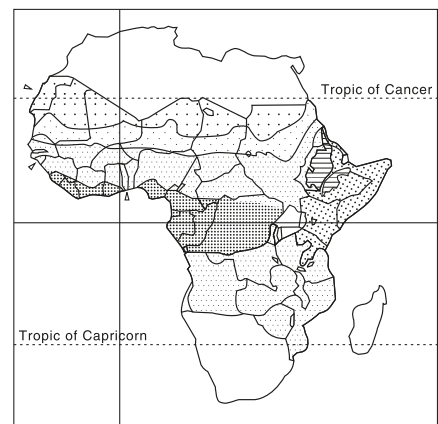
Craibia macrantha



Craibia simplex



Craibia zimmermannii



CROTALARIA

C. adamsonii Bak. f.

Erect suffrutex with several laxly branched, 4-angled stems, sparsely appressed-puberulous, 20-50 cm tall, from a small woody rootstock; leaves simple, obovate.

Brachystegia woodland, grassy places; marshes, ditches, seasonally wet sandy places in miombo woodland (Fl. Zambes. area); 900-1650 m alt.

C. adenocarpoides Taub.

Bushy annual or short-lived perennial herb, 0.4-1.8 m tall, single-stemmed from a taproot; stems densely spreading, pilose; stipules absent.

Steppe with *Acanthus*, wooded savanna; edges of swamps; forest and old forest clearings; upland grassland; dry, rocky mountain slopes; 1500-2350 m alt.

C. adolfi Harms

Spreading bushy shrub to 2 m tall; branches shortly pubescent. Rain-forest, at margins and streamsides; 700-2000 m alt.

Known only from the mountains just N of Lake Malawi/Nyasa.

C. aegyptiaca Benth.

Shrublet, much branched, rounded, usually leafless at flowering, to 60 cm tall; stems ribbed, appressed-hairy; leaves simple, ± ovate, stipules absent.

Desert wadis, semi-desert; coastal plains in sand or gravel; to 270 m alt.

Egypt, Israel, Arabia.

C. afrocentralis Polhill

Erect annual or short-lived perennial herb to 75 cm tall, spreadingly branched from near the base; branches yellowish-hirsute. Savanna and old clearings, disturbed places.

Closely related to *C. atrorubens* and *C. ononoides* (which have larger flowers).

C. agatiflora Schweinf.

Woody bushy herb [subsp. **agatiflora** and subsp. **imperialis** (Taub.) Polhill], shrub or small tree [subsp. **engleri** (Harms ex Bak. f.) Polhill], 1-10 m tall, much-branched, glabrous to densely hairy; flowers very large, lemon to greenish-yellow.

Margins and clearings of upland rain-forest and riverine forest; scattered-tree grassland; upland and riverine bushland; roadsides, cultivated and waste places; open deciduous bushland, grassland; ericaceous heath (subsp. **erlangeri** Bak. f.); moist forest and bamboo in margins and clearings, also in *Hagenia* zone (subsp. **engleri**); 1140-3300 m alt.

Variable species in life form, pubescence, shape of bracteoles; with several characteristic local races (subsp. **engleri**) on the different mountain ranges in Kenya and Tanzania.

Comprises 5 subsp.: – *Crotalaria dawei* Bak. f. is a synonym of subsp. **imperialis** (for synonymy see Enum. 2: 70, 1992). Subsp. **agatiflora** and **imperialis** tend to occur at lower altitudes, whereas subsp. **engleri** grows at higher altitudes and in less exposed places (cf. Polhill o.c.: 72-74).

Sometimes cultivated as an ornamental. Subsp. **imperialis** introduced in C and E Zimbabwe and S Malawi.

Intermediates between the subspecies occur where their ranges overlap. Introgression with *C. rosenii* occurring in Ethiopia.

CROTALARIA

[C. alata Buch.-Ham. ex D. Don].

Erect or spreading annual herb to 1 m tall; stems ascending, with longish fine generally spreading hairs; stipules decurrent forming wings on stem; leaves simple; racemes short; calyx 2-lipped, as long as corolla.

Native of Asia (type from Nepal); widely introduced as a green manure.

Locally naturalised in Africa, e.g. Ghana; Uganda, Tanzania (cultivated ground, c. 1000 m alt.). Also Madagascar. – Not mapped.

C. albicaulis Franch.

Shrubby perennial herb 0.2-1 m tall, with white tomentellous branches; stipules absent; flowers with purplish standard and keel, and yellow wings.

Dry deciduous bushland with *Acacia-Commiphora*, semi-evergreen bushland, rocky outcrops, along river courses; on sandy, calcareous or stony soils; 600-1640 m alt.

C. alemanniana Torre

Several erect stems to 60 cm tall, ribbed, densely strigulose white-hairy, arising from a woody rootstock; stipules absent; pod 2-seeded; mature seeds unknown.

Deciduous woodland and bushland; sometimes on Kalahari sands; 900-1200 m alt.

C. alexandri Bak. f. – Icon.: Fl. Zambes. 3(7): 225, 2003.

syn.: *C. buchananii* Bak. f.; *C. randii* Bak. f., excl. var. *congoensis* Bak. f. (= *C. pseudo-alexandri*).

Annual erect herb branching in the lower half, 5-40 cm tall; stem slender, coarsely hairy.

Brachystegia woodland, deciduous bushland, grassy savanna, secondary scrub, pastures; *Loudetia arundinacea* grassland with scattered trees (Sudan, Imatong Mts.); sometimes in rather dry sites; disturbed places, roadsides, cultivated ground; widespread; 500-2500 m alt.

C. allophylla Thulin

Perennial herb with a long taproot; stems several, ascending to suberect, ± glabrous, 5-15 cm long; leaves 1(3)-foliolate; flowers pale lilac, veined purple.

Undulating grassy fixed dunes with limestone exposures with a vegetation of low prostrate shrubs: *Dichrostachys kirkii*, *Jatropha*, *Euphorbia cuneata*, *Grewia cerasifera*; to ±200 m alt.

Only known from 2 collections (frequent on the type locality).

Related to *C. boranica* (annual with mostly 3-foliate leaves and smaller flowers).

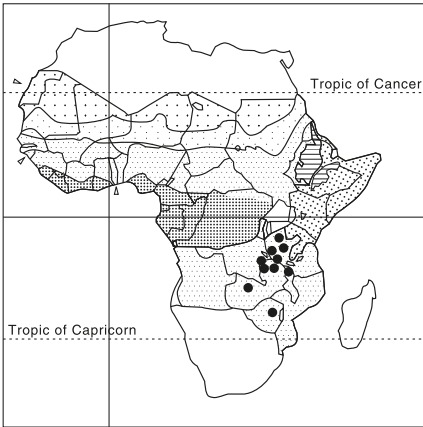
C. alticola Polhill

Shrub with densely appressed-hairy branches; seeds unknown. Montane grassland, bamboo forest; up to 3000 m alt.

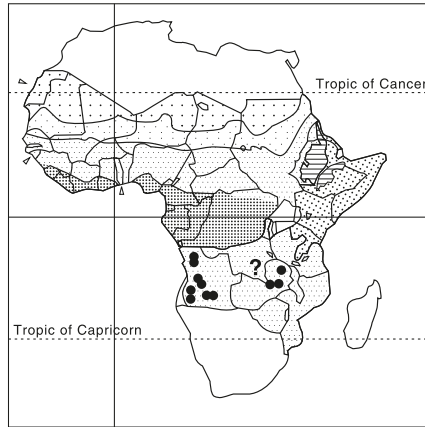
C. amoena Welw. ex Bak.

Bushy woody tomentose herb or suberect shrub to 2 m tall; flowers tinged brown or purple.

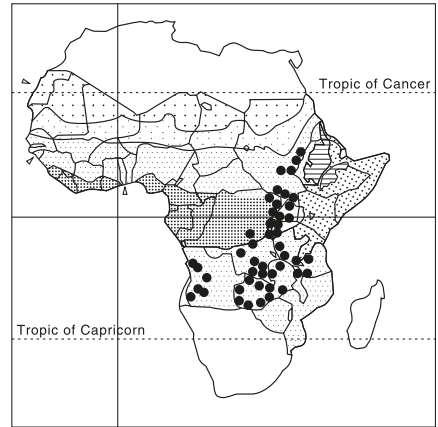
Thickets of drier pastures (Angola); deciduous woodland; *Brachystegia* plateau woodland, savanna in higher rainfall areas; 1000-1750 m alt.



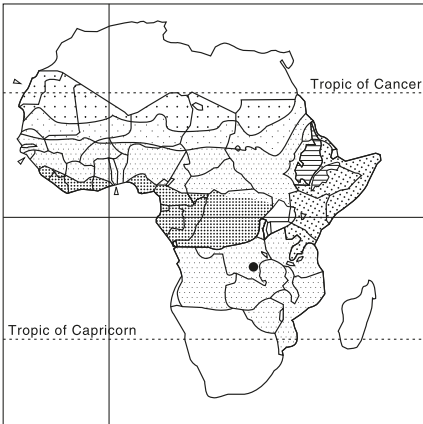
Crotalaria abbreviata



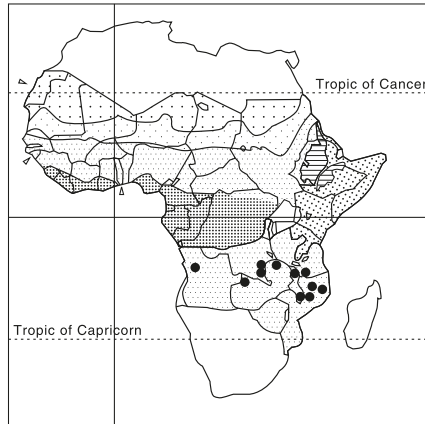
Crotalaria abscondita



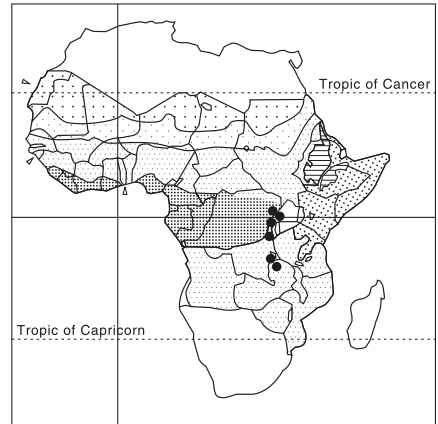
Crotalaria aculeata



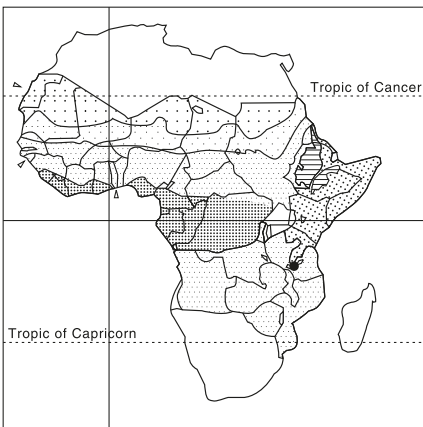
Crotalaria adamii



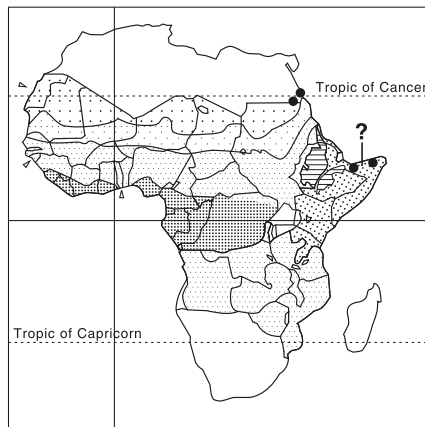
Crotalaria adamsonii



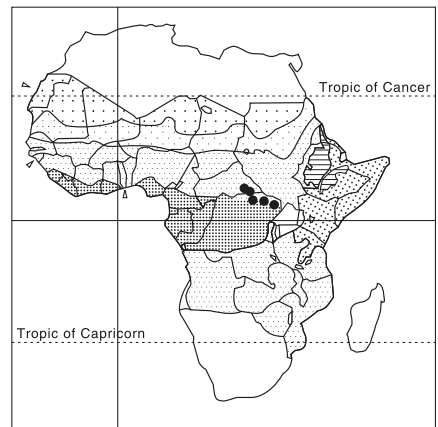
Crotalaria adenocarpoides



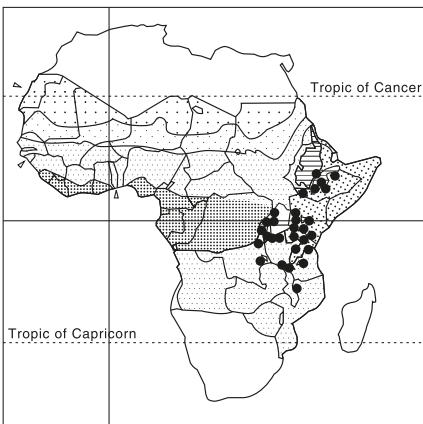
Crotalaria adolfi



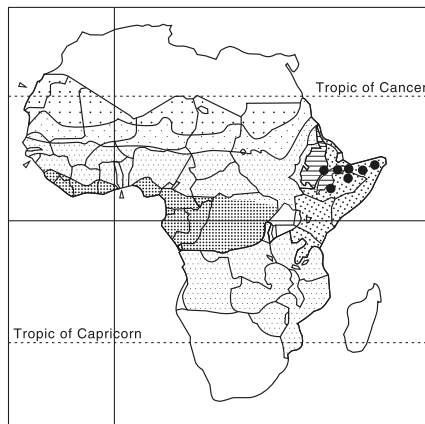
Crotalaria aegyptiaca



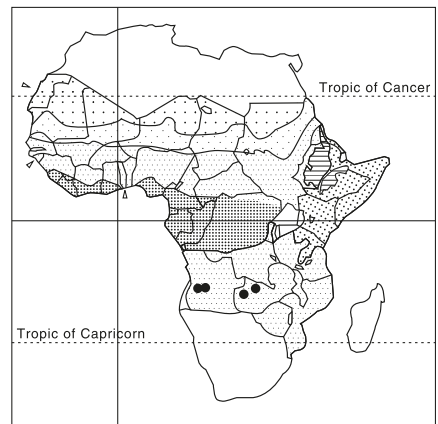
Crotalaria afrocentralis



Crotalaria agatiflora



Crotalaria albicaulis



Crotalaria alemanniana

CROTALARIA AMOENA

Variable in pubescence of the keel-petals.

According to Polhill, *Crotalaria*: 123, 1982, there is an undescribed new species allied to *C. amoena* and *C. chrysotricha* from Zaire (Kinshasa; Callens 3913) and Angola (Lunda; Exell & Mendonça 995); with underside of leaves golden felty-hairy and oblong-ellipsoid, 2-seeded pod.

C. andromedifolia R. Wilczek

Erect suffrutex or small shrub, much-branched, densely long-hairy; stipules absent.

Grassland; roadsides, disturbed places.

Around N end of Lake Tanganyika.

C. angulicaulis Harms

Erect annual herb with several stems from the base, 3-4-angled, ribbed-slightly winged, pubescent, glabrescent, 0,5-1,5 m tall; leaves 1-foliolate; flowers violet-blue.

Deciduous woodland, wooded grassland, thickets, on Kalahari sand; 900-1200 m alt.

C. anisophylla (Hiern) Welw. ex Bak. f.

syn.: *C. glauca* Willd. var.? *anisophylla* (Welw. ms.) Hiern, Catalogue ... Afric. Pl. ... Welwitsch, Dicot. 1: 195, 1896; *C. hislopii* Corbishley

Annual erect herb 15-50 cm tall, weak ascending-branched at base, pubescent with appressed biramous hairs; leaves 1-foliolate; flowers blue to violet.

In marshy places along riversides, scarce (Angola); woodland and wooded or open grassland in valleys, on sand; disturbed and damp places on sandy soils in miombo and *Baikiaea* woodland (Fl. Zambes. area).

C. annua Milne-Redh.

Annual erect herb, woody at base, with stiffly ascending branches above, (0,3-)0,5-1,8 m tall, with densely hairy stem; stipules absent.

Brachystegia woodland on very hard, dry bared ground, in association with *Crotalaria filicaulis*, *C. bequaertii*, *Aster eylesii*, *Eragrostis chapelieri*, *Melinis macrochaeta*, *Rhynchelytrum repens*, *R. roseum* (Zambia); sometimes by streams or in dambo (Fl. Zambes. area); open forest on deep red soil (Zaire, Haut-Katanga); thicket edges; 1100-1740 m alt.

C. anthyllopsi Welw. ex Bak., incl. var. *albopilosa* R. E. Fr.

Annual, shortly erect herb 0,5 m tall, with long decumbent lower branches, covered with long bristly spreading brown hairs; leaves 1-foliolate.

In a variety of habitats; grassy savanna; stony pastures in mountains, and sandy pastures flooded in the rainy season, rare (Angola); wooded grassland sometimes in rocky places, uncommon (Kenya); deciduous bushland and *Brachystegia* woodland, grassland and river banks, also roadsides and cultivated ground, ruderal (E. trop. Afr.); 700-2250 m alt. (1400-1700 m, Rwanda).

C. antunesii Bak. f.

Erect annual herb 40-80 cm tall, with ascending branches above, slightly spreading-pubescent; stipules absent; mature seeds unknown.

CROTALARIA ANTUNESII

Stony mountain side; 1800 m alt.

Only known from the type (near Huila, Angola; Dekindt 3246). Specimens cited by Torre [Consp. Fl. Angol. 3(2): 46, 1962] from E Angola belong to *C. annua*, fide Polhill o.c.: 314. Polhill l.c. cites an undescribed species from NE Zaire coming close to *C. antunesii*; in savanna (Gerard 1615, 1704).

C. arcuata Polhill

syn.: *C. acuminatissima* sensu Wilczek, Fl. Congo Belge, Ruanda-Urundi 4: 198, 1953, non Bak. f.

Annual erect pilose herb, sparsely branched below the flowering part, to 90 cm tall; stipules absent; mature pod and seeds unknown.

Damp sandy places (in miombo woodland) around Lakes Mweru and Mweru Wantipa; 900-1200 m alt.

Sometimes approaching *C. elisabethae*.

C. arenaria Benth.

(Annual to) perennial herb with woody prostrate, much-branched stems, ribbed, densely pale villous, 30-50 cm long; rarely a shrublet to 50 cm tall; leaves simple, stipules absent.

Sand dunes, red sand, coastal sand dunes; sandy places in dry savanna, semi-desert; never frequent.

C. argenteotomentosa R. Wilczek

Annual erect herb with ± slender ascending branches with dense silvery silky tomentum, 0,2-1 m tall; stipules absent.

Brachystegia woodland; 750-1500 m alt.

Comprises 2 subspp.

C. argyraea Welw. ex Bak., non *C. argyraea* Franch. 1882, nom. illegit. (= *C. saltiana*).

syn.: *C. pechueliana* Schinz

Shrubby erect herb, 0,5-1,2 m tall, moderately branched, turning woody, perennial or persisting for several years, with a fleshy root; stems snow-white-hairy, velvety, like those of *Indigofera argentea*; stipules absent; pod very hard, 2-seeded.

Sandy banks along rivers and around bases of hills and rocky outcrops, in desert or semi-desert.

Namibia.

C. argyrolobioides Bak.

Annual or short-lived perennial erect, well branched herb 0,3-2 m tall; branches fine appressed-hairy (sometimes with crisped hairs); stipules absent.

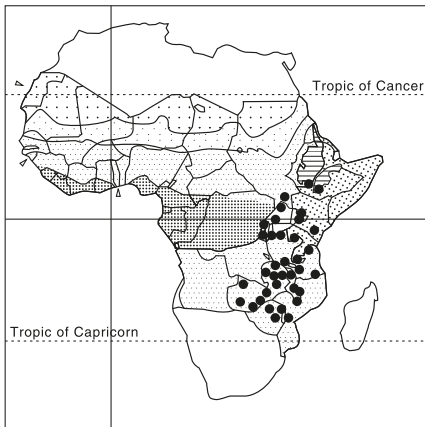
Steppe with *Acanthus*, bushy savanna, edge of swamps, forest and old clearings (Zaire); upland grassland and (secondary) bushland at forest margins on high ground; sometimes in higher rainfall *Brachystegia* woodland and down river valleys to low altitude; (900-)1350-2200 m alt.

Variable in type of indumentum, leaves and racemes.

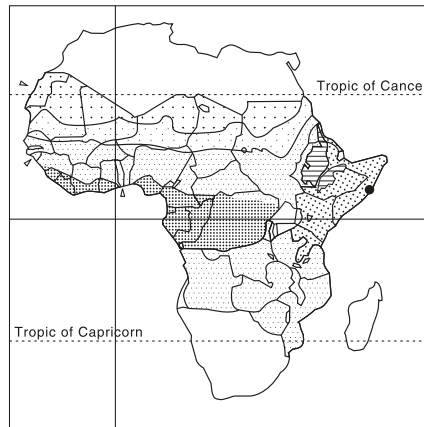
Replaced northwards by *C. adenocarpoides* and westwards and on lower ground in *Brachystegia* woodland by *C. annua*.

C. arushae Milne-Redh. ex Polhill

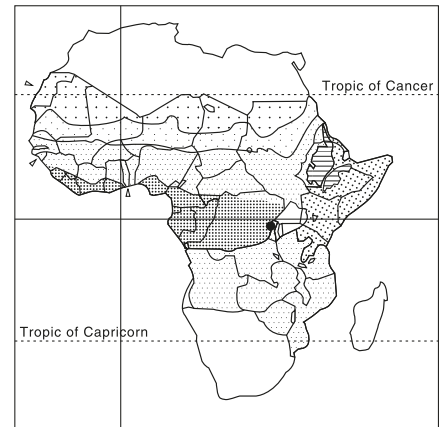
Bushy woody perennial herb, erect or spreading, to 1,8 m tall; branches pilose with whitish spreading hairs; (immature) pod asymmetrically oblong-clavate; mature seeds unknown.



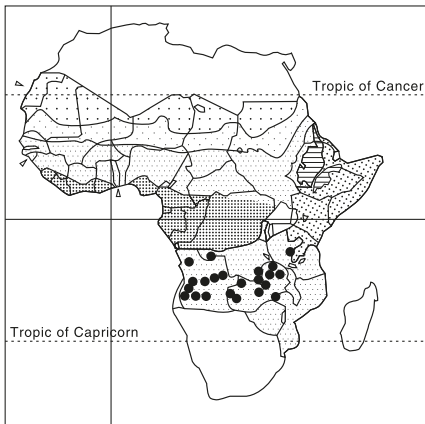
Crotalaria alexandri



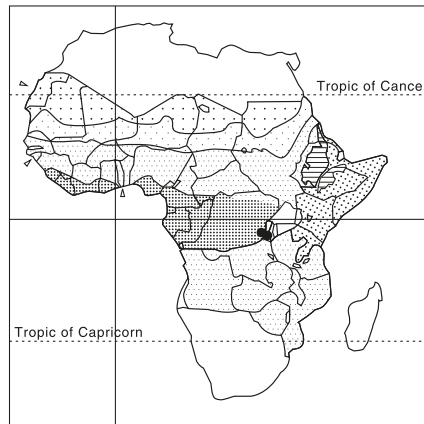
Crotalaria allophylla



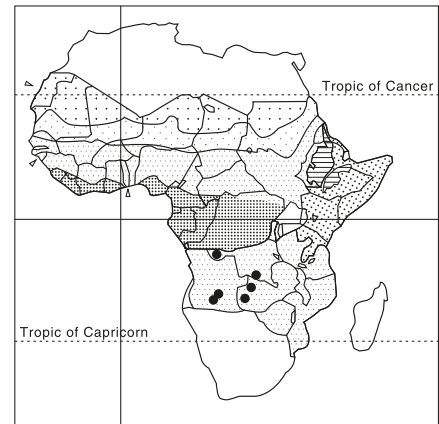
Crotalaria alticola



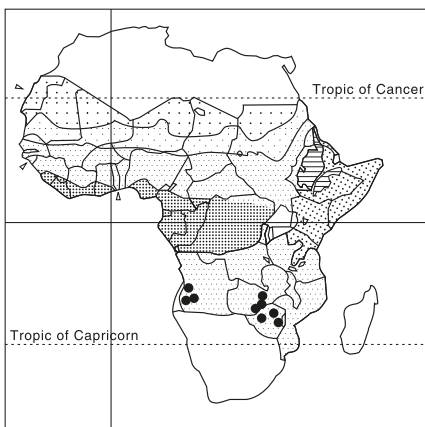
Crotalaria amoena



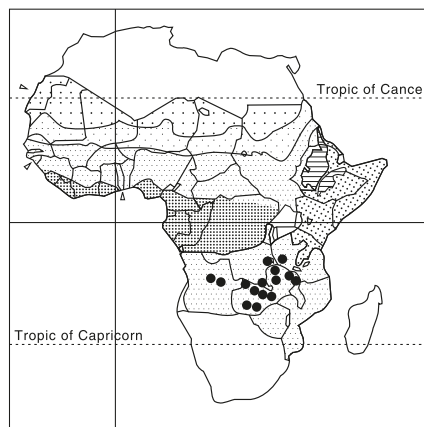
Crotalaria andromedifolia



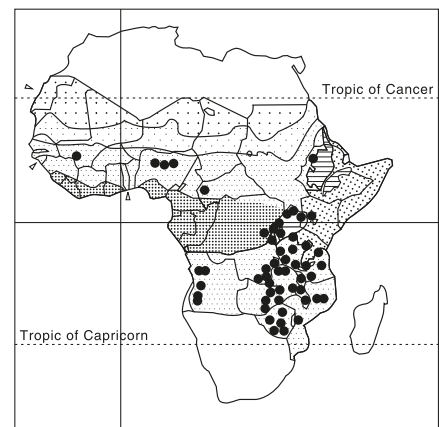
Crotalaria angulicaulis



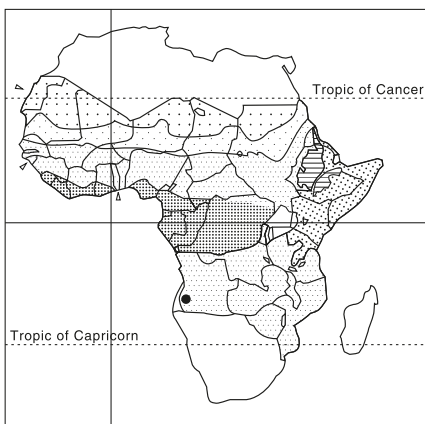
Crotalaria anisophylla



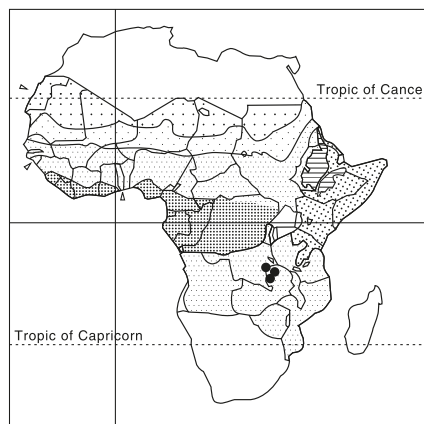
Crotalaria annua



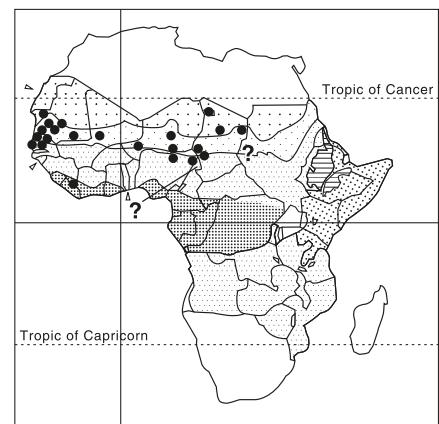
Crotalaria anthyllopsis



Crotalaria antunesii



Crotalaria arcuata



Crotalaria arenaria

CROTALARIA ARUSHAE

Grass “veld”, *Combretum* savanna, upland wooded grassland; 1200-1700 m alt.

Known only from around Mt. Meru.

Allied to *C. burttii*.

C. assurgens Polhill

Perennial herb with a deep taproot and with several erect much-branched stems, woody below, with sparsely puberulous branches, to 60 cm tall; stipules absent; mature seeds unknown.

(Secondary) *Brachystegia* woodland on sandy soil; roadside near garden in township, once *Brachystegia* woodland, waste ground by cultivation; overgrazed *Brachystegia-Uapaca* woodland; savanna bush; this species is the common perennial *Crotalaria* in the Songea District; 800-1100 m alt.

Closely related to *C. pallidicaulis* and *C. monteiroi*.

C. atrorubens Hochst. ex Benth.

syn.: *Chrysocalyx rubiginosa* Guill. & Perr. 1831; *Crotalaria rubiginosa* (Guill. & Perr.) Walp. 1842, non *Crotalaria rubiginosa* Willd. 1802, nom. illegit.; *Crotalaria iodina* Benth.; *C. guilleminiana* Dietr., nom. superfl. (type as *C. iodina*).

Annual much-branched erect or spreading herb, woody below, to 20-90 cm tall; branches yellowish silky-hairy; flowers in dense terminal heads.

Sandy savanna, sandy plateaux, cultivations with sandy(-loamy) soils.

Closely allied to *C. ononoides* (widespread in wetter grasslands).

C. awasensis Thulin

syn.: *C. lanceolata* E. Mey. subsp. *contigua* Polhill p.p., quoad specim. Vátova 2157.

Erect, much-branched annual herb to 0,6 m tall, with finely appressed-pubescent stem; stipules absent.

Wooded grassland; c. 1700 m alt.

Only known from Lake Awasa area; two collections.

Closely related to *C. lanceolata* and *C. fallax*.

C. axillaris Ait.

syn.: *C. latifolia* sensu Bak. Fl. Trop. Afr. 2: 42, 1871, non L.; *C. hildebrandtii* Vatke 1879, non Baill. 1885 (= *C. xanthoclada*, Madagascar).

Bushy woody herb or erect shrub 0,7-4 m tall, with coarsely, densely yellowish-pubescent branches; flowers few in the axils.

Forest margins, secondary bushland, grassland, along rivers, lakes and swamps; in areas of higher and more equably distributed rainfall; (deciduous) woodland, coral crags, on the coast (E Africa); dry evergreen forest; disturbed places, abandoned cultivations; damp sandy hilly places along rocks (Angola); thickets and old farms (W Africa); 1-2500 m alt. (Kenya; 900-1600 m in Ethiopia).

Variable species with local races (type of indumentum, size of flowers and fruits).

Flowers large showy; of ornamental value.

Disjunct distribution (a number of disjunctions).

C. axilliflora Bak. f.

Erect annual herb, simple or branched above, 30-75 cm tall, with densely silvery silky-hairy stems and a very hard taproot; stipules absent.

CROTALARIA AXILLIFLORA

Deciduous woodland, wooded savanna, forest, on sandy or sandy-loamy soils; 1200-1450 m alt.

Plants from higher elevations (c. 1450 m) and around Lake Mweru approaching *C. inflexa*.

C. axillifloroides Bak. f. ex R. Wilczek, incl. var. *gracilis* R. Wilczek, but excl. typo (= *C. subtilis* Polhill).

Annual erect herb, branched from near the base, 20-75 cm tall, densely silvery spreading pilose; stipules absent.

Brachystegia woodland, wooded savanna; c. 1000-1700 m alt.

C. bakeriana Rossberg

Herb to 1 m tall, well-branched, with very slender ± glabrous branches; pod and seeds unknown.

Plateau grassland.

Only known from the type (Hundt 470).

C. balbi Chiov.

Annual or short-lived perennial appressed-puberulous herb, erect to spreading, well-branched from the base, to 70 cm tall, often from a swollen rootstock; stipules absent; flowers veined reddish or purple.

Upland grassland, sometimes with scattered trees, often on shallow rocky soil; also weed of cultivated ground; (700-)1170-1900(-2300) m alt.

C. ballyi Polhill

Perennial herb with numerous slender minutely puberulous 4-angled stems to 40 cm long.

Deciduous bushland, sandy soil near waterhole; in grass bordering seasonal pools; 250-950 m alt.

C. bamendae Hepper

Shrubby herb or subshrub 30-60(-90) cm tall with densely pubescent branches; flowers very small (8-5 mm long) numerous in dense sessile heads; pod c. 5 mm long, 2-4-seeded.

Grassland at roadside; montane and wet grassland; 1800-2500 m alt.; seems rare.

According to M. Cheek & al., Pl. Mt. Oku...: 63-64, 2000, plants from Angola seem different from the Nigeria-Cameroon border area, and merit perhaps subspecific distinction. – Vulnerable to threats – fire and/or grazing may effect the species adversely.

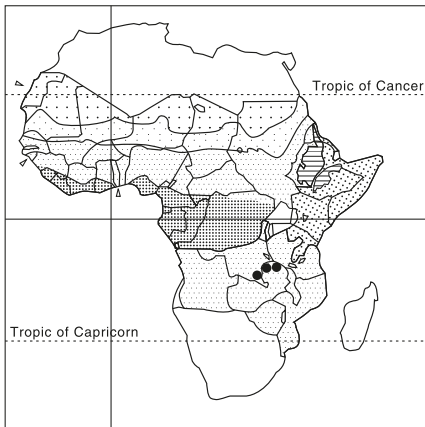
Species with uncertain relationships and isolated position taxonomically.

C. barkae Schweinf.

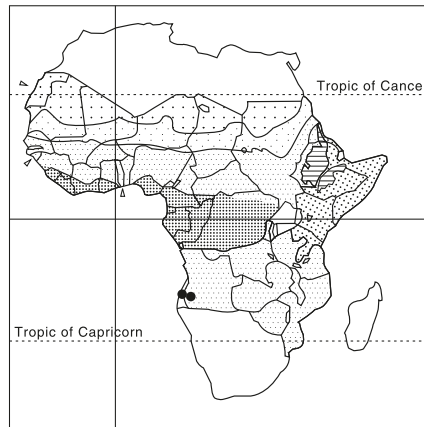
syn.: *C. trachycarpa* Taub. ex Bak. f.; *C. homalocarpa* Bak. f. (both of subsp. **barkae**); syn. and subsp., see Enum. 2: 71, 1992.

Annual or short-lived perennial with a leading shoot to 0,5(-1) m tall, with straggling lower branches; spreading hairs on stems and leaves; flowers greenish white to bright yellow sometimes purplish marked (said to be blue in Somalia collection of subsp. **zimmermannii**).

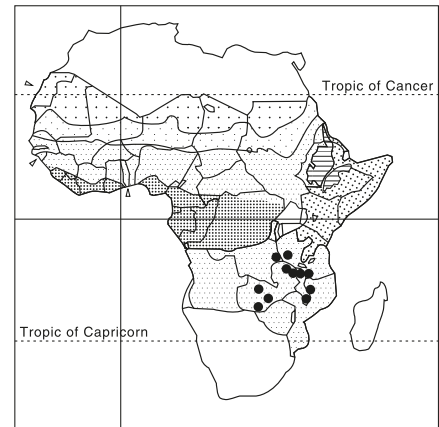
Deciduous bushland and grassland, dry and rocky places in savanna (Chad), fields of millet (Niger), also roadsides, gravel pits, streamsides, cultivated ground, usually on sandy soils, in drier parts of W to E Africa; 900-2600 m (550-1350 m in Fl.



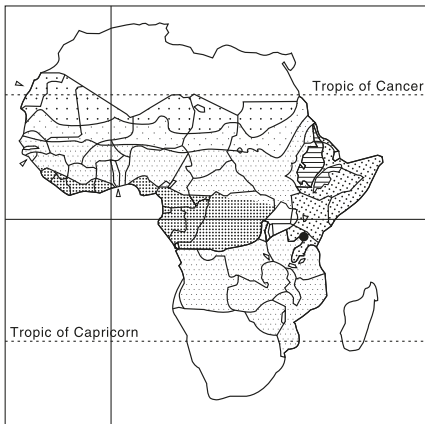
Crotalaria argenteotomentosa



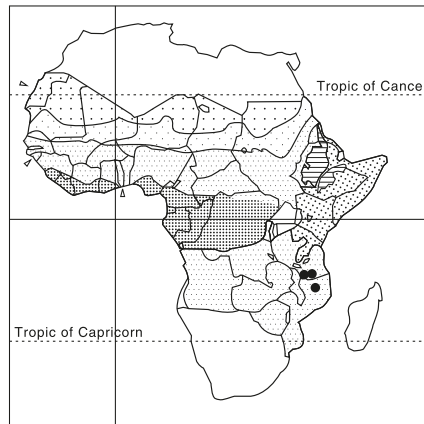
Crotalaria argyrea



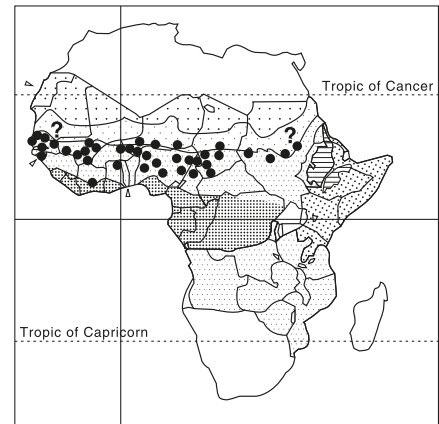
Crotalaria argyrolobioides



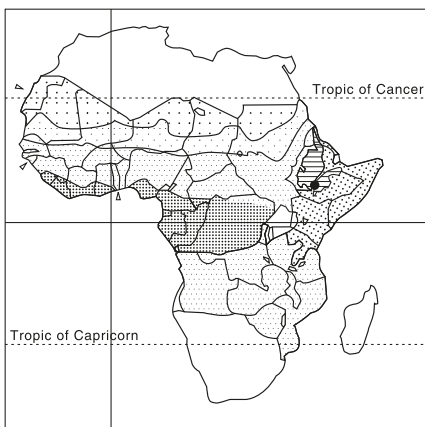
Crotalaria arushae



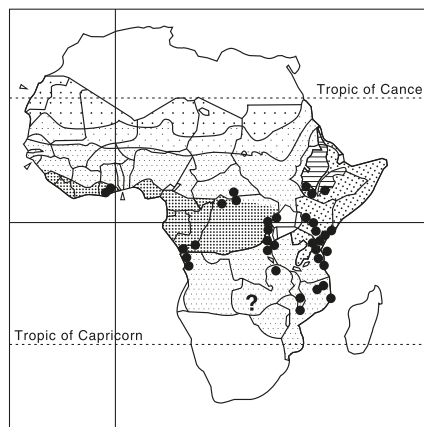
Crotalaria assurgens



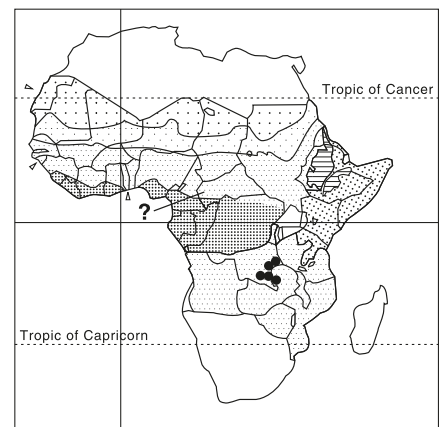
Crotalaria atrorubens



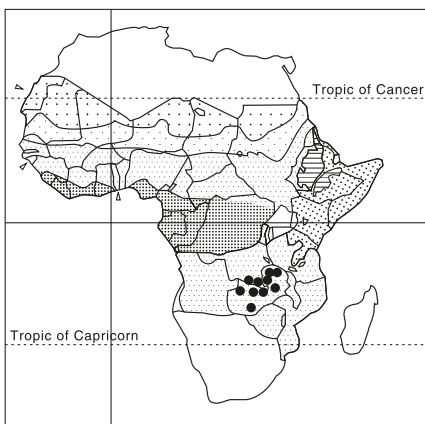
Crotalaria awasensis



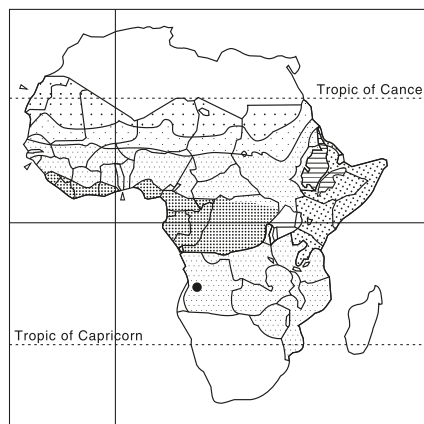
Crotalaria axillaris



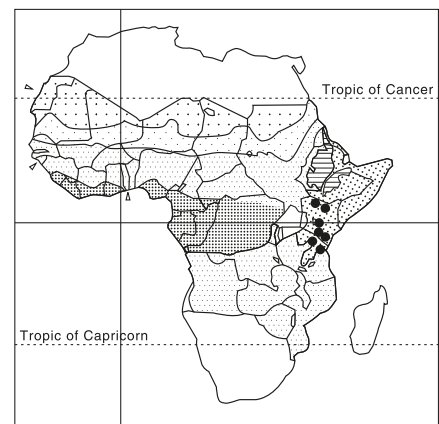
Crotalaria axilliflora



Crotalaria axillifloroides



Crotalaria bakeriana



Crotalaria balbi

CROTALARIA BARKAE

Zambes. area) alt. (subsp. **barkae**); in E Africa 3 other subspp.: – subsp. **teitensis** (Sacl.) Polhill: deciduous woodland and bushland, 100-1950 m; subsp. **cordisepala** Polhill: sandy places in grassland, *Acacia-Commiphora* bushland, streamsides, 900-1200 m; subsp. **zimmermannii** (Bak. f.) Polhill from Somalia to coastal Tanzania, grassland and forest edges, and often ruderal, 0-700 m, and bushland on level yellowish sand or silt, 40-230 m (Somalia).

Variable species: type of indumentum, shape of bracts, size and shape of calyx lobes, hairiness of pods.

Namibia, S. Africa (Transvaal); possibly Cape Verde Isl.

Comprises 4 subspp.

Forms an abundant foliage, grazed by cattle (W. Africa) but has been reported poisonous to stock in E. Africa.

C. barnabassii Dinter ex Bak. f., excl. var. *cunenensis* Torre (= *C. ulbrichiana*).

Annual erect herb, laxly branched, sparsely appressed puberulous, (0,3-)1-2 m tall.

Deciduous bushland along rivers (in the drainage basins of the major rivers); newly disturbed ground by roads and fields; 200-1050 m alt.

Namibia, Botswana, S. Africa.

Closely related to *C. ulbrichiana* with a similar geographic range.

C. pentaphylla Bak. f. is perhaps a synonym.

C. basipeta R. Wilczek

Erect annual subglabrous herb, usually well-branched above, 0,5-1,2 m tall; lower part sometimes spongy, with adventitious roots; leaves 1-foliolate, stipules absent (bracts sometimes taken for stipules); pod 2-seeded.

Marshes and around lakes, dambos, along streams; wet grassland and open places in woodland; 900-1150 m alt.

Young plants look different from old plants which have terminal racemes in fruit, but also with flowers developing in the lower axils.

C. baumii Harms

Prostrate annual herb with numerous well-branched radiating slender hairy stems 10-40 cm long; stipules absent; flowers in heads; pod 2-seeded.

Woodland, short disturbed grassland, pans on Kalahari sand; c. 1100-1275 m alt.

C. becquetii R. Wilczek

syn.: *C. ceciliae* sensu Verdoorn in *Bothalia* 2: 393, 1928, p.p. quoad specim. Stolz 641, non s. str.

Woody erect herb or shrub, much-branched, ± glabrescent, 1,3-3 m tall; stipules absent; flowers large in lax racemes.

Margins and clearings of montane rain-forest, bamboo thicket and valley forest; streamsides, disturbed places, secondary associations; 1500-2700 m alt.

Variable in shape and size of leaflets and pods, and in hairiness and shape of the flower keel.

Comprises 2 subspp.

Afromontane endemic.

C. bamba R. Wilczek

Erect annual herb with a single or numerous ascending, appressed pubescent branches, (10-)20-80 cm tall; stipules absent; pod globose.

Poor wooded savanna, *Brachystegia* woodland, along rivers; 1200-1800 m alt.

CROTALARIA

C. benadirensis Chiov.

Annual or short-lived perennial herb branching from the base; branches slender, prostrate-weakly ascending to 35 cm long, with brownish spreading hairs; flowers apparently yellow veined purplish (on dry material).

Deciduous bushland; c. 200 m alt.

Only known from the types; but M. Thulin suggests that plants recently collected in NE Kenya may belong here (Fl. Somal. 1: 453, 1993; Polhill o.c.: 213).

C. benguellensis Bak. f., incl. var. *bailundensis* Torre

syn.: *C. stenothyrsa* sensu Rossberg non Taub., in Feddes Repert. 39: 160, 1936, quoad specim. Hundt 803 (= 813?) and 838; Enum. 2:71, 1992.

Stems ± numerous, erect, arising from a woody rootstock, 30-70 cm tall; not or little branched, ribbed, ± densely hairy (hairs to 0,7 mm long); stipules absent; flowers in short dense axillary clusters; ovary 2-ovulate; pod and seeds unknown.

Deciduous woodland, wooded grassland; ± 0-2000 m alt. (var. *bailundensis* described from highest alt.).

C. bequaertii Bak. f., incl. var. *pubescens* R. Wilczek

Annual erect herb with ascending branches 10-45 cm tall; stem slender, densely ± appressed pubescent; stipules absent; racemes short, few-flowered, clustered in the axils below; flowers red veined; pod 2-seeded; seed with conspicuous aril.

Deciduous woodland, wooded grassland, grassy savanna, on sandy soils, in open disturbed places; persisting on roadsides and cultivated ground; cultivations on red soil; 450-1700 m alt.

Variable in shape of leaflets and in the length and presence of their hairs.

Similar to *C. alexandri*.

C. bernieri Baill.

Erect annual herb, laxly branched, 20-70(-100) cm tall with thinly appressed puberulous shoots; stipules absent, leaves deep bluish green; flowers cream to pale yellow purple veined.

Grassland, sometimes of seasonally inundated grassland and flood-plains, swamp margins, coral crags and foreshore; 0-960 m alt. (0-350 m in Fl. Zambes. area).

N & W Madagascar, Comoro Isl.

Resembling *C. lanceolata* (however with broader pods and smaller flowers).

C. blanda Polhill

Erect annual herb 0,8-1,5 m tall; stem densely silvery appressed hairy, with numerous slender flowering branches above; stipules absent.

Brachystegia woodland, on a scarp.

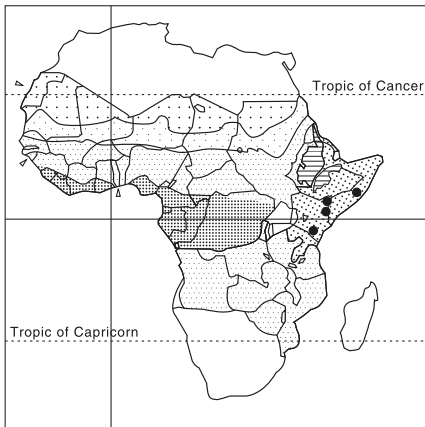
Only known from the type (Fanshawe 8574).

Resembling *C. desaegeri*.

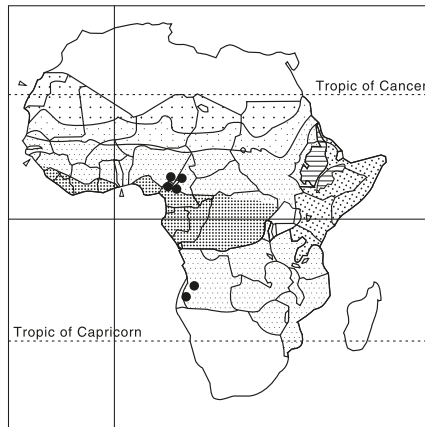
C. boehmii Taub.

Erect annual herb, laxly branched, thinly pubescent, to 1 m tall; leaves simple; flowers cream to pale yellow, veined reddish brown.

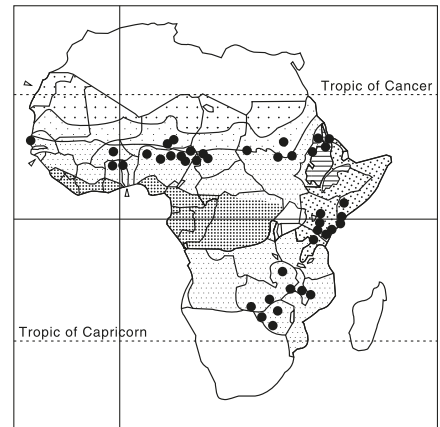
Deciduous woodland and bushland, in damp places, along shrinking rivers, lake-sides and in depressions; 750-1600 m alt.



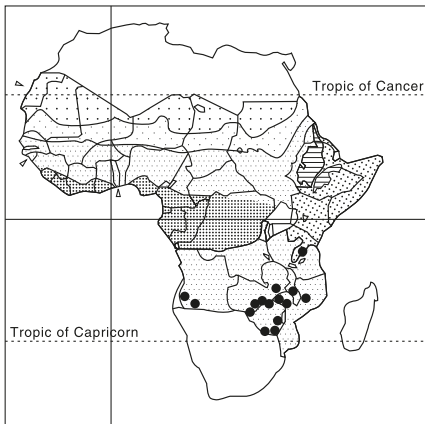
Crotalaria ballyi



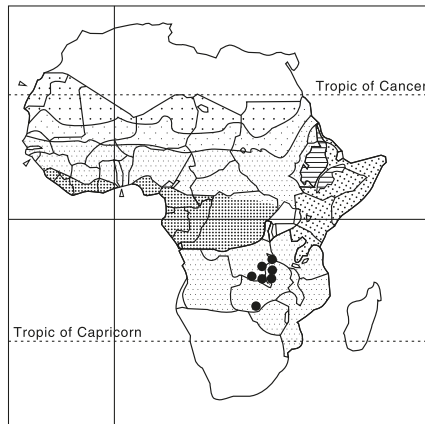
Crotalaria bamendae



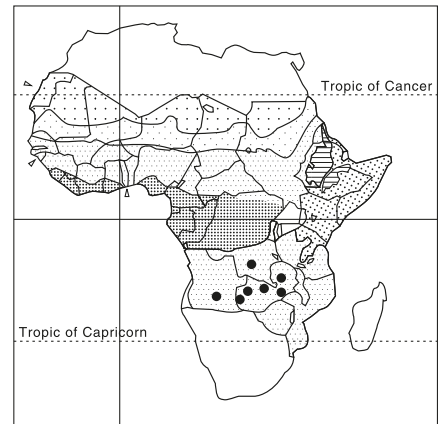
Crotalaria barkae



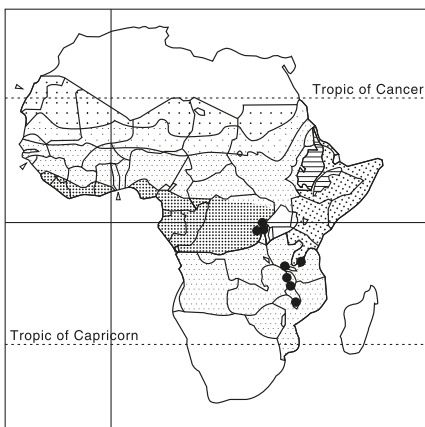
Crotalaria barnabassii



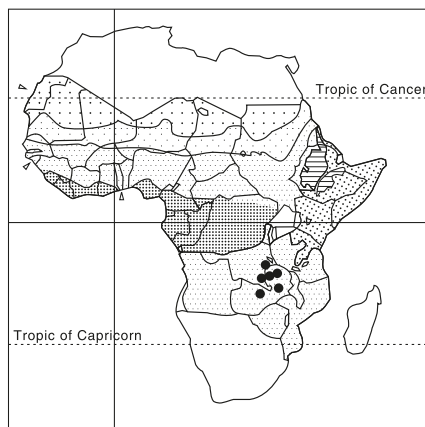
Crotalaria basipeta



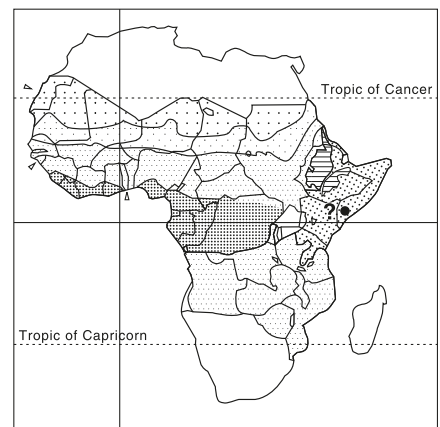
Crotalaria baumii



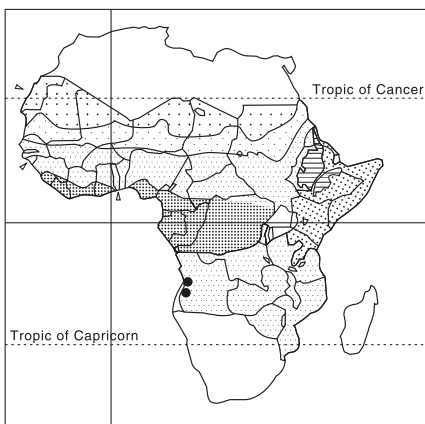
Crotalaria bequetii



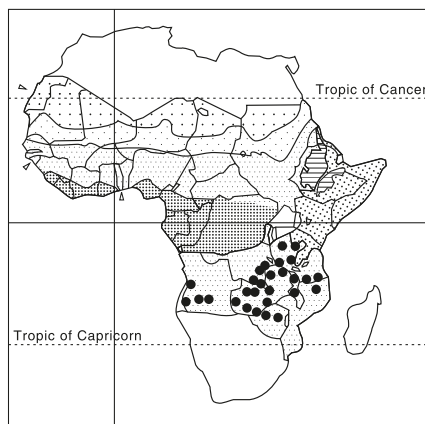
Crotalaria bamba



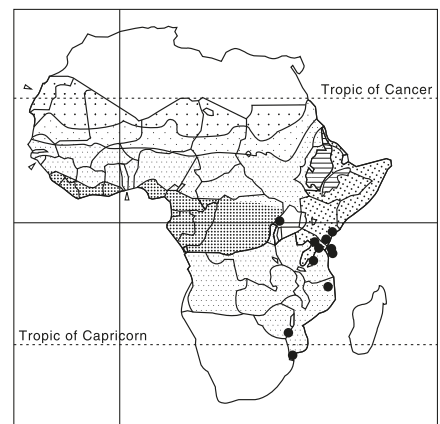
Crotalaria benadirensis



Crotalaria benguellensis



Crotalaria bequaertii



Crotalaria bernieri

CROTALARIA

C. bogdaniana Polhill

Annual decumbent herb, sometimes perennial, branched near the base; branches finely appressed pubescent, 10-50 cm long; leaflets large; mature seeds unknown.

Grassland, often on waterlogged clay soils, river-banks; characteristic of black cotton soil in seasonally flooded grassland; weed of cultivated ground; bushland, often on limestone (Ethiopia); 850-1800 m alt. (Kenya); 30-450 m (Somalia).

C. bondii Bak. f. ex Torre

Stems several, erect, branched above, with brownish mostly spreading hairs, to 50-80 cm tall, arising from a rhizomatous rootstock; flowers rather large, to 1,7 cm long; young pod oblong-obovoid; mature pod and seeds unknown.

Deciduous woodland on sandy soils in higher rainfall area.

C. bongensis Bak. f., excl. var. *shirensis* Bak. f. (= *C. shirensis*); but incl. var. *camerunensis* Bak. f.

Erect annual herb with many spreading branches particularly from the base, 10-45 cm tall; stems with spreading hairs; leaves 1-foliolate, stipules absent; flowers veined purplish red, small.

Wooded and overgrazed grassland (in higher rainfall savanna zone) on sandy soils; sandy lake shores; ferruginous soils (Nigeria); persisting on cultivated ground, open disturbed places; 750-1750 m alt. – Grassland in thin soil overlying rock; c. 600 m (Ethiopia).

Similar to *C. leprieurii* with ± the same range.

C. boranica Harms ex Bak. f.

Straggling annual herb with many slender stems, spreading from the base, laxly branched, ± appressed puberulous, 5-25 cm long; pod 9 × 7 mm, many-seeded.

Bushland in sandy or limy soil; 30-1250 m alt. (subsp. **boranica**, Somalia); deciduous bushland, to 900 m (Ethiopia); open places on limestone soils. – Up to 175 m (subsp. **trichocarpa** Polhill, Somalia; syn.: *C. semmii* Chiov.); to 360 m (NE Kenya).

Variable in colour of flower standard (whitish to dull yellow in subsp. **boranica**) and in pubescence of pod.

Comprises 2 subspp.: – subsp. **trichocarpa** with disjunct distribution (NE Kenya, Mogadishu area), similar to that of *Lonchocarpus kanurii* (cf. M. Thulin in Nord. J. Bot. 8: 482, 1989).

C. boudetii Polhill

Slender annual herb, much-branched from the base, weakly ascending, sparsely strigulose; shoots 15-25 cm long; leaflets linear, 10-25 mm long, 0,3-1 mm wide; flowers small (3-4 mm long); mature seeds unknown.

Limestone plateau; c. 550 m alt.

Only known from the type (Boudet 8069).

Resembling *C. linearifoliolata*.

C. boutiqueana R. Wilczek

Ascending suffrutex with angular, soon glabrescent stems 30-70 cm tall, arising from a woody rootstock; leaves simple; pod and seeds unknown.

Grassland with subshrubs on plateaux; 1320 m alt.

CROTALARIA

C. bredoi R. Wilczek

Erect annual herb, branched from the base, 40-90 cm tall; stems with spreading hairs; pod small, 2-seeded.

Swamp and dambo margins, seasonally flooded grassland (around Lake Mweru); 900-1050 m alt.

C. brevicornuta Polhill

Annual herb with suberect stem to 35 cm tall; numerous slender branches from near the base, weakly ascending or spreading, ± puberulous; leaves 1-foliolate, 35-95 mm long, 3-16 mm wide; racemes long, few-flowered; flowers veined reddish-brown; mature seeds unknown.

Deciduous woodland and bushland in open sandy and ± damp situations; persisting on roadsides, cultivated ground; 800-1260 m alt.

C. brevidens Benth.

Shrubby, erect annual or short-lived perennial herb 0,5-2 m tall, rarely decumbent; stem covered with short appressed or ± spreading hairs; leaflets narrow (4-10-14 cm × 0,3-2-3 cm), stipules absent; flowers rather large, cream to clear yellow veined brownish.

Grassland, deciduous woodland and bushland, rarely on termite mounds and in seasonal swamp grassland; shallow soil on rock in grassland; persisting on roadsides and cultivated ground; 500-2700(-3000) m alt. – Clearings and upland dry evergreen forest, grassland, sometimes in rather moist places; 1450-2100 m alt. (var. **parviflora**).

Variable species: size of flowers, pubescence of calyx, insertion of bracteoles.

Comprises 4 vars.: – var. **brevidens** (Sudan and Ethiopia only, 500-1900 m alt.); var. **dorumaensis** (R. Wilczek) Polhill (imperfectly known; N Zaire and Sudan); var. **intermedia** (Kotschy) Polhill [E Zaire – E Africa; syn.: *C. purpureo-lineata* Bak. f.; *C. intermedia* Kotschy var. *abyssinica* Taub. ex Engl. fa. *sericocalyx* Taub. ex Bak. f.; *C. albertiana* Bak. f.]; var. **parviflora** (Bak. f.) Polhill (bas.: *C. intermedia* Kotschy var. *parviflora* Bak. f., excl. descr. legum. et specim. F. Thomas 22; upland Kenya).

Var. **brevidens** can be confused with *C. ochroleuca* in the absence of fruits.

Grazed by all domestic stock in E. Africa and by wild animals (fide H. M. Burkill, Useful Pl. W. Trop. Afr., Ed. 2, 3: 310, 1995).

Var. **intermedia** introduced in N and C Zimbabwe (in trials for use as a green manure crop).

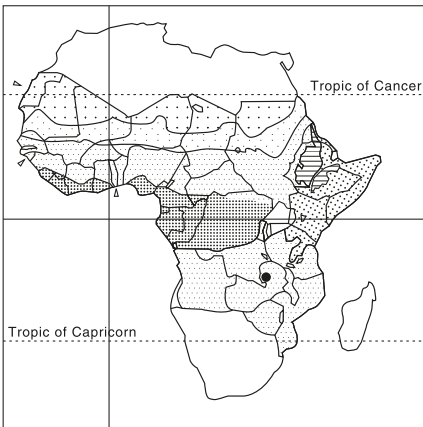
C. burkeana Benth., incl. var. *sparsipila* Harv.

Erect or decumbent perennial herb to 70 cm tall, with 1-several whitish, patently pilose stems (sometimes flowering in first year) from an ultimately woody tuberous stock; leaves 3-5 -foliolate, pilose (leaflets 2,5-5,5 × 0,4-1,6 cm); flowers to 2 cm long, white, tinged yellow or mauve, veined brown or dark blue.

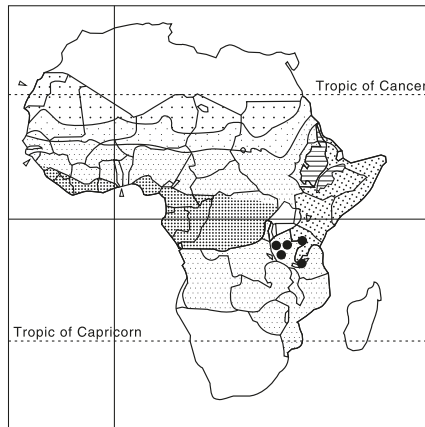
Wooded grassland, *Acacia* savanna; disturbed places, usually on sandy soils; to 900 m alt.

S. Africa, Botswana (catchment area of the Limpopo River).

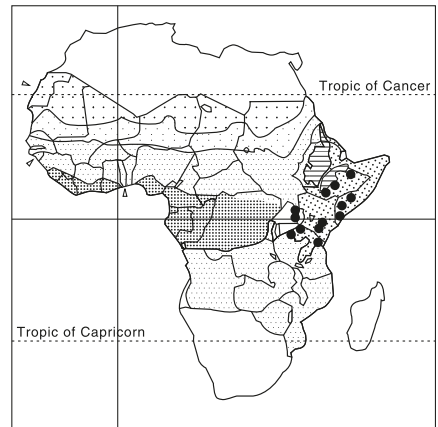
Closely related to *C. polysperma* which replaces this species northwards.



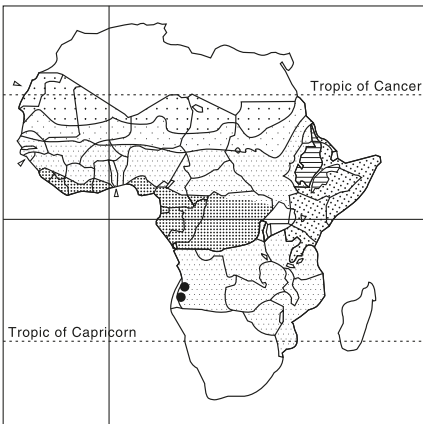
Crotalaria blanda



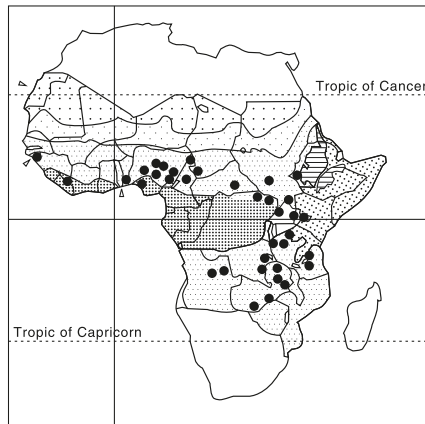
Crotalaria boehmii



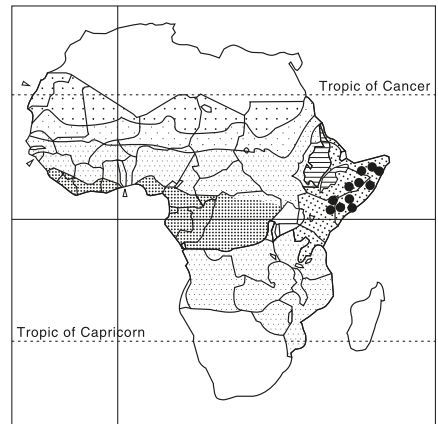
Crotalaria bogdaniana



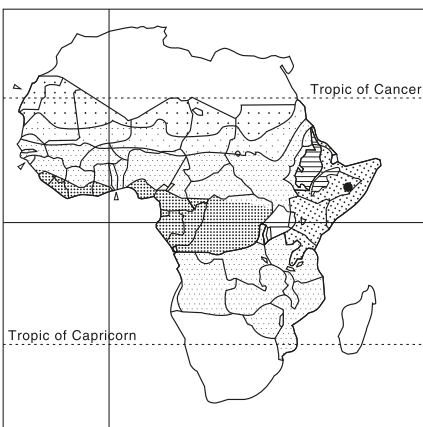
Crotalaria bondii



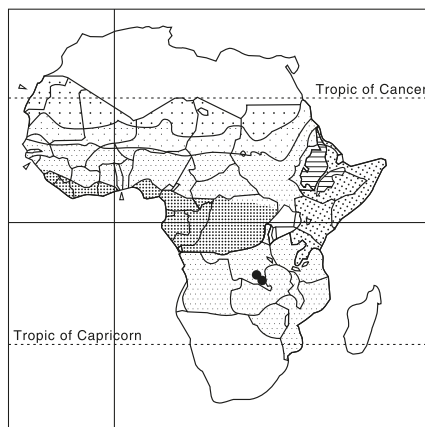
Crotalaria bongensis



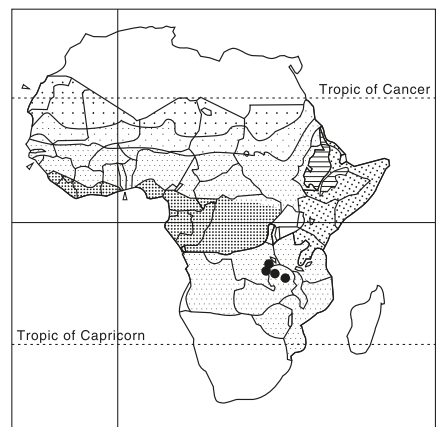
Crotalaria boranica



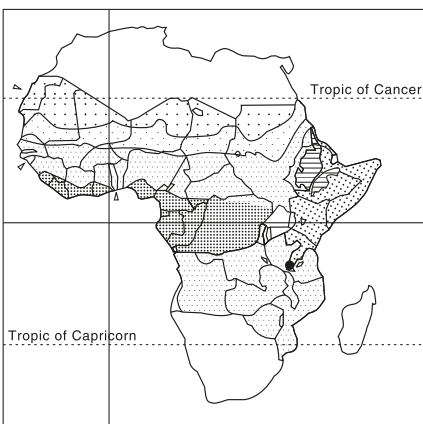
Crotalaria boudetii



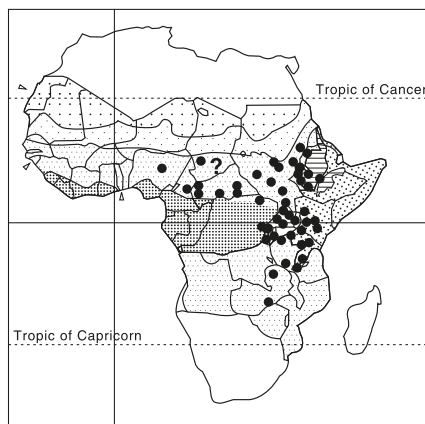
Crotalaria boutiqueana



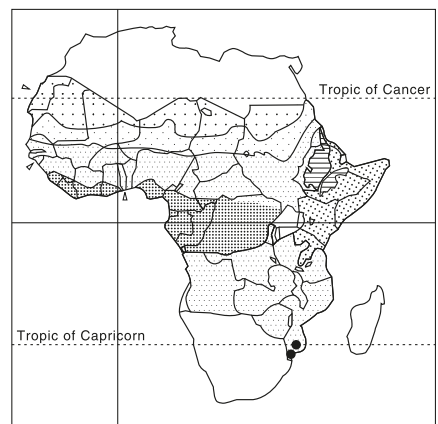
Crotalaria bredoi



Crotalaria brevicornuta



Crotalaria brevidens



Crotalaria burkeana

CROTALARIA

C. burtii Bak.f.

Erect bushy herb to 1,3 m tall; branches white hairy; flowers numerous, closely arranged towards top of racemes, with projecting beak.

Grassland with scattered trees or shrubs and *Acacia-Commiphora* bushland; characteristic of seasonally flooded depressions with clay soil; 400-1300 m alt.

Rare and not recently found in S-C Kenya (fide Andrews & Andrews, Upl. Kenya Wild Fl., Ed. 2: 143, 1994).

C. cabui R. Wilczek

Erect suffrutex branched at the base, to 33 cm tall; branches with spreading hairs; stipules absent.

Ecology not recorded.

Only known from the type (Cabu 28; Haut-Katanga).

Very close to *C. cephalotes*, and probably only a robust form of it (fide Polhill o.c.: 311).

C. callensii R. Wilczek

Subshrub or suffrutex with 1-numerous much-branched ± densely puberulous stems, 0,5-1 m tall; stipules absent; flowers few in (terminal) short racemes.

Wooded savanna; grassland.

Cultivated at Isalowe (Yangambi, Zaire).

Related to *C. caudata* and possibly conspecific with *C. kwengeensis*. More material needed. A specimen (Risopoulos 397) from Shaba, Kamina area, with crisped hairs, broad leaflets and rounded flower keel, probably represents an undescribed species (fide Polhill, o.c.: 140).

C. calliantha Polhill

Erect annual herb with densely strigose-pubescent ascending branches above, sometimes also from near the base, (30-)50-80 cm tall; leaflets linear, stipules absent; flower keel with long twisted beak.

Deciduous woodland and grassland; 1500-1700 m alt.

Resembling *C. desaegeri*, but with larger flowers.

C. calycina Schrank

Annual herb, erect, little-branched, 15-100 cm tall, densely brown silky hirsute with long ± spreading hairs; leaves simple, stipules very small, obscured by indumentum; racemes few-flowered, with long bracts; calyx 2-lipped, villous, 2-3 cm long, longer than corolla and accrescent in fruit.

Deciduous bushland, wooded grassland, grassland; acid and ferruginous soils in savanna (Nigeria); sandy soil (Chad); seasonally wet grassland; persisting on roadsides and cultivated ground; bushy pasture in fortress (Angola); 50-1400 m alt. (NE and E Africa), 600-1300 m (Fl. Zambes. area).

Tropical Asia – N Australia.

C. campestris Polhill

Slender erect annual herb, 30-60 cm tall, glabrous, branching above; leaves 1-foliolate, stipules absent; racemes short, few-flowered; seeds very small.

Grassy watershed plains on Kalahari sand and laterite pavement; c. 1400 m alt.

Resembling *C. duvigneaudii* and *C. wilczekiana*.

CROTALARIA

C. camptosepala Thulin

Shrublet or subshrub, much-branched, c. 0,4 m tall, with densely pubescent branches; leaves long-petiolate, leaflets obovate (8-25 × 6-20 mm); stipules absent; mature seeds unknown.

Bushland, in undulating pale orange sand overlying limestone; 25-75 m alt.

Related to *C. deflersii*; resembling *C. verdcourtii* and *C. mudugensis*.

Only known from 2 collections (Galgudud Region, Somalia).

C. capensis Jacq., incl. var. *obscura* E. Mey.

syn.: *C. incanescens* L. f., nom. superfl.; *C. arborescens* Lam., nom. superfl.; *C. ceciliae* Verdoorn p.p., excl. specim. Stolz 641 (= *C. bequetii*).

Bushy shrub with terete, appressedly silky to roughly hairy branches, 1-3 m tall; stipules foliaceous, 8-22(-30) mm long, usually persistent; flowers large; pods to 5 cm long, with stipe 0,7-1,5 cm long.

Various types of grassland and bushland, less often in tree or shrub savanna, but persisting in disturbed places; forest margins; 0-1830 m alt.

Variable species: in indumentum, leaflet shape, stipule development, calyx length. Specimens of northern populations often confused with *C. bequetii* and *C. laburnifolia*.

S. Africa (E Cape-Natal), Swaziland.

Widely grown as an ornamental since 18th century, freely naturalized in the Cape.

Records from Zaire (Haut-Katanga) doubtful (specimens lost).

C. capillipes Polhill

Bushy herb, annual or short-lived perennial, with ± slender pubescent branches, 0,3-1,5 m tall; racemes numerous, axillary, few-flowered; pod 1-2-seeded; mature seeds unknown.

Deciduous bushland on sandy soil; in mixed dry scrub with *Acacia*, *Combretum*, *Commiphora*, etc.; roadside on a pale buff sandy loam; locally very common; 1125-1200 m alt.

Seems allied to *C. dura* sens. lat.

C. carrissoana Torre

Prostrate or decumbent perennial herb, with numerous slender appressed-pubescent much-branched stems radiating to form a mat over the ground; leaflets small (4-10 × 2-5 mm) sessile, stipules absent; racemes few-flowered, subumbelliform.

Grassy depressions (dambos); 1190 m alt.

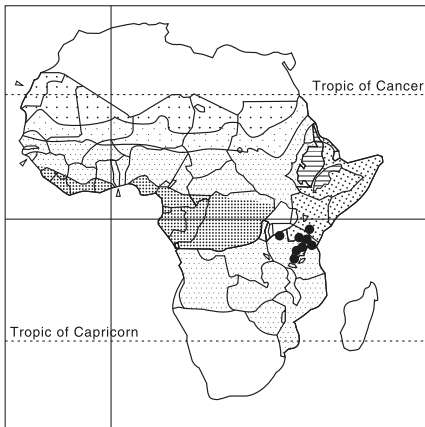
Very distinctive species.

C. carsonii Bak. f.

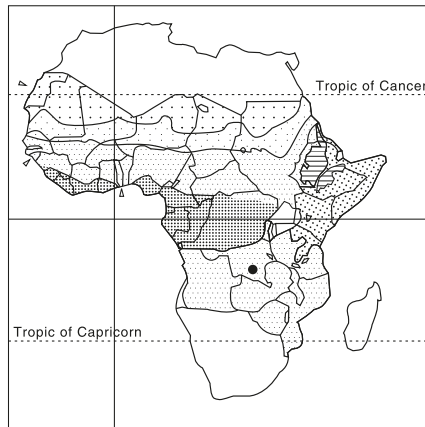
Erect annual herb with numerous slender ascending branches from near the base, 20-85 cm tall, shortly pubescent; leaflets linear, stipules absent; pod 2-seeded.

Edges of swamps and rivers; also shallow soil on rock outcrops and laterite pans; 780-1350 m alt.

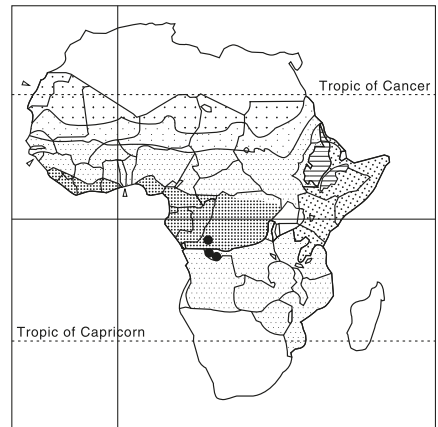
Three populations known which are rather different but seem to be conspecific; population in W Shaba (Duvigneaud 2317 P2) may represent a distinct species (fide Polhill, o.c.: 360).



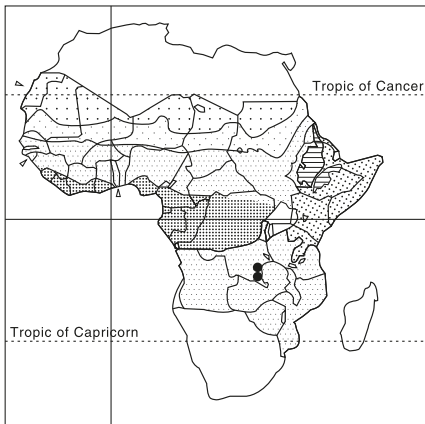
Crotalaria burttii



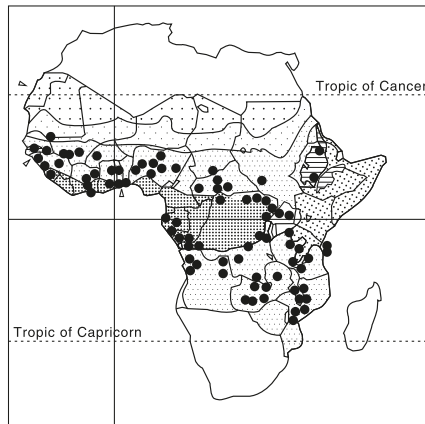
Crotalaria cabui



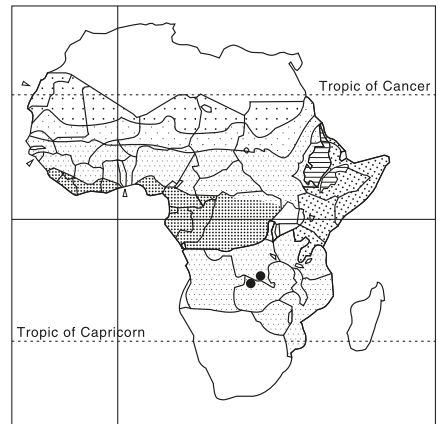
Crotalaria callensii



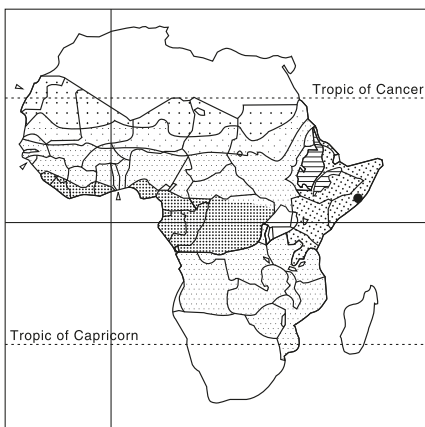
Crotalaria calliantha



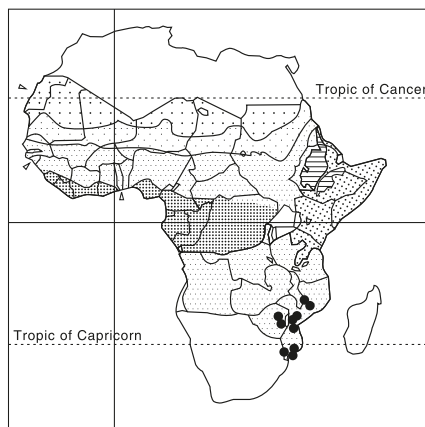
Crotalaria calycina



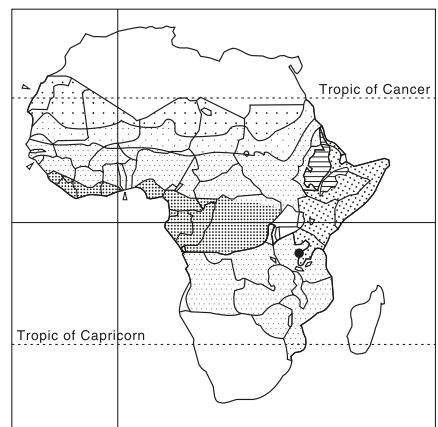
Crotalaria campestris



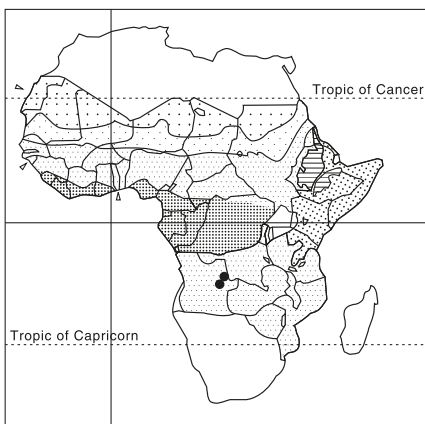
Crotalaria camptosepala



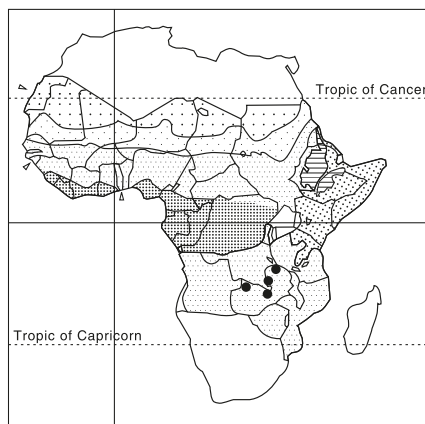
Crotalaria capensis



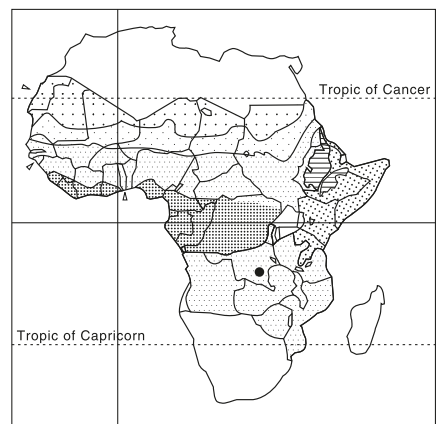
Crotalaria capillipes



Crotalaria carrisoana



Crotalaria carsonii



Crotalaria carsonioides

CROTALARIA

C. carsonioides R. Wilczek

Much-branched erect annual herb to 1 m tall, with pubescent stem, woody at base; leaflets small, stipules very small; racemes short, few-flowered; pod 2-seeded.

Deciduous woodland on the Kabulumba Escarpment; c. 1000 m alt.

Seems to belong to the *C. carsonii* aggregate, but stipules present.

C. caudata Welw. ex Bak.

syn.: *C. harmsiana* Taub., incl. var. *congoensis* Bak. f.; *C. orthoclada* sensu auctt. (De Wild., etc.), non Welw. ex Bak. (= *C. xanthoclada*, Madagascar).

Erect or decumbent short-lived much-branched, virgate perennial herb sometimes shrubby, to 0,7-1,7 m tall; branches densely leafy, hirsute to pilose; leaflets linear (0,7-1,7 × 0,2-0,7 cm), mostly held erect, stipules absent; racemes 2-3-flowered, numerous, or flowers solitary.

Upland grassland, forest margins, descending into *Brachystegia* woodland on riversides, marshy places; 1050-1800 m alt. (E. Africa); also evergreen forest and grassland associations near swamps, rivers, dambos, disturbed places and shrub savanna at higher altitudes, 450-1800 m (Fl. Zambes. area); sporadic in sandy thickets and in gravelly situations in mountains (Angola).

Variable species: size of leaflets, type of indumentum, size of flowers and pods; – cf. *C. callensii*.

C. cephalotes Steud. ex A. Rich., incl. var. *moeroensis* Bak. f. (= diminutive plants from around Lake Mweru).

syn.: *C. divaricato-ramosa* De Wild.

Annual herb, slightly woody, 10-70(-100) cm tall; stem erect with numerous curved-ascending branches from near the base, densely hirsute; leaves long-stalked, spreading, with linear leaflets 1,5-3(-5) cm long; stipules absent; flowers small, yellow and red, in dense, terminal, sessile heads; pod 2-seeded.

Short open grassland and *Brachystegia* woodland, rarely in deciduous bushland; usually in open, dry rocky and/or disturbed places; frequent weed in cultivations (E Africa); in damp sandy exposed wooded places and at riverbanks, flooded in summer (Angola); clearings in savanna on sandy or gravelly soils; undergrowth on laterite plateau (W-C Africa); 400-2550 m alt. (60-1700 m in Fl. Zambes. area).

S. Africa (N Transvaal).

Affinities doubtful, but sharing features with *C. prolongata*, a stipulate species.

C. chamaepeuce Polhill

Annual erect herb, densely pilose with long spreading hairs; stem with ascending branches from the base upwards, 20-30 cm tall; stipules absent; racemes sessile, densely many-flowered; flowers small, reddish lined; pod ± globose, few-seeded; mature seeds unknown.

Upland grassland; 1550-1730 m alt.

Only known from the Muhila Mts. (E Shaba, Zaire).

Near *C. schmitzii*; a specimen (Lisowski 13596) from the same mountains seems to represent a further species of the same group (fide Polhill, *Crotalaria*: 334, 1982).

CROTALARIA

C. chirindae Bak. f.

Perennial, well-branched herb, erect or straggling-ascending or decumbent, to 1-1,5 m tall; branches appressed-puberulous.

Margins of upland rain-forest, streamsides, open upland woodland and tree savanna, grassland; 750-1900 m alt.

Not in Rwanda (but cited by Troupin, Fl. Rwanda 2: 138, 1983).

C. chondrocarpa Polhill

Plant with numerous, prostrate radiating stems from a rhizomatous rootstock; stems 40-50 cm long, pubescent with some spreading hairs; racemes 2-3-flowered, flowers turning reddish brown; mature seeds unknown.

Short grassland along river.

Known only from the type (Mendes 2416).

Near *C. lancifoliolata*.

C. chrysochlora Bak. f. ex Harms

syn.: *C. megapteryx* Bak. f. & Martin; *C. wittei* De Wild. & Staner

Perennial plant with a thick woody rootstock and numerous curved-ascending or decumbent stems to 30 cm tall; stems pubescent sometimes also with spreading hairs; stipules minute or absent; flowers veined purple.

Wooded and upland grassland, often in rocky places and on (very) shallow soil; swampy grassland and clearings (Zaire); in *Combretum* woodland after fire; *Loudetia arundinacea* grassland on very shallow soil (S Sudan); roadsides, villages; 900-2600 m alt.

Variable in habit in relation to season; usually flowering after grass fires and then stems shortly erect with poorly developed leaves; later, in the rains, and still flowering the plant has well developed leafy shoots; towards the end the shoots become weak when the grass is tall. At high altitudes in grazed grassland, the plant is prostrate.

C. chrysotricha Polhill

Erect bushy, ± woody densely spreading golden-yellow pubescent herb with sometimes several stems from a woody rootstock, to 70 cm tall; leaflets obovate, 4-7,5 × 2-3,6 cm, glossy, glabrous; flowers rather large; pod densely pubescent, with long stipe.

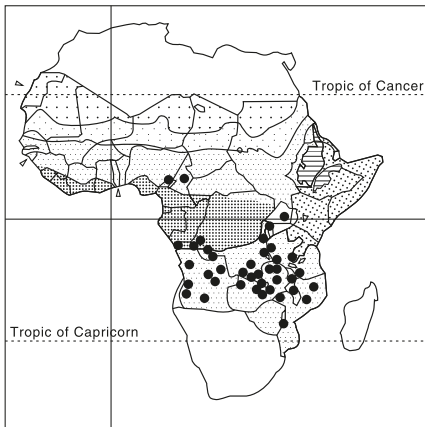
Deciduous woodland, in shade; at edge of bush in red sandy soil; roadside on edge of woodland; c. 1500-1800 m alt.

C. cistoides Welw. ex Bak., excl. specim. Welwitsch 1928 (= *C. paracistoides*).

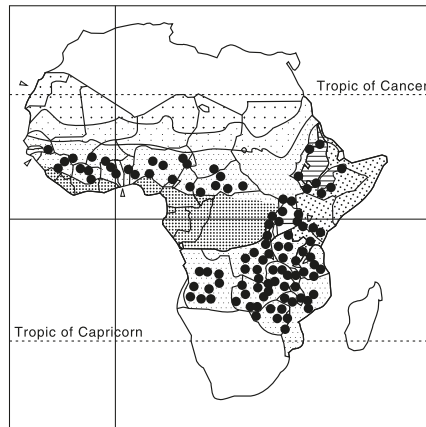
Bushy herb or small shrub, with the habit of a *Cistus*, much-branched in a broom-like manner, 20-80 cm tall; branches covered in a tomentum of short appressed to long fine spreading hairs; stipules absent; flowers numerous, mostly solitary, petals ± enclosed in the calyx; pod 2-4 seeded.

Deciduous *Brachystegia* woodland and bushland, often in dry sandy or rocky places; disturbed places; sandy thickets near river and in dry places with *Protea* species (Angola); 1000-1500 m alt. Comprises 2 subspp.: – more material needed for reappraisal of the infraspecific entities.

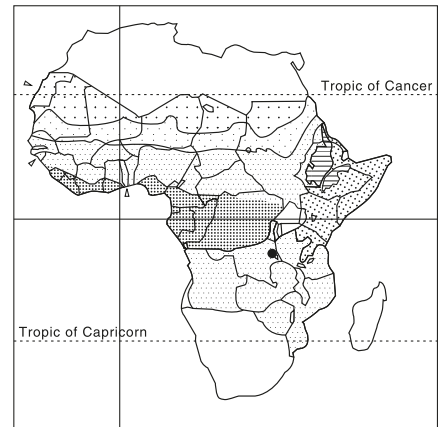
Two specimens of a tufted perennial cited by Polhill 1982: 143 (= *Crotalaria* sp. B in Fl. Trop. E. Afr., Legum. 4, Papil. 2: 888, 1971) from the Mantanana Plateau (S Tanzania; Polhill & Paulo 2022, Paget Wilkes 1010) belong to a group of *Crotalaria* present in the *Brachystegia* woodland, but they are well distinguished from *C. cistoides*.



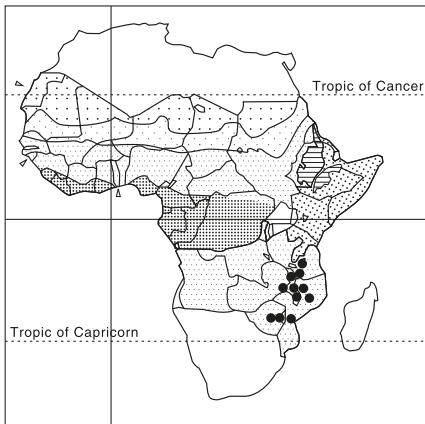
Crotalaria caudata



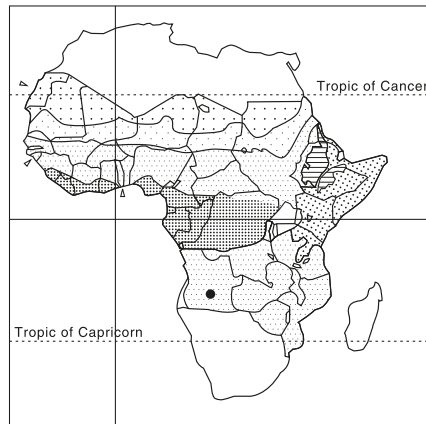
Crotalaria cephalotes



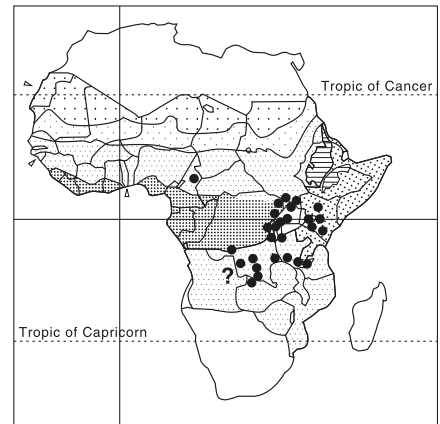
Crotalaria chamaepeuce



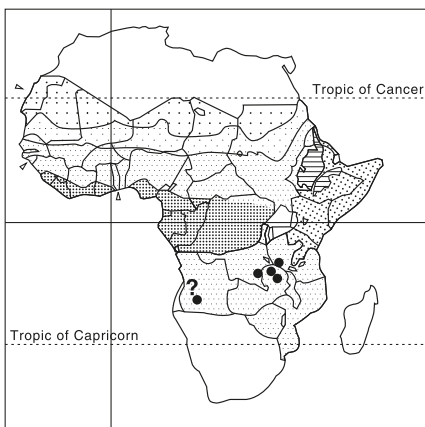
Crotalaria chirindae



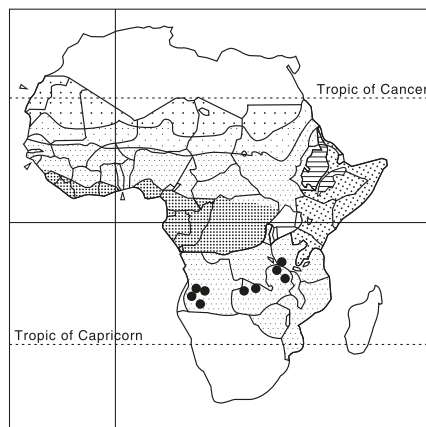
Crotalaria chondrocarpa



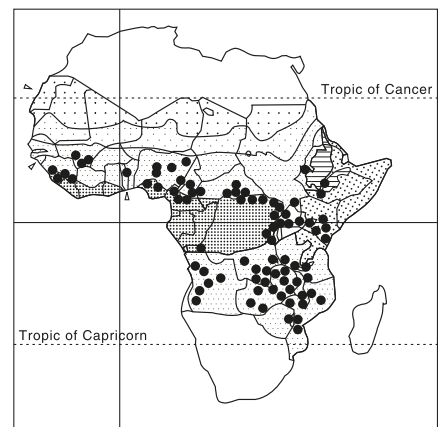
Crotalaria chrysochlora



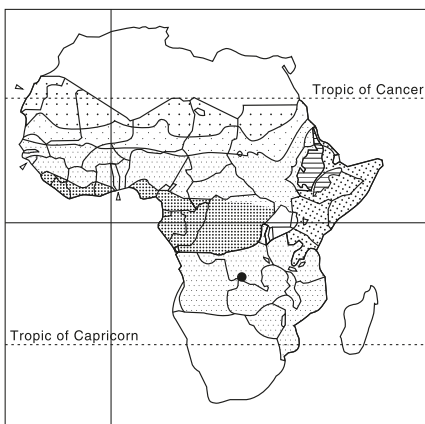
Crotalaria chrysotricha



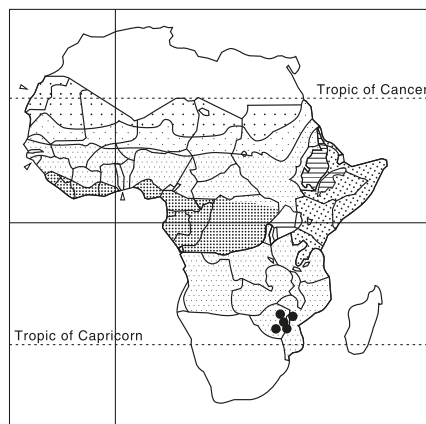
Crotalaria cistoides



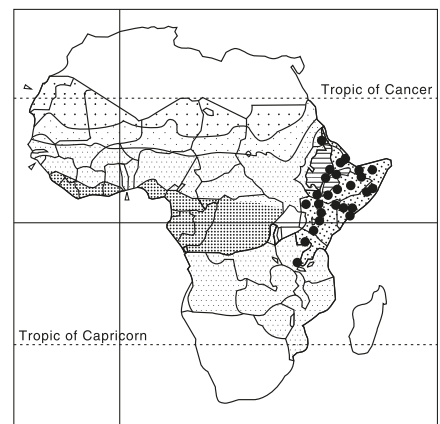
Crotalaria cleomifolia



Crotalaria cobalticola



Crotalaria collina



Crotalaria comanestiana

CROTALARIA

C. cleomifolia Welw. ex Bak., incl. var. *seretii* De Wild., var. *kassneri* Bak. f., var. *parviflora* Bak. f., and var. *iodesia* Choiv.
syn.: *C. schumanniana* Harms; *C. keilii* Bak. f., excl. fa. *chevalieri* Bak. f. (= *C. naragutensis*); *C. keilii* sensu Wilczek, Fl. Congo Belge Ruanda-Urundi 4: 165, 1953, Hendrickx specim. (cf. under *C. alticola*); *C. longibracteata* De Wild.

Shrubby perennial herb, much-branched, 1-4,5 m tall; branches often slightly ribbed, with indumentum varying from appressed puberulous to spreading yellowish tomentose; leaves 3-5-foliate, leaflets 4-12 × 1,5-5,5 cm; flowers large.

In a variety of habitats, usually at forest margins, at lower altitudes mostly along river banks and around swamps and lakes; grassland and bushland near forests (Kenya); upland bushland and grassland, forest margins, river banks and roadsides (Ethiopia, 1600-2300 m alt.); river banks and degraded gallery forest with *Phragmites* (Mali); grassy or wooded savanna in damp sites by streams and swamps (W Africa); occasionally along roadsides in acid soils, ferrasols, ferruginous soils and lithosols with annual precipitation 508-1524 mm (Nigeria); wooded grassy places (Angola); grassy savanna, in understorey of *Cynometra* forest, riverine forest, forest clearings, abandoned fields, cultivated ground (Zaire, 230-2150 m); margins and clearings of upland rain-forest, upland evergreen bushland and grassland (E. Africa, 1150-2600 m); (100-)230-2600(-3000) m alt.

Polymorphic species with variation in indumentum, and in length of stipules, bracteoles and pedicels.

Not in S. Africa (record from Pilgrims Rest, F. A. Rogers 23745, mislabelled = *C. recta* fide Polhill 1982: 205).

Presence in Togo not confirmed.

C. cobalticola Duvign. & Plancke

Erect annual herb 30-60 cm tall, with slender stem, much-branched from the base and appressed puberulous to densely silvery pubescent; stipules absent; pod small.

In grassy places with *Eragrostis boehmii* on highly metalliferous soils, often in a disturbed zone at the base of hills; contents of cobalt in the soil 400-1900 ppm.

Ashes of plants (2% of dry weight) containing 17.700 ppm cobalt and 530 ppm copper (values from soil containing 1900 ppm cobalt).

The species seems not to be restricted to metalliferous soils but is tolerate to them. Plants from apparently not metalliferous soils are more luxuriant (fide Polhill 1982: 340).

C. collina Polhill

Bushy herb 0,6-1 m tall; young branches with dense longish sub-appressed or retrorsely spreading hairs; leaflets 2,5-10,5 × 1,5-5 cm; pod densely hairy, 2-4-seeded.

Forest edges; upland grassland; usually on rocky hillsides or outcrops; less often in woodland, on termite mounds and roadsides; 1200-1950 m alt.

C. comanestiana Volkens & Schweinf.

Perennial woody herb, much-branched, rather straggling, to 1,3 m tall; branches densely white appressed tomentellous; leaf petiole long, 3-7 cm, leaflets 3(-4); flower large with long keel, standard veined purplish.

Deciduous *Acacia-Commiphora* bushland in open stony places and on lava ridges, or depressions with impeded drainage and clay soils; flood plains; 300-1500 m alt.

CROTALARIA

C. comosa Bak.

syn.: *Chrysocalyx quartiniana* A. Rich., non *Crotalaria quartiniana* A. Rich.; *Crotalaria dilloniana* Bak. p.p.; *C. dilloniana* Bak. f. fa. *camerunensis* Bak. f.; *C. pycnostachya* Benth. var. *angolensis* Bak. f.; Enum. 2:71, 1992.

Stout erect annual or short-lived perennial herb, generally well-branched, (0,2-)0,5-2 m tall, with pubescent branches; leaflets very variable, ± linear to elliptic, 3-17 × 1-4,5 cm; stipules absent; racemes long, dense, many-flowered, flowers veined brown, calyx truncate and deflexed.

Loudetia arundinacea grassland with scattered trees of *Terminalia laxiflora*, *T. brownii*, *Pterocarpus lucens*, *Combretum collinum*, *Vitex doniana* on rocky outcrop; on black cotton soil and as a weed in cultivations; in low thickets at the base of mountains, on grassy slopes of mountains and in wooded meadows (Angola); open and wooded grassland of low and medium altitude, often in damp places, or ruderal; edge of salt marsh (Niger); savanna with *Daniellia* (S Chad); savanna with *Hyparrhenia rufa* at the edge of forest gallery (Mali); dambos, marshes, bush, open forest (Zaire); 700-2300 m alt. (C and E Africa); miombo woodland, grassland, disturbed ground sometimes in damp places, 900-1400 m alt. (Fl. Zambes. area).

Very similar to *C. petitiana*, but has much smaller flowers and fruits. Where the ranges overlap, there seems to be mixing of characters. – Large-flowered forms in Ghana confuse the distinction.

C. concinna Polhill

Erect annual herb (10-)20-60 cm tall, sometimes with ascending branches from near the base; stem slender, pubescent; stipules absent; racemes short, densely many-flowered, flowers silvery-hairy, standard pale yellow veined purple.

Brachystegia, *Uapaca* woodland, on red loam, and red-brown gravelly and sandy soils; 850-1050 m alt.

Is intermediate in form between *C. sparsifolia* and *C. subspicata*.

C. confertiflora Polhill

Erect annual herb, little-branched below but developing short flowering branches above, 20-70 cm tall; stem pubescent; stipules absent, leaflets small; flowers small, in sessile terminal heads.

Seasonally damp flood-plain.

Similar to *C. carsonii*.

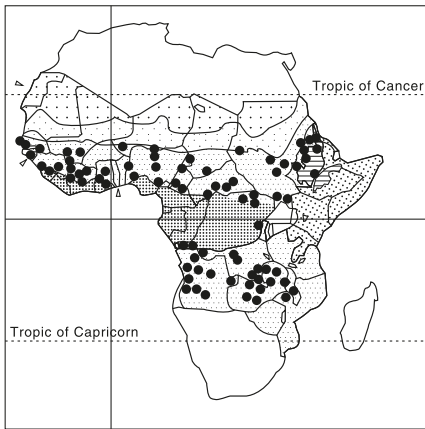
Known only from the type locality (2 collections: Robinson 4703, 4704) from 1961.

C. confusa Hepper

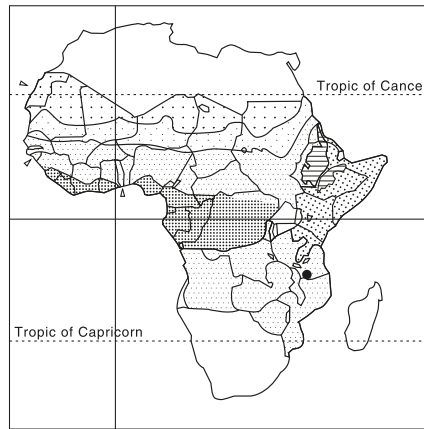
syn.: *C. macrocalyx* sensu Bak. f., Afric. spp. *Crotalaria*, J. Linn. Soc. Lond., Bot. 42: 306, 1914, pro min. parte, quoad specim. Barter & Dalziel, non Benth.

Creeping, straggling or erect annual herb, much-branched, to 0,3-1 m tall; branches with spreading or recurved hairs, sometimes with longish appressed hairs; racemes short, dense, ± sessile, few-flowered; calyx longer than corolla, deeply divided, c. 1 cm long; pod ovoid enveloped by calyx, few-seeded.

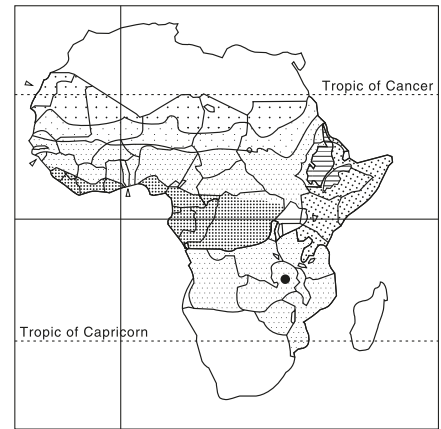
Savanna on detrital soil; ferruginous tropical soils but sometimes also in vertisols, semiarid, brown and reddish brown soils (Nigeria); sands; roadsides, wasteland at edge of farm; on margin of millet field; weed of waste and cultivated land, very common in dry season (Ghana).



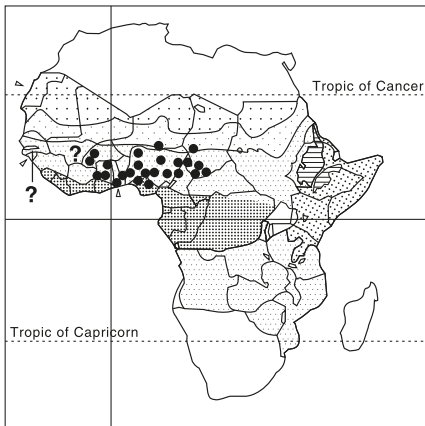
Crotalaria comosa



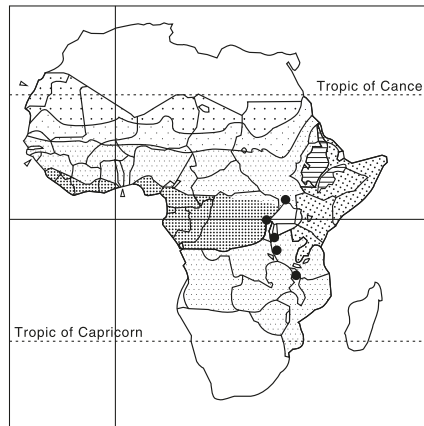
Crotalaria concinna



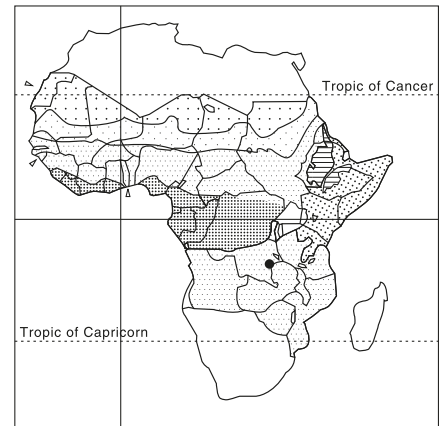
Crotalaria confertiflora



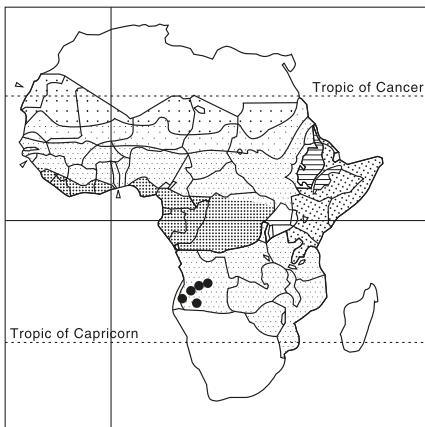
Crotalaria confusa



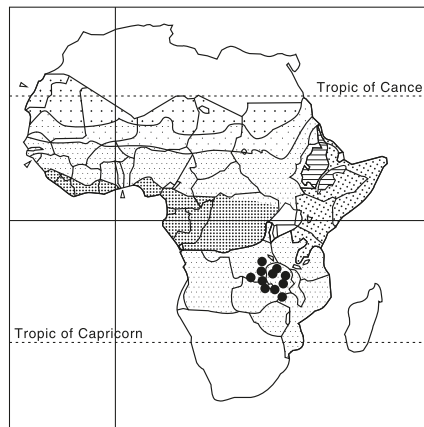
Crotalaria congesta



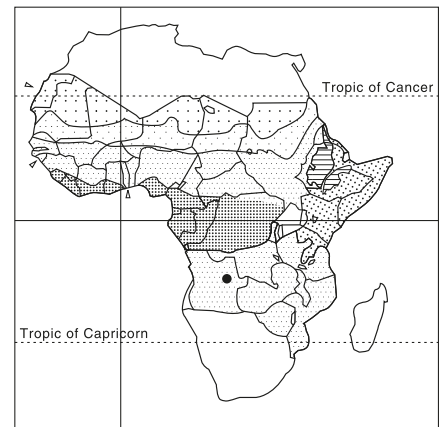
Crotalaria congoensis



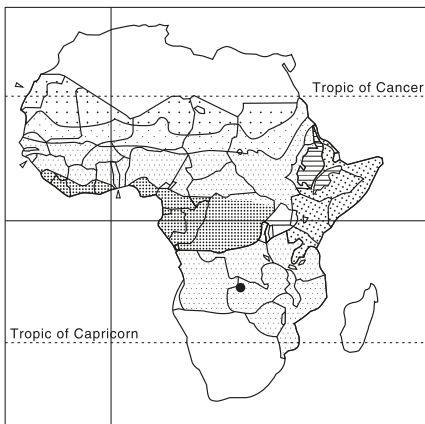
Crotalaria cordata



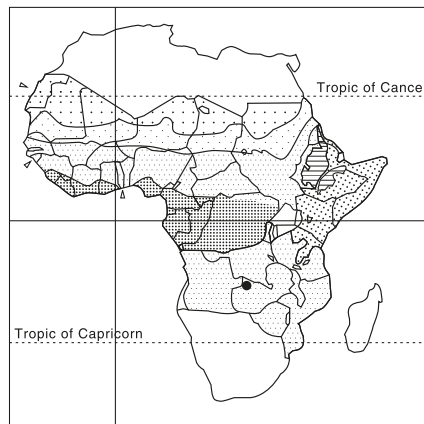
Crotalaria cornetii



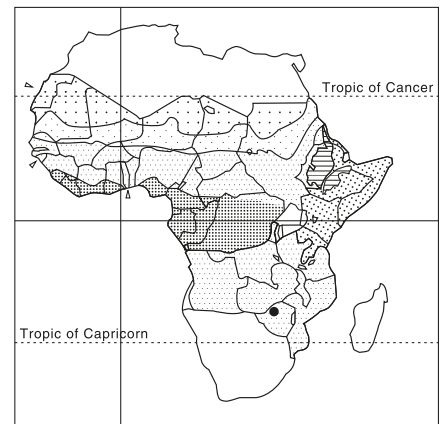
Crotalaria corymbosa



Crotalaria crebra



Crotalaria criniramea



Crotalaria cupricola

CROTALARIA CONFUSA

Variable in calyx indumentum, size of flowers and fruits, sometimes closely approaching *C. macrocalyx* with which it has been confused; and also confused with *C. mortonii*.

Used as a green manure.

C. congesta Polhill

syn.: *Crotalaria* sp. F sensu Polhill, Fl. Trop. E. Afr., Leguminos. 4, Papilion. 2: 986, 1971.

Erect, much-branched annual herb 10-50 cm tall, with long ascending branches from the base; stem slender, branches strigulose with white hairs; stipules absent; flowers small, in sessile heads.

Dry grassland at roadside, *Brachystegia* woodland, disturbed places, but in dryer places than the closely related *C. melanocalyx*; upland rain-forest with *Albizia*, *Macaranga*, *Croton*, *Ocotea*, on moist slope along trail (S Sudan); medium-altitude and montane deciduous woodland and grassland, sometimes in disturbed places; *Protea* scrub; 1000-1800 m alt.

Variable in type of hairs; perhaps a distinguishing character for subspecific division for plants from SW Tanzania.

C. congoensis Bak. f.

Small annual herb 4-10 cm tall, branched from the base, prostrate or with ascending densely pubescent branches; stipules absent; flowers small, few in heads; pod \pm globose; seeds unknown.

On mountain under trees.

Known only from the Kundelungu Plateau, E Shaba (Zaire). (Wilczek in Fl. Congo Belge Ruanda-Urundi 4: 244, 1953, excl. specim. Schmitz 3904.)

C. cordata Welw. ex Bak.

Woody herb or small shrub to 1-2 m tall, many times dichotomously branched with very flexuous almost scandent branches, \pm drooping, grey-silky pubescent; stipules coriaceous, large, cordate at apex, adnate to the petiole forming a wing to the petiole, and also decurrent down the branch; corolla only slightly exceeding the calyx; pod oblong, inflated.

Grassy woods near lake, in grassy places near stream together with *Osmunda regalis*.

The type of stipules is not known elsewhere in African species of *Crotalaria*.

C. cornetii Taub. & Dewèvre

Suffrutex with woody rootstock and numerous spreading or ascending \pm angular, glabrous stems 50-75 cm tall; leaves simple, sessile, stipules absent; racemes terminal, few-flowered; calyx 1,2-1,6 cm long with upper and lateral lobes coherent, attenuate-triangular, $>2 \times$ length of tube; standard large, mauve to purplish; pod oblong, \pm club-shaped; mature seeds unknown. Plant drying black.

Plateau woodland, woodland, wooded grassland; dry bush savanna, open forest on rocky soil after fire; dambo forest with *Uapaca-Monotes* on laterite; steppe with *Cryptosepalum* at foot of hill; persisting in disturbed places; sometimes on metalliferous soils, tolerating copper in particular, not found on cobalt soils (fide Duvigneaud & Timperman, Bull. Soc. Bot. Belgique 91: 139, 1959); 1000-1200 m alt.

CROTALARIA

C. corymbosa Torre

Perennial herb with very slender erect pubescent stems 30-40 cm tall, arising from a woody rootstock; stems sparingly branched above; leaflets small, held erect; stipules absent; flowers often solitary, small, standard drying reddish; pod and seeds unknown.

Ecology?

Known only from the type collected in 1933 (Lynes 329 A).

C. crebra Polhill

Erect annual herb with numerous ascending branches 50-70 cm tall with axillary clusters of leaves and flowers; stipules absent; flowers lined reddish; mature seeds unknown.

Edges of woodland.

Resembling *C. tamboensis*.

Known only from the type (Robinson 6624), collected in 1965.

C. criniramea Bak. f. ex Polhill

Prostrate herb with numerous well-branched tomentose stems; leaflets to $5 \times 2,6$ cm, sericeous tomentose beneath; racemes curved-ascending; pod and seeds unknown.

Plain, probably dry sandy dambo; 1350-1500 m alt.

Known only from the type (Marks 16), collected in 1929.

Vegetatively similar to *C. variegata* but flowers different.

C. cupricola Leteinturier, Syst. Geogr. Pl. 73: 285, 2003. – Icon.: o.c.: 286.

syn.: *C. sp.* C sensu Fl. Zambes. 3(7): 177, 2003.

Short-lived perennial herb with short erect stem 20-30 cm tall, well-branched from near the woody base; branches to 60 cm long, ribbed, short-hairy; with a main taproot; fruit unknown.

In grassland on slope of copper outcrop (at a copper mine, Zimbabwe), in poisoned dambo colonized by *Ocimum* sp.; restricted to metalliferous soil; 970 m alt.

Resembling *C. senegalensis*; very similar to *C. serpentinicola* (in the same area).

C. cuspidata Taub.

syn.: Enum. 2: 371, 1992; *C. densiflora* De Wild.; *C. mongaensis* Bak. f.

Erect annual herb, sparingly branched, (0,3-)0,5-1,3 m tall; stem obscurely ribbed, densely silky pilose; leaflets large, $14-45 \times -3-13$ mm; racemes long, dense, many-flowered; flowers veined purple; pod 1-2-seeded.

Upland grassland, wetter savannas, *Brachystegia* woodland; lake shore, on side of road among tall grass, roadside on red sandy soil (Zambia); in quantities on edge of cultivation by village (Zambia); fresh sandy site (S Chad); sandy shores, spring (Zaire); 760-1800 m alt.

C. cyanea Bak.

Erect annual herb 10-40 cm tall, with long spreading-ascending branches from near the base, sometimes caespitose, appressed pubescent; racemes few-flowered; standard blue.

Stony pastures, abundant, in places flooded in the rainy season; higher parts of the Huila Plateau, damp grassland; pastures flooded in summer time, with dwarf *Compositae*, *Eriocaulon*, *Xyris*; c. 1700-1850 m alt.

CROTALARIA

C. cylindrica A. Rich.

syn.: *C. tigrensis* Bak.; *C. cylindrica* var. *pusilla* Chiov.;
C. nigrescens Chiov. – All of subsp. **cylindrica**.

Perennial hairy herb with numerous ascending or straggling stems to 40 cm long; stems ribbed above; stipules minute, caducous, or absent; flowers veined brown.

Upland grassland, woodland, forest edges; montane grassland and moor (Kenya, 1800-3550 m; subsp. **afroorientalis** Polhill); montane evergreen bushland, on rocky outcrop with wet flushes and thin soil in company with *Selaginella njamnjamensis*, *Aeolanthus* spp., *Aloe* sp. and many annuals; especially in disturbed places (S Sudan); 1080-2450(-3550) m alt.

Comprises 2 subsp.

Resembling *C. chrysochlora* but with narrower leaflets and rather large flowers.

According to Thulin, Fl. Ethiopia 3: 209, 1989, unusually tall, upright, apparently short-lived plants are included in *C. fallax* by Polhill, *Crotalaria in Africa...*: 194, 1982.

C. cylindrocarpa DC.

syn.: *C. pseudopodocarpa* R. E. Fr.

Perennial with several pubescent ascending or spreading stems 20-80(-200) cm tall, from a well-developed rootstock; leaflets variable, oblanceolate, rhombic or obovate, 2-7 × 0,8-2,3 cm, on long petiole (1-4 cm); stipules 1 cm long, falcate; flowers marked reddish, fading orange.

Grassland, edges of streams and dambos, persisting on cultivated ground; *Brachystegia* woodland; in higher rainfall areas subject to seasonal fires; wet places after the rainy season (Senegal); edge of pool (Niger); inland in rapids, abandoned field (Mali); savanna, old field on gravelly soil and sometimes in seasonally flooded places (Burkina Faso); in acid soils along roadsides among tall grass in seasonally flooded areas (Nigeria); 900-1300 m alt.

Variable in shape of leaflets and in aspect of flower racemes; E African plants generally have spreading in stead of appressed hairs on stems; plants from southern parts of range with long stipe to the pod.

C. cylindrostachys Welw. ex Bak.

Erect annual herb 0,3-1,2 m tall, with densely brown-silky stems and numerous ascending branches; leaves 1-foliolate; racemes dense, many-flowered (40-60); calyx becoming deflexed against the pedicel; standard dull yellow, purple-veined; pod shaggy hairy, 1-2-seeded.

Woody meadows (Angola); *Brachystegia* woodland and deciduous bushland, in open sandy soils, sometimes damp, grassland; also persisting on roadsides and cultivated ground; 350-1600 m alt.

C. dalensis Torre

Small annual hairy herb to 17 cm tall, much-branched from the base; branches ascending; leaflets (3-1) small 5-12 × 2-3 mm, stipules absent; flowers (3-5) in small heads and also in axils below.

Dry bushland.

Known only from the type collected in 1937 (Exell & Mendonça 1056).

C. damarensis Engl., excl. var. *maraisiana* Torre (= *C. podocarpa*).

syn.: *C. diversistipula* Harv., nom. provis.; *C. marlothii* Engl.; *C. fleckii* Schinz; *C. lindneri* ("lindenii") Schinz

CROTALARIA DAMARENSIS

Annual or short-lived perennial pubescent herb with erect leading shoot to 80 cm tall; lower branches often long decumbent; stipules 3-4-partite.

Semi-arid-subdesert areas in sandy and stony places, along rivers, on roadsides, dunes; 300-900 m alt.

Variable.

Namibia, Botswana, S. Africa.

Closely related to *C. podocarpa* but distinguished by the devided stipules. Introgressions between them suspected.

C. dasyclada Polhill

Annual or short-lived hairy perennial herb with curved-ascending shoots to 50 cm long; flowers veined brownish; mature seeds unknown.

On edge of wet ditch in long grass, dambo; c. 1650 m alt.

Only known from the Ufipa Plateau (Tanzania).

Related to *C. vallicola*, *C. dolichonyx* and *C. chrysochlora*. Also resembling *C. subcapitata* and *C. comosa* from the same general area.

C. debilis Polhill

Ephemeral, small, erect annual herb 15-25 cm tall, usually branching from near the base, sometimes also above; stems wiry, glabrescent; leaves simple, subsessile, stipules absent; racemes short; pod 3 mm long, 1-2-seeded.

Short wet grassland by rivers; ± dried out laterite pavements; 1350-1400 m alt.

Resembling *C. ringoetii* but much smaller in all parts.

C. decora Polhill

Annual laxly branched, pubescent, erect, graceful herb to 55 cm tall; leaves simple, stipules minute; racemes numerous, laxly few-flowered with filiform rhachis; flowers small, veined brown.

Open places on sand in dry and damp sites; side of river, slope of gorge among scattered trees and laterite rocks; on top of gorge in stony woodland; *Brachystegia* woodland on sandy soil; swamp among longish grass in large masses along track; grassy glade in thicket; c. 1050-1500 m alt.

Resembling *C. shirensis* but larger, and *C. vanmeelii* which has larger flowers and pods; all from the same area.

C. dedzana Polhill

Erect perennial herb 0,6-1 m tall with rather short ascending branches; branches ribbed, covered with fine irregularly arranged hairs; racemes terminal, short, leaf-opposed; seeds unknown.

Brachystegia woodland, upland grassland; 1650-2300 m alt.

C. deflersii Schweinf.

Bushy perennial herb, shortly white-hairy, to 1 m tall; stipules small, caducous; leaflets elliptic to obovate, 2,5-6 × 1,5-4,5 cm; racemes long, laxly many-flowered.

Acacia-Commiphora bushland, often in rocky places; deciduous bushland and grassland, often around outcrops of volcanic rock or near watercourses; in semi-arid areas; 300(-1100 m, Ethiopia, Somalia)-1700 m alt (E. Africa).

Arabia.

Closely related to *C. verdcourtii* which occupies wetter situations.

See also under *E. emarginella* (*C. deflersii* sensu Chiov.).

CROTALARIA

C. deightonii Hepper

syn.: *C. spartea* sensu Bak., Fl. Trop. Afr. 2: 12, 1870, p.p.,
quadro specim. Afzelius, non Bak. s. str.

Erect annual herb with ± slender glabrous ascending branches,
0,5-2 m tall; leaves 1-foliolate 5-15 cm long, stipules absent
(sometimes present and then early caducous); racemes very lax,
flowers greenish yellow, heavily veined purple, beak of keel 7-
8 mm long, becoming cork-screw-twisted.

Damp savanna grassland; seasonally inundated plains, marigot,
also abandoned fields.

Confusion possible with *C. glauca*.

C. densicephala Welw. ex Bak.

syn.: *C. lachnoclada* Harms; *C. dumetorum* Bak.

Bushy erect, densely coarsely hairy herb, to 1,2 m tall, but some-
times flowering when only 20 cm; stipules sometimes obscure,
small; racemes sessile, dense heads.

Grassy slopes of great rocks; plateau woodland, thickets and
grassland; damp places; on sandy soils; 1100-1400 m alt.

C. depressa Polhill

Stems numerous, prostrate, well branched, slender, spreading-
hairy, 20-40 cm long, forming a mat and arising from a small
woody rootstock; racemes short, leaf-opposed, erect, 2-4-flow-
ered, standard blue, keel orange.

Deciduous woodland in sandy places; only on the Kundelungu
Plateau (Zaire); c. 1600 m alt.

Resembling *C. criniramea*, *C. lusingaensis*.

C. desaegeri R. Wilczek

Erect annual or short-lived perennial herb to 70 cm tall, branched
above; branches and other parts strigulose with brown-based
hairs; stipules absent; flower standard pale flushed lilac inside,
maroon outside; pod and seeds unknown.

Grassy savanna, uncommon; 710 m alt.

Only known from the type (De Saeger 72) collected in 1935.

A seemingly related specimen (Machado VI. 54-70) in fruit, is
known from Angola (Alto Cuito).

C. descampsi Micheli

Erect annual or short-lived perennial densely pubescent herb 30-
65 cm tall, with numerous ± short ascending flowering branches
above, and with a stout taproot; stipules absent; racemes dense
± sessile many-flowered heads; ovary 2-ovulate; pod and seeds
unknown.

Savanna on mountain flanks (W of Lake Tanganyika).

Closely related to and perhaps conspecific with *C. nyikensis*.

C. deserticola Taub. ex Bak. f.

syn.: *C. vogelioides* Bak. f.; *C. kikangaensis* De Wild., incl.
var. *longifoliolata* De Wild.; *C. kigesiensis* Bak. f.;
C. camisassae Chiov.; *C. rhopalocarpa* Chiov. – All of
subsp. **deserticola**.

Erect annual or short-lived perennial, laxly branched herb 0,5-
1,5 m tall, but sometimes low and diffuse; racemes 10-30 cm
long, laxly few-many-flowered; standard veined brown, keel with
long twisted beak.

Open grassland in dry country, on stony lava soil with *Themeda*,
Sporobolus, *Eragrostis*, etc.; bushland, closed herbaceous thick-
ets, open scrub on red soil, by road between wheat fields on loam,

CROTALARIA DESERTICOLA

grass veld on heavy soil, grassland with scattered trees on red
sandy soil; grassy area with scattered shrubs on thin stony soil
on hilltop and margins of nearby cultivation; very common; local
pioneer in area of wooded grassland cleared for road-making;
particularly in disturbed places throughout E Africa; neglected
Cedrela plantation with regenerating mixed woodland of *Com-
bretum collinum*, *Stereospermum kunthianum*, *Acacia hockii*,
Albizia grandibracteata on ground with rocky outcrops (Sudan,
Imatong Mts.); termite mounds, stream banks and disturbed
places in deciduous woodland (Fl. Zambes. area); coastal grass-
land and open woodland (0-1300 m; subsp. **orientalis** Polhill);
0-2500 m alt.

Considerable variation in habit, indumentum, shape of leaflets,
pod-size, but particularly in size of flowers with keel varying
from 6 to 18 mm long.

Comprises 2 subspp., one with 2 vars.

C. dewildemaniana R. Wilczek

Erect annual or short-lived perennial herb 1-3 m tall, with numer-
ous ascending ribbed branches covered with short appressed
hairs; stipules absent; racemes long, many-flowered; calyx
becoming deflexed against the pedicel, standard veined purple.

Open grassland, bush, scattered tree bushland, generally along
roadsides; pastures; abandoned plantations, cultivated ground;
on black loam of volcanic origin; on sandstone and schist,
uncommon (Zaire); swamp, riversides (Zaire); also cultivated;
900-2300 m alt.

Variable in shape of leaflets and flower keel.

Comprises 2 subspp. (subsp. **oxyrhyncha** Polhill in the E part of
the range).

Resembling *C. brevidens* var. *parviflora*, and can be confused
with *C. lanceolata* but flowers larger.

C. dilatata Polhill

Erect annual herb with ascending densely appressed puberulous
branches, to 50 cm tall; stipules absent; racemes terminal, lax,
10 cm long; flowers remarkable, with broad calyx lobes, oblate
hairy standard, shortly beaked keel covered in hairs below the
beak.

Gallery forest, on a hill; 1100 m alt.

Known only from the type (Lisowski 13503).

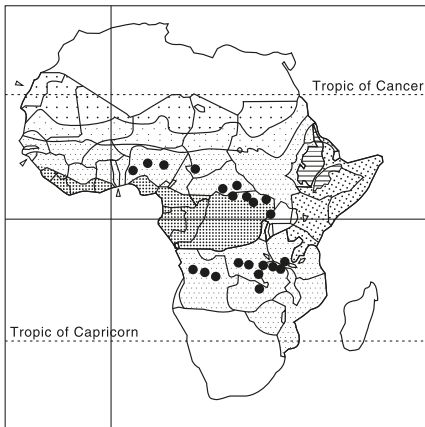
Seems close to *C. streptorrhyncha*.

C. diminuta Polhill

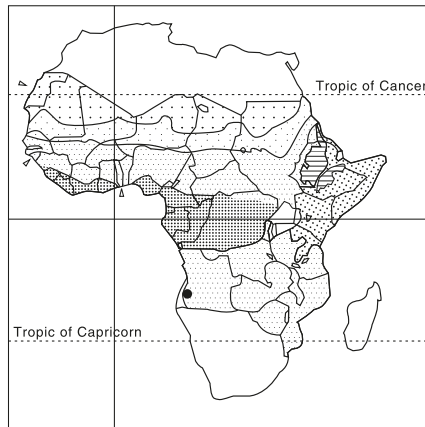
Annual herb, much-branched particularly from the base, with
slender weakly ascending branches, to 30 cm tall; leaves 1-foli-
olate, linear; racemes long, lax; young pod ellipsoid, many-
seeded; mature seeds unknown.

Damp sandy places beside a lake in a valley of impeded
drainage, in mixed dry scrub with *Acacia*, *Commiphora*, *Dal-
bergia*; c. 1000 m alt.

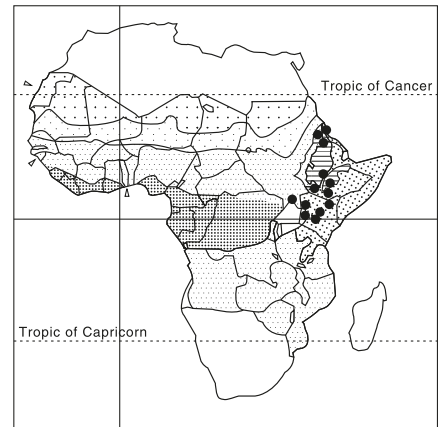
Known only from the type collection (Polhill & Paulo 2124) made
in 1962.



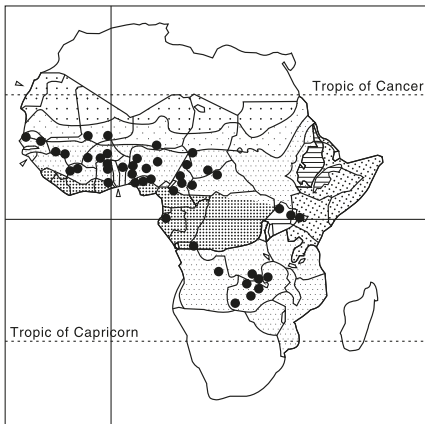
Crotalaria cuspidata



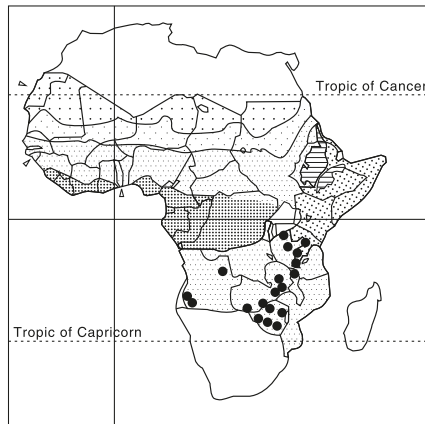
Crotalaria cyanea



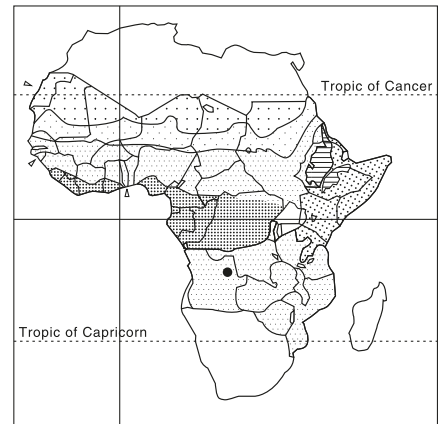
Crotalaria cylindrica



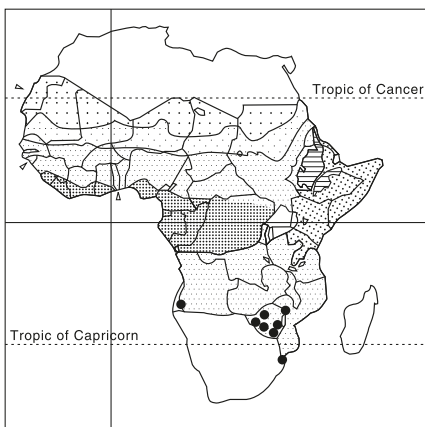
Crotalaria cylindrocarpa



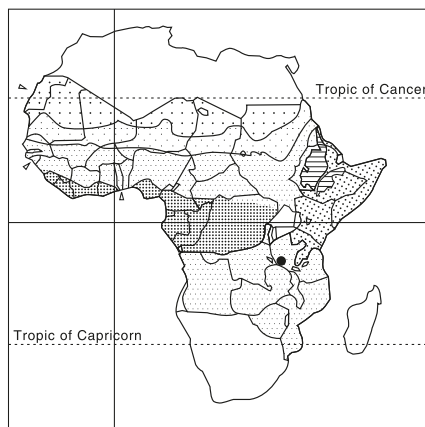
Crotalaria cylindrostachys



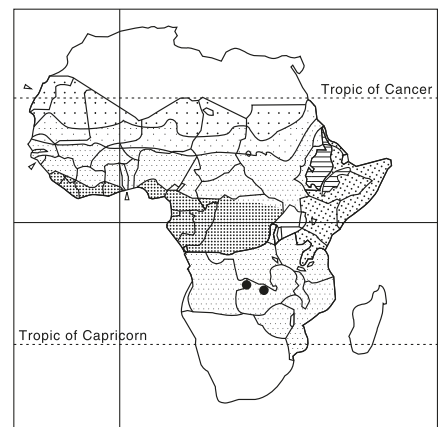
Crotalaria dalensis



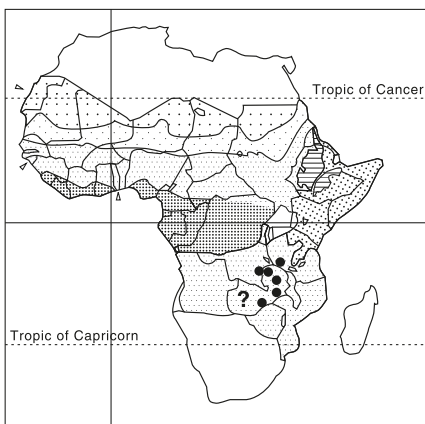
Crotalaria damarensis



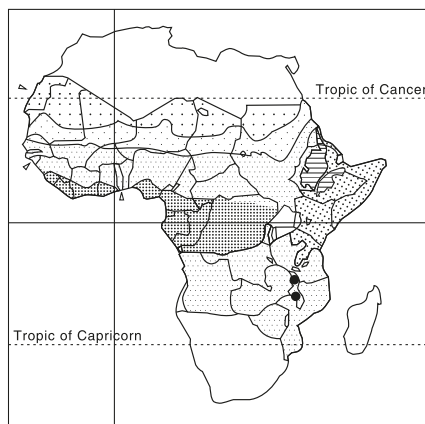
Crotalaria dasyclada



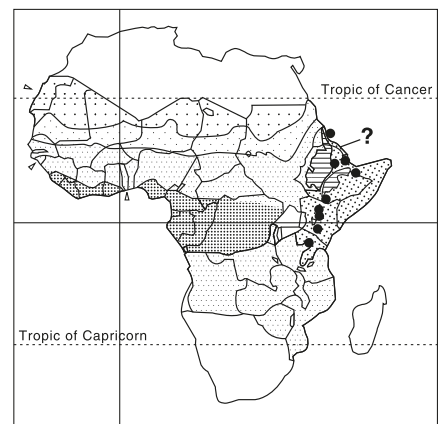
Crotalaria debilis



Crotalaria decora



Crotalaria dedzana



Crotalaria deflersii

CROTALARIA

C. distans Benth.

syn.: See Polhill for details on subsp., *Crotalaria* in Africa...: 280-281, 1982.

Annual pubescent herb (0,2-)0,3-1,3 m tall, erect or ascending; racemes lax, 6-30 cm long.

In a variety of grassland and woodland associations, usually in damp places, often on pans, along streams, around lakes and dambo; 500-1400 m alt.; also naturalized in Zimbabwe after introduction in c. 1920 (subsp. **macrotropis**). – Mopane woodland, *Acacia-Commiphora* bushland and grassland, not obviously associated with wet places (subsp. **mediocris** Polhill).

Variable in length of flower keel and shape of pod, insertion of bracteoles (at the base of or on the calyx tube). – Subspecies linked by intermediates.

Namibia, N S. Africa, Lesotho, Botswana.

Comprises 4 subsp. [*C. mundyi* Bak. f., excl. specim. Eyles 694 = syn. of subsp. **macrotropis** (Bak. f.) Polhill].

Can be confused with *C. friesii* flowering in the first season [subsp. **macaulayae** (Bak. f.) Polhill], and with *C. kurtii* (subsp. **mediocris**).

C. distantiflora Bak. f.

Short-lived perennial herb with slender, spreading-hairy stems, ascending or prostrate, often forming mats; racemes leaf-opposed, 7-16 cm long, with widely spaced flowers on a very slender rhachis, flowers yellow or flushed pink, veined brown.

Clearings and margins of upland rain-forest, evergreen bushland, grassland; also on roadsides and cultivated ground; 850-1800 m alt. (1600-2100 m in Ethiopia).

C. dolichantha Polhill

Short-lived perennial herb with an erect stem from a taproot; much-branched from near the base and branches ascending, to 40 cm tall; densely pilose with white ± crisped spreading hairs; stipules absent; flowers veined and flushed red outside; keel with long, twisted beak; pod and seeds unknown.

Grassland of open disturbed places, along a railway embankment (Itigi Thicket); 1260 m alt.

Known only from the type-gathering of 1964 (Greenway & Polhill 11637). But also seen from a train window in the Tabora District (fide Polhill, Fl. Trop. E. Afr., Legum. 4, Pabil. 2: 975, 1971).

Similar to *C. annua*.

C. dolichonyx Bak. f. & Martin

syn.: *C. lathyroides* sensu De Wild., Pl. Bequaert. 2: 498, 1924, non Guill. & Perr.; *C. lathouwersii* Bak. f.

Erect annual herb, well-branched, appressed pubescent to 0,5-1 m tall; lower branches sometimes long, curved-ascending; racemes to 15 cm long, long-pedunculate, with numerous flowers crowded at the top; calyx becoming deflexed against the pedicel, standard veined purple.

Grassland, pastures, fallow land (around Lake Albert); very local. Is perhaps only a form of *C. onobrychis*.

C. doniana Bak.

Slightly woody herb, straggling, climbing or prostrate, 1(-3) m tall (long), with slender thinly hairy branches; racemes lax, few-flowered, axillary.

Forest margins, clearings and streamsides in primary forest, also frequent in secondary forest, scrub, open grassy places, waste spaces.

CROTALARIA

C. duboisii R. Wilczek

syn.: *C. microcereus* Timp. (of subsp. **duboisii**).

Erect annual (or perennial) herb 0,5-1 m tall, usually single-stemmed from a taproot, sometimes developing a woody rootstock and numerous stems with ascending branches at least above in older plants; stem ± ribbed, with white hairs brown at the base; stipules absent.

Grassy savanna with patches of prickly *Acacia* on damp soil; *Brachystegia* plateau woodland, wooded grassland; 1000-2200 m alt.

Comprises 2 subsp. (subsp. **mutica** Polhill in N Zambia).

C. dumosa Franch.

syn.: *C. jamesii* Oliv.; *C. parvula* Beck (1888), non Welw. ex Bak. (1871), nom. illegit.; *C. paulitschkei* Bak. f. (1914), nom. nov. p. *C. parvula*.

Shrublet, much-branched, spreading, 20-70 cm tall, with densely appressed white hairs, glabrescent; bark brown with peeling epidermis; leaves often subtending abbreviated shoots bearing clusters of small leaves; racemes short, mostly from lateral leaf-clusters, a few also leaf-opposed; standard veined red; pod, small, white-hairy, few-seeded.

Deciduous bushland, semi-desert scrub, in open sandy and rocky places; 90-1400 m alt.

Arabia (See M. Thulin & al. in I. Friis & O. Ryding, Eds., Biodiversity Research... Horn of Afr. Reg.: 146-147, 2001 = Biol. Skr. 54).

C. dura Wood & Evans subsp. **mozambica** Polhill

Perennial virgate tomentellous herb or shrublet with numerous ascending stems, to 60 cm tall; stipules uncinat, persistent (in subsp. **dura** smaller, caducous); pod ± 8 mm long, ± tomentose (ovary 2-seeded; larger and 4-6-ovulate ovary in typical ssp.).

Coastal grassland and sand dunes, disturbed places on sandy soils. S. Africa (N Natal).

Comprises 2 subsp. in southern Africa; subsp. **dura** in the midlands of Natal (S. Africa).

C. durandiana R. Wilczek

syn.: *C. filifolia* De Wild. (1906), non Rose (1897), nom. illegit.

Perennial plant with several erect stems 40-70 cm tall, arising from a vertical rootstock; stems slender, laxly branched, thinly pubescent; flower standard lined purplish brown, keel with long incurved sharply pointed beak.

Upland grassland.

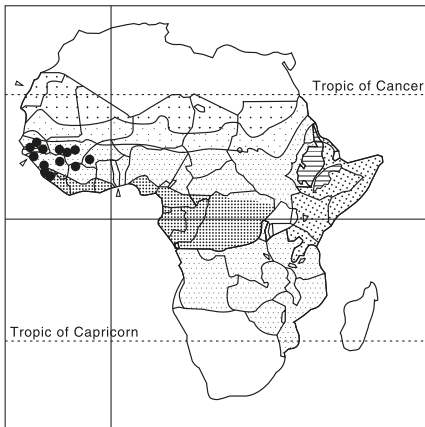
C. duvigneaudii Timp.

Erect glabrous annual herb, branching above, 40-60 cm tall; leaves 1-foliolate, linear, stipules absent; racemes short, laxly few-flowered; flowers large, 1,5-2 cm long, standard pale yellow-whitish inside, purple flushed outside, keel angular with straight twisted beak 15-18 mm long.

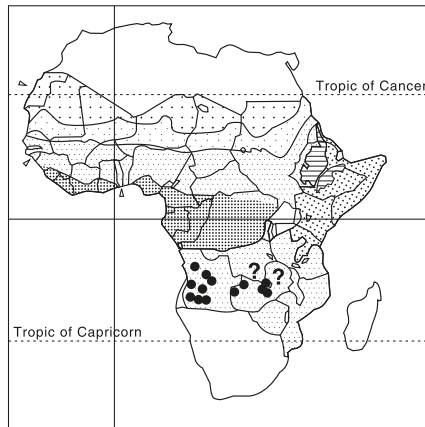
Dry "dilungu" (at Dilolo, Haut-Katanga; Duvigneaud cited by J. Timperman, Bull. Soc. Roy. Bot. Belg. 91: 166, 1968).

Known only from the type collected in 1957 (Duvigneaud 2509C).

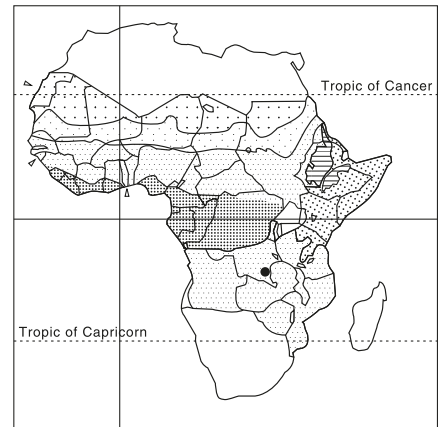
Near *C. adamii* but larger in all parts.



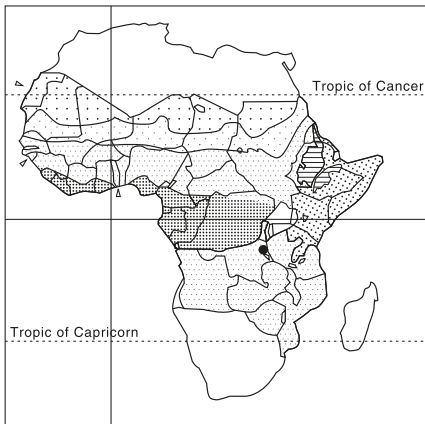
Crotalaria deightonii



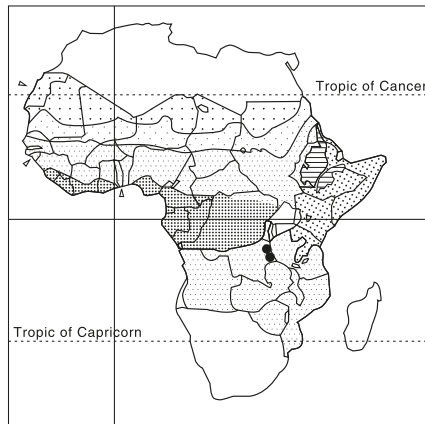
Crotalaria densicephala



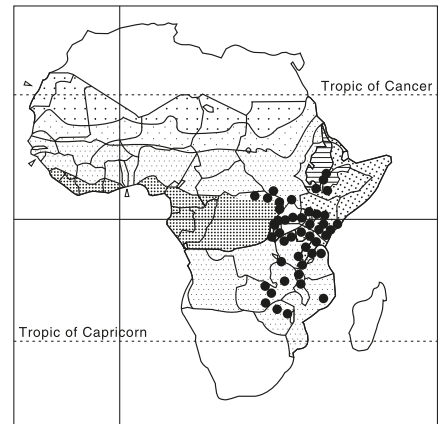
Crotalaria depressa



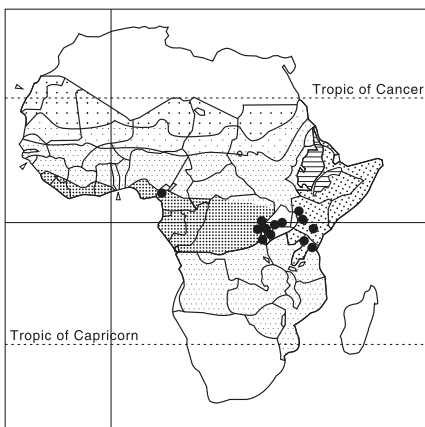
Crotalaria desaegeri



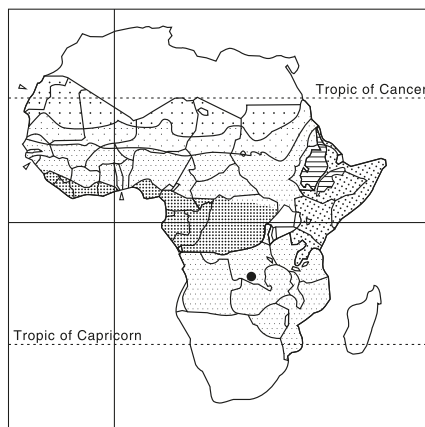
Crotalaria descampsii



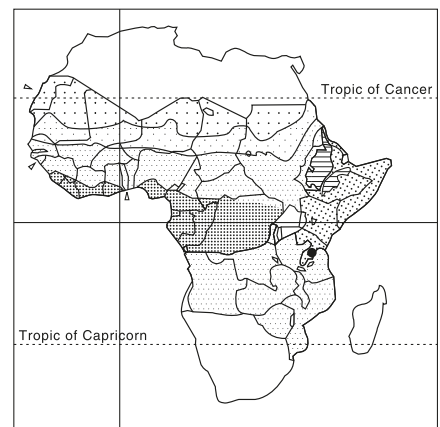
Crotalaria deserticola



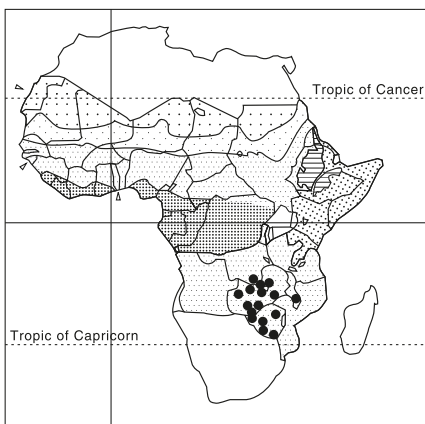
Crotalaria dewildemaniana



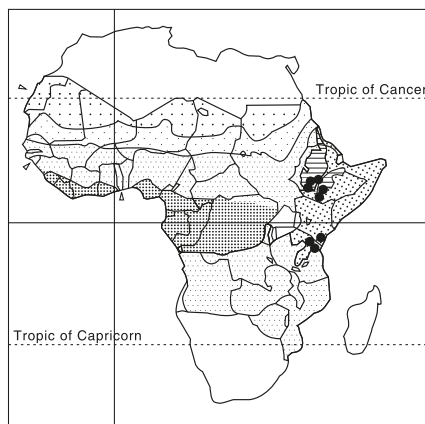
Crotalaria dilatata



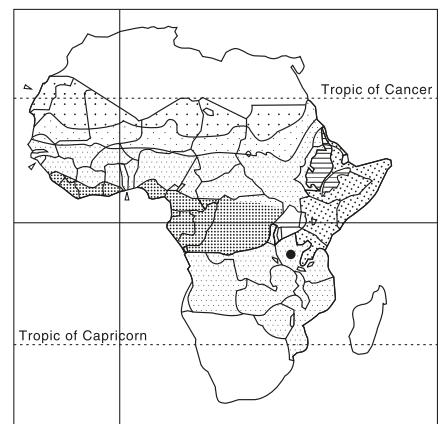
Crotalaria diminuta



Crotalaria distans



Crotalaria distantiflora



Crotalaria dolichantha

CROTALARIA

C. ebenoides (Guill. & Perr.) Walp.

bas.: *Chrysocalyx ebenoides* Guill. & Perr.

Erect or spreading annual herb, 20-50 cm tall, with long slender branches, densely brown silky; leaves 3-foliolate to predominantly 1-foliolate; racemes dense oblong terminal heads; calyx as long as corolla; pod enveloped by calyx, few-seeded.

Semi-arid regions; along roads in cultivated bush, native fields, on natural causeway of river, dunes.

Allied to *C. perrottetii*.

C. egregia Polhill

Erect annual densely pilose herb 30-50 cm tall, with ascending branches from near the base; leaves 1-foliolate, stipules absent.

Brachystegia woodland, sometimes in damp places at edges of seasonally flooded grassland; 1200-1500 m alt.

Similar to *C. kipandensis* but with larger flowers.

C. elisabethae Bak. f.

syn.: Enum. 2: 72, 1992; *C. mumbwae* Bak. f.

Erect virgate annual herb (0,1-)0,3-1 m tall, densely appressed pubescent; stipules absent; racemes in small crowded clusters from the axils and also terminal, standard marked purple, keel with long (± 9 mm) narrow twisted beak incurved at the tip; pod 2-seeded.

Brachystegia woodland; grassy and wooded savanna, along roads; open Mumia woods in valley; c. 1200-1500 m alt.

Variable in length and development of leaves and racemes.

Can be confused with the perennial *C. newtoniana* (Huila, Angola) when flowering in first year of growth.

C. emarginata Bojer ex Benth.

Annual or shortlived perennial herb, stiffly erect, well-branched, to 1-2 m tall; branches ribbed, densely whitish pubescent with spreading hairs; stipules absent; calyx campanulate, deflexed against the pedicel, standard conspicuously veined reddish.

Grassland, swamp margins, seasonally flooded valleys in *Brachystegia* woodland; roadsides, cultivated ground; 0-300 m alt.

Mostly coastal but with one inland situation in E Tanzania (Ulanga District).

C. emarginella Vatke

syn.: Enum. 2: 72, 1992; *C. deflersii* sensu Chiov. Fl. Somal. 1: 139, 1929, non Schweinf.; *C. maxillaris* sensu Chiov., Result. Sci. Miss. Stefanini-Paoli Somal. Ital. 1, Coll. Bot., Append.: 62, 1916, non Klotzsch; *C. nogalensis* Chiov.

Spreading woody herb or subshrub (0,1-)0,3-1,7 m tall with pubescent branches; leaves mostly crowded on very short lateral shoots forming tufts in axils of larger leaves; stipules rarely absent; flower standard sometimes brown, keel with a straight twisted beak 1-1,4 cm long.

Deciduous bushland, semi-desert grassland and scrub, generally in dry stony or rocky places, rarely extending into lower margins of upland evergreen bushland and grassland; on basement and limestone formations; also roadsides; 110-1850 m alt.

Variable in habit, indumentum, and in size of all parts. In E Africa a well-defined race occurs, with long dense spreading hairs on the branchlets. In Somalia perhaps more than one taxon is involved: presence of tall-growing forms with \pm purplish blue flowers and no stipules in S Somalia (fide Thulin, Fl. Somal. 1: 457, 1993).

Yemen.

CROTALARIA

C. ephemera Polhill

syn.: *C. kassneri* sensu R. Wilczek, Fl. Congo Belge 4: 199, 1953, p. maj. p., excl. specim. Kassner 2704, 2705, non Bak. f.

Small spreading annual pubescent herb, much-branched from the base, 5-10(-20) cm tall; branches curved-ascending; stipules absent; flowers in small terminal heads; standard lined reddish, densely hairy; pod 2-seeded.

Wooded grassland; plateau, *Brachystegia* woodland, sometimes in disturbed open places; 1200-1400 m alt.

Has been confused with *C. kassneri*; similar to *C. parvula*.

C. eremicola Bak. f. subsp. **parviflora** Polhill

syn.: *C. spinosa* Hochst. ex Benth. var. *schlechteri* Bak. f.; *C. "erimicola* Verdoorn" (1928).

Perennial herb with slender spiny tomentellous branches, 15-40 cm tall, from a taproot or small branched rootstock; leaves small (3-8 \times 1-3,5 mm), rather thick; flowers small, solitary (or 2) on slender patent spines (0,5-1,5 cm long) all along the branches; pod globose, few-seeded.

Plains, in open places; grassland on sand, valley depressions on clay with *Acacia*; 100-900 m alt.

Subsp. **parviflora** also in S. Africa (Transvaal), SE Botswana.

Comprises 2 subspp. [subsp. **eremicola** ("erimicola") in S Namibia and N S. Africa, SE Botswana].

C. ericoides Torre

Several erect stems, much-branched, puberulous, 60-80 cm tall, from a rhizomatous rootstock; leaves sessile, closely arranged, stipules absent; flowers 1-2, terminal and axillary; *immature* pod oblong, 2-3-seeded; mature seeds unknown.

Grassy depressions.

Related to *C. andromedifolia*.

C. erythrophleba Welw. ex Bak.

Erect annual herb to 60 cm tall, with numerous long slender ascending appressed-pubescent (white silky) branches; stipules absent; racemes short, dense, with many flowers scattered in the axils below; standard lined purple, beak of keel purple speckled; pod 2-seeded.

Open sandy forests together with *Alvesia* (*Plectranthastrum*) *rosmarinifolia* and *Protea*; disturbed places on sand.

C. eurycalyx Polhill

Erect annual herb, densely appressed pubescent; stipules absent; racemes \pm densely many-flowered with leafy bracts; flowers fairly large; standard pale yellow veined brown; ovary 8-ovulate; pod and seeds unknown.

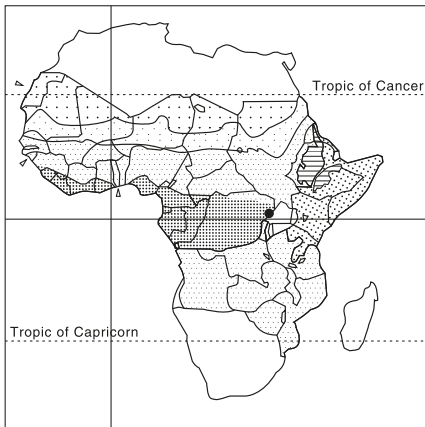
Brachystegia woodland; 1200 m alt.

Similar to *C. arcuata* in growth.

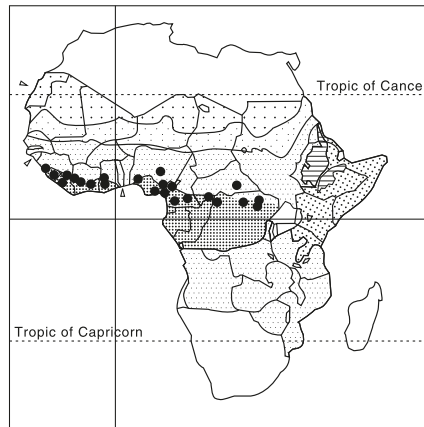
Known only from the type collected in 1957 (Richards 9377), and found by the collector on one stretch of the road for c. 3 km.

C. exaltata Polhill

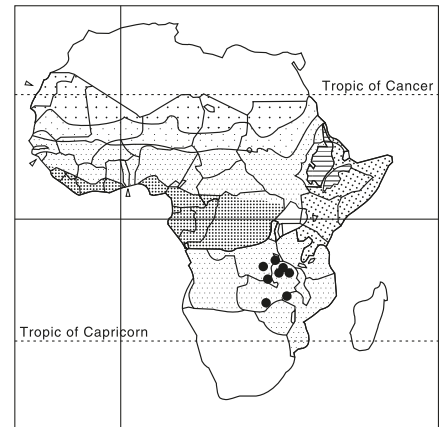
Shrub or small tree, evergreen, with ribbed, hairy branches, 3-7,5 m tall; bark smooth, grey; leaflets 4-7 \times 1,2-2,3 cm; racemes terminal and leaf-opposed, often on reduced twigs appearing axillary, becoming pendulous; calyx densely hairy 1,6-2 cm long above the well-developed hypanthium, standard greenish yellow, veined crimson at base, to 3,6 cm long, keel obliquely



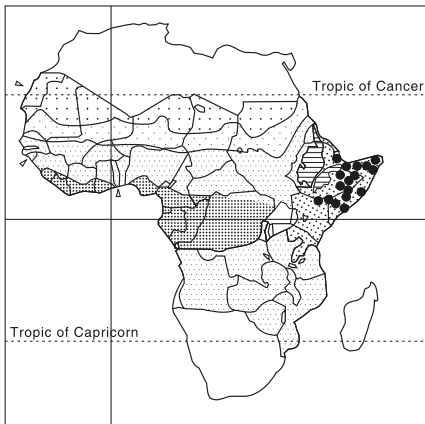
Crotalaria dolichonyx



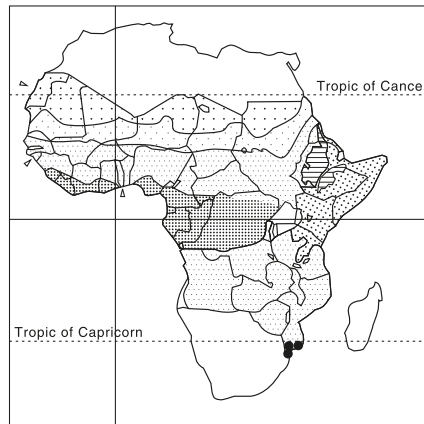
Crotalaria doniana



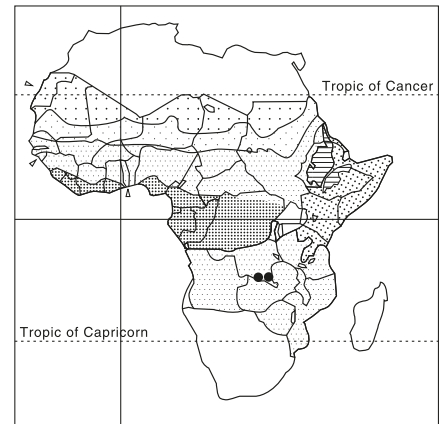
Crotalaria duboisii



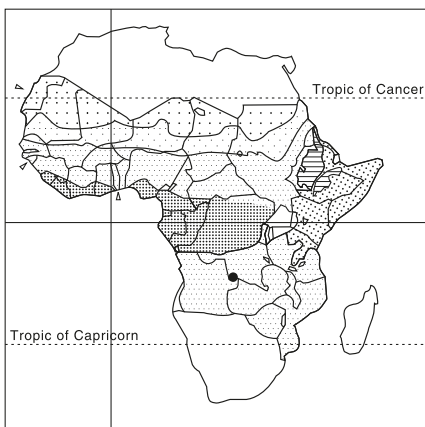
Crotalaria dumosa



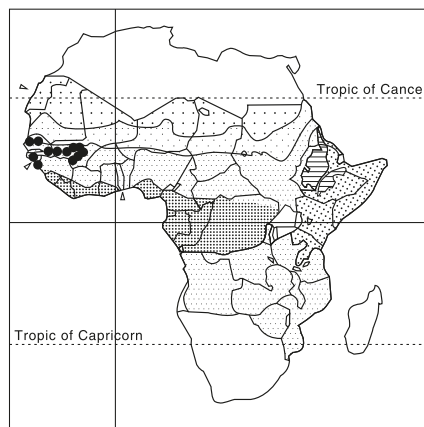
Crotalaria dura subsp. *mozambica*



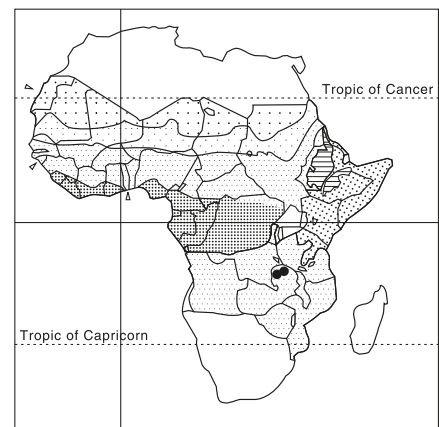
Crotalaria durandiana



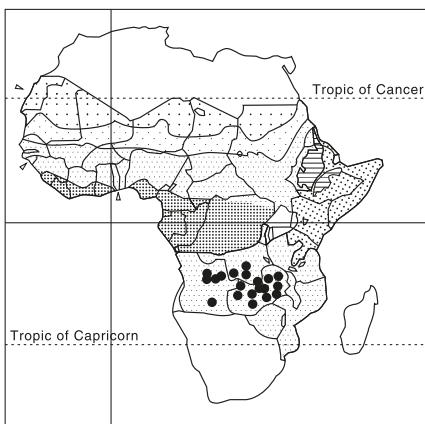
Crotalaria duvigneaudii



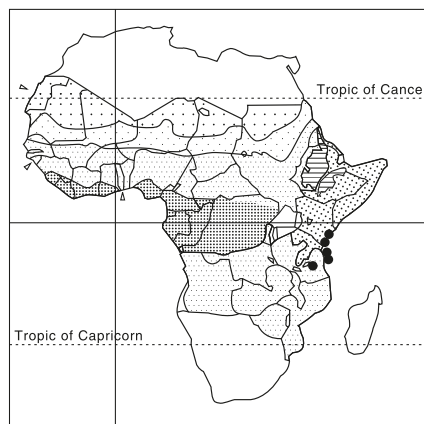
Crotalaria ebenoides



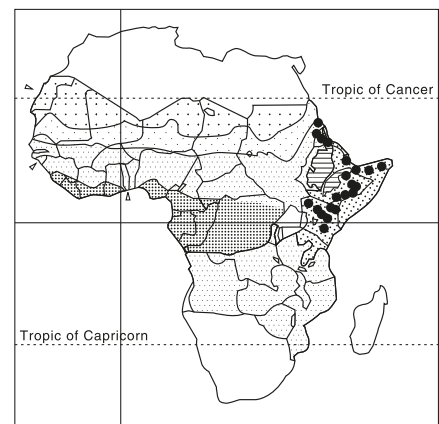
Crotalaria egregia



Crotalaria elisabethae



Crotalaria emarginata



Crotalaria emarginella

CROTALARIA EXALTATA

semi-elliptic, extended forward to a conspicuous tapered and twisted beak c. 3,5 cm long; pod oblong-clavate venose, with the upper suture impressed, 8,9 × 1,7 cm.

Montane forest in the bamboo (*Arundinaria alpina*) zone; rim of crater on north-facing slopes; margin of bamboo thicket; 3000-3400 m alt.

A very striking species, the tallest in the genus. In habit and flowers (large) resembling *C. rosenii* and *C. agatiflora*; but closer to *C. humbertii* from Madagascar with similar appearance.

C. exelliana R. Wilczek

Erect annual appressed pubescent herb, branched above, to 90 cm tall; leaves 1- and 3-foliolate mixed in clusters along stems and branches; racemes short, dense, and single flowers from leaf-clusters; pod 2-seeded. – Easily recognized species.

Forest gallery of river, rather common.

Only known from the Kundelungu Plateau (Haut-Katanga).

C. exilipes Polhill

Annual herb, procumbent, much-branched, with radiating slender, glabrescent branches to 40 cm long; stipules small; racemes short, very lax, with filiform zigzag rachis.

Commiphora, *Delonix elata*, *Tamarindus*, *Lannea fulva*, *Dombeya*, *Grewia* bushland on a small rocky hill, on stony yellow-brown sandy soil amongst granite boulders with grasses; 1100-1200 m alt.

Similar to *C. deserticola*, *C. greenwayi*.

Local species S of Lake Victoria.

C. exilis Polhill

Erect annual herb with numerous ascending, very slender appressed-pubescent branches, 25-60 cm tall; stipules absent; racemes short with many flowers crowded at top, and a few flowers also in axils; flowers small; pod 2-seeded.

Deciduous woodland, wooded grassland, sometimes in sandy places; 1250 m alt.

Very similar to *C. carsonii*, and also resembling *C. tenuirama*.

C. eximia Polhill

Erect annual or short-lived perennial herb with well-developed spreading branches, 20-80 cm tall, from a taproot; densely pubescent with fine, ± crisped white hairs; stipules absent; flower standard flushed and veined reddish, keel with a long narrow twisted beak, incurved at tip, 8-10 mm long; young pod 2-seeded; seeds unknown.

Brachystegia, *Uapaca* woodland on sand, and at bottom of small valley; 870-900 m alt.

Allied to *C. phyllostachys* (N Malawi).

C. fallax Chiov.

Erect or ascending annual or short-lived perennial herb, 30-90 cm tall; branches long spreading from the base, covered with short appressed-spreading hairs; stipules minute, or ? absent; racemes long, many-flowered; calyx truncate, deflexed against pedicel; standard veined brown. – Plant drying blackish.

Grassland, woodland; c. 1550 m alt.

Local species similar to *C. lanceolata* subsp. *contigua* but wings shorter and fruits smaller. – See also under *C. cylindrica* above.

CROTALARIA

C. fascicularis Polhill

syn.: *C. trifoliolata* sensu Chiov. in Cufod. & al, Miss. Biol. Paese Borana 4, Racc. Bot.: 67, 1939, non Bak. f.

Bushy perennial herb or shrub 1-2 m tall, with yellowish tomentose branches; leaves mostly crowded on very short lateral shoots (except on youngest branches); racemes ± dense, variable in length (4-13 cm) and number of flowers; standard suffused red or brown later; keel abruptly rounded below the middle ± 15 mm long, with a long, twisted beak.

Margins of upland rain-forest and dry evergreen forest, upland grassland, evergreen bushland, usually in drier, more exposed rocky places; margins of cedar forest or its remnants, clump thicket grassland, secondary grassland (Kenya); (1300-)1500-2950 m alt. (1500-1950 m in S Ethiopia; down to 1300 m along rivers in E Africa).

C. fenarolii Torre

Perennial (?) herb, decumbent, with numerous branched coarsely pubescent stems c. 35 cm long; leaves 1-foliolate, ovate; racemes with 1-3 flowers near the top; immature pod oblong, ± 6-seeded; mature pod, seeds and flower colour unknown.

Known only from the type collected in 1930 (Fenaroli 1937).

Dry grassland (“nas anharas”).

Most closely related to *C. variegata* and allied species.

[C. fihierenensis R. Viguier]

Shrub with slender, ± glabrous shoots, 1-3 m tall; stipules absent; racemes leaf-opposed, lax, few-flowered; flowers speckled reddish.

Native of Madagascar.

Cultivated in Senegal. – Not mapped.

C. filicaulis Welw. ex Bak., incl. var. *katangensis* De Wild. (= var. **filicaulis**).

Erect annual herb 20-130 cm tall, with slender stem and often numerous ascending branches and shorter flowering branches above; plant densely silvery hairy to subglabrous; stipules absent; flower standard pale yellow, marked red at base inside; pod 2-seeded.

Brachystegia woodland, usually on sandy soils; savanna scrub; poor pastures “where... the natives... construct their camp” (Welwitsch 1982, Angola: Huilla); also roadsides, cultivated ground; 500-1800 m alt. – var **grandiflora** in miombo and its fringes on gritty soils, 1200-1500 m alt.

Variable in indumentum and in size of flowers and bracts.

Comprises 3 vars. (*C. filicauloides* R. Wilczek = syn. of var. **grandiflora** Polhill). Intermediates between varieties exist and their status needs reappraisal. More material needed. – A very distinctive large-flowered form intergrading with var. **filicaulis** occurs S of Lake Tanganyika.

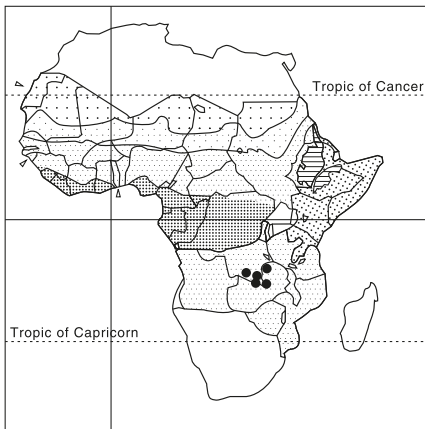
C. flavicarinata Bak. f.

syn.: *C. cataractarum* Bak. f.

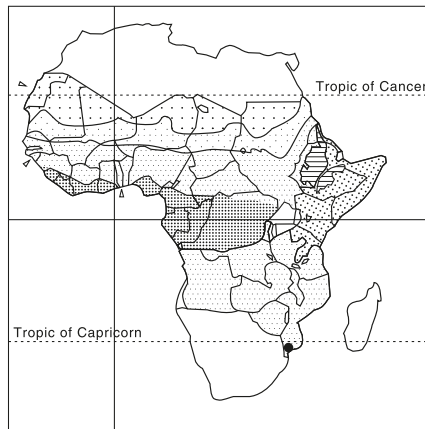
Erect perennial much-branched herb or short-lived shrub, 0,6-2 m tall, with ± angular, strongly ribbed branches; indumentum of appressed or crisped hairs; racemes lax, few- to many-flowered; flower standard greenish white lined purple.

In a variety of deciduous and evergreen woodland and savanna formations: chipya, *Baikiaea*, *Pterocarpus-Burkea*, *Acacia-Lonchocarpus*, etc.; generally on Kalahari sands, also sandy river banks and at edges of riparian forest; 900-1250 m alt.

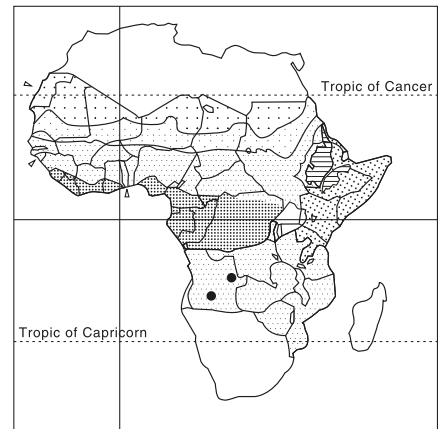
Namibia, Caprivi Strip, N Botswana.



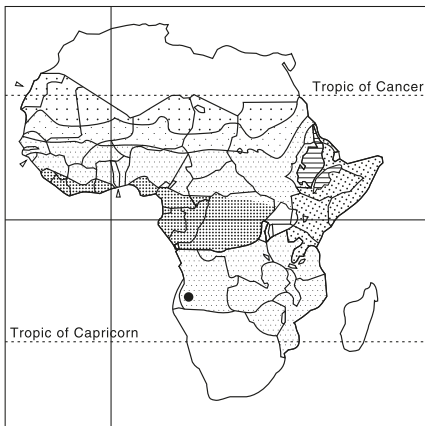
Crotalaria ephemera



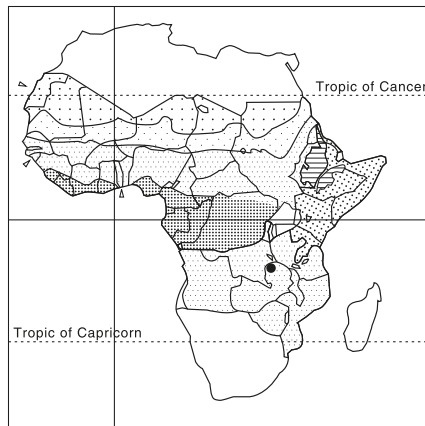
Crotalaria eremicola subsp. *parviflora*



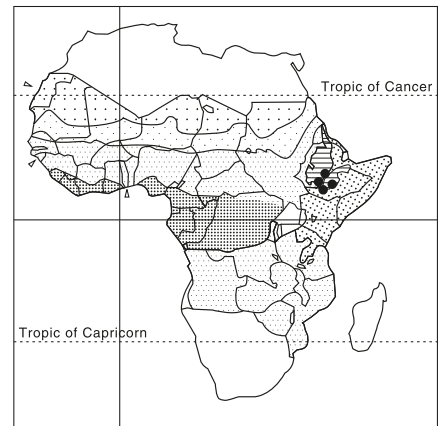
Crotalaria ericoides



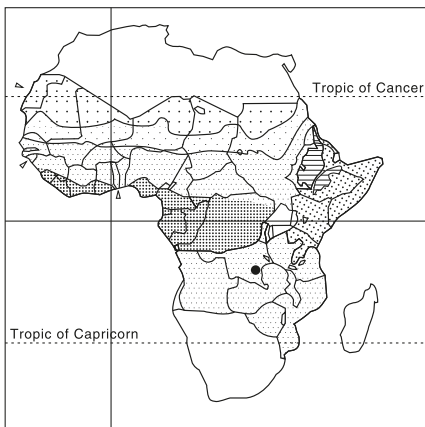
Crotalaria erythropleba



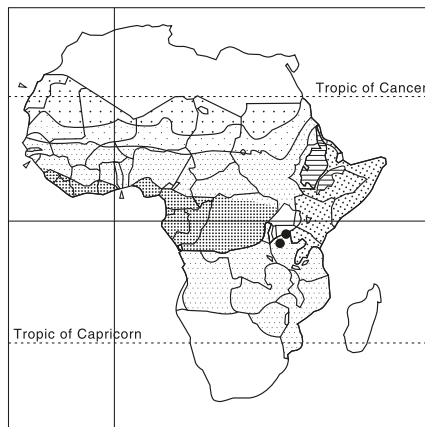
Crotalaria eurycalyx



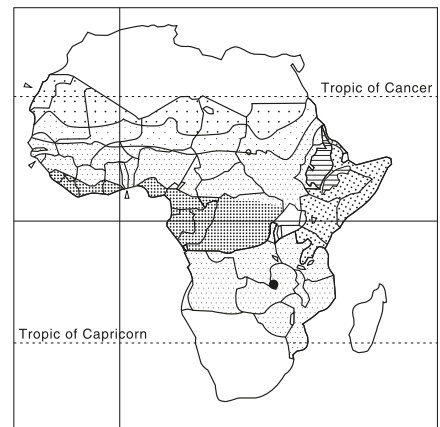
Crotalaria exaltata



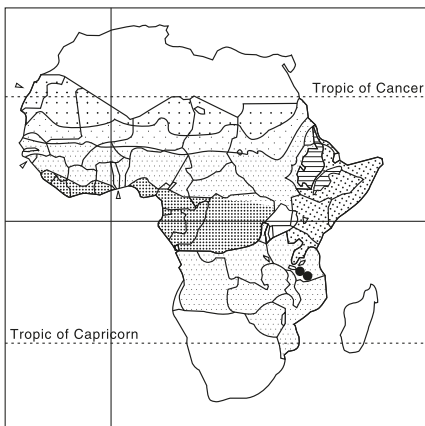
Crotalaria exelliana



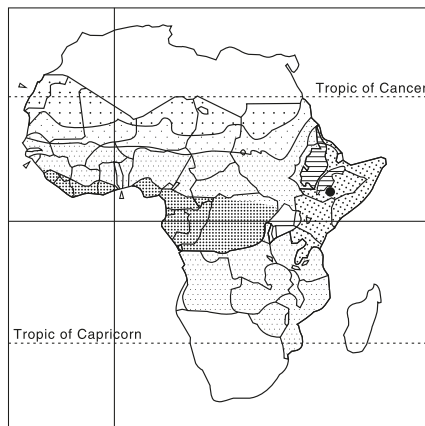
Crotalaria exilipes



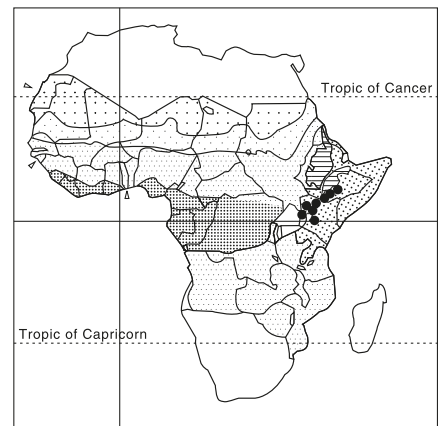
Crotalaria exilis



Crotalaria eximia



Crotalaria fallax



Crotalaria fascicularis

CROTALARIA

C. florida Welw. ex Bak., excl. var. *richardsiana* Torre (= *C. kambolensis*); (name sometimes misapplied to *C. kambolensis*).

Subshrub, several-stemmed, rather bushy, (0,1-)0,5-1,2 m tall, with numerous shortish leafless flowering branches above, from a woody rootstock; branches ribbed with indumentum of brown-based hairs; stipules absent; pod pointed, 2-seeded.

Brachystegia plateau woodland; weed of cultivation; sometimes on metalliferous soils in the Copperbelt of Zambia, and in open forest, grassy savanna, scrub and damp soil (Katanga) [var. **congolensis** (Bak. f.) R. Wilczek]; abundant in woody stony hilly meadows about great lake (Angola); weed of cultivation (var. **florida**); 1000-1800 m alt.

Variable in size of flowers, with clinal variation from W (larger flowers) to E. Tendency to develop local forms.

Comprises 3 vars. with intergrading forms between them; var. **monosperma** (De Wild.) R. Wilczek growing on higher ground (1500-1750 m alt.).

A specimen (Tessmann 2240) from Central African Republic (near Carnot) has been named and looks like *C. florida*, but probably represents a new species (fide Polhill, *Crotalaria*: 320, 1982).

C. friesii I. Verdoorn

Stems numerous, procumbent to erect, 15-40(-180) cm long, from a woody vertical rootstock with lateral rhizome-like branches from the top; stems subterete, pubescent, flowering from first year of growth; flowers in small lax racemes, standard lined or flushed red.

Mixed deciduous woodland and grassland, on varied soils but with fairly high water-table in the dry season; 1000-1300 m alt.

Old stems flowering in the dry season, but first year plants tend to flower at the end of the rains, and can be confused with *C. distans* subsp. *macaulayae*, but lower branches procumbent and bracteoles, flowers and fruits smaller.

A specimen (short-lived perennial herb with a taproot) from N Zimbabwe (Drummond 6843, Guruve Distr.), "on serpentine at the foot of a grass-covered serpentine hill", cited by Polhill, *Crotalaria Afr. & Madag.*: 281-282, 1982, under this species, figures as Nr. 122 *Crotalaria* sp. B (*C. grantiana* sensu Drummond in *Kirkia* 8: 218, 1972, quoad Drummond 6843) in *Fl. Zambes.* 3/7: 174, 2003, just after *C. friesii*.

C. gamwelliae Bak. f., non sensu Drummond 1972 p.p. (cf. note above under *C. friesii*).

Erect annual herb 30-70 cm tall, with numerous ascending branches from the base and numerous short ± leafless flowering branches above; stem slender, pubescent; stipules absent; racemes lax to dense; many-flowered, with clusters of flowers in the axils below; pod 2-seeded.

Brachystegia woodland; also cultivated ground; 1000-1500 m alt.

C. gazensis Bak. f.

Shrubby herb to 1-2 m tall, or slender-stemmed straggling or trailing, variously pubescent; leaflets narrowly elliptic with margins slightly inrolled, stipules recurved; racemes on main and numerous short lateral branches, few-flowered or flowers solitary.

Forest, riverine associations, upland grassland; grassy places on high ground; edges of montane forest and associated bushland, extending into miombo woodland along the rivers; 800-2200 m alt. (subsp. **gazensis**). – Grassland and disturbed places; 1100-1800(-2100) m (subsp. **herbacea**).

CROTALARIA GAZENSIS

Variable in habit, with a shrubby, typical form (subsp. **gazensis**) in forest or grassland and smaller herbaceous forms with short petioles on high ground (W populations, subsp. **herbacea** Polhill).

S. Africa (N Transvaal; subsp. **herbacea**).

Comprises 2 subspp.

C. germanii R. Wilczek

Small erect annual herb to 10-25cm tall, with ± long spreading, weakly ascending slender branches from near the base; leaves 1-foliolate, narrow, stipules absent; racemes laxly few-flowered, with very slender rachis; flowers small, standard veined purple.

Themeda savanna and secondary grassland (after cultivation), in damp sandy places around (usually the drier parts) dambos and in damp rock crevices; 950-1350 m alt. Scattered.

C. gillettii Polhill

Annual or short-lived perennial straggling-ascending herb 0,4-1,5 m tall; branches appressed pubescent; stipules recurved; racemes long, dense, many-flowered; calyx becoming truncate at base and deflexed, standard ± greenish yellow veined purple.

Forest margins, grassland, evergreen bushland; 1700-2800 m alt.

Resembling *C. plowdenii* (however, without stipules).

C. glabripedicellata R. Wilczek

Erect slender unbranched annual herb 10-20 cm tall, appressed puberulous; leaflets small, 5-8 × 1,3 mm, stipules absent; racemes short, laxly few-flowered with other flowers in the axils below; flowers small; ovary 2-ovulate; fruit and seeds unknown.

Deciduous upland woodland, on landslides on mountain foothills; c. 1050 m alt.

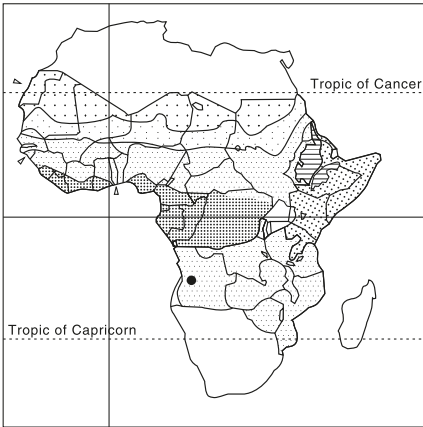
Only known from the type collected in 1949 (Van Meel in G. de Witte 5629).

C. glauca Willd., incl. var. *genistifolia* (Vahl ex Schumach.) Bak. f., var. *humilis* Bak. f., var. *mildbraedii* Bak. f., var. *welwitschii* Bak. f., var. *elliottii* Bak. f., var. *beniensis* De Wild.; but excl. var. *anisophylla* Hiern (= ? *C. anisophylla*).

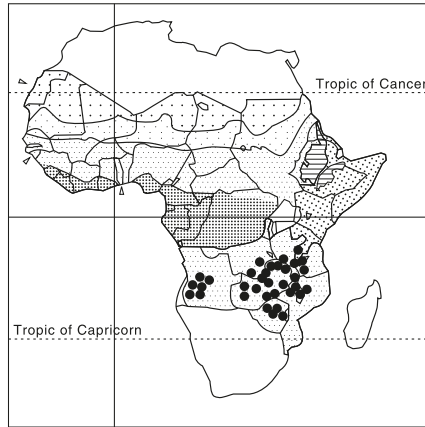
syn.: *C. genistifolia* Vahl ex Schumach.; *C. amadiensis* De Wild., incl. var. *butayei* Bak. f.; *C. cylindroclados* Bak. f. & Martin

Annual or short-lived perennial herb, *Lathyrus* -like, erect to spreading, laxly branched above, 0,3-1,2(-1,8) m tall; stems slender, ± glabrous; leaves simple, linear, 1-8 × 0,2-1 cm, glabrous to puberulous, glaucous, sometimes drying blackish; stipules mostly absent; racemes short, laxly few-flowered; standard pale yellow veined brown, keel crested.

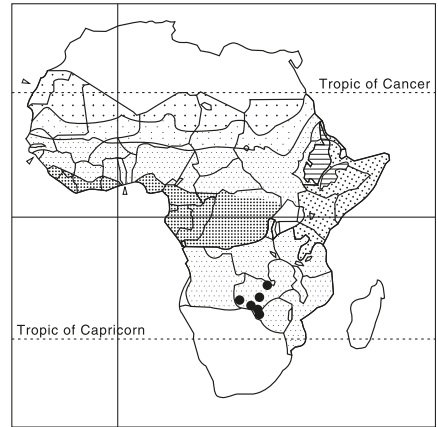
Grassland, widespread; deciduous woodland, open bushland; restricted to locally damp places in generally dry areas, also roadsides and cultivated ground; 400-2300 m alt. (1200-2000 in Ethiopia); upland rain-forest with *Albizia*, *Macaranga*, *Croton*, *Ocotea*, forest edge (Imatong Mts, Sudan, 1800 m); wet waste and sandy places, alluvial soils on riversides, seasonally flooded plains, old cultivations (W Africa, Niger, Burkina Faso, Mali); on grassy slopes among the mountains in company with *Gladolus angolensis*, sandy thickets, in meadows along river banks, not common (Angola). – "Catholic opportunist".



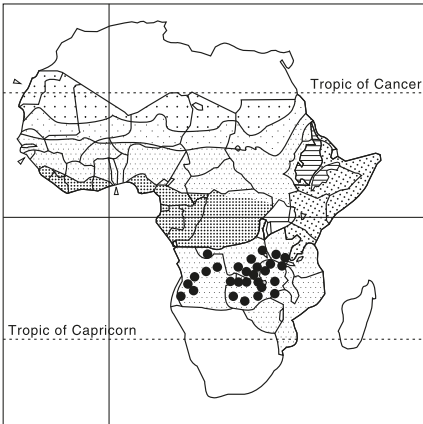
Crotalaria fenarolii



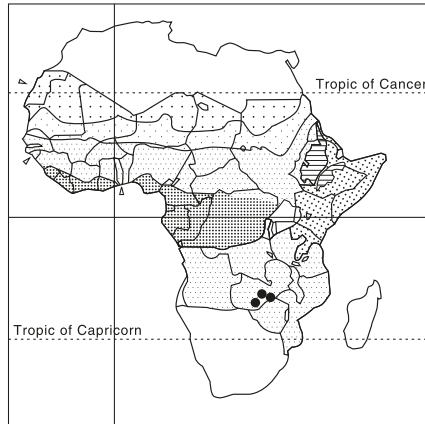
Crotalaria filicaulis



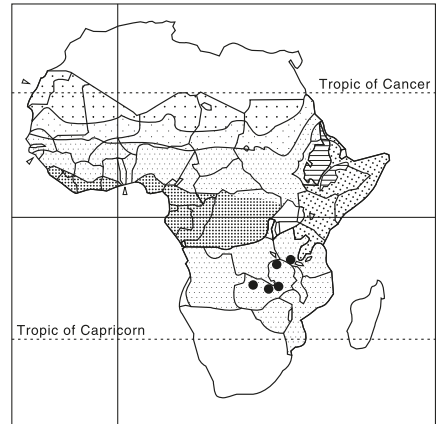
Crotalaria flavicarinata



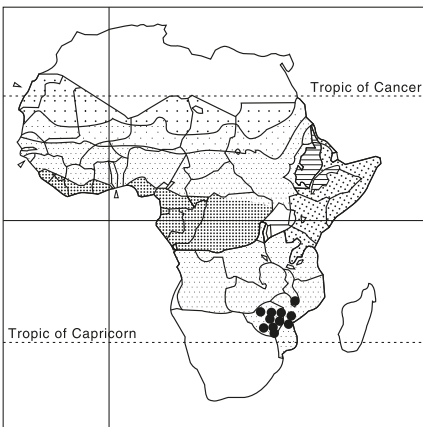
Crotalaria florida



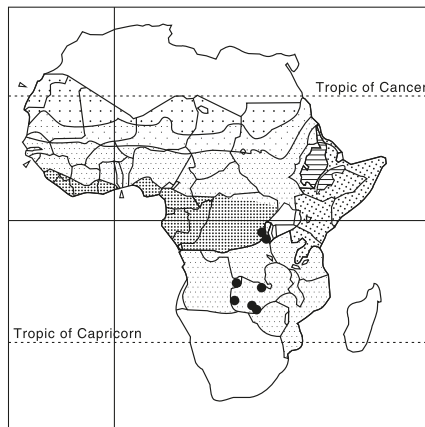
Crotalaria friesii



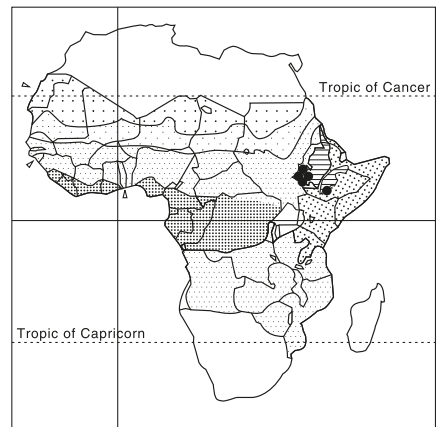
Crotalaria gamwelliae



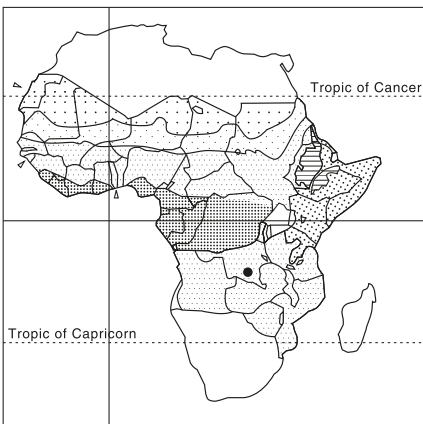
Crotalaria gazensis



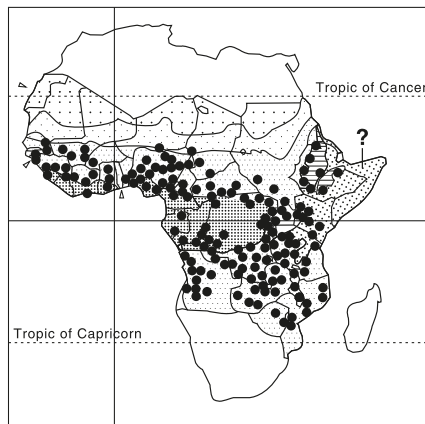
Crotalaria germanii



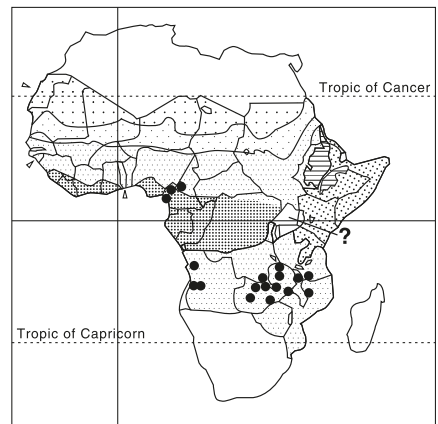
Crotalaria gillettii



Crotalaria glabripedicellata



Crotalaria glauca



Crotalaria glaucifolia

CROTALARIA GLAUCA

Polymorphic species; variable in habit (higher in long grass), pubescence of calyx, shape of leaves and pods, development of bracts; variation partly phenotypic. The most obvious variation is in the foliage.

C. glauca sensu Robyns in Fl. Parc Natl. Albert 1: 240, 1948, non Willd. = *C. karagwensis*.

Resembling *C. glaucooides* (with 3-foliolate leaves).

C. glaucifolia Bak.

syn.: Enum. 2: 73, 1992; *C. versicolor* Bak. var. *camerunensis* Bak. f.; *C. longifoliolata* De Wild., incl. var. *latior* Bak. f.

Erect annual herb laxly branched 35-85 cm tall; stem ± flexuous, ± glabrous to pubescent; leaflets narrow, pointed, 5-15 × 1,5-5 cm; racemes laxly few-many-flowered; flowers large, standard violet-blue with yellow basal patch and brown puberulous along midvein outside, wings and keel yellow, pod inflated.

Grassland, deciduous *Brachystegia* woodland, often in grassy places around rock outcrops, by roads and dambos on sandy soils; 700-2100 m alt.; sandy wooded meadows, damp sandy places, sparingly (Angola); scrub, open forest, roadsides (Zaire).

Uganda ? (doubtful record by Maitland, "Buganda" (fide Polhill, *Crotalaria* Afr. & Madag.: 133, 1982).

C. glaucooides Bak. f.

syn.: *C. paludosa* A. Chev., excl. specim. Chevalier 34315.

Erect slender well-branched annual herb 0,4-1,2 m tall; only younger parts appressed puberulous; leaflets ± linear, 4-8 × 0,5- >1 cm, membranous; stipules caducous; racemes lax, rhachis slender; standard often tinged reddish.

Wet grassland, disturbed places.

Resembling *C. glauca* (however with *simple* leaves !).

C. gnidioides R. Wilczek

Perennial plant with a woody rootstock and numerous erect ± unbranched slender coarsely pubescent stems to 20-35 cm tall; leaflets needle-like, rarely curved, with inrolled margins, 1-4 cm × 1 mm, stipules absent; flowers in sessile heads; pod 2-seeded.

Plateau grassland at edge of forest gallery; burned grassy savanna; escarpment at source of river; 1700-1815 m alt.

Near *C. oxyphylla*, *C. haumaniana*, and *C. lawalreeana*, with eventual introgressions with the latter.

C. goetzei Harms

syn.: *C. rotundicarinata* Bak. f.

Bushy shrub with branches covered with ± spreading hairs, 1-4 m tall; racemes laxly few-flowered, numerous, terminal and leaf-opposed; pod densely hairy.

Riverine forest in *Brachystegia* woodland, upland grassland; 750-2200 m alt. – Forest edges, rocky places; 1800-2220 m (Malawi).

C. goodiiformis Vatke

syn.: *C. saxatilis* Vatke (1879), non Zoll. (1847), nom. illegit.; *C. thomsonii* Oliv.; *C. holstii* Taub., nom. subnud. (type not stated).

Bushy shrub or subshrub, sometimes scandent, 1-3(-4,5 ?) m tall; branches slender, pubescent, ± glabrescent; racemes lax, few-flowered, rhachis very slender; flowers yellow or orange with a purple patch.

CROTALARIA GOODIIFORMIS

In a variety of habitats: *Acacia-Combretum* bushland on rocky hilltops; forest margins and clearings; deciduous woodland; wooded grassland, bushland, streamsides, upland rain-forest, dry evergreen forest (perhaps the original habitat); abandoned cultivations; 0-2400 m alt. (below 500 m in Fl. Zambes. area).

Variable in size of leaflets and pods (small in coastal E Africa).

C. gorensis Guill. & Perr., incl. var. *angustifolia* Bak. and subsp. *macrostipula* (Steud. ex A. Rich.) Bak. f.

syn.: *C. falcata* Schumach. & Thonn. (1827), non Vahl ex DC. (1825 = *C. pallida* var. *obovata*), nom. illegit.; *C. guineensis* D. Dietr.; *C. macrostipula* Steud. ex A. Rich.; *C. leopoldvillensis* De Wild.; *C. cylindrocarpa* sensu auctt. mult., non DC. (cf. below).

Annual or short-lived ± woody perennial herb, 6-30-260 cm tall, erect or ± spreading, simple to much-branched; stems ribbed, densely pubescent; racemes rather well-developed with many flowers crowded towards the top; flowers veined orange or brown, turning reddish; pod sometimes mottled brown.

Deciduous woodland and grassland, grassy (stony) places, sometimes on termite mounds; open savanna, (wet) sands, roadsides, waste places, swamps; *Loudetia arundinacea* grassland with scattered trees of *Terminalia laxiflora*, *T. brownii*, *Pterocarpus lucens*, *Combretum collinum*, *Vitex doniana* on rocky outcrop (S Sudan); withstands flooding in river bottoms; a successful colonizing weed of cultivation; optimum annual rainfall (Nigeria) c. 1270 mm; common in places with supplementary ground-water (river, lake, marsh, base of rock outcrops); widespread except in extreme E and S; flowering at the end of the rainy season; 20-2400 m alt. (500-1300 m in Ethiopia).

Variable in habit, size of leaflets.

Cape Verde Isl.; Bioko/Fernando Poo.

Good fodder plant; grown as a green manure.

Distinction from *C. cylindrocarpa* (perennial!) sometimes difficult, particularly in the Cameroon highlands.

C. graminicola Taub. ex Bak. f. pro majore parte (cf. *C. hysopifolia*).

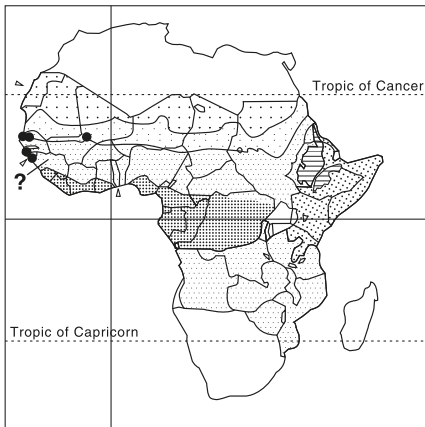
syn.: Enum. 2: 73, 1992; *C. stenocladon* Bak. f.; *C. praecox* Milne-Redh.

Perennial plant; stems numerous, tufted, spreading to erect, simple to little branched, slender, slightly grooved, ± pubescent, 5-20 cm tall at flowering time, arising from a vertical and/or rhizomatous thick rootstock; subsequent vegetative shoots branching, taller; stipules absent; pod, 1-4-seeded; fruits develop and ripen very quickly, and later flowers open after ripening of first fruits.

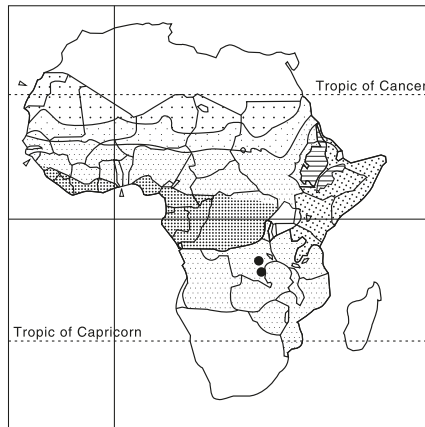
Brachystegia woodland in open spaces, after grass fire; upland (burnt) grassland; in damp sandy places and in dry stony places (plant shade tolerant); plateau grassland and open *Isoberlinia doka* forest (Burkina Faso); abundant on hills rich in copper (800 ppm), cobalt (700 ppm), and nickel (900 ppm), thus heavy metal tolerant (Katanga, Zaire), in savanna with *Terminalia torulosa*, in steppe with *Rendlia-Eragrostis capensis*, in damp grassland, dambo-savanna, depressions on red soil with high termitaria in open *Brachystegia* woodland, open scrub with *Pseudoberlinia-Parinari* on sand and with *Protea-Tephrosia manikensis*, etc.; 900-2100 m alt.

Variable in pubescence of flowers (standard, outside) and leaves.

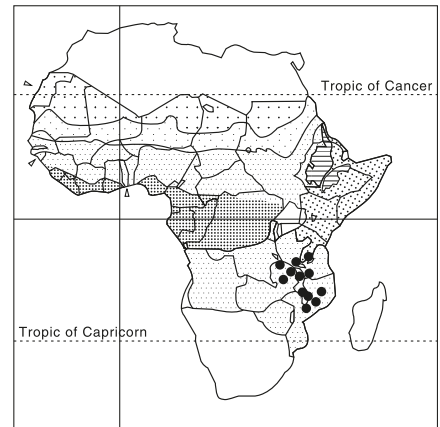
Tolerant of fire and metalliferous soils.



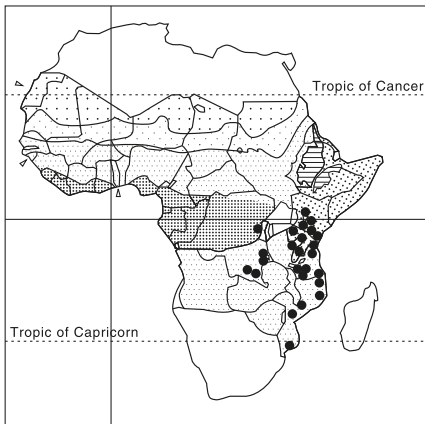
Crotalaria glaucoides



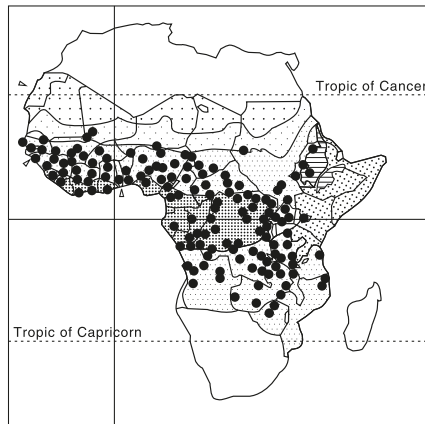
Crotalaria gnidioides



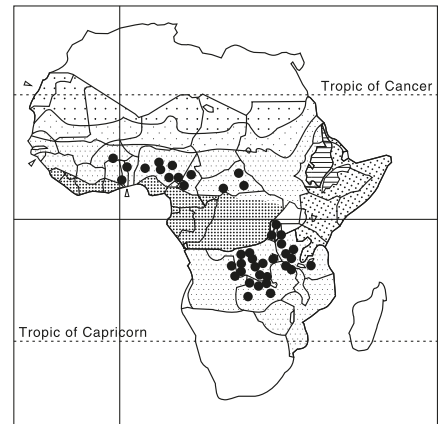
Crotalaria goetzei



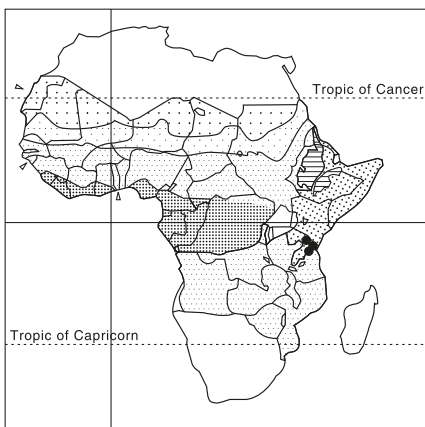
Crotalaria goodiiiformis



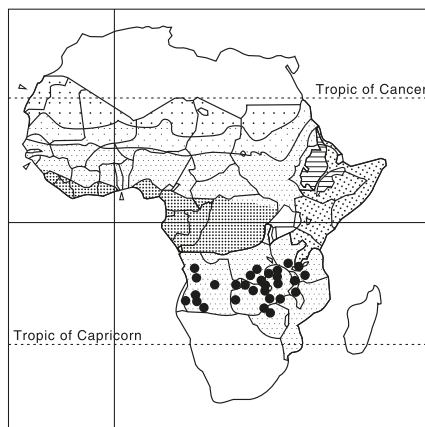
Crotalaria gorensis



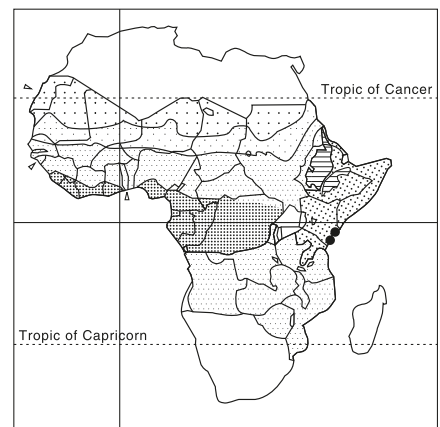
Crotalaria graminicola



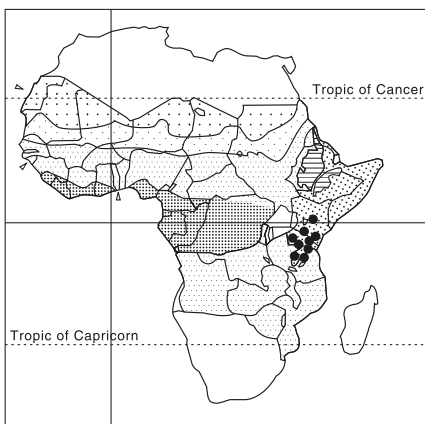
Crotalaria grandibracteata



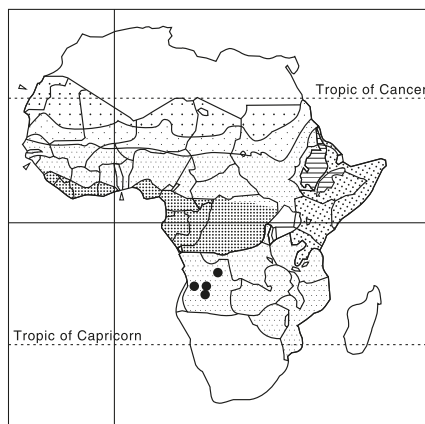
Crotalaria grandistipulata



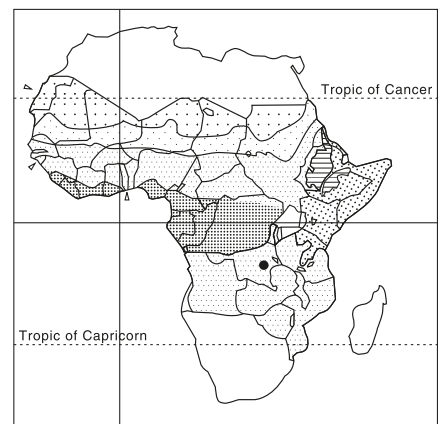
Crotalaria grata



Crotalaria greenwayi



Crotalaria griseofusca



Crotalaria haumaniana

CROTALARIA

C. grandibracteata Taub.

Shrub 1-4 m tall; branches soon glabrescent; stipules absent; racemes to 20 cm long, many-flowered, with bracts 1,4-2,7 cm long; flowers large, keel rounded, abruptly contracted into upwardly directed beak c. 3 cm long; pod c. 7 cm long, 2 cm across, with stipe c. 2 cm long. – Cf. *C. lebrunii*.

Rain-forest: margins, clearings, streamsides; rarely extending into upland grassland; also on cultivated ground; 600-3000 m alt.

Known only from Kilimanjaro and Usambara.

Has been confused with *C. agatiflora* subsp. *engleri*.

C. grandistipulata Harms

syn.: *C. lachnocarpa* sensu auctt. mult. p.p., non Hochst. ex Bak.

Erect perennial silky-hairy herb, with simple or little-branched stem(s) 0,2-0,7(-1) m tall, from a well-developed swollen taproot; stipules to 1,7-3,5 cm long, unequal-sided; racemes ± lax, few-flowered; flowers large, fading orange; keel with short straight beak, c. 2 cm long; pod 5 cm long.

Brachystegia, *Uapaca* plateau woodland; grassland; sometimes at grassy edges or near dambos; 1000-1800 m alt.

Closely allied and often confused with *C. lachnocarpa*.

C. grata Polhill

Annual or short-lived, sparsely pubescent (long spreading hairs), perennial herb, erect, trailing or scrambling; leaves long-petiolate, with leaflets 4-8 × 1,5-3(-6) cm; racemes 30-45 cm long; flowers veined dark red.

Deciduous and secondary coastal bushland and grassland; also on cultivated ground; 0-50 m alt.

C. greenwayi Bak. f.

Bushy annual herb, decumbent or spreading to erect, much-branched particularly from near the base, to 0,7(-1,3) m tall; stem slender, ± ribbed, puberulous; leaflets broad, 14-32 × 6-14 mm; racemes densely many-flowered; flowers small, standard veined brown.

Grassland (semi-desert), deciduous bushland; also on cultivated ground; locally forming dominant stands; 450-1550 m alt.

Closely related to *C. deserticola*, and it is difficult to establish absolute distinction between them (other than length of pod-stipe; *C. greenwayi* less bushy).

C. griseofusca Bak. f.

Stems erect, numerous, branched above; ± ribbed, tomentose, 0,5-1,7 m tall, arising from a rhizomatous rootstock; leaves glabrous, glaucous, drying grey; racemes numerous, laxly few-flowered; pod hairy.

Deciduous woodland; on short shrub-grown pasturage.

Variable in pubescence and shape of flower parts.

C. haumaniana R. Wilczek

Sparsely branched, ± appressed pubescent suffrutex; leaves 3-5-foliolate, short-petiolate, leaflets narrow, stipules absent; flowers in terminal sessile heads; calyx 1,5-1,5 cm long, sericeous with long-acuminate lobe-tips; ovary 2-ovulate; pod and seeds unknown.

Grassy plateau savanna at river-head; 1880 m alt.

Known only from the type? (Verheyer in G. de Witte 3262, collected in 1948).

CROTALARIA

C. heidmannii Schinz

syn.: *C. paucifolia* Schinz

Erect annual herb, much-branched all about, 30-80 cm tall; branches ascending, terete, with long stiff appressed hairs; racemes laxly few-flowered, rhachis slender.

In a variety of associations; mopane woodland and savanna, on dry sandy soils; 900-1050 m alt.

Namibia, Botswana.

Easily confused with large flowered forms of *C. sphaerocarpa* (but racemes are laxer and fewer-flowered). Doubtfully distinct from *C. stenopoda* (Angola).

C. hemsleyi Milne-Redh.

Erect annual or perennial herb with ribbed brown-spreading-hairy stems, to 1,5 m tall; stipules small, obscured by stem-indumentum; leaflets long, acute.

Upland secondary bushland, upland grassland with *Pteridium*; streamsides, abandoned cultivations; 1200-2000 m alt.

Only known from the Nguru and Uluguru Mts. (Tanzania).

Allied to *C. emarginata*.

C. herpetoclada Rossberg

Prostrate plant with spreading-hairy stems; leaflets broadly ovate; racemes long-pedunculate, laxly 2-3-flowered, or flowers solitary, blue or violet.

Open *Acacia* woodland; 1700 m alt.

Imperfectly known species; more material needed.

C. heterotricha Polhill

Herb with a short erect stem branching parallel to the ground; branches with fine white appressed hairs; stipules absent, leaflets 4,5-6 × c.1 cm; racemes many-flowered; pod few-seeded, with stipe 3-4 mm long; mature seeds unknown.

Sandy open places; c. 500 m alt.

Known only from the type (Glover & Gilliland 433).

Similar to *C. somalensis*.

C. hoffmannii R. Wilczek

Erect annual herb, appressed puberulous or glabrous, 70-120 cm tall, branching above; leaves 1-foliolate, linear; stipules absent; racemes laxly many-flowered; pod 2-seeded.

Rocky moist places.

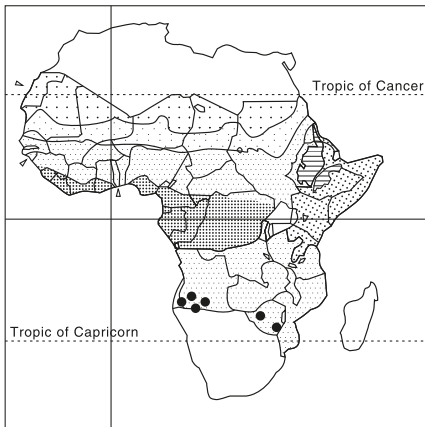
Comprises 2 vars.: – var. **glabra** Polhill, glabrous, in western part of the range.

Only known from the Kando-Lukanga region of Haut-Katanga (Zaire).

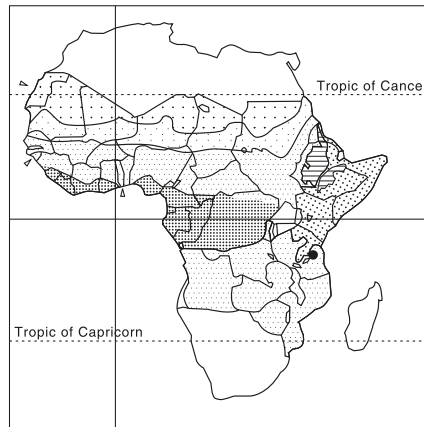
C. holoptera Welw. ex Bak.

Erect annual herb, glabrous, laxly branched, with several stems from the base; stems 2-winged, purplish; leaves reduced to small subulate structures but for a few leaves in lower part of plant; blade oblong, 3-7 × c. 1 cm, leathery; stipules small, forming points to the wings; racemes lax, few-flowered; mature seeds unknown.

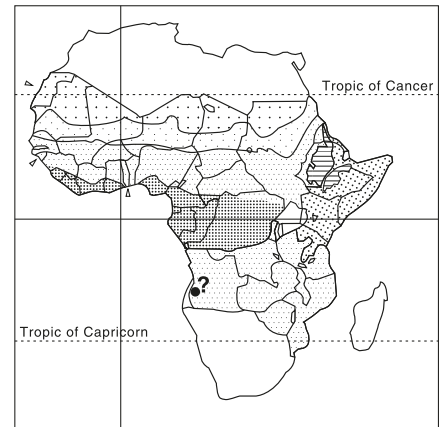
In sandy thickets, sparingly; wooded grassland; 800-1300 m alt.



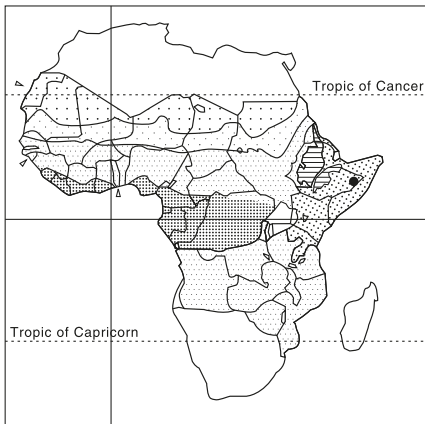
Crotalaria heidmannii



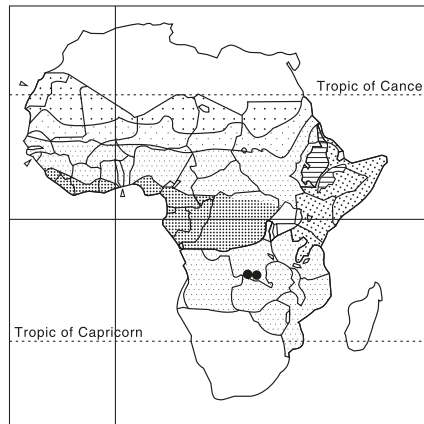
Crotalaria hemsleyi



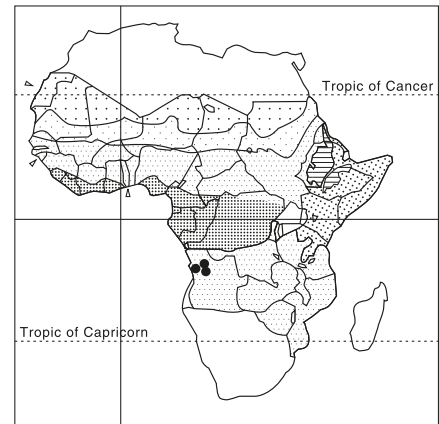
Crotalaria herpetoclada



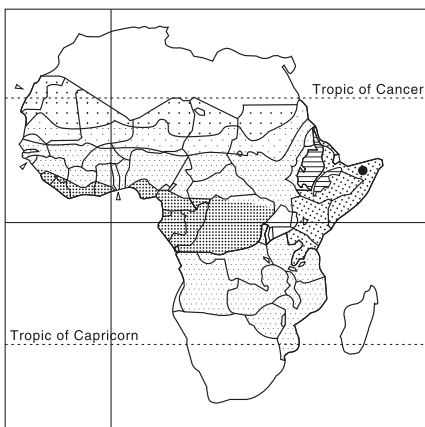
Crotalaria heterotricha



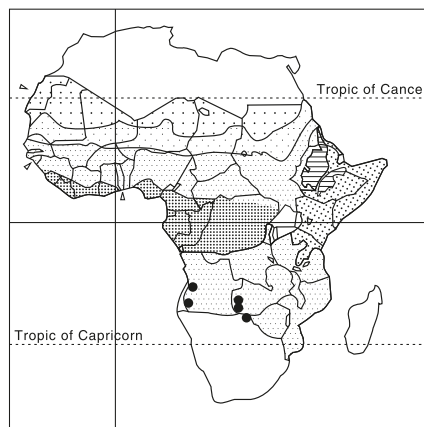
Crotalaria hoffmannii



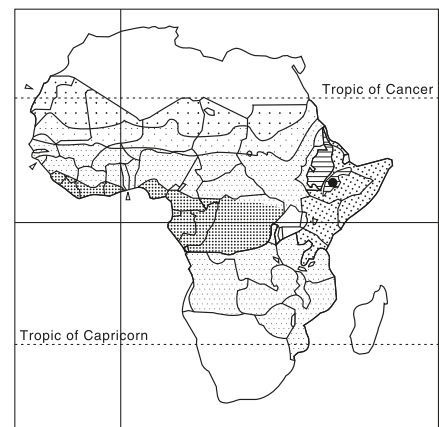
Crotalaria holoptera



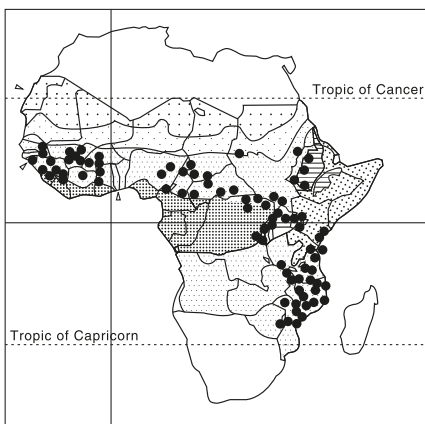
Crotalaria horrida



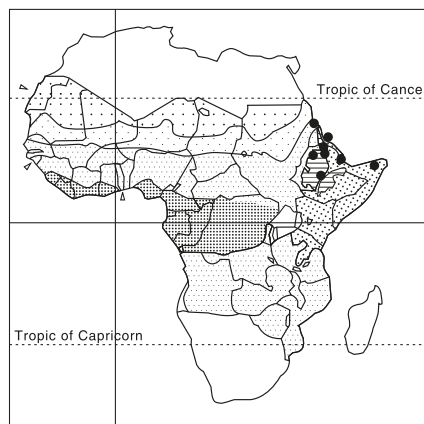
Crotalaria huillensis



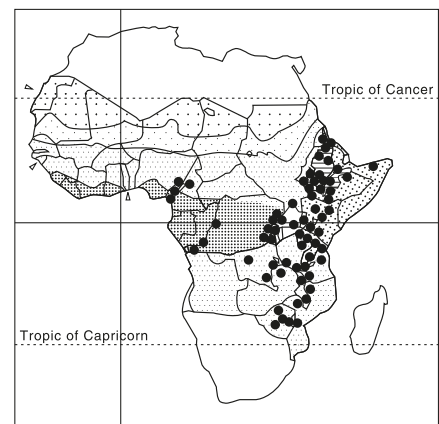
Crotalaria hypargyrea



Crotalaria hyssopifolia



Crotalaria impressa



Crotalaria incana

CROTALARIA

C. horrida Polhill

Shrublet, spiny, much-branched, c. 25 cm tall, with densely pubescent branches, epidermis soon cracking and peeling; stipules absent; flowers (-)2 on short (lateral) spines; flowers veined reddish.

Semidesert bushland; along a small water course; c. 1450 m alt.

Known from only a few collections.

Resembling *C. spinosa*.

C. huillensis Taub.

syn.: *C. ramosissima* Bak. (1871) (= subsp. **huillensis** var. **huillensis**), non Roxb. (1832), nom. illegit.

Erect virgate perennial herb or shrublet, well-branched, grey-downy-hairy, 0,3-1(-1,5) m tall; mature seeds unknown.

Wooded plateau meadows, locally common; miombo and *Baikiaea* woodland by rivers and dambos, on sandy soils, 900-1050 m alt. (subsp. **zambesiaca** Polhill).

Variable in stem branching, length of leaves and bracts, and number of ovules (seeds).

Caprivi Strip/Botswana border.

Comprises 2 subsp.: – subsp. **huillensis** (in eastern part of range) with 2 vars. (var. **cacondensis** Bak. f. ex Torre could represent a distinct species, fide Polhill, *Crotalaria*: 128, 1982). More material needed for reappraisal of infraspecific entities.

C. hypargyrea Chiov. – Polhill, *Crotalaria*: 375, 1982; Fl. Ethiopia 3: 218, 1989.

Erect biennial herb; leaflets 3, lanceolate to linear, glabrous above, densely appressed white-pubescent beneath; stipules small, linear, deflexed; flowers unknown.

Richly wooded grassland with *Andropogon*, *Pennisetum*, *Panicum*, *Sporobolus*, *Danthonia* and *Crotalaria*, *Indigofera*, *Tephrosia*, *Trifolium*, *Lotus*; Mt. Lagio between 2000 and 3500 m alt.

Only known from the type collected in 1928/1929 (Basile 221).

Imperfectly known species probably near to *C. vatkeana*, *C. plowdenii* (subsect. *Macrostachyae*, a complex group in C Ethiopia); without flowers its taxonomic position remains uncertain.

C. hyssopifolia Klotzsch

syn.: Enum. 2: 73, 1992; *C. gracillima* Klotzsch 1861, non Chiov. 1929 (= *C. malindiensis*).

Annual or short-lived perennial bushy herb with many ascending to spreading, appressed puberulous branches, 10-70 cm tall; stem slender; stipules absent; leaflets linear; racemes variable, laxly to ± densely few- to many-flowered; flowers reddish veined; pod 1-2-seeded.

Deciduous, *Brachystegia*, woodland, wooded and open grassland; also roadsides, fallow fields; *Loudetia arundinacea* grassland with scattered trees of *Terminalia laxiflora*, *T. brownii*, *Pterocarpus lucens*, *Combretum collinum*, *Vitex doniana* on rocky outcrops (Imatong Mts., Sudan); forest clearings; damp savanna grassland and woodland, and a common weed of rice farms invading the padis (W Africa); along canals and roads in rice fields (Mali); less common on swampy ground and clay soils; 0-2100 m alt. (1400-2000 m in Ethiopia; 0-1200 m in Fl. Zambesia area). – Tolerant of differences in climatic and edaphic conditions in open places with low competition.

Variable in stature and leaf-size (partly due to habitat); rather homogeneous throughout its wide range.

Has been confused (misidentifications) with *C. pseudotenuirama*, *C. tenuirama*.

CROTALARIA

C. impressa Nees ex Walp., excl. subsp. *onobrychis* (A. Rich.) Cufod. (= *C. onobrychis*).

syn.: *C. striata* A. Br. (1841), non DC. (1825), nom. illegit., nec Schumach. & Thonn. (1827), nom. illegit. (= *C. pal-lida* var. *obovata*); *C. abyssinica* D. Dietr.; *C. astragalina* Hochst. ex A. Rich., excl. subsp. *onobrychis* (A. Rich.) Bak. f.

Annual or short-lived perennial herb, erect, laxly branched all about, 15-100 cm tall; lower branches often long, curved-ascending, ± slender, ± puberulous; stipules absent; racemes short, crowded above; calyx becoming truncate and deflexed against pedicel; standard veined purple.

Woodland, bushland; mountain forest (Djibouti); open grassy places in evergreen bushland (Somalia); 0-2200 m alt.

SE Egypt.

Similar to *C. onobrychis*.

C. incana L., incl. fa. *glabrescens* R. Wilczek (= subsp. **incana**).

Bushy annual or short-lived perennial herb, erect or spreading, to 1,5(-3,5) m tall; stems with spreading hairs or shortly pubescent; stipules filiform, long; racemes lax, few- to many-flowered; standard veined reddish.

Deciduous bushland, grassland, dried-out stream-beds; disturbed ground; 600-1900 m alt. (subsp. **incana**, NE & E Africa). – Upland grassland, secondary bushland, dry river banks in *Brachystegia* woodland; open grassy places in evergreen bushland; montane forest margins and secondary associations, *Loudetia arundinacea* grassland with scattered trees, on rocky outcrop with wet flushes and thin soil with *Selaginella njamnjamensis*, *Aeollanthus* spp., *Aloe* sp. and many annuals (Imatong Mts., Sudan); weed of cultivated land and waste places; 1000-2700 m alt. (subsp. **purpurascens**, W, NE, E Africa).

Variable in type and colour of indumentum (white-yellowish), in length of bracts, in colour and surface texture of seeds.

Yemen; Madagascar [subsp. **purpurascens** (Lam.) Milne-Redh.]. Pantropical; original distribution no longer clear, but probably native in tropical America. An invasive weed in Taiwan (Taxon 54: 133-138, 2005).

Comprises 2 subsp. (subsp. **purpurascens**, incl. fa. *lanata* R. Wilczek; syn.: *C. schimperi* A. Rich.; *C. montana* A. Rich. 1847, non Roth 1821, nom. illegit.).

C. incrassifolia Polhill

Shrub with mostly abbreviated lateral branches, 1-1,5 m tall; youngest parts puberulous; epidermis soon peeling to reveal greyish purple bark beneath; leaves ± succulent, stipules absent; racemes laxly few-flowered; keel 12-15 mm long, with twisted beak.

Acacia-Commiphora, deciduous bushland; 175-1340 m alt.

Resembling *C. emarginella*.

C. inflexa Polhill

Annual erect herb, well-branched, with densely appressed pubescent stem (hairs 0,5-1 mm long), 30-75 cm tall; stipules absent; racemes dense heads of few to many flowers.

Deciduous woodland; c. 1000->1450 m alt.

Similar to *C. axillifloroides*, and sometimes approaching *C. axilliflora* (introgression possible).

CROTALARIA

C. inopinata (Harms) Polhill

Spreading much-branched shrub with tomentose branches (brown mostly spreading hairs); racemes terminal and leaf-opposed, lax, to dense in the upper part; pod stipitate, laterally flattened, elliptic-oblong, few-seeded; mature seeds unknown.

Upland rain-forest and grassland, at forest margins and in open and rocky places; 1200-2000 m alt.

Known only from the Nguru and Uluguru Mts.

C. insignis Polhill

Shrub with virgate, densely pubescent branches, 1.5-3 m tall; leaflets narrow; racemes lax, few-flowered; flowers large, turning bronze, keel c. 2.5 cm long, with an upwardly directed beak; pod oblong-clavate with long stipe; seeds unknown.

Forest margins, streamsides, secondary scrub; 1050-1800 m alt. Very distinctive species forming a link between the *C. capensis* and *C. laburnifolia* groups.

C. intonsa Polhill

syn.: *C. dilloniana* sensu Bak., Fl. Trop. Afr. 2: 41, 1871, pro minore parte, quoad specim. Schimper

Perennial herb with appressed pubescent branches, 0.6-1.5 m tall; racemes long, densely many-flowered, with long bracts and bracteoles; calyx basally truncate and deflexed against pedicel; standard veined purplish.

Upland grassland, forest edges; upland rain-forest with *Albizia*, *Macaranga*, *Croton*, *Ocotea*, forest margin; 1850-2600 m alt.

Similar to and (in herbaria) often confused with *C. petitiana*, *C. dilloniana*, *C. vatkeana*, *C. cleomifolia*, *C. gillettii*.

C. intricata Thulin

Erect much-branched shrublet with slender stems, to 1 m tall; all parts covered with white indumentum of appressed short hairs; leaflets linear the terminal one much longer than the others; stipules inconspicuous, often apparently absent; racemes laxly few-flowered; standard veined purplish; pod 2-4-seeded.

Acacia-Commiphora bushland on limestone hill-sides, frequent; 150-250 m alt.

Related to *C. dumosa*.

C. involutifolia Polhill

Small suberect annual herb to 10-50 cm tall; stem very slender, laxly branched, sparsely appressed puberulous, glabrescent; leaves simple, sessile, blade linear with margins \pm partially inrolled; stipules minute or lacking; racemes with few widely spaced flowers on filiform rhachis.

Marshy grassland, dambos in damp sandy places and such on rocky outcrops; in marsh on wet mud amongst outcrop of flat granite rocks; in sandy soil along firebreak; dambo on perennially wet ground among stronger grasses; 1200-1800 m alt.

Related to *C. germainii*.

C. inyangensis Polhill

Decumbent perennial herb; stems 15-60 cm long, with dense short stiff irregularly shaped hairs, spreading or appressed; racemes fairly few-flowered with closely arranged flowers above; standard lined and ageing red-brown; seeds unknown.

Grassland, sometimes in rocky places or by streams; 1800-2200 m alt.

Close to *C. subcaespitosa* (Malawi), but overall appearance very different.

CROTALARIA

C. ionoptera Polhill

Erect slender annual herb, densely appressed puberulous, branching above and sometimes also from the base, 20-70 cm tall; upper leaves 1-foliolate, stipules absent; racemes laxly few-flowered; standard narrow, pointed, reddish brown outside, violet with yellow basal marks inside; wings violet; keel c. 1 cm long with red-brown incurved beak; pod short, many-seeded.

Open grassy places on sand; dried out laterite pavements; 1050-1400 m alt. (only along the upper reaches of the Zambezi River).

Resembling *C. cobalticola* (yellow-flowered) but flower violet blue.

C. iringana Harms

Annual herb with a short erect stem to 30(-60) cm tall, and long procumbent lower spreading hirsute branches; leaves 1-foliolate, \pm ovate; racemes short with rather many flowers closely arranged towards the top; standard cream veined purple; pod densely hairy, 1-2-seeded.

Brachystegia woodland, deciduous bushland, grassland, in open sandy places; also roadsides, cultivated ground; 900-1500 m alt.

C. ivantalensis Welw. ex Bak. f. ("*ivantulensis*").

Shrub or woody herb, much-branched, densely spreading-hairy (grey-downy); flowers in close shortly stalked terminal racemes.

Deciduous woodland, tall-grassy meadows around Lake Ivan-tala, abundant.

C. jacksonii Bak. f.

Erect perennial herb or subshrub, well-branched, 30-60 cm tall; branches whitish appressed-hairy; stipules absent; flowers in dense sessile heads, standard (orange-)yellow veined brown.

Upland grassland, edges of upland rain-forest; 2200-3000 m alt. – Rare endemic.

Resembling *C. pseudotenirama* but with flowers in heads.

C. jerokoensis Bak. f.

Erect well-branched pubescent subshrub 0.5-1 m tall; racemes laxly many-flowered; standard finely brownish veined, keel angled, 1 cm long, with long straight pointed beak; pod and seeds unknown.

Ecology unknown; 550 m alt.

Known only from the type collected in 1901 (Ellenbeck 2197); but perhaps also represented by a specimen (Mearns 127 of 1912) from S of Lake Turkana (*C. sp. C* of Fl. Trop. E. Afr., Legumin. 4, Papil. 2: 933, 1971).

Imperfectly known, allied to *C. massaiensis*, and perhaps con-specific.

C. jijigensis Thulin

Perennial plant with \pm ribbed, densely white spreading-hairy stems 8-25 cm tall, arising from a woody rootstock; leaflets linear; racemes dense, short, many-flowered, \pm sessile; standard white-pale yellow (drying yellow), sometimes veined purplish, wings white with yellow tips, keel 1 cm long, white with long narrow untwisted beak; mature seeds unknown.

Rocky or sandy plains with scattered shrub-vegetation on limestone; 1750-1875 m alt.

Closely related to *C. pycnostachya* (specimens cited by Polhill, *Crotalaria*: 179, 1982, under its subsp. *donaldsonii* and referring to *C. jijigensis*: J. de Wilde 6407 = type; Ash 1199).

CROTALARIA

C. johannis Torre

Prostrate perennial suffrutex with much-branched pubescent stems; flowers few in lax pseudo-panicles; standard white inside, wings yellow; pod 2-4-seeded.

Grassland with subshrubs.

Occurring just N of the range of *C. variegata*, and is perhaps an extreme variant of the latter.

C. johnstonii Bak.

syn.: *C. leucotricha* Bak.

Erect annual herb 15-40 cm tall, well-branched, with slender ascending densely pubescent branches; stipules absent; racemes short, ± dense at top, lax below; standard marked brown, keel angular c. 6 mm long, with narrow twisted incurved beak and hardened at the tip; pod 1-2-seeded.

Brachystegia woodland (probably); 1050-1330 m alt. (only in a small area in N Malawi).

C. jubae Polhill

syn.: *C. saltiana* sensu Chiov., Result. Sci. Miss. Stefanini-Paoli nella Somalia Ital. 1, Coll. Bot. Append., 1916, non Andr.; *C. tropeae* sensu Chiov., Fl. Somal. 2: 158, 1932, non Mattei

Erect, apparently perennial herb, well-branched, to at least 40 cm tall; branches short white appressed-hairy; stipules absent; racemes fairly dense, many-flowered; mature seeds unknown.

Deciduous bushland; in seasonally wet places e.g. roadside ditches; 30-120 m alt.

Imperfectly known.

Closely related to *C. somalensis*.

[C. juncea L.]. – Indian or Bombay Hemp.

Erect shrubby annual herb 1,5(-3) m tall with ribbed appressed pubescent stems, simple leaves and large flowers in ± long lax racemes.

Native of India but seems never found truly wild; cultivated for fibre (sunn hemp), as a green manure and soil improver.

Locally naturalised in Africa, e.g. Senegal, Ghana, S Nigeria; Ethiopia (deciduous bushland, grassland, fallow fields, c. 1000 m alt.), E Kenya and Tanzania (0-1250 m alt.), Fl. Zambes. area. Also Madagascar. – Not mapped.

C. jurioniana R. Wilczek

Stems numerous, erect, 20-70 cm tall, with ascending branches, finely ribbed, densely puberulous; arising from a spreading woody rootstock; stipules absent; racemes fairly short, ± laxly many-flowered; calyx with brown-based hairs.

Ecology not recorded; 1700-1800 m alt.

Closely allied to *C. duboisii*.

C. kambanguensis R. Wilczek

Strictly erect, simple, rather slender pubescent stems, 1-several, 40-70 cm tall, arising from a woody rootstock; stipules absent; primary racemes few-flowered, most of the flowers clustered in axils below; pod small, 2-seeded.

Grassy (“herbeuse”) plateau savanna.

Known only from the type collected in 1952 (Callens 3259).

CROTALARIA

C. kambolensis Bak. f.

syn.: *C. pseudoflorida* R. Wilczek; *C. florida* Welw. ex Bak. var. *richardsiana* Torre

Subshrub with several stems 0,5-1,5 m tall, from a vertical yellow woody rootstock; stems with numerous short flowering branches above; branches ribbed, velvety hairy; stipules absent; primary racemes short, laxly few-flowered, supplementary ones on short lateral branches; pod 2-seeded.

Brachystegia and *Cryptosepalum* woodland on Kalahari sand; dry savanna, commonly where the water-table is fairly high; c. 600-1600 m alt.

Variable in shape of calyx, size of flowering branches, leaves and petioles; variation showing some geographical correlation.

Similar to *C. florida*, and both having the same sweet smell when dry, but colour of rootstock different.

C. kandoensis Bak. f.

Erect inconspicuous annual herb with ascending branches, flowering from a few cm but sometimes to 35 cm tall; stem with ± spreading hairs c. 1-1,5 mm long; stipules absent; flowers few in sessile heads; standard flushed mauve inside; pod and seeds unknown.

Deciduous woodland.

C. kapiensis De Wild. (“kapiensis”).

syn.: *C. spinosa* Hochst. ex Benth. subsp. *aculeata* sensu Bak. f., J. Linn. Soc. Bot. 52: 312, 1914, p.p., non (De Wild.) Bak. f.; *C. spinosa* var. *macrocarpa* Bak. f.; *C. aculeata* sensu Verdoorn, Bothalia 2: 413, 1928, p.p., non De Wild.

Erect shrubby, spiny short-lived perennial herb with densely hairy (appressed-spreading hairs) branches, 0,5-2 m tall; leaves mostly clustered on short shoots; flowers mostly solitary on short spine-tipped axes from the short shoots along the branches; standard finely veined reddish; keel angular, 1,5-1,8 cm long, with narrow twisted beak.

Woodland, grassland, edges of fields; often in seasonally damp or disturbed places; now spreading as a weed; 900-1400 m alt. Heavy-metal accumulator (fide B. Leteinturier & al., Belg. J. Bot. 134: 46, 2001); leaves from plants at Kansanshi Hill copper mine (Zambia) with concentrations (mg. kg-1 dry weight) of: zinc 84, lead 6,7.

C. karagwensis Taub.

syn.: *C. glauca* sensu Robyns, Fl. Parc Natl. Albert 1: 240, 1948, non Willd. – Cf. under *C. miranda*.

Erect annual herb with spreading weakly ascending branches from the base, 0,2-1 m tall; strigulose, with brown-based hairs; leaves simple, elliptic; flower standard veined reddish.

Upland grassland, woodland, bushland; also roadsides and cultivated ground; 1850-2550 m alt. (as a weed down to 1100 m in E. Africa; 1300-2150 m Ethiopia; 1400-1700 m in Rwanda).

C. kassneri Bak. f. (“kässneri”).

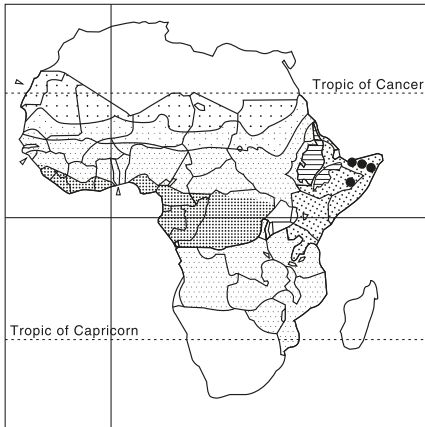
syn.: *C. kassneri* sensu Wilczek, Fl. Congo Belge 4: 199, 1953, pro minore parte, specim. non Kassner, non Bak. f. (= *C. ephemera*).

Slender ± spreading pubescent annual herb to 20 cm tall; branches curved, ascending from the base; stipules absent; flowers small in small dense heads at ends of stems; pod ± 3-seeded.

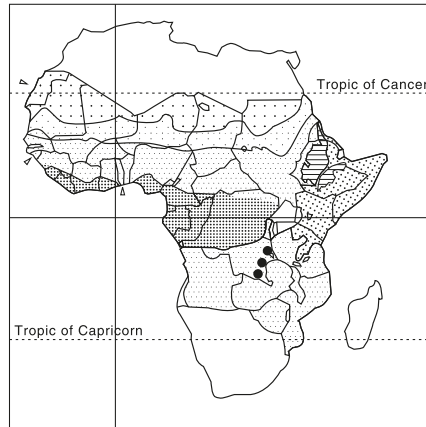
Ecology ? Near Lukoma River.

Often confused with *C. ephemera*.

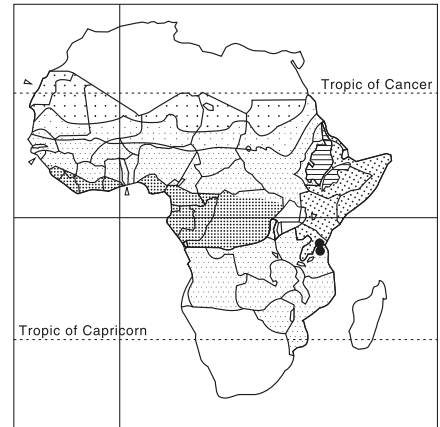
Known only from the original Kassner gatherings (2704, 2705).



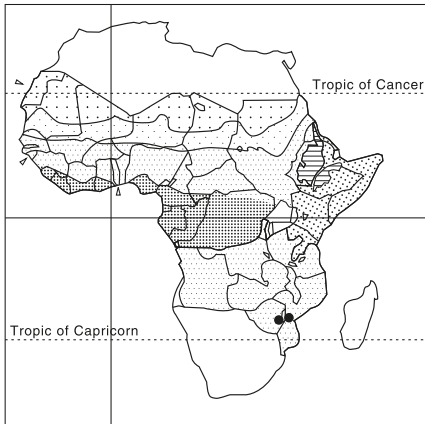
Crotalaria incrassifolia



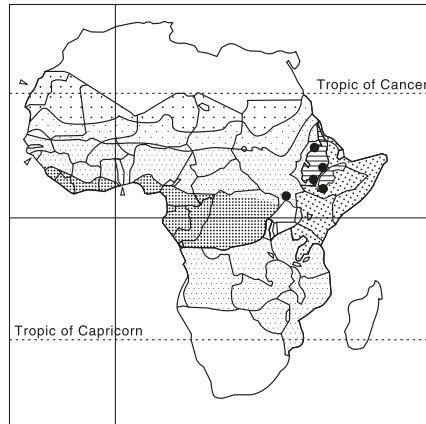
Crotalaria inflexa



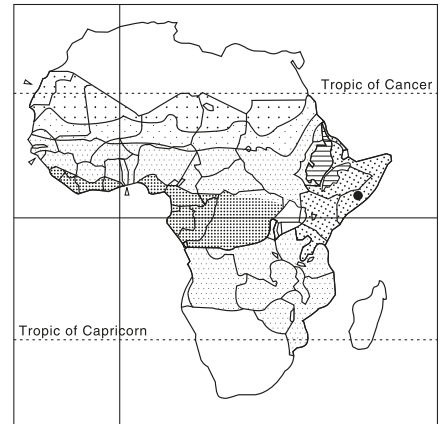
Crotalaria inopinata



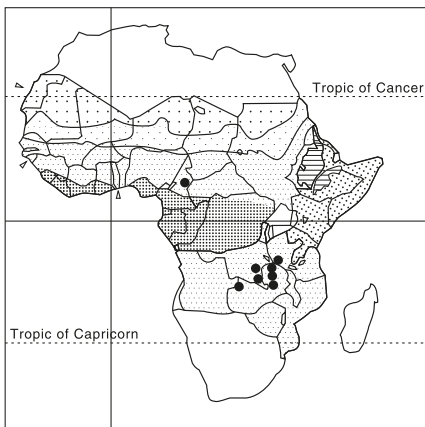
Crotalaria insignis



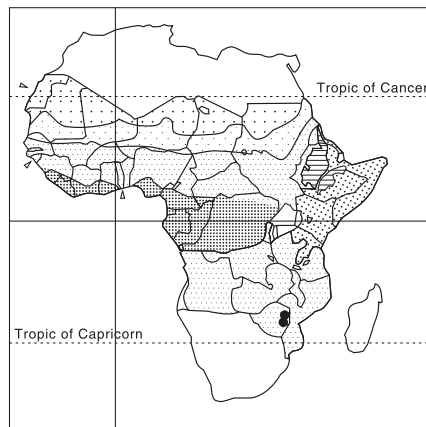
Crotalaria intonsa



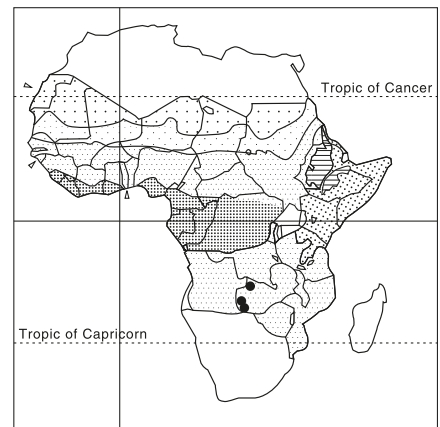
Crotalaria intricata



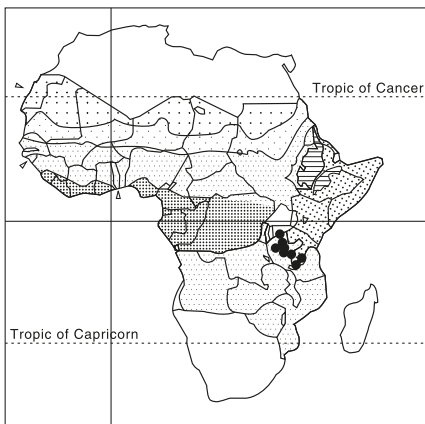
Crotalaria involutifolia



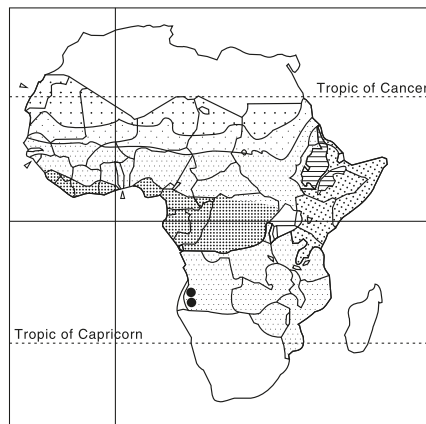
Crotalaria inyangensis



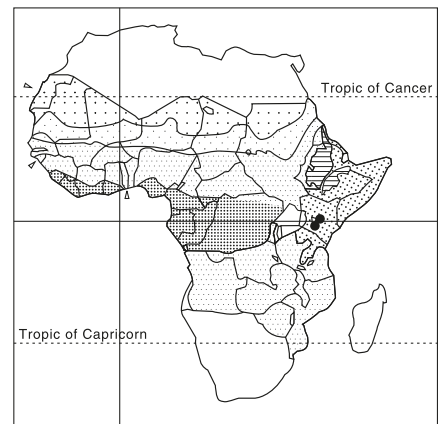
Crotalaria ionoptera



Crotalaria iringana



Crotalaria ivantalensis



Crotalaria jacksonii

CROTALARIA

C. kelaensis Bak. f.

Stems sparsely branched, ribbed, hairy, 40-60 cm tall, arising from a woody rootstock; stipules absent; leaflets (3-1) small, lanceolate; racemes lax, 5-20 cm long; pod small, 2-seeded.

Plateau at river; c. 1000 m alt. – Pyrophyte.

Known only from the Malange Plateau (Angola).

C. keniensis Bak. f.

Bushy woody (weakly straggling), hairy herb or shrub, rarely climbing, to 2(-4) m tall, with ± terete branches; smelling of mice or rats; leaflets small, elliptic; racemes lax- ± dense; keel with long twisted beak, c. 1,2 cm long.

Edges and clearings of upland rain-forest; upland evergreen bushland (usually secondary) and grassland, and streamsides nearby; very common on elevated volcanic soils (region of Great Rift Valley); 1500-3200 m alt.

Closely related to *C. lukwangulensis*; intermediate forms in S Tanzania.

C. kerkvoordei R. Wilczek

Suffrutex or bushy subshrub, 40-70 cm tall, several-stemmed with numerous ascending flowering branches above, fine golden silky-hairy; stipules absent; leaves sessile, leaflets linear; racemes terminal, short, few-flowered.

Grassy places on sand, often in marshy situations, dambos, roadside ditches; 1200-1300 m alt.

Similar to *C. caudata*.

C. kibaraensis R. Wilczek

Erect annual herb with numerous slender ascending branches above (sometimes also from the base), appressed pubescent, 30-45 cm tall; stipules absent; leaflets (3-1) linear, small, on short petiole; racemes short, lax, and clusters of flowers in many axils below; flowers small; standard lined reddish; pod 2-seeded.

Deciduous woodland in sandy and rocky places near river; c. 750 m alt.

Similar to *C. tenuirama* (and formerly considered as a synonym of the latter by Polhill in Kew Bull. 22: 200, 1968).

A gathering from Zambia, Mporokoso (E. A. Robinson 4672) agrees partially, but may represent a distinct species, fide Polhill, *Crotalaria*: 366, 1982 (cf. also under *C. microthamnus* in Fl. Zambes. 3/7: 221, 2003).

C. kipandensis Bak. f. (sphalm. *kapandensis* auctt.).

Erect annual herb, sometimes with some branches from below, densely pilose, 20-60 cm tall; leaves 1-foliolate, small, elliptic, stipules absent; racemes densely many-flowered, bracts leafy; standard pale yellow, veined red.

Brachystegia woodland, usually on sandy soils, also wet depressions, roadsides, a weed of cultivated ground; 900-1700 m alt.

C. kipilaensis R. Wilczek

Erect annual herb, branched or not, spreading-hairy, 25-80 cm tall; leaflets small, narrow; stipules absent; racemes sessile, short, densely many-flowered, with flowers in axils below; pod 2-seeded.

Brachystegia woodland, savanna, very wet grassland on clayey soil, cultivated ground; 1250-1700 m alt.

CROTALARIA

C. kirkii Bak.

syn.: *C. lanceolata* E. Mey. var. *septentrionalis* Bak. f.

Erect annual or short-lived perennial herb with ascending ribbed appressed puberulous branches, to 60 cm tall; leaflets (3-1) small, linear; stipules absent; racemes long, many-flowered; calyx truncate, deflexed against pedicel, lobes reduced to teeth; standard veined reddish, keel c. 1,3 cm long with incurved beak.

Various types of grassland, *Brachystegia* woodland; *Acacia-Commiphora* bushland; also on cultivated ground; 0-1020 m alt.

Inland gatherings are slightly divergent with variably shaped leaflets and small hairs on calyx.

Allied to *C. lanceolata*.

Without fruit sometimes difficult to separate from *C. trichotoma*.

C. kuiririensis Bak. f.

Erect annual herb with slender ascending branches, silvery appressed-hairy, 30-65 cm tall; leaflets (1-3) linear, stipules absent; racemes short, few-flowered; standard lined red-brown; pod 2-seeded.

Thickets near river, deciduous woodland, mostly on Kalahari sand; 1050-1250 m alt.

Similar to *C. axilliflora*.

C. kundelunguensis Bak. f.

Erect annual herb, laxly branched above, appressed puberulous-glabrescent, 70-90 cm tall; leaflets (3-1) obovate-elliptic, membranous; stipules absent; racemes variable, lax; standard lined reddish, keel c. 1 cm long with long narrow twisted ± incurved beak; mature seeds unknown.

Deciduous woodland.

Only known from the flanks of the Kundelungu Plateau (Zaire).

C. kwengeensis R. Wilczek

Suffrutex with numerous slender, pubescent ascending stems 15-50 cm tall, arising from a small woody rootstock; leaflets linear (sessile leaves), small, sometimes incurved at margins; stipules absent; racemes terminal, short, few-flowered.

Gallery forest, moist grassy places near dambos and marshes; perhaps also in drier grassy sites; 1350-1500 m alt. (var. **kwengeensis**). – Sandy pans, c. 1400 m (var. **parviflora**).

Some variation in form of hairs on stems and pods.

Comprises 2 vars. (var. **parviflora** Polhill in W part of range, its status should be reconsidered, more material needed).

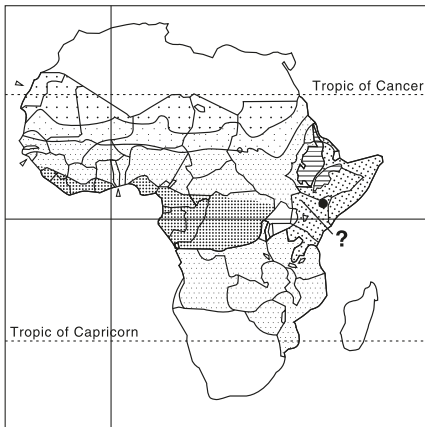
Closely related to *C. caudata*, *C. callensii*.

C. laburnifolia L.

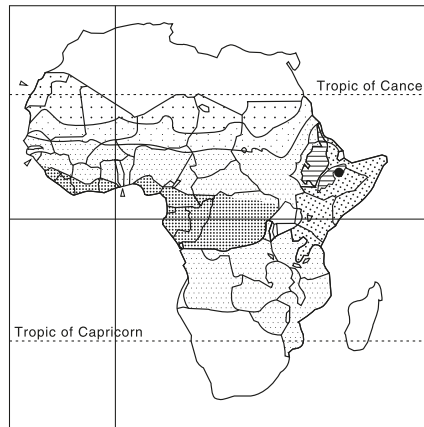
syn.: *C. pedunculosa* Desv.; *C. pendula* Bert. ex DC.; *C. heleanae* Buscal. & Muschl.; *Clavulinum pedunculosum* (Desv.) Desv. – All of subsp. **laburnifolia**.

Erect perennial bushy annual herb, scarcely woody, glabrous to thinly appressed puberulous, 0,6-2 m tall; petiole usually longer than leaflets (1-10 × 0,5-5,5 cm); stipules absent; racemes lax, long many-flowered, flowers large (3 cm); pod oblong-clavate to ± cylindrical (to 7,5 cm), with long stipe.

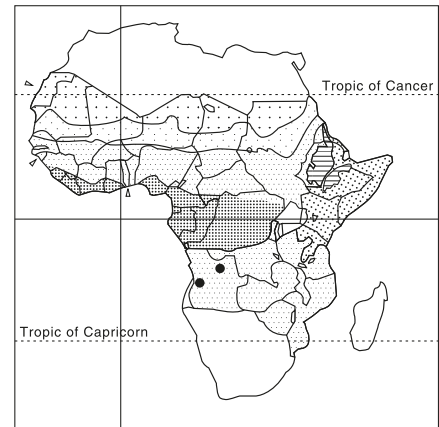
Deciduous and semi-evergreen (on limestone in Somalia) bushland on sand, grassland, grassland with scattered shrubs, wooded grassland, secondary scrub; roadsides, cultivated ground; 0-1920(-2450) m alt. (subsp. **laburnifolia**; 1300-1700 m Ethiopia);



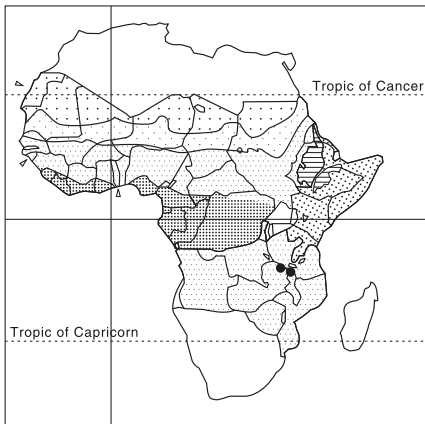
Crotalaria jerokoensis



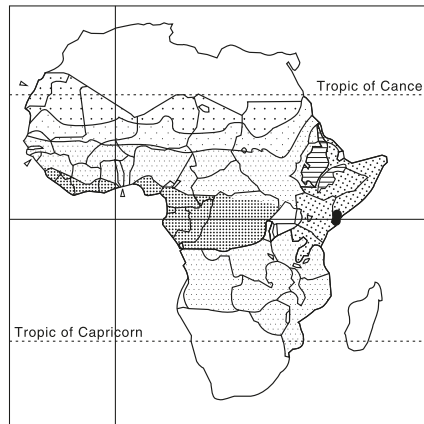
Crotalaria jijigensis



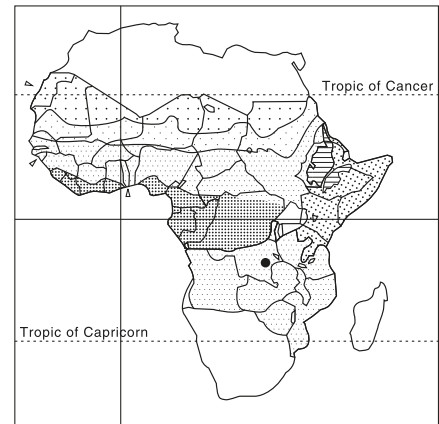
Crotalaria johannis



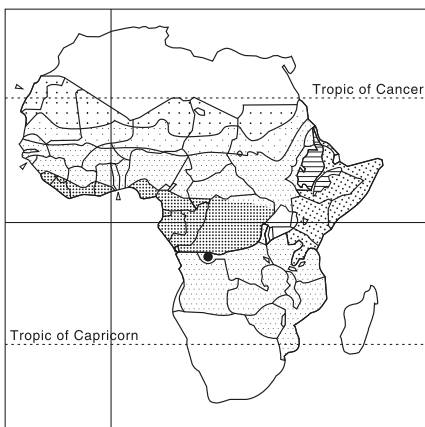
Crotalaria johnstonii



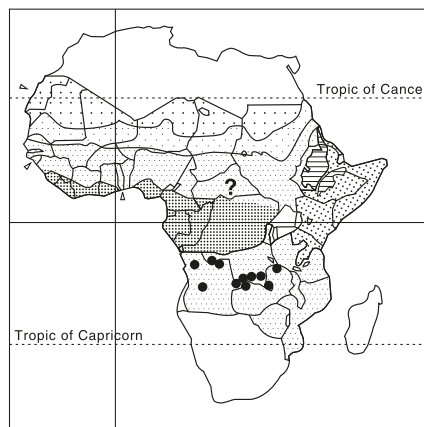
Crotalaria jubae



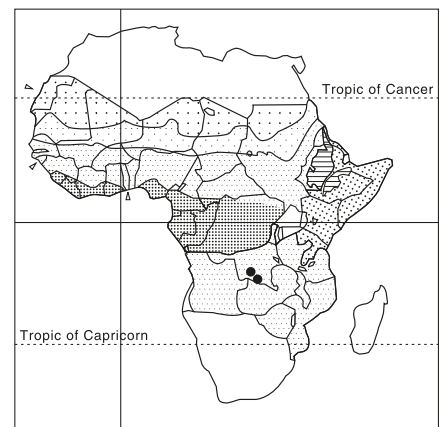
Crotalaria jurioniana



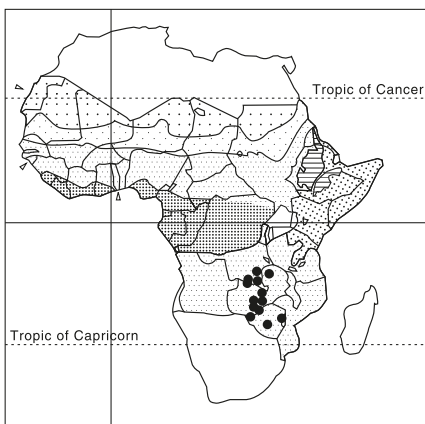
Crotalaria kambanguensis



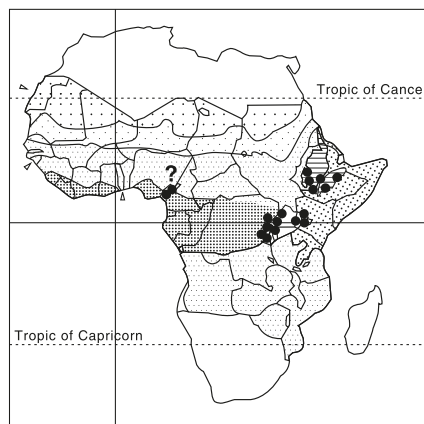
Crotalaria kambolensis



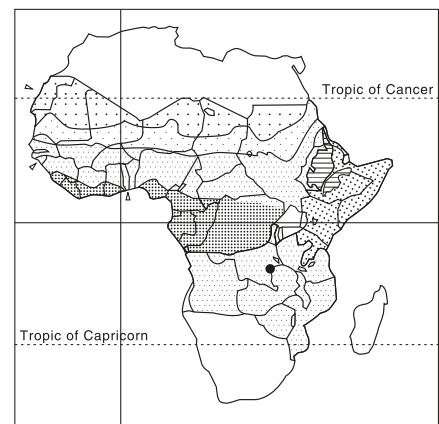
Crotalaria kandoensis



Crotalaria kapiensis



Crotalaria karagwensis



Crotalaria kassneri

CROTALARIA LABURNIFOLIA

0-1500 m (subsp. **tenuicarpa** Polhill, NE Africa); 900-1680 m (subsp. **petiolaris**); 1350-195 m [subsp. **eldomae** (Bak. f.) Polhill, E Africa].

Variable in indumentum of stem, ovary and pod; in length of petioles, shape of leaflets, length of racemes and pods.

S. Africa (N Natal), Swaziland [subsp. **australis** (Bak. f.) Polhill]. – Caprivi Strip, Botswana; Seychelles, SE India, Sri Lanka, Malesia, NE Australia [subsp. **laburnifolia**].

Comprises 5 subsp., with sometimes intermediates between them. – Subsp. **australis** with syn. *C. australis* (Bak. f.) ex Verdoorn [and *C. laburnifolia* subsp. *laburnifolia* sensu auctt., in S part of range]. – Subsp. **petiolaris** (Franch.) Polhill with syn. *C. aurantiaca* Bak. (in NE Africa.)

Has been confused with *C. becquetii* subsp. *turgida*.

C. laburnoides Klotzsch

syn.: Enum. 2: 73, 1992; ? *C. maxillaris* Klotzsch (type lost); *C. maxillaris* Klotzsch var. *latifoliolata* De Wild.; *C. junodiana* Bak. f.; *C. edmundi-bakeri* sensu Peltier, J. Agric. Trop. Bot. Appl. 6: 285, 1959, quoad specim. Comor., non R. Viguier – All of var. **laburnoides**.

Erect annual herb, appressed pubescent, ± glabrescent, (0,1-)0,2-1,5 m tall; racemes short; flower standard finely veined red, turning orange.

Grassland, coastal bushland, sand dunes, coral outcrops; sandy foreshores (var. **nudicarpa**); inland in a variety of associations, e.g. lake sides, deciduous bushland, cultivated ground, waste places; 0-1250 m alt.

Comoro, Aldabra and Cosmoledo Isl.

Comprises 2 vars. (var. **nudicarpa** Polhill, with glabrous ovary-pod, on the coast and nearby islands).

Similar to *C. senegalensis*.

Record from C Tanzania doubtful.

C. lachnocarpoides Engl., excl. subsp. *valida* (Bak.) Bak. f., excl. specim. Kassner, and excl. var. *valida* (Bak.) Verdoorn, excl. specim. Stolz 2360 (= *C. valida*).

Bushy, ± woody perennial herb or small shrub, densely long spreading-hairy, to 0,5-2(-2,7) m tall; racemes lax-dense, few-flowered; flowers large; standard often tinged reddish outside, fading orange-red; pod shaggy.

Upland (secondary) grassland, often with scattered trees or shrubs; *Brachystegia*, *Uapaca* woodland, riverbanks, dambos, disturbed places; forest edges and clearings; edges of upland rain-forest with *Albizia*, *Macaranga*, *Croton*, *Ocotea*; upland evergreen bushland; 780-3000 m alt. (-1850 m in Fl. Zambes. area).

C. lachnophora A. Rich.

syn.: *C. elata* Welw. ex Bak.; *C. lachnocarpa* Hochst. ex Bak. p.p., nom. superfl.; *C. lachnocarpa* var. *strictissima* Hiern and var. *melanocalyx* Bak. f.; *C. homblei* De Wild., p.p.

Bushy perennial, woody herb or shrub, much-branched above, densely brownish hairy, 1-3 m tall; stipules long, very unequal-sided; racemes laxly few- to many-flowered; flowers conspicuous, fading reddish, with straight blunt beak; pod broadly cylindrical, shaggy.

Mixed plateau woodland, wooded and bushed grassland, *Acacia* bushland, riverine forest and grassland, sometimes in thorn scrub (E Africa); roadsides, cultivated and waste ground; wet grass-

CROTALARIA LACHNOPHORA

land, swamp, pasture (W Africa); on sand (S Chad); in rocky places and moist thickets along streams, wooded meadows; 750-2200 m alt.

Disjunct distribution.

C. lachnosema Stapf

syn.: *C. lachnocarpa* sensu Bak. in Fl. Trop. Afr. 2: 33, 1874, quoad specim. Barter, non Hochst. ex Bak.

Bushy, ± woody perennial herb or small shrub, golden-brown or greyish spreading-hairy, 0,7-2(-3) m tall; racemes lax, few- to many-flowered; flowers large with bluntly beaked keel; pod shaggy.

Plateau savanna, extending to forest edges in damp sites, rocky streamsides; down into low-lying sites in Sierra Leone.

Variable (sporadically) in size of flowers and fruits.

C. lanceolata E. Mey., excl. var. *septentrionalis* Bak. f. (= *C. kirkii*) and var. *malangensis* Bak. f. (= *C. subcapitata*).

syn.: *C. mossambicensis* Klotzsch (of subsp. **lanceolata**).

Erect annual or short-lived perennial herb, laxly branched, ± hairy, 0,2-1,7 m tall; branches ribbed; stipules absent; racemes variable in length, many-flowered; calyx becoming truncate and deflexed against the pedicel; standard veined purplish outside.

In a variety of grassy habitats, in valleys, deciduous woodland, also roadsides; sometimes in damp places; 0-1450(-1600) m alt. (subsp. **lanceolata**); – grassland with scattered trees, riverbanks, lake shores, damp places, margins of upland rain-forest, weed of cultivated ground, roadsides; 750-2400 m (subsp. **contigua**); – open woodland, sometimes on termite mounds; 100-650 m (subsp. **exigua**); – open woodland, grassland, disturbed ground, sometimes in damp places; 1000-1700 m (subsp. **prognatha**).

Variable in size and shape of flower wings and beak, and in size of pod.

S. Africa (Natal, NE Cape Prov.); Madagascar (subsp. **lanceolata**).

Comprises 4 subsp. (subsp. **contigua** Polhill, p.p., excl. specim. Vátova 2157, in N part of range; subsp. **lanceolata** in CE and S part; subsp. **prognatha** Polhill in WC part; subsp. **exigua** Polhill in C-SE part). Intermediates between subsp. occur where they meet (and all meet in S Malawi).

Subsp. **lanceolata** has been introduced to various places in tropical Africa.

Not in Ethiopia, Lake Awasa area (= **C. awasensis**; see under this species above).

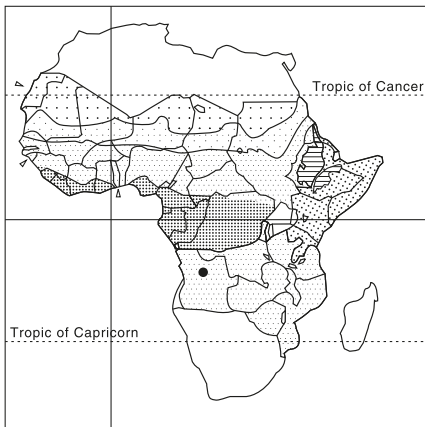
C. lancifoliolata Torre

Perennial plant with many spreading and weakly ascending ± pubescent stems c. 30 cm tall; racemes lax, few-flowered; standard marked purplish.

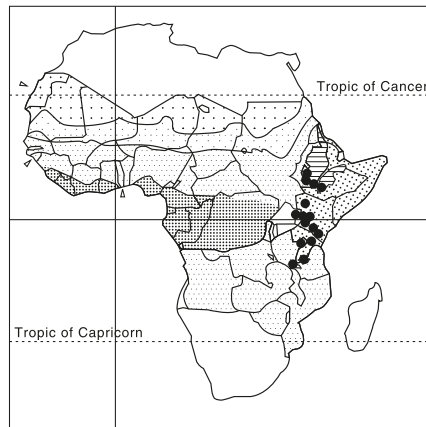
Upland grassland with subshrubs, sometimes in seepage areas near lakes and rivers; c. 1900-2000 m alt.

C. lasiocarpa Polhill

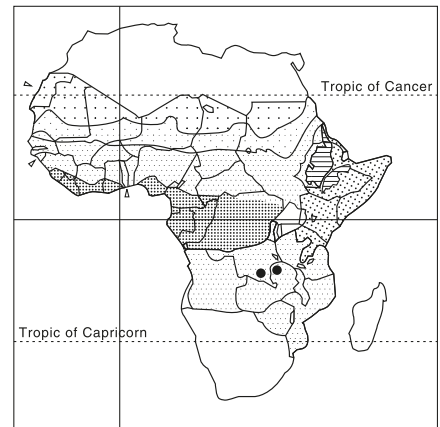
Erect annual pilose herb with a short leading shoot to 25 cm tall and long slender radiating branches prostrate or ± ascending in other vegetation; racemes mostly leaf-opposed, few-flowered, axis very slender; standard pale yellow veined ± mauve. – Easily recognized species.



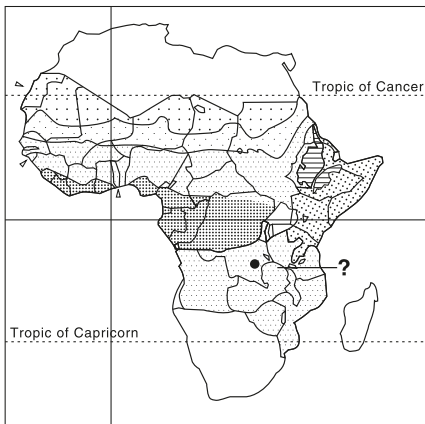
Crotalaria kelaensis



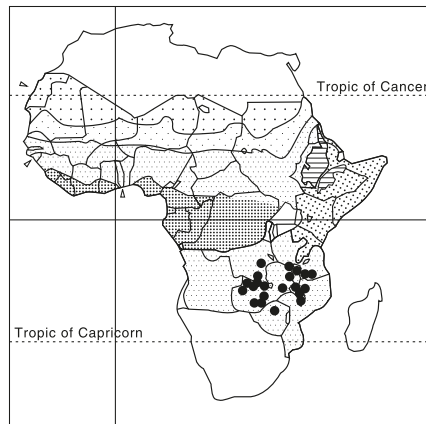
Crotalaria keniensis



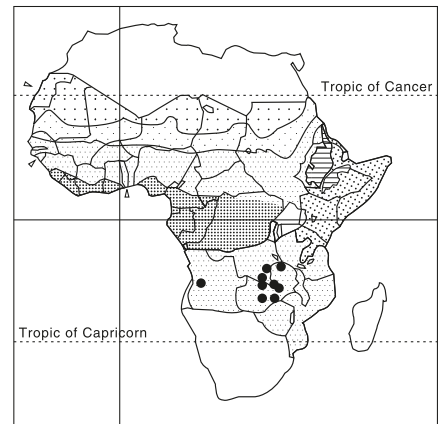
Crotalaria kerkvoordei



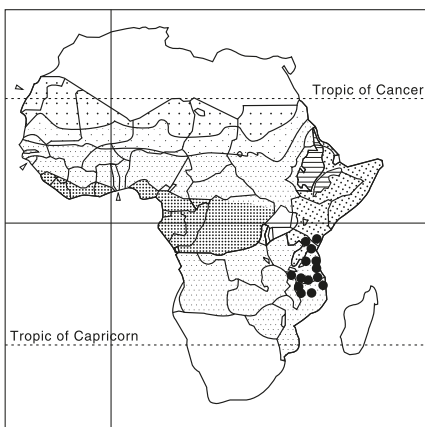
Crotalaria kibaraensis



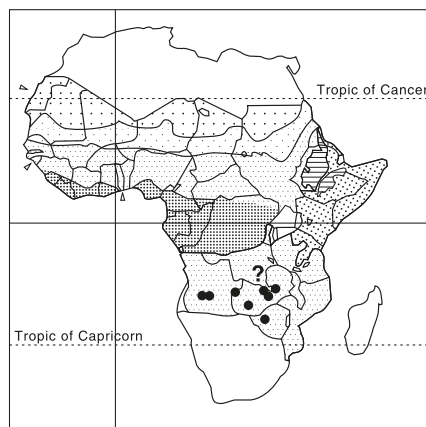
Crotalaria kipandensis



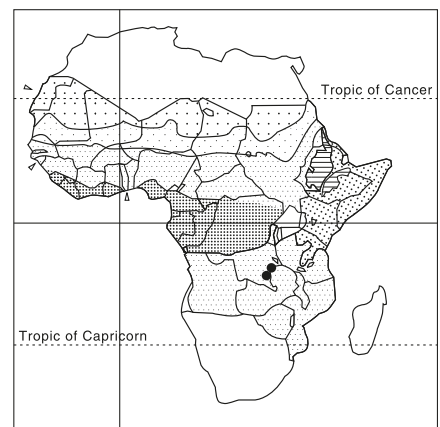
Crotalaria kipilaensis



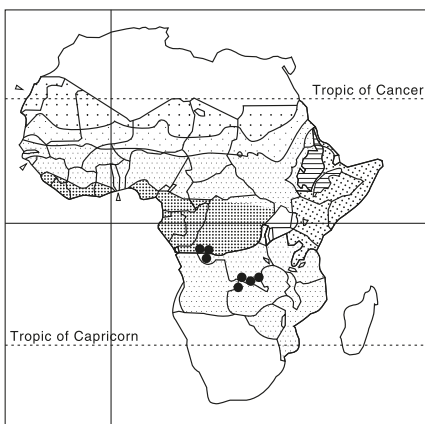
Crotalaria kirkii



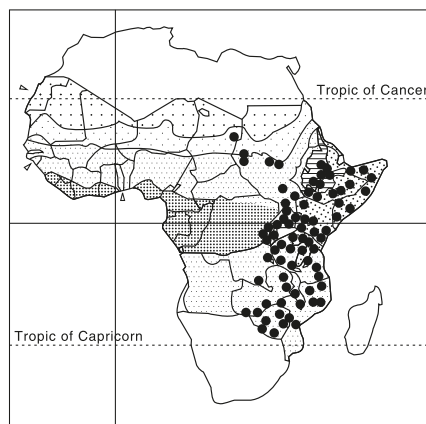
Crotalaria kuiririensis



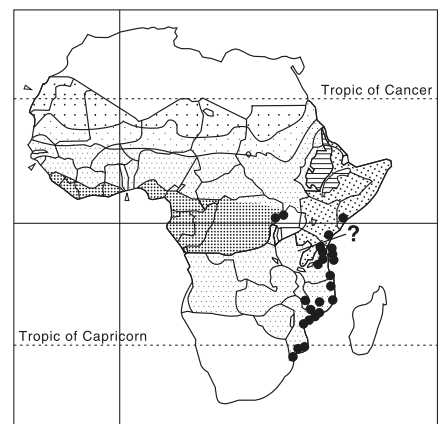
Crotalaria kundelunguensis



Crotalaria kwengeensis



Crotalaria laburnifolia



Crotalaria laburnoides

CROTALARIA LASIOCARPA

Upland grassland, common along roadsides and tracks, in damp sandy soil, in shade below rocks, edge of golf-course, old cultivated areas, quarries, pioneer on recently graded road edges on red soil, well grazed fallow fields, grassland with scattered trees and shrubs; in dry sandy soil in old cultivations above dambo; waste places; 1500-2100 m alt.

C. lathyroides Guill. & Perr.

syn.: *C. paludosa* sensu A. Chev., Bull. Mus. Natl. Hist. Nat. Paris, Sér. 2, 5: 230, 1933, quoad specim. Chevalier 34315, non A. Chev. s. str.

Annual straggling herb to 50-80 cm tall, branched from the base upwards; branches silky pubescent; stipules absent; racemes 8-18 cm long, flowers closely arranged towards the top; standard veined purplish.

Grassland on coastal plains, rice-field dam, damp sites in waste places; bare sandstone plateau (Mauritania).

C. lawalreeana R. Wilczek

Suffrutex with several tomentose stems branched above, 40-70 cm tall, arising from a woody rootstock; leaves ± sessile, leaflets ± linear; stipules small, filiform or lacking; flowers large, few in terminal sessile heads; pod 2-3-seeded.

Grassland with subshrubs; c. 1650 m alt.

Apparently forming hybrids with *C. gnidioides*.

C. laxiflora Bak.

Erect slender glabrous, much-branched annual herb 25-70 cm tall; leaves glaucous-green, leaflets ± linear, stipules absent; racemes short, few-flowered, pedicels slender; standard lined brown; pod 1-2-seeded.

Brachystegia woodland (S end of Lake Tanganyika), in disturbed areas, locally common; on the main escarpments (var. **laxiflora**); 1200-1750 m alt. – Miombo woodland, generally on rocky hills and in disturbed places; 1500-1950 m (var. **acuta** Polhill).

Variable in shape of leaflets and beak of keel.

Comprises 2 vars.

C. lebrunii Bak. f.

Shrub, laxly and widely branched, tomentellous, glabrescent, to 3-5 m tall; leaflets pointed, elliptic; stipules absent; racemes lax, many-flowered; flowers large; calyx basally narrowed into receptacle, standard often marked purplish outside; keel 2,5-3 cm long with straight upwardly directed untwisted beak.

Upland rain-forest and evergreen bushland at clearings, stream-sides, margins; 1350-2750 m alt.

Closely related to *C. grandibracteata* and *C. becquetii* and could even be considered as a subspecies of the former (fide Polhill, *Crotalaria*: 75, 1982).

C. ledermannii Bak. f.

Erect well-branched annual or short-lived perennial herb 20-70 cm tall, with dense appressed-spreading hairs; stipules absent; leaflets narrow; inflorescences short, ending in a head of small flowers; standard veined reddish; pod 2-seeded.

Montane grassland, forest edges; *Eucalyptus* plantation (SE Nigeria); 1200-2200 m alt.

Only species in the genus with larger and small anthers spinulose.

CROTALARIA LEDERMANNII

Red Data listed in SE Nigeria (Chapman & Chapman, Forests of Taraba & Adamawa States: c 25, 2001); natural habitat not well characterized, more study needed; fide M. Cheek & al., Pl. Mt. Oku: 64, 2000.

C. leonardiana Timp.

Erect annual herb, glabrous, glaucous, branching above, 0,6-1,3 m tall; leaves 1-foliolate, linear; stipules absent; racemes long, laxly many-flowered; standard lined purple; pod 2-seeded.

Open plateau forest on red soil.

Close to *C. tenuipedicellata*; more material needed for reappraisal of status. Also similar to *C. basipeta* (syn. *C. mabobo*).

C. lepidissima Bak. f.

Stems numerous, erect, to 80 cm tall, developing numerous flowering branches above, from a stout woody rhizomatous rootstock; branches ribbed, densely fine spreading-hairy; flowering from first year of growth; petiole ± winged; racemes short, densely many-flowered; pod 1-2-seeded.

Brachystegia woodland, grassland, often in disturbed or damp places; 1200-1700 m alt.

Variable in size of flowers and in shape of beak.

C. leprieurii Guill. & Perr.

syn.: Enum. 2: 74, 1992; *C. parsonii* Bak. f.

Erect annual hairy herb with ascending branches, 0,2-1,2 m tall; leaves 1-foliolate, ± linear; racemes laxly few-many-flowered; calyx nerved purple, standard veined red-brown.

Savanna, wooded grassland, deciduous woodland, bushland, often in dry stony soil, rocky places, sand, pans; also ruderal, fallow land; 800-1200 m alt.

Variable in size of flowers and pods, with respect to growth conditions and growing season.

C. leptocarpa Bak. f.

syn.: *C. dubia* Balf. f. (1882), non Grah. ex Benth. (1843), nom. illegit. (subsp. **leptocarpa**), nec De Wild. (1903), nom. illegit. (= *C. prolongata*).

Annual or perennial prostrate herb with many slender strigulose branches and a narrow taproot; leaflets 3(-1), linear; racemes lax, ± few-flowered; flowers small, veined purple.

Deciduous bushland, semi-desert grassland, sand dunes, lava plains, in open places; to 260 m alt. (Somalia), 950-1250 m (Ethiopia), 390-1350 m (Kenya), subsp. **leptocarpa**. – Bushland on bare stony ground, 715-1700 m alt. (subsp. **contracta**); bushland, c. 1300-1400 m (subsp. **aberrans**).

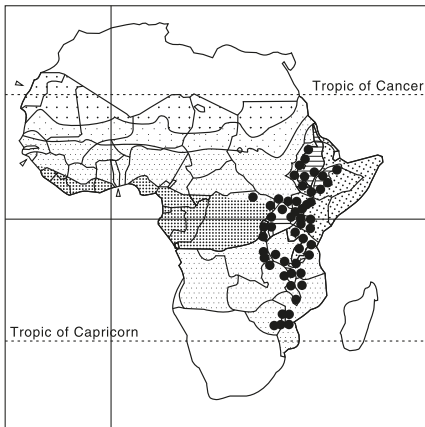
Variable in indumentum of stem and in size and shape of pod. Socotra, Abd el Kuri, tropical Arabia.

Comprises 3 subspp. (subsp. **aberrans** Polhill and subsp. **contracta** Polhill in N Somalia).

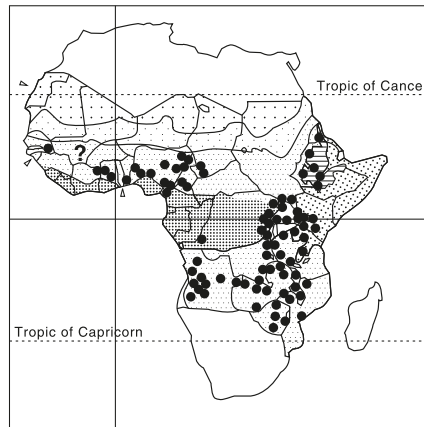
C. leptoclada Harms

syn.: *C. sessilis* auctt., non De Wild. 1906.

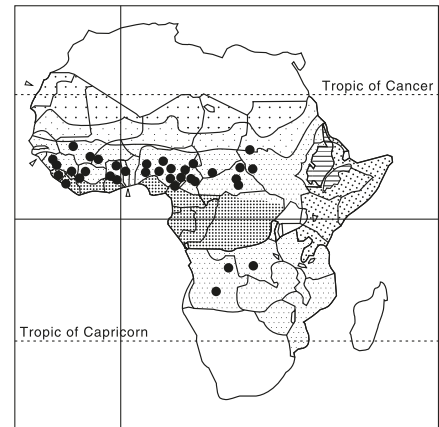
Slender pubescent stems, numerous, trailing (in open places), ascending or strictly erect (after burning), to 15-30(-60) cm tall, ultimately much branched, arising from an ultimately woody rootstock; leaves sessile, leaflets narrow; stipules absent; flowers 1-2, small, on filiform leaf-opposed peduncles along the branches; standard white (rarely yellow) turning reddish outside.



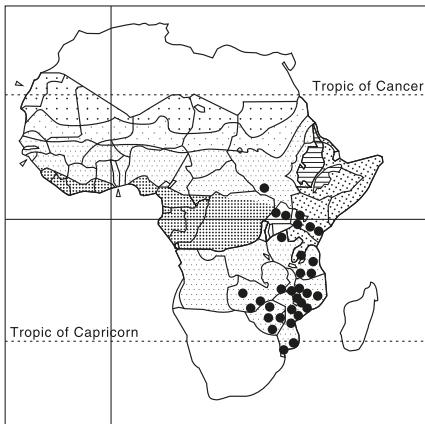
Crotalaria lachnocarpoides



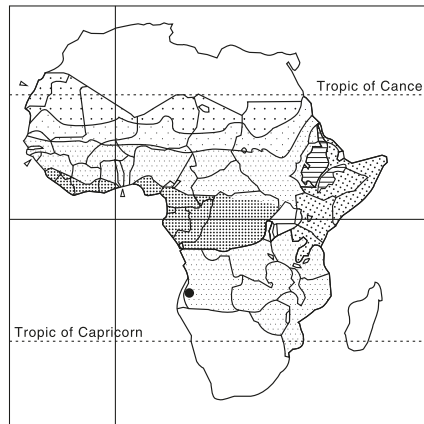
Crotalaria lachnophora



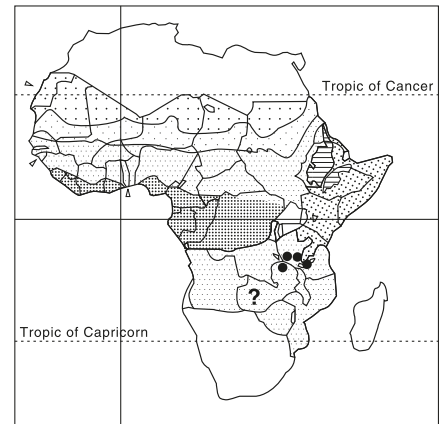
Crotalaria lachnosema



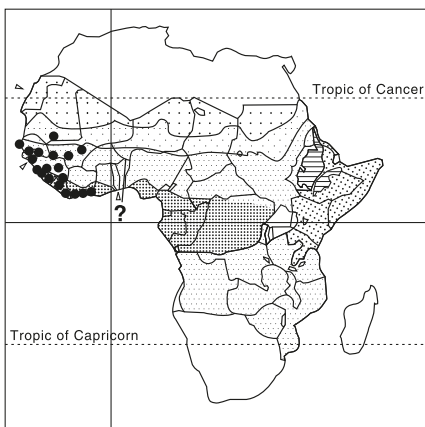
Crotalaria lanceolata



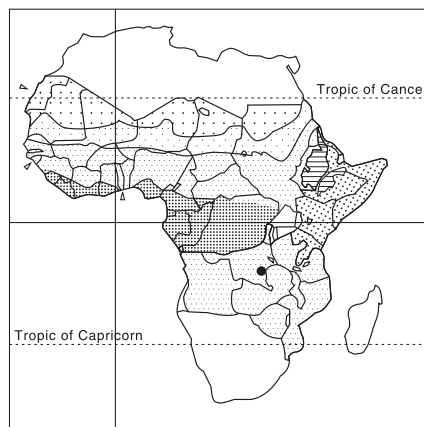
Crotalaria lancifoliolata



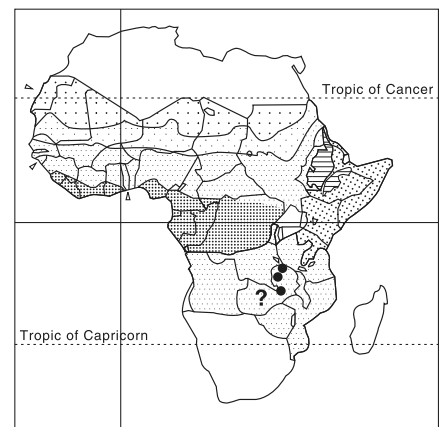
Crotalaria lasiocarpa



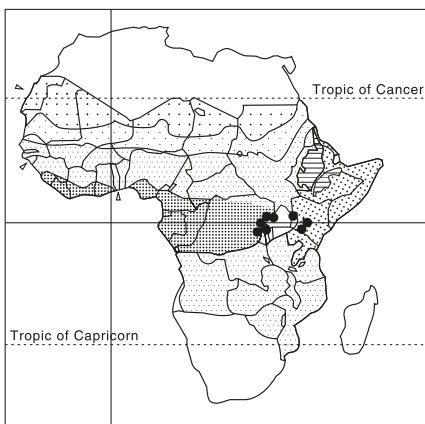
Crotalaria lathyroides



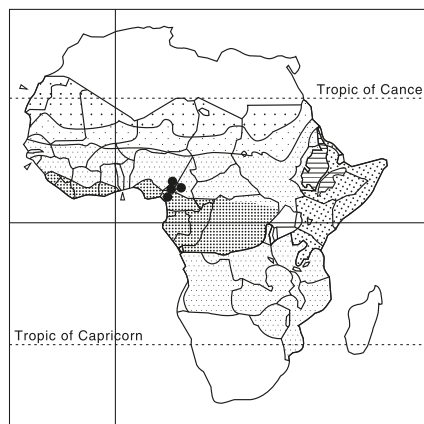
Crotalaria lawalreeana



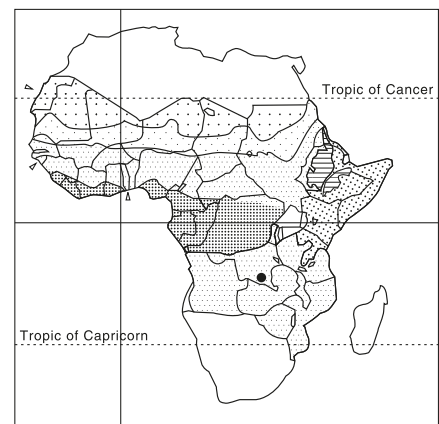
Crotalaria laxiflora



Crotalaria lebrunii



Crotalaria ledermannii



Crotalaria leonardiana

CROTALARIA LEPTOCLADA

Plateau savanna, usually in moist situations near marshes, dambos, lakes; also in drier sandy places; 800-1650 m alt.

Variable in habit (due to type of vegetation and fire). Variants with yellow flowers sometimes occur among white-flowered forms. Variable in size of flowers and leaflets.

Comprises 2 vars.

C. leucoclada Bak.

Bushy herb with young stems white appressed-hairy, 1-1,3 m tall; leaflets narrow, stipules absent; racemes lax, many-flowered, flowers large; pod with dense long hairs inside.

Probably semi-evergreen bushland; c. 1000-1500 m alt.

Known only from 2 gatherings made in 1894/1895 (Lort Phillips).

C. limosa Polhill

Erect annual herb with ascending slender ± puberulous branches, 30-40 cm tall; leaflets (3-1) small, narrow; stipules absent; racemes short, subumbellate, laxly few-flowered; flowers small; pod 1-2-seeded.

Laterite dambos in swamper parts, in shallow water or the dried-out surface; c. 1400 m alt.

Similar to *C. nuda*.

C. linearifoliolata Chiov.

Slender annual herb, densely appressed puberulous, with ± prostrate stems to 40 cm long; leaflets small, linear; racemes lax, few-flowered; flowers small, standard veined purple; pod flattened, 1,5-2 cm long; seeds unknown.

Gypsaceous plains with sparse vegetation; c. 150-250 m alt. (Thulin, Nord. J. Bot. 8: 483, 1989).

C. lisowskii Polhill

Erect annual densely pilose herb, sometimes with ascending branches from below, 0,3-1,2 m tall; leaves 1-foliolate, narrow; stipules absent; racemes variable, ± densely many-flowered.

Upland grassland, damp places by streams and marshes; 1430-1850 m alt.

Similar to *C. kipandensis* and approaching *C. egregia*.

C. loandae Bak. f., incl. var. *annua* Torre

Erect ± hairy annual or short-lived perennial herb with ascending branches, 30-70 cm tall; hairs stiff, appressed, white; racemes densely many-flowered with slender rhachis; flowers small; pod asymmetrical, oblong, stiped. – Little known species.

Coastal beaches.

C. longiclavata Polhill

Suffrutex with many densely appressed white-hairy stems 0,7-1 m tall; racemes variable, ± many-flowered; flowers large.

Riverine alluvium.

Resembling *C. tabularis* and *C. ivantalensis*.

Only known from the type (Torre 8378).

C. longithyrsa Bak. f.

Erect annual or perennial branched herb to 1,5 m tall; branches ribbed, appressed puberulous; racemes ± long, narrow, closely to subaxillary many-flowered; calyx becoming basally truncate and deflexed against pedicel; flowers large; standard finely brown-purple veined.

CROTALARIA LONGITHYRSA

Meadows, grassy places, secondary forest near cultivated ground, abandoned cultivations, a weed (var. **latifolia**).

Variable in shape of leaflets.

Comprises 2 vars.: – var. **longithyrsa** known only from the type (Bequaert 68). – Var. **latifolia** R. Wilczek with syn.: *C. muntzneri* sensu De Wild., Pl. Bequaert. 2: 505, 1924, non Bak. f.

Occasionally cultivated (*C. mejusei*, unpubl.) in tropical Africa outside its range. Introduced in N Zimbabwe.

Closely related to *C. subcapitata*; also similar to *C. dewildemania*.

C. lotiformis Milne-Redh.

Perennial plant with several, slender, spreading-hairy, prostrate to weakly ascending branches to 30 cm long, arising from a woody rootstock; leaflets small, densely silvery-hairy, stipules as long as petioles; racemes short, few-flowered; standard veined purplish.

Open and wooded grassland with scattered *Acacia*, evergreen bushland, on clay and laterite soils, sometimes in rocky places; 1500-2300 m alt.

Endemic to Kenya, around Ngong Hills.

C. lotoides Benth. 1843, non A. Rich. 1847 (= *C. microcarpa*).

Branched spreading suffrutex with numerous ± spreading-hairy stems (hairs yellow) 15-50 cm long; leaflets rounded; racemes lax, 1-3-flowered.

Grassland, in dry usually sandy places; also on cultivated and waste ground; 950-1350 m alt. Little ecological information for Fl. Zambes. area.

S. Africa (W Transvaal, NW Cape Prov.), Botswana.

Closely related to *C. incana*.

C. lukafuensis De Wild.

syn.: *C. pseudo-descampsii* Bak. f.

Perennial plant with a slender rhizomatous rootstock and erect stems (15-)25-70 cm tall, developing ascending flowering branches above; indumentum of spreading hairs 1-2 mm long, twisted when dry; plant flowering from first year of growth; leaflets linear, silky pilose, upper ones grading into bracts; stipules absent; racemes sessile, short, many-flowered.

Grassland, *Brachystegia* woodland; 1200-1350 m alt.

C. lukomae Bak. f., p.p. excl. specim. Kassner 2999a.

Erect annual herb with numerous appressed pubescent ascending branches, 40-80 cm tall; leaflets oblanceolate; stipules absent; racemes ± short, with few to many small flowers, uppermost ones often crowded, also flowers in axils below; standard lined red; pod 2-seeded; mature seeds unknown.

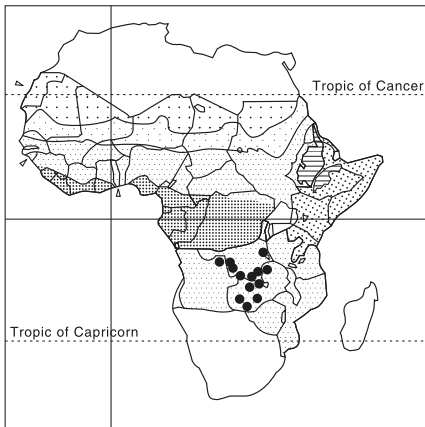
Ecology?; collected at the River Lukoma (E Shaba, Zaire).

Imperfectly known species.

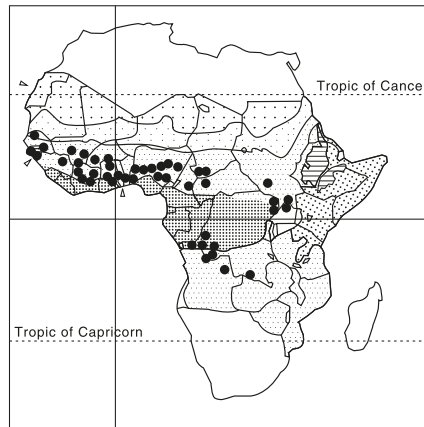
C. lukwangulensis Harms

Straggling or climbing woody herb or shrub, 1-6 m tall; branches slender, subterete, glabrescent; stipules small, linear, or absent; racemes lax, few-flowered; flowers large, standard yellow, red-brown or purplish with age; keel greenish-white with long twisted beak; pod broadly ellipsoid, inflated, stiped, purplish green.

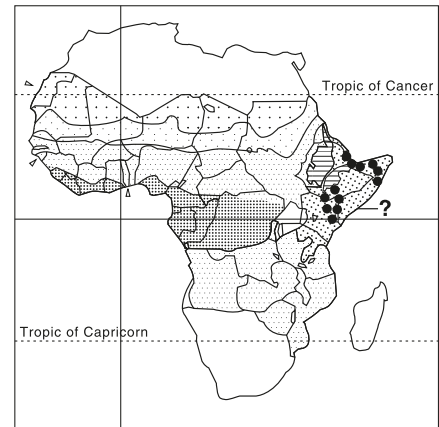
Rain-forest margins and clearings and associated bushland; 950-2550 m alt.



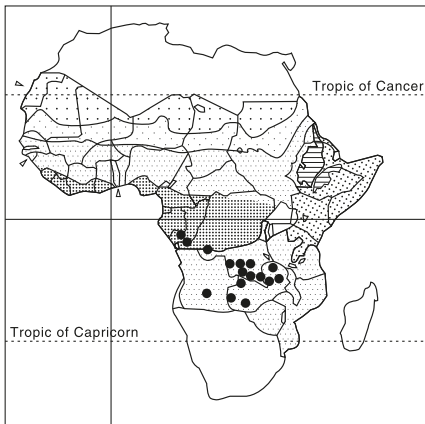
Crotalaria lepidissima



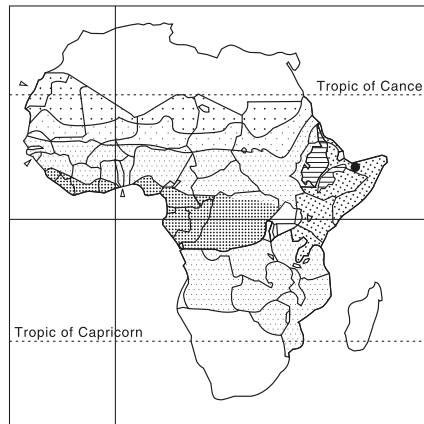
Crotalaria leprieurii



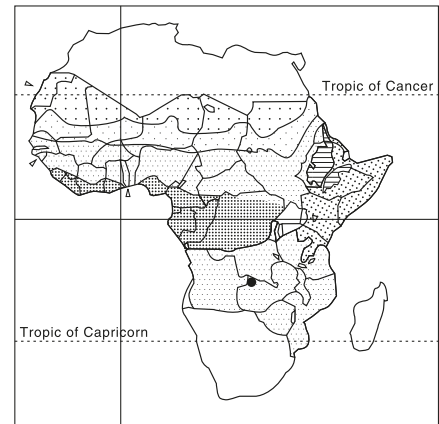
Crotalaria leptocarpa



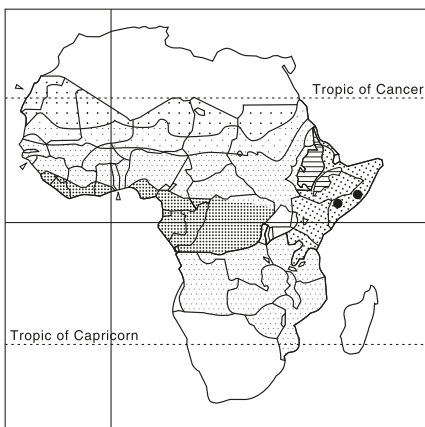
Crotalaria leptoclada



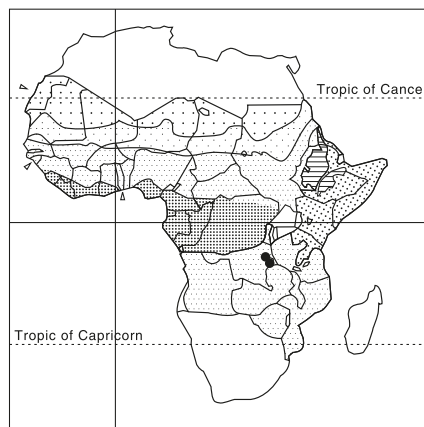
Crotalaria leucoclada



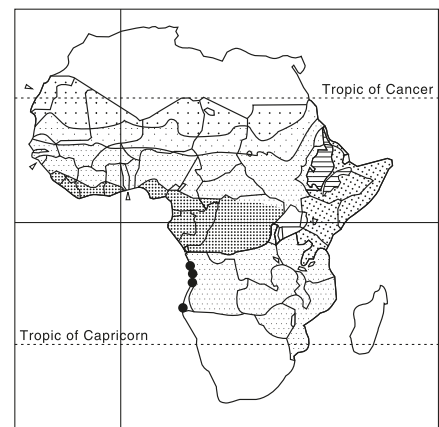
Crotalaria limosa



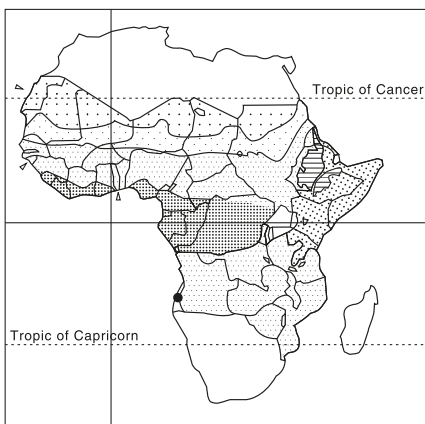
Crotalaria linearifoliolata



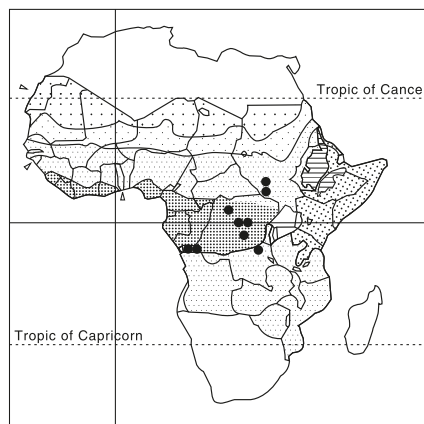
Crotalaria lisowskii



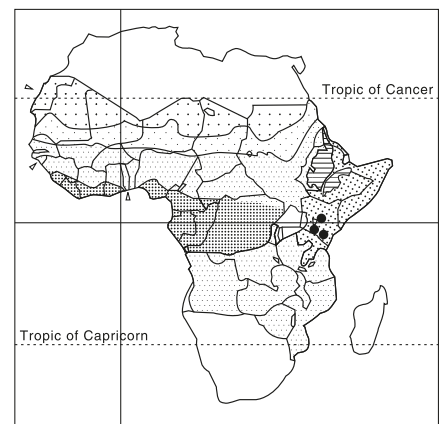
Crotalaria loandae



Crotalaria longiclavata



Crotalaria longithyrsa



Crotalaria lotiformis

CROTALARIA

[C. lunata Beddome ex Polhill]

syn.: *C. lanata* Beddome (1870), non Thunb. (1800), nom. illegit.; *C. lunata* Beddome (1864) nomen.

Softly woody shrub 2-5 m tall, with sulcate villous branches; leaves simple, stipules oblong falcate, 1-1,5 cm long; racemes lax, many-flowered, flowers large, lined greenish.

Native of hills of S India; grown as an ornamental in E Africa. – Not mapped.

C. lundensis Torre

Several erect ribbed, velvety stems to c. 1 m tall arising from a woody rhizomatous rootstock; leaves 3(-1)-foliolate, narrow, silky tomentose beneath; primary racemes poorly developed, most of the flowers (small) in axillary cluster; pod 2-seeded; mature seeds unknown.

Swampy site.

Known only from the type collected in 1932 (Young 1130).

Perhaps only a form of *C. polyantha* with unusually small flowers; also closely similar to *C. kambolensis* but leaflets silky beneath (fide Polhill, *Crotalaria*: 318, 1982).

C. luondeensis R. Wilczek

Several erect slender stems 15-45 cm tall, sometimes developing short branches above, tomentose with fine twisted hairs c. 1 mm long; arising from a woody rootstock; leaflets linear; stipules absent; racemes short, ± densely many-flowered; standard turning orange; pod ± globose, few-seeded; mature seeds unknown.

Upland grassland, common (mountains around Lakes Tanganyika and Malawi); c. 1900-2600 m alt.

Variable in density and length of indumentum especially of standard (outside).

C. lusamboensis R. Wilczek

Erect delicate annual herb with slender pubescent stem 25 cm tall; lateral branches suppressed (with 1-foliolate leaves); leaflets small, membranous, petiole narrowly winged; stipules absent; flowers small, in short heads, terminal and on suppressed lateral branches; ovary 2-ovulate; pod and seeds unknown.

Savanna.

Known only from the type from Kasai (Zaire) collected in 1891 (Descamps s.n.).

C. lusingaensis R. Wilczek

Prostrate perennial plant with many slender radiating stems c. 50 cm long, with short spreading hairs; leaves shortly petiolate, leaflets oblong; racemes lax, few-flowered; pod oblong, c. 14-seeded; mature seeds unknown.

Gallery forest, near rivers; c. 1760 m alt.

Known only from the Kibara Plateau (SE Zaire).

C. luxenii Bak. f.

Stems numerous, slender, appressed puberulous, weakly ascending, 15-25 cm long, arising from a slender branched rhizomatous rootstock; stipules absent, leaflets narrow; racemes short, terminal and leaf-opposed, laxly few-flowered; flowers small; pod 2-seeded.

Open disturbed places?

Known only from the type (Luxen 19) collected 1931-32.

CROTALARIA

C. macrantha Polhill

Erect woody herb with densely white silky pubescent branches, to 2 m tall; stipules leafy, stalked, caducous; petioles longer than the large leaflets; racemes lax with flexuous rachis; flowers large, keel 4,5 cm long with straight untwisted beak; pod oblong-clavate, many-ovulate, with 1,4 cm long stipe; mature seeds unknown.

Upland rain-forest, forest edge; 2100 m alt.

Known only from the type collected in 1959 (J. Wilson 777).

Close to *C. agatiflora*.

C. macrocalyx Benth.

Annual or short-lived perennial herb, erect or procumbent, 30-90 cm long, much-branched, densely covered with long appressed hairs; with a woody taproot; racemes short, dense, ± sessile; flowers fairly large, maturing orange, standard purple-veined; pod enveloped by calyx, roundish oblong, brown silky-hairy.

Savanna on sandy terraces and plateaux; rocky outcrops, gravelly soils; fallow land, sandy roadsides, often ruderal (Niger); seasonally flooded sandy hardpan soil (Chad).

Record from Ethiopia (Petit) very doubtful (cf. Polhill, *Crotalaria*: 151, 1982). Not cited in Fl. Ethiopia 3, 1989. Is perhaps *C. quartiniana*.

C. macrocarpa E. Mey. 1836, non Penzig 1893, subsp. **matopoenis** Polhill

Shrub 2-3 m tall with finely strigulose branches; racemes few-flowered, ± dense; flowers large, marked brownish with age; pod fatly ellipsoid, stipitate, few-seeded.

Granite hills of the Matopos (SW Zimbabwe), in dense woodland and in rocky places; c. 1400-1500 m alt.

Subsp. **macrocarpa** in NE S. Africa.

C. malaissei Polhill

Perennial densely appressed pubescent plant with many erect, much-branched flowering stems 10-15 cm tall, and short vegetative shoots arising from a thick vertical woody rootstock; leaves (3-)1-foliolate, leaflets ± linear; stipules absent; racemes short, laxly few-flowered; flowers small, standard lined purple; pod and seeds unknown. Flowering in the dry season.

Wooded grassland with many woody geophytes; 1700 m alt. (only Kundelungu Plateau, Zaire).

Close to *C. quangensis*.

C. malindiensis Polhill

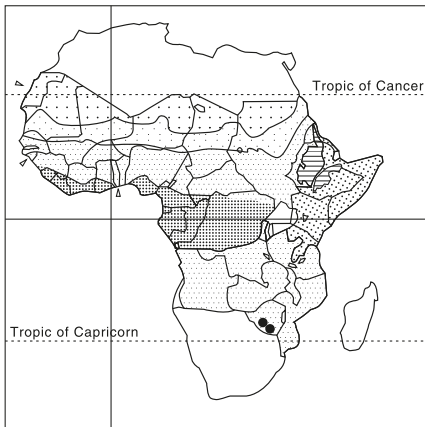
syn.: *C. paolii* Cufod., Enum.: 236, 1955, nom. inval.; *C. senegalensis* (Pers.) Bacle ex DC. var. *gracilis* Chiov., nom. nud.; *C. gracillima* Chiov. 1929, non Klotzsch 1862, nom. illegit. (not synonyms of *C. massaiensis* Taub., fide Fl. Somal. 1: 453-454, 1993).

Annual or short-lived perennial sparsely pilose herb with prostrate radiating branches to 50-85 cm long; racemes leaf-opposed, flowers small, widely spaced; standard veined purplish.

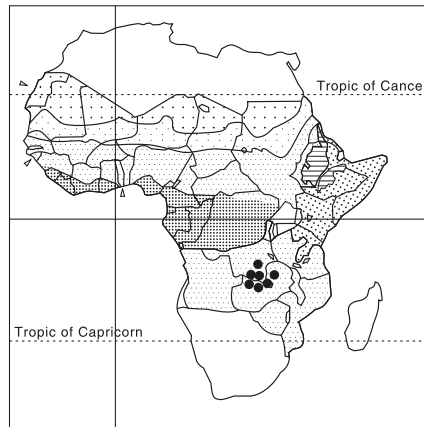
Grassland and bushland on sand (Somalia); *Brachystegia* woodland, *Acacia* bushland in open grassy places; grassland on sandy soil just above dunes near seashore; grassy depression on sandy soil between mangrove swamp and coastal bush; to 50 m alt. (Kenya); 70-230 m (Somalia).

Variable in shape of leaflets; Somali plants have larger flowers than the Kenyan ones.

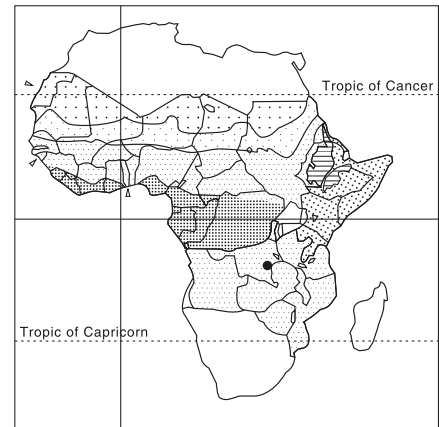
Related to *C. distantiflora*.



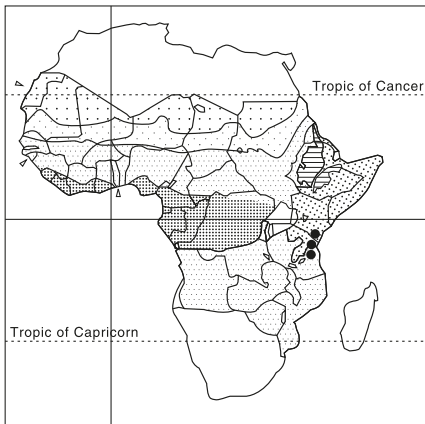
Crotalaria lotoides



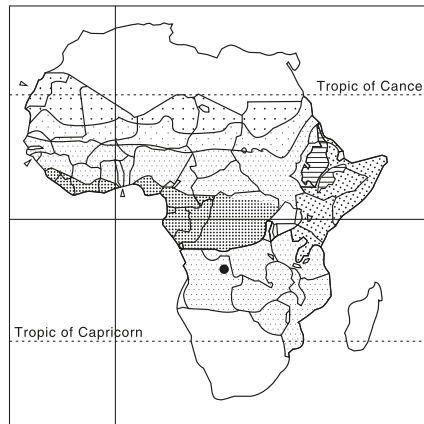
Crotalaria lukafuensis



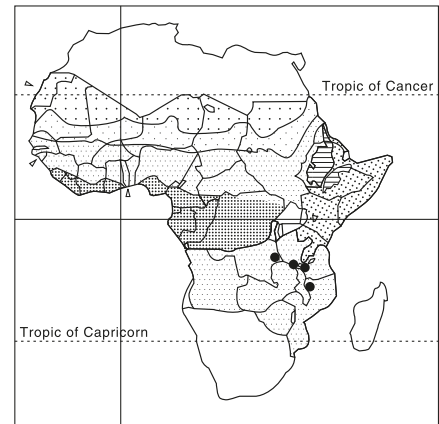
Crotalaria lukomae



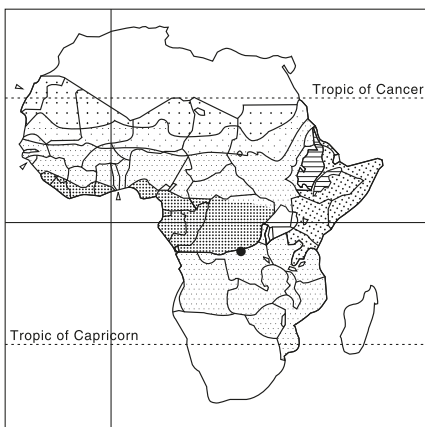
Crotalaria lukwangulensis



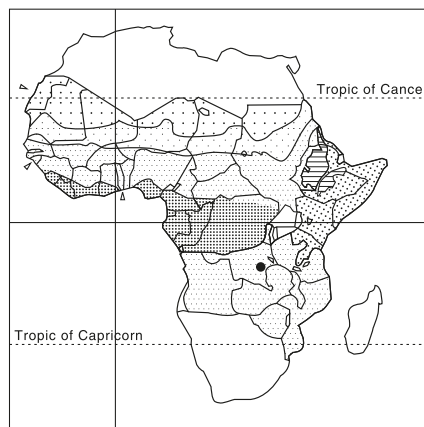
Crotalaria lundensis



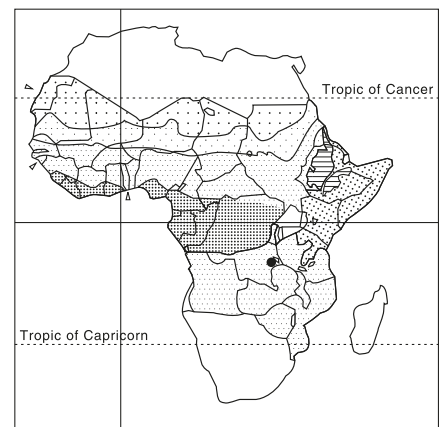
Crotalaria luondeensis



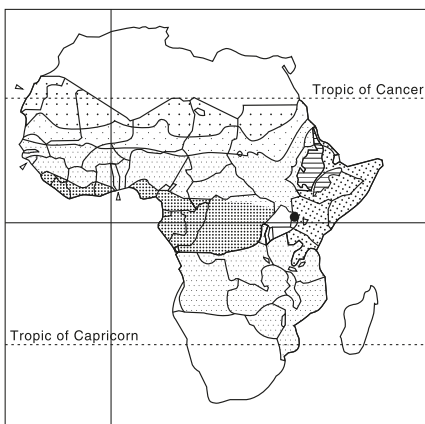
Crotalaria lusamboensis



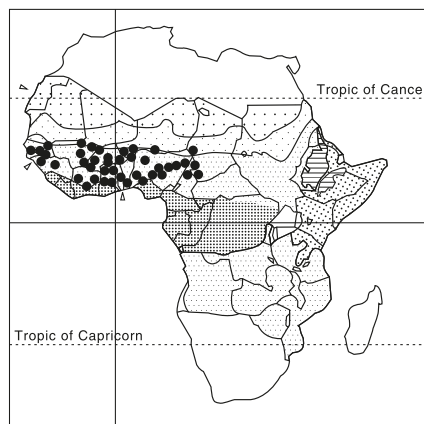
Crotalaria lusingaensis



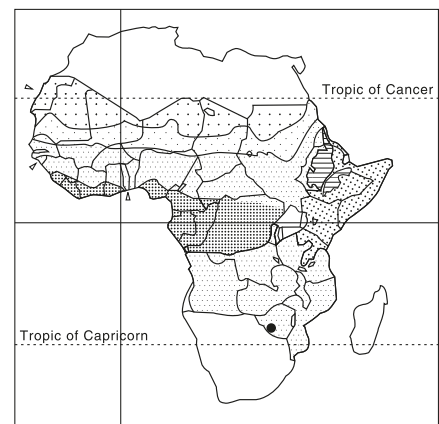
Crotalaria luxenii



Crotalaria macrantha



Crotalaria macrocalyx



Crotalaria macrocarpa subsp. *matopensis*

CROTALARIA

C. manganifera Polhill

Erect annual pilose herb 30-50 cm tall, with slender stem and a few longer ascending branches from near the base; developing numerous progressively shorter flowering branches above; stipules absent; sessile terminal clusters of few small flowers on stem and lateral branches, also in upper axils; standard finely lined reddish.

Brachystegia-Pseudoberlinia woodland on micascists, soil generally rich in manganese.

Related to *C. crebra*.

C. massaiensis Taub.

syn.: *C. minutiflora* Bak. f.; cf. under *C. malindiensis*.

Procumbent or spreading perennial herb, much-branched from the base, sometimes with underground runners; branches very slender, ± spreading pubescent; racemes long, slenderly pedunculate, laxly few-flowered; flowers small cream to yellow, veined purple.

Deciduous woodland and bushland, *Acacia-Commiphora* bushland, semi-desert scrub, often in sandy, rocky and lava strewn places; 180-1550 m alt.

Specimens from E Kenya differ by larger and more heavily veined flowers, and by broader pods.

Record from Rwanda not confirmed and probably misidentified (specimen lost, Mildbraed 1526; cited e.g. by Wilczek in Fl. Congo Belge 4: 178, 1953). – Not in Somalia (= *C. malindiensis*). – Cf. under *C. jerokoensis*.

Only known polyploid African species of *Crotalaria*.

C. mauensis Bak. f.

Bushy robust perennial herb or shrub 0,5-4 m tall, with ± stout branches densely covered with ± spreading, crisped brown hairs; stipules filiform, 6-14 mm long; flowers large in long dense racemes; pod shortly stipitate, oblong, to c. 6 cm long, golden brown, densely pubescent. – Very distinctive species.

Edges of upland rain-forest, (bushed) grassland, secondary bushland; often on roadsides; 1500-2800 m alt.

C. melanocalyx Polhill

Erect annual herb with many slender ascending branches from near the base, and with many short ± leafless flowering branches at the top, 15-40 cm tall; stem slender, appressed pubescent; stipules absent; leaflets (3-1) small; racemes ± sessile, short, subumbelliform; flowers small, standard veined dark green; pod ± globose, 2-ovulate; mature seeds unknown.

Seasonally flooded valley grassland (dambo); c. 1500 m alt.

Similar to *C. pseudotenuirama* (occupying similar habitats on the Ufipa Plateau).

C. mendesii Torre

Perennial plant with numerous erect stems 0,5-1(-2) m tall, well-branched above, strongly ribbed to narrowly winged, appressed puberulous, arising from a woody napiform rootstock; leaves leathery; racemes laxly many-flowered; flowers large, standard yellow or cream, sometimes flushed purplish; beak of keel straight, dark-coloured at tip; pod subcylindrical, few-seeded.

Upland grassland with subshrubs; 1800-1900 m alt.

Related to **C. flavicarinata**.

CROTALARIA

C. mendoncae Torre

Erect much-branched, densely spreading-hairy suffrutex; racemes terminal and axillary, subumbelliform, few-flowered, also solitary axillary flowers present; standard wine-coloured (? sometimes yellow like the other petals).

Deciduous woodland; 1300-1800 m alt.

Closely related to *C. sericifolia* occurring further south in Angola; perhaps better placed as a subspecies of it; intermediates between the two seem to exist (fide Polhill, *Crotalaria*: 145, 1982).

C. mentiensi Polhill

Erect annual or short-lived perennial herb, well-branched, with densely hairy (hairs brown-based) branches, 20-40 cm tall; stipules absent; leaflets small, narrow; racemes short, few-flowered, terminating in a head of small flowers; standard ultimately flushed reddish; pod very small.

Ecology unknown.

Similar to *C. ledermannii* occurring in the same area (Bamenda, Cameroon).

Known from only 2 collections (Brouwers), probably made in the late 1960s or early 1970s; not recollected during inventories by M. Cheek & al. (fide Pl. Mt. Oku...: 64-65, 2000).

An attempt to rediscover the species should be made; probably threatened by conversion of land to cultivation and grazing, as this part of Bamenda area is the most densely populated.

C. mesopontica Taub., incl. var. *congolensis* De Wild. (= subsp. **mesopontica**).

syn.: *C. pycnocephala* Bak. f. var. *claessensii* De Wild. (of subsp. **mesopontica**).

Short-lived perennial herb with numerous radiating decumbent, spreading brownish-hairy shoots curved and ascending, 15-100 cm, from a little-developed taproot; stipules minute, caducous or obscure; flowers in ± long racemes, crowded towards the top; standard veined purple.

Grasslands, sometimes swampy, by lake shores and in upland reaching the bamboo zone; also on cultivated ground and roadsides; savanna with *Loudetia*; scrub on lava; steppe with *Acanthus*; 1150-2240 m alt. – Subsp. **glabrescens**; upland grassland; 2400-3000 m alt.

Variable in indumentum of leaves.

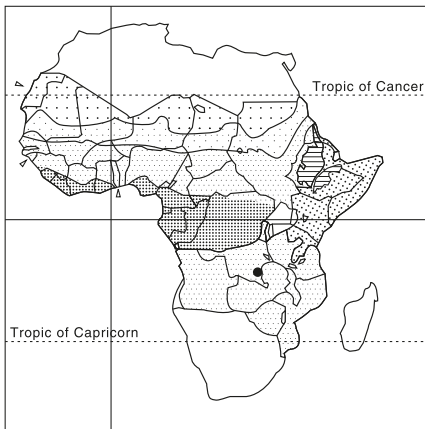
Comprises 2 subsp. [subsp. **glabrescens** (R. Wilczek) Milne-Redh.; bas. *C. mesopontica* fa. *glabrescens* R. Wilczek p.p., excl., specim. Salésiens 468].

[C. micans Link]

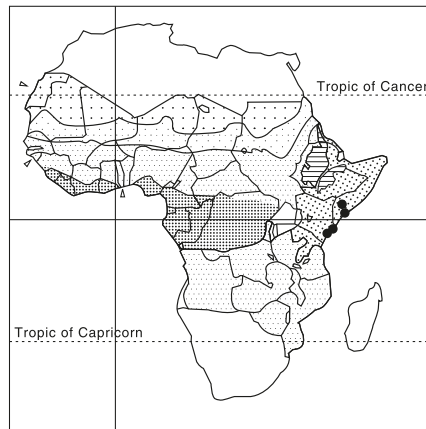
Shrub 2-4 m tall with densely appressed pubescent branches; leaflets large; bracts long; racemes long, densely many-flowered; flowers large; pod stipitate, many-seeded. – Quick growing.

Native or tropical America and the Indian Ocean area; invasive weed in Taiwan (Taxon 54: 133-138, 2005); widely introduced in higher rainfall areas of tropical Africa and Madagascar; naturalized in Zaire; reported from Mt. Cameroon (*C. sp. B* sensu Hepper, Fl. W. Trop. Afr., Ed. 2, 1: 552, 1958) and from Fl. Zambes. area. – Not mapped.

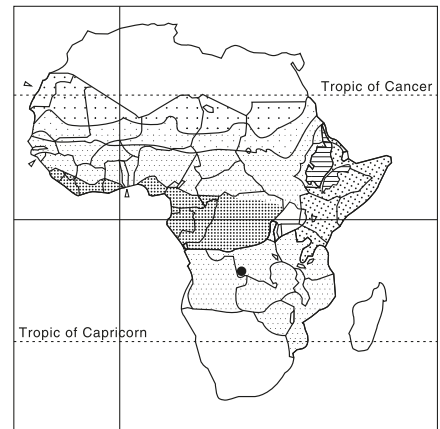
ETCHEVERRY, A. V. & al. (2003). Delayed autonomous self-pollination in the colonizer *Crotalaria micans* (Fabaceae; Papilionoideae): structural and functional aspects. *Pl. Syst. Evol.* 239: 15-28.



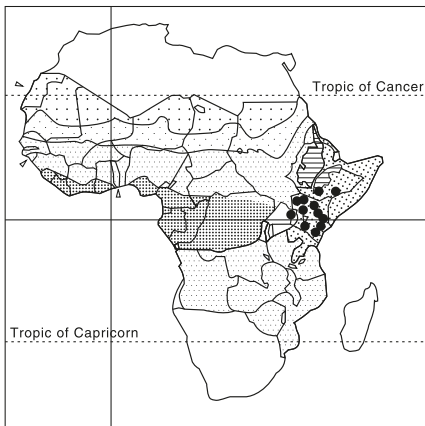
Crotalaria malaissei



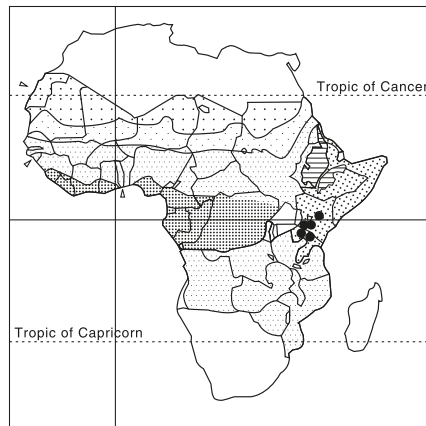
Crotalaria malindiensis



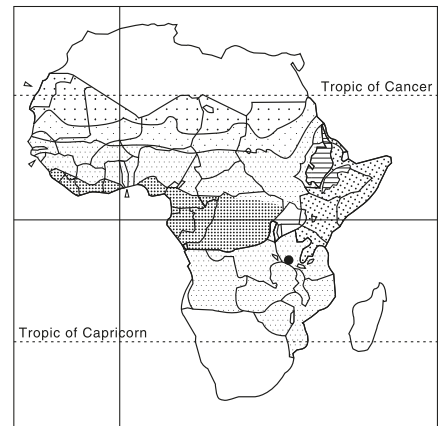
Crotalaria manganifera



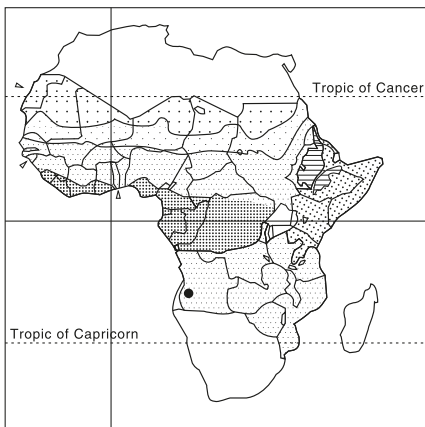
Crotalaria massaiensis



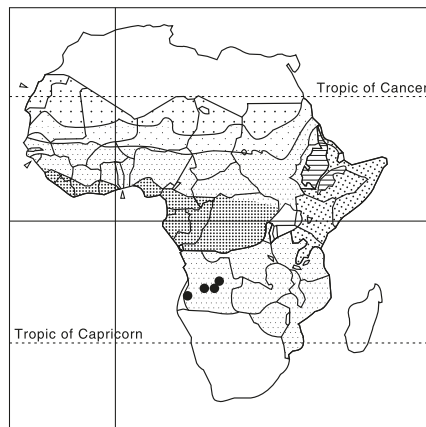
Crotalaria mauensis



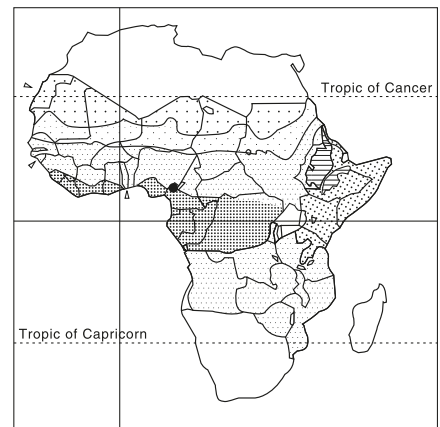
Crotalaria melanocalyx



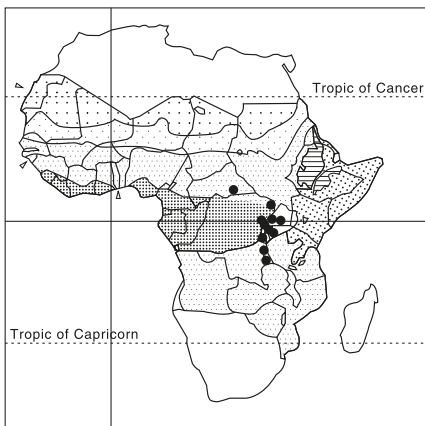
Crotalaria mendesii



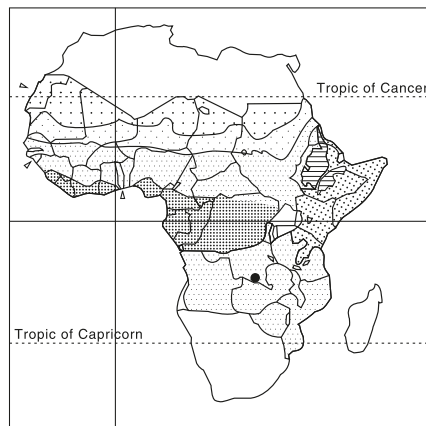
Crotalaria mendoncae



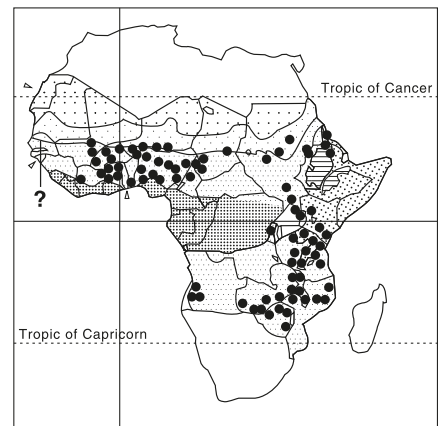
Crotalaria mentiensi



Crotalaria mesopotamica



Crotalaria micheliana



Crotalaria microcarpa

CROTALARIA

C. micheliana R. Wilczek

Perennial plant with numerous erect, densely appressed pubescent, simple or little-branched stems 50-90 cm tall, arising from a woody rootstock; leaflets linear, stipules absent; racemes short with lax flowers with yellow and mauve standard; pod and seeds unknown.

Wooded savanna; c. 1500 m alt.

Known only from the type (Hoffmann 484) collected in 1943.

C. microcarpa Hochst. ex Benth., incl. fa. *subuniflora* Steud. ex Bak. f., var. *dawei* Bak. f. and var. *sudanica* Bak. f.

syn.: *Maria-Antonia orientalis* Parl.; *Crotalaria lotoides* A. Rich. 1847, non Benth. 1843, nom. illegit.; *C. lotoides* var. *uniflora* Steud. ex A. Rich.; *C. mariae-antoniae* Aschers. in Schweinf., nom. illegit.; *C. polychotoma* Taub., nom. subnud.

Annual or short-lived perennial herb, woody at base, much-branched, 10-70 cm tall, with long appressed or spreading hairs; leaves short-petiolate, leaflets narrow, stipules setaceous; flowers few-numerous in heads or short lax racemes.

Savanna with *Hyparrhenia*; deciduous *Acacia-Commiphora* bushland (but generally absent from *Brachystegia* woodland); valley riverine woodland and thicket; on sandy soils, but also gravel and hardpan (Burkina Faso); common weed of roadsides, cultivated and waste places; widespread in drier parts of tropical Africa; often on poor soils; 0-1770(-2250) m alt. (1575-1770 m, Ethiopia).

Botswana?

Also in Senegal, Ferlo région?

C. microphylla Vahl (excl. syn. *C. sennii* Chiov. = *C. boranica* subsp. *trichocarpa*).

syn.: *C. astragalina* sensu Monod, Contrib. Etudes Sah. Occ. 2, Phanérogames: 90-91, 1939, quoad specim. 2011.

Prostrate or ascending annual herb with many slender spreading branches from the base, 2-40 cm long, puberulous with stiff appressed ± *biramous* white hairs; leaves mostly 3-foliolate, but lower ones on young plants 1-foliolate, leaflets ± linear; flowers 1-2 leaf-opposed on short slender axes; standard pale yellow veined and/or flushed red or mauve.

Bushland, semi-desert grassland, usually on sand; 1-330 m alt.

Cape Verde Isl.; SE Egypt (Red Sea coast); Yemen, Saudi Arabia; Comoro Isl. doubtful.

Detailed map in: J.-P. Lebrun, *Éléments pour un atlas des plantes vasculaires de l'Afrique sèche*, 1: carte 32, p. 175 (Etude Bot. 4, Institut d'Élevage et de Médecine vétérinaire des Pays tropicaux, Maisons-Alfort, F).

C. microthamnus Robyns ex R. Wilczek

Erect bushy annual herb with slender appressed puberulous branches, 35-80 cm tall; stipules absent, leaflets small; racemes short, few-flowered; flowers small, mostly clustered in axils; standard lined brown; pod 1-2-seeded; mature seeds unknown.

Wet grassland (around Lakes Mweru and Mweru Wantipa); 950-1050 m alt.

C. mildbraedii Bak. f.

Shrub with ribbed puberulous branches, 1-4 m tall; racemes ± laxly many-flowered; flowers large; pod stipitate, long, broadly oblong-clavate, many-seeded.

CROTALARIA MILDBRAEDII

Upland (secondary) evergreen bushland and forest margins; steppe with *Acanthus*, forest with *Combretum* (Zaire); 1700-3000 m alt.

C. milneana R. Wilczek

Perennial herb with numerous erect stems, simple or branched above, densely spreading-hairy, to 60 cm tall, arising from a woody rootstock; leaves sessile, leaflets small, incurved at the margins; stipules absent; racemes terminal, dense, few-flowered, sometimes also with solitary flowers on short axillary peduncles; bracts stalked, foliaceous, to 2 cm long; seeds unknown.

Grassy, marshy plain on humus-rich soil.

Known only from the type (Luxen 611) collected in 1946.

C. minutissima Bak. f.

Erect annual, sometimes much-branched herb 10-35 cm tall; stem very slender, sparsely appressed puberulous; leaves sessile, simple, linear; stipules c. 0,3 mm long or obsolete; racemes laxly 1-3(-6)-flowered, with filiform rhachis; flowers tiny, standard pale yellow veined brown; pod small.

Savanna, *Brachystegia* woodland (higher rainfall type), on lateritic gravel, in pans, soil pockets on rock outcrops; dambo edges, roadsides in short grassland; 1200-1500 m alt.

Uncertain in Burundi (eventually represented by another local species; fide Polhill, *Crotalaria*; 243, 1982).

Very close to *C. shirensis*.

C. miranda Milne-Redh.

Erect annual herb to 70 cm tall; branches ascending, laxly inserted, strigulose; hairs colourless but with a brown point of attachment just above the base (unique character in *Crotalaria*, confined to *Indigofera*, *Rhynchotropis* and some *Lotononis* spp.); leaves simple, linear; racemes laxly 4-20-flowered; standard veined red-orange.

Brachystegia woodland in grassy sometimes damp places or on stony hillsides; roadside among grass on yellow soil; 1350-1750 m alt.

Very close to *C. karagwensis*, and perhaps better treated as a subspecies of the latter (fide Polhill, *Crotalaria*: 279, 1982).

C. misella Polhill

Prostrate annual herb with slender, thinly puberulous stems to 60 cm long; leaves well-spaced; flowers tiny, 2 at the top of a short filiform leaf-opposed peduncle; pod globose, 4 mm Ø, 2-4-ovulate; seeds unknown.

Riverine woodland on sand; c. 300 m alt.

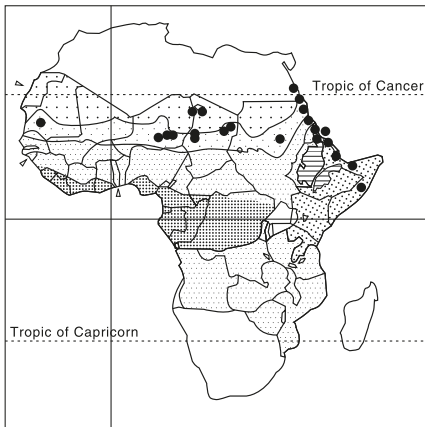
Known only from the type (Torre & Paiva 11873). No obvious close relatives found, but is probably a derivative of the *C. virgulata* complex (fide Polhill, *Crotalaria*: 294, 1982).

C. mocubensis Polhill

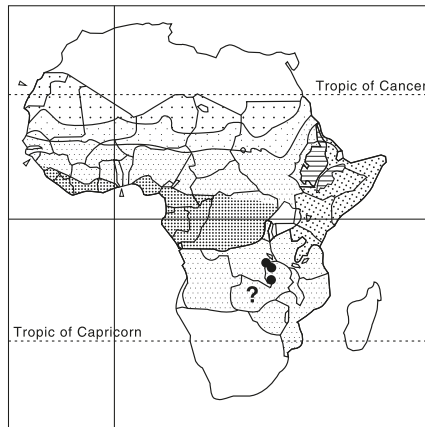
Annual appressed puberulous herb 0,4-1,5 m tall, erect at first, then spreading; racemes long, laxly many-flowered, buds ascending; standard bright yellow finely lined reddish.

Deciduous woodland and disturbed places; mostly below 200 m alt.

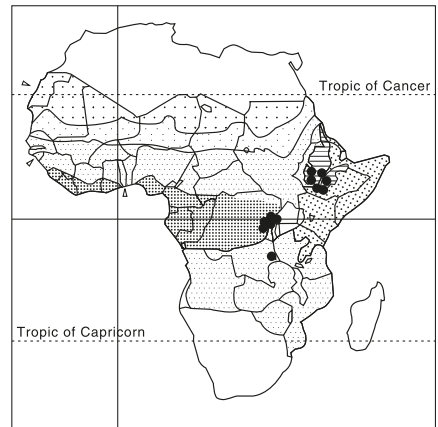
Intermediate between *C. senegalensis* and *C. virgulata* subsp. *virgulata* both occurring at the edges of their ± mutually exclusive ranges.



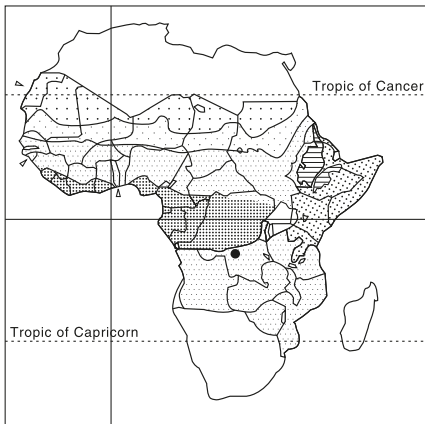
Crotalaria microphylla



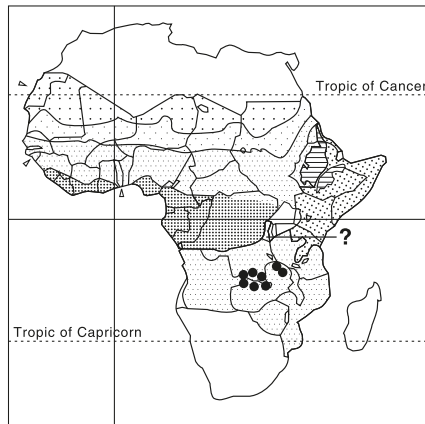
Crotalaria microthamnus



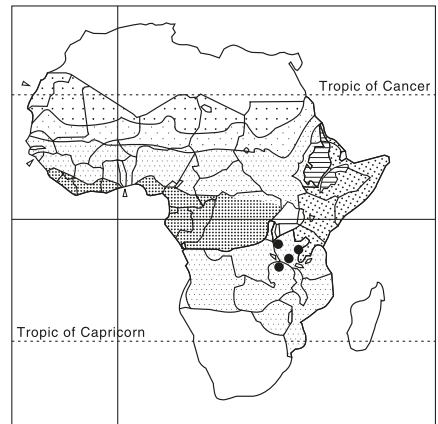
Crotalaria mildbraedii



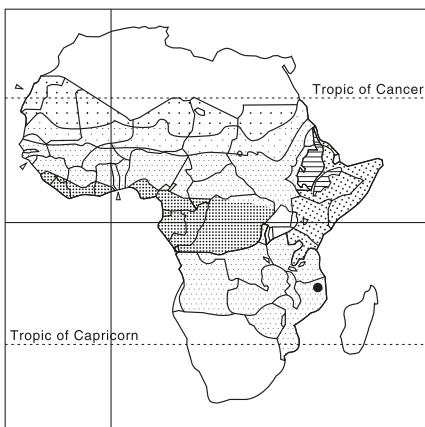
Crotalaria milneana



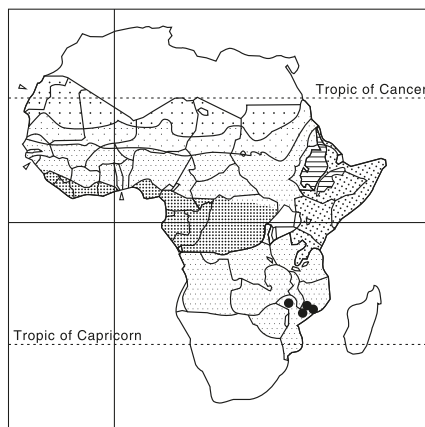
Crotalaria minutissima



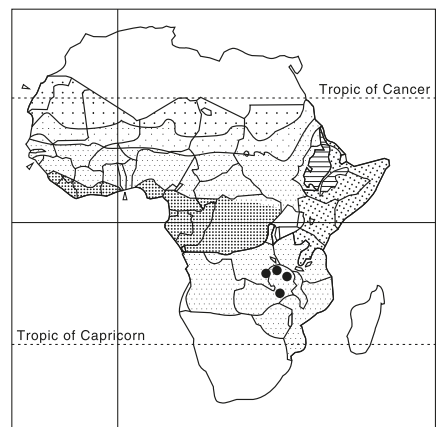
Crotalaria miranda



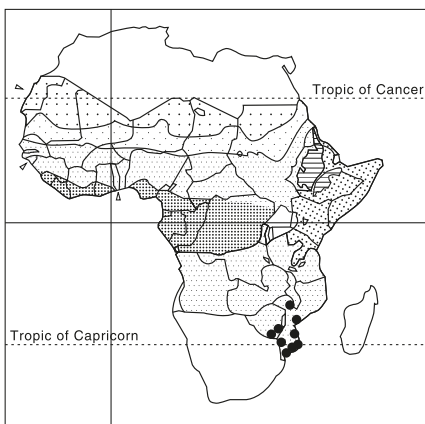
Crotalaria misella



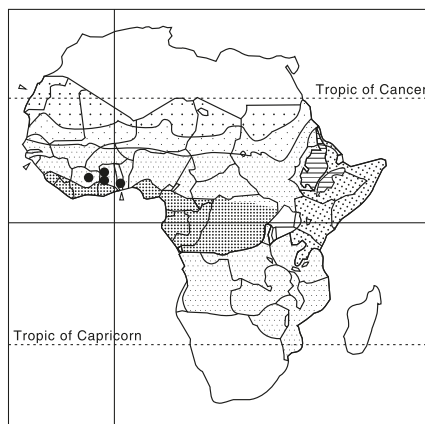
Crotalaria mocubensis



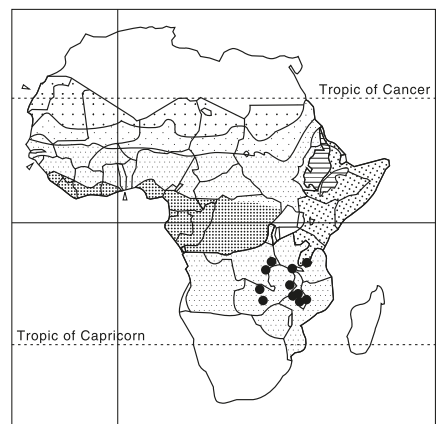
Crotalaria modesta



Crotalaria monteiroi



Crotalaria mortonii



Crotalaria morumbensis

CROTALARIA

C. modesta Polhill

Procumbent or ascending rather bushy annual or short-lived perennial herb to 40 cm tall; branches with fine ± spreading hairs; racemes numerous, mostly leaf-opposed, laxly few-flowered with slender rhachis; flowers small.

Inundated (seasonally) grassland; damp disturbed places on sandy soils; 900-1400 m alt.

Local species similar to *C. huillensis*.

C. monteiroi Taub. ex Bak. f.

Shrub or bushy subshrub with hairy ± glabrescent branches, 1-2 m tall; stipules absent; racemes mostly few-flowered; flowers large, standard usually marked orange or brown.

Brachystegia woodland, bushland, secondary scrub, grassland, coastal dunes (var. **monteiroi** ± restricted to coastal areas of S Mozambique – N Natal); 0-500 m alt. – Inland and farther south replaced by var. **galpinii** in similar habitats, but also in *Colophospermum* and *Acacia* woodland, sometimes in rocky places and frequent along river sides; to 550 m alt.

Variable (clinal variation) in shape and size of leaflets, in length of petiole and bracts, and in size of flower keel.

NE and E S. Africa.

Comprises 2 vars.: – var. **galpinii** Burt Davy ex Verdoorn p.p., excl. specim. Rogers 11810 (syn.: *C. rigidula* Bak. f.; *C. breyeri* N. E. Br.; *C. inhabilis* Verdoorn); it forms a morphological and geographical link between var. **monteiroi** and *C. pallidicaulis* (very different in their typical forms). – The 2 vars. of *C. monteiroi* are difficult to distinguish without pods in S Zimbabwe and S Mozambique because of intergradation.

In S Zimbabwe – N Transvaal scarcely distinguishable from *C. pallidicaulis* in the flowering state.

C. mortonii Hepper

syn.: *C. macrocalyx* sensu Bak. f., J. Linn. Soc., Bot. 42: 306, 1914, quoad specim. Busse 3574, non Benth.

Erect or suberect, ± woody herb to 90 cm tall; branches with dense long stiff appressed hairs; leaves sessile; racemes short, ± sessile, few-flowered; bracteoles with the free part arising from the calyx tube, long, curved or ± reflexed; calyx longer than corolla, 2-lipped, 1,2-1,5 cm long accrescent in fruit (-2 cm); standard maturing orange with short darker veins towards base inside; pod enveloped by calyx.

Savanna.

Closely allied to *C. macrocalyx*, but distinct.

C. morumbensis Bak. f. (“morrumbensis” sphalm. auctt.).

Erect annual long-hairy herb 0,2-1,5 m tall, simple at first; only older plants developing laxly inserted ascending branches above; stem slightly ribbed; leaves 1-foliolate, long, elliptic with persistent setaceous stipules; racemes variable, ± densely many-flowered, also with clusters of flowers in upper axils with reduced leaves; standard lined red; pod 2-seeded.

Deciduous woodland; old cultivations; 500-c.1650 m alt.

C. mudugensis Thulin

Shrublet or subshrub with densely appressed pubescent stems to 0,6 m tall; stipules absent; racemes pedunculate, lax, few-flowered; flowers large; pod oblong-clavate, 2,5-3 cm long, few-seeded.

CROTALARIA MUDUGENSIS

In orange sand overlying limestone or on gypsum; 150-300 m alt. (only in the Mudug Region).

Closely related to *C. camptosepala* which has smaller flowers. Also related to *C. verdcourtii* and *C. deflersii* but indumentum different.

Specimen Paskin H. 101 cited by Polhill (*Crotalaria*: 266, 1982) under *C. emarginella* as a new species related to the latter belongs here.

C. muenzneri Bak. f. (as “muntzneri”).

Erect rather woody perennial herb, well-branched, appressed puberulous to 1-2,5 m tall, with ribbed branches; stipules absent; racemes long, closely many-flowered; bracts 3-6 mm long, expanded at base; calyx becoming basally truncate and deflexed against pedicel.

Upland and valley grassland; 15-1300 m alt.

Resembling *C. zanzibarica* and *C. dewildemaniana*.

C. mwangulangoi Gereau & Bodine, Novon 15: 286, 2005. – Icon.: ibid.: 287.

Shrub to 1 m tall; branches very finely ribbed, densely pubescent with spreading tawny hairs; stipules setaceous; leaves 3-foliolate; flowers yellow inside, with maroon lines outside. Montane grassland; 1600 m alt.

Known only from the type collected in 1999; presence in a small area (5000 km²).

Vernonia luhomeroensis Q. Luke & Beentje (*Asteraceae*), recently described, also collected in the same area, but in submontane-montane forest.

C. naragutensis Hutch.

syn.: *C. keilii* Bak. f. fa. *chevalieri* Bak. f.; *C. obovata* sensu Bak. f. in J. Linn. Soc., Bot. 42: 345, 1914, p.p. quoad specim. Dalziel 341, non G. Don (= *C. pallida* var. *obovata*); *C. lynesii* Bak. f. & Martin

Erect robust perennial herb, well-branched, densely appressed-to spreading-hairy; stipules tiny or absent; racemes long, closely many-flowered; standard variably lined purple outside, keel sometimes with purplish marks or flushed distally.

Open and wooded grassland, often on sandy soil or rock outcrops; sometimes ruderal; roadsides in savanna, rather common.

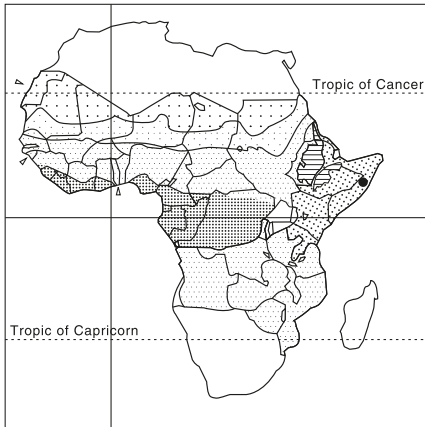
Showy plant; could be grown as an ornamental.

C. natalitia Meisner, excl. var. *sengensis* Bak. f. (= *C. prittwitzii*), var. *procumbens* Bak. f. and var. *pseudo-rhodesiae* Merxm. (both = *C. rhodesiae*).

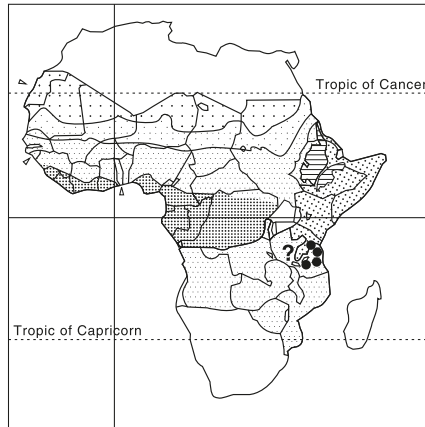
syn.: *C. gymnocalyx* Bak.; *C. kilimandscharica* Taub. (both of var. **natalitia**).

Woody herb or small shrub with 1-several thin stems and strictly ascending pubescent branches, 1-2,6 m tall, rarely ± procumbent in burnt or heavily grazed areas; leaves mostly in tufts, stipules shortly stalked, 5-15 mm long, narrow, asymmetrical; racemes few-many-flowered, pedicels stiffly erect; flowers rather large, standard sometimes tinged red-brown outside, fading orange-red; pod mottled black.

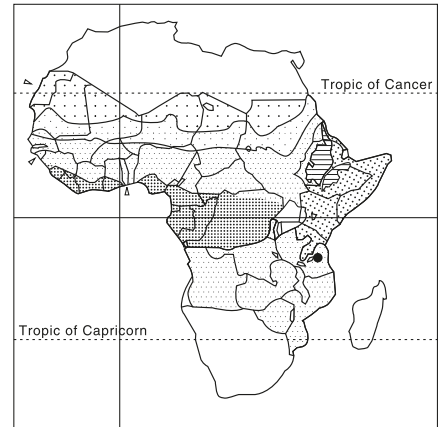
Deciduous woodland and bushland, scrub, riverine forest, margins of upland rain-forest, upland grassland, and evergreen bushland; *Loudetia arundinacea* grassland with scattered trees; sandy thinly shrubby thickets (Angola); near lakes and streams,



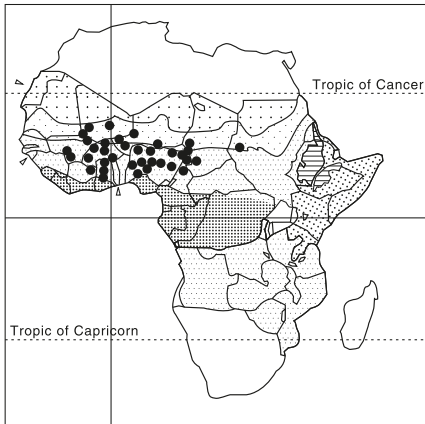
Crotalaria mudugensis



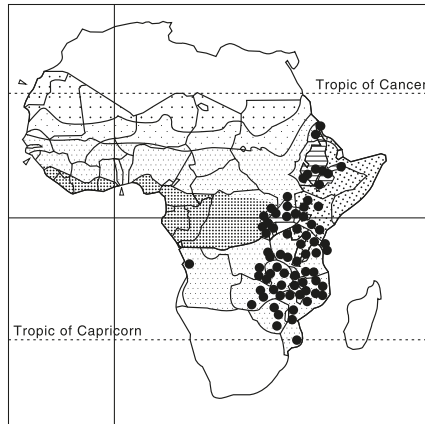
Crotalaria muenzneri



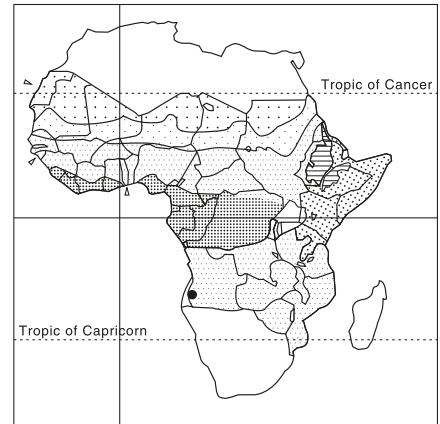
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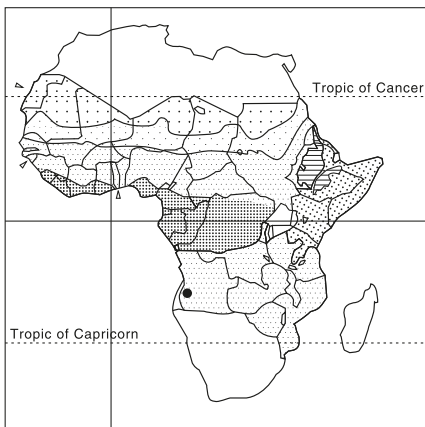
Crotalaria naragutensis



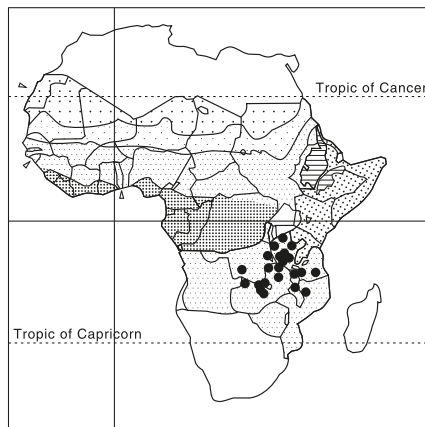
Crotalaria natalitia



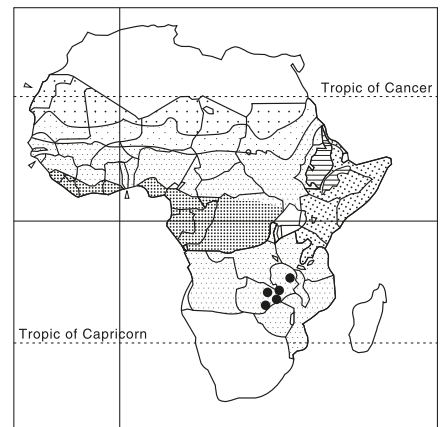
Crotalaria nematophylla



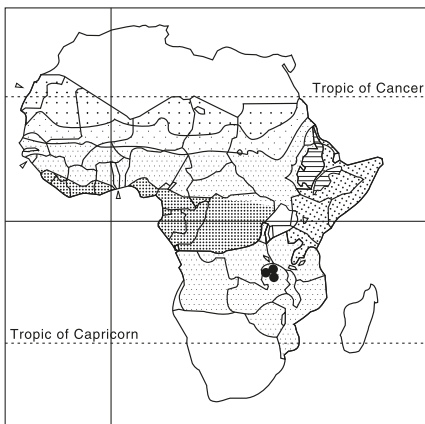
Crotalaria newtoniana



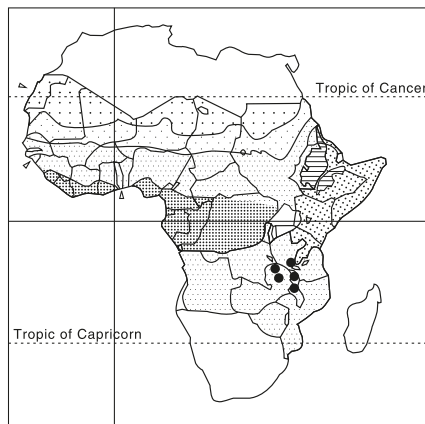
Crotalaria nigricans



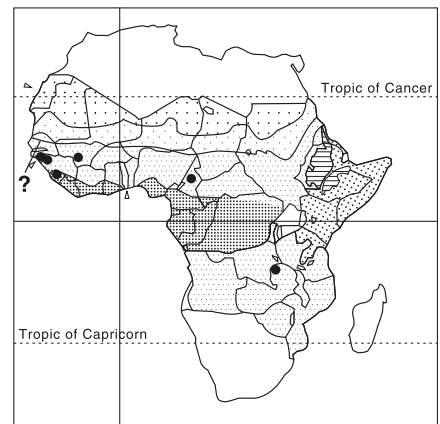
Crotalaria nuda



Crotalaria nudiflora



Crotalaria nyikensis



Crotalaria occidentalis

CROTALARIA NATALITIA

disturbed places; widespread; also roadsides, cultivated ground, fallow land; 0-3000 m alt. (1800-2400 m Ethiopia; 1400-1700 m Rwanda). – var **rutshuruensis**: montane forest edges, tree savanna, streamsides; 1200-2200 m.

Variable in pubescence of flower pedicel and calyx.

Yemen; S. Africa (Transvaal, Natal), Swaziland.

Comprises 2 vars.: – var. **natalitia** and var. **rutshuruensis** De Wild. (syn.: *C. natalitia* s. str. auctt. mult. p.p., non Meisner s. str.).

C. nematophylla Bak. f.

Erect annual herb, much-branched, sparsely long-hairy, 60-90 cm tall, with many slender subterete ascending branches; leaflets narrow; racemes numerous, laxly few-flowered, rachis very slender; standard lined red-brown; mature seeds unknown. Deciduous woodland.

Known only from the type (Pearson 2740).

Perhaps only a form of *C. stenopoda* (fide Polhill, *Crotalaria*: 235, 1982).

C. newtoniana Torre

Perennial plant with numerous slender, erect, terete stems, not or sparsely branched, strigose-pubescent, 30-60 cm tall, arising from a small woody rootstock; flowering from first year of growth; leaflets small, linear, petiole channelled; racemes short, dense to lax, 12-30-flowered, with other flowers developing in upper axils; standard often lined or suffused red; young pod 2-seeded; mature seeds unknown.

Deciduous woodland and bushland; c. 1500 m alt.

Related to *C. erythrophleba* (annual).

C. nigricans Bak.

Erect or prostrate perennial herb with much-branched, spreading-hairy stems 0,3-0,7(-1,5) m long; plant drying blackish; racemes sessile heads, few-flowered; calyx enclosing corolla, 4-lobed, accrescent; standard pale yellow, tinged reddish; pod enveloped by calyx.

Brachystegia and *Afrormosia* and related deciduous woodlands, savanna with *Acacia*, upland grassland and secondary bushland; also roadsides and cultivated ground; 400-1800 m alt. (1050-1650 m var. **erecta**).

Comprises 2 vars.: – var. **nigricans** (prostrate); var. **erecta** Milne-Redh. from NW part of the range (with erect bushy stems).

C. nuda Polhill

Erect slender branching glabrous annual herb 30-90 cm tall, sometimes a tufted suffrutex; stipules absent; upper leaves mostly 1-foliolate, leaflets linear; racemes lax, flowers small, standard lined reddish; pod 2-seeded.

Seasonally damp sites that have dried out; occasionally in woodland, commonly on dolomitic limestones; 1150-1550 m alt. Similar to *C. laxiflora*.

C. nudiflora Polhill

Erect widely branching annual herb with slender ± puberulous, glabrescent stem 10-60 cm tall; racemes numerous, short, long-pedunculate; flowers small, standard veined brown.

Deciduous woodland and grassland, in open sometimes sandy and damp sites, near rivers; 1200-1350 m alt.

Leaflets variable in shape.

Similar to *C. distantiflora*; superficially resembling *C. loandae* but seeds different.

CROTALARIA

C. nyikensis Bak.

syn.: *C. kyimbilae* Harms; cf. under *C. descampsi*.

Erect annual or short-lived spreading-hairy perennial herb with many ascending branches, 50-130 cm tall, from a taproot; stipules absent; racemes short sessile dense heads; flowers small, standard veined red-brown; pod 1-2-seeded.

Upland grassland and bushland at forest edges, spreading down into valley grassland in *Brachystegia* woodland areas principally along rivers; 1050-2000 m alt.

C. occidentalis Hepper

syn.: ? *C. uniflora* Bak. 1871, non Koen. ex Roxb. 1832, nom. illegit. (type Perrottet missing).

Slender ascending or erect, much-branched, appressed pubescent annual herb 15-50 cm tall; leaves simple, oblong; stipules enlarged on flowering branches; racemes mostly on short lateral branches with modified leaves, 1-2-flowered; flowers small, calyx 2-lipped; standard lined red; keel with straight beak twisted through 120°-160°.

Seasonally flooded grassland, marshes, wet flushes on rock outcrops; scattered; dambo, c. 1200 m alt. (only record from Zambia N., possibly spread on the feet of migrating birds; fide Polhill in *Fl. Zambes.* 3/7: 165, 2003).

C. ochroleuca G. Don

Erect shrubby annual or short-lived appressed hairy perennial herb with lax ascending ribbed branches 0,3-2,7 m tall; leaflets long, linear; stipules absent; racemes long, ± laxly many-flowered; flowers large, calyx becoming truncate and deflexed against pedicel; standard cream veined reddish; pod broadly cylindrical, inflated, pendulous, with up to 100 seeds.

In various associations, *Brachystegia* woodland, deciduous bushland, grassland; in seasonally inundated flood plains and depressions, edges of swamps and rivers; valley riverine woodland and thicket; neglected *Cedrela* plantation with regenerating mixed woodland of *Combretum collinum*, *Stereospermum kunthianum*, *Acacia hockii*, *Albizia grandibracteata* on ground with rocky outcrop (Imatong Mts, Sudan); in shallow water on loamy soil (S Chad); also roadsides, track sides, fallow land, cultivated ground; 300-2000 m alt.

Variable in shape of leaflets (sometimes elliptic) and pods (very narrow in Niger although broader than those of *C. brevidens*).

S. Tomé; Botswana; Madagascar (introduced and naturalized).

Occasionally cultivated (soil improvement, leaves and flowers eaten; fibre), also in Madagascar.

Difficult to distinguish from *C. brevidens* var. *brevidens* in the absence of fruits, but flowers generally pale, and occurring in wetter places.

C. oligosperma Polhill

Shrub with short divaricate branches, 0,3-2 m tall; young shoots densely appressed or spreading white-hairy; epidermis peeling from previous season's growths; leaflets small, obovate on long petiole, stipules absent; racemes short, laxly few-flowered; standard sometimes lined red-brown.

Deciduous woodland, *Acacia-Commiphora* bushland, often on limestone; 215-1600 m alt.

CROTALARIA

C. oligostachya Bak.

Annual or short-lived perennial herb, straggling-ascending, much branched, appressed puberulous, 30-80 cm tall; stipules absent; racemes fairly short, closely many-flowered towards the top; standard veined purple; ? mature seeds unknown.

Grassland, grassy slopes of mountain, gallery forest, streamsides.

C. onobrychis A. Rich.

syn.: Enum. 2: 75, 1992; *C. astragalina* Hochst. ex A. Rich. subsp. *onobrychis* (A. Rich.) Bak. f.; *C. astragalinoidea* Bak. f.

Erect, ± branched annual herb with slender appressed puberulous branches, 14-40 cm tall; leaflets narrow, longer than petiole; stipules absent; racemes short, dense at first, elongating and lax; flowers small, standard lined purple. – “Flowers in form and general aspect like those of *Onobrychis sativa*”.

Savanna, on roadsides (Zaire); midland and upland grassland and bushland; 1200-1950 m alt. – Lakeside alkaline swamp (S Malawi, possibly brought here by migrating birds, from upper Nile region).

Gatherings from W Angola are similar to, and likely to be confused with *C. comosa* (fide Polhill, *Crotalaria*: 201, 1982).

Very close to *C. impressa*, *C. dolichonyx*.

C. ononoides Benth. (“mononoides” sphalm. auctt.), excl. var. *grandiflora* R. Wilczek (= *C. afrocentralis*), but incl. fa. *stenophylla* Welw. ex Bak. f. and var. *pubescens* R. Wilczek

Annual procumbent or ascending herb, much-branched, long-hairy, to 0.5-1 m tall; stipules simple or 2-3(-5)-fid, to 0.5-1.9 cm long; racemes sessile many-flowered heads; bracts 3-fid, fused to pedicel; calyx deeply divided, as long as corolla; standard finely veined or flushed red.

Grassland, wooded grassland, bushland, associations dominated by *Andropogon*, fallow land, old cultivations, on sandy soils and marshes (Zaire); coastal to upland grassland in areas of moderate to high rainfall, weed of cultivated ground and roadsides (E Africa); wooded grassland with *Combretum collinum*, *C. molle*, *Terminalia laxiflora*, *Entada abyssinica*, in tall grass with *Pennisetum purpureum*, *Hyparrhenia rufa* (Imatong Mts, Sudan); skirts of thickets in higher mountains, exposed hilly places, in rather dry bushy places, in stony meadows (Angola); wet depression on hardpan (S Chad); 0-2100 m alt. (1200-1900 m in Ethiopia; 1000-1700 m in Fl. Zambes. area).

Variable in indumentum of leaves.

Madagascar.

Some flora authors still maintain var. **pubescens** R. Wilczek as a separate unit.

Belonging to the metalliferous flora found at Kansanshi Hill Copper mine (Zambia): See B. Leteinturier & al., Belg. J. Bot. 134: 46, 2001.

C. onusta Polhill

Erect densely pubescent herb 30-40 cm tall; racemes short, densely many-flowered, rachis shorter than peduncle and bent over with age; standard lined (and later flushed) red-brown; pod short, few-seeded; mature seeds unknown.

Disturbed grassy places; 1450 m alt.

Resembling *C. senegalensis* and *C. distans*.

C. oocarpa Bak. (excl. syn. *C. pilosiflora* Bak. in Verdoorn, *Bothalia* 2: 408, 1928).

Erect or spreading bushy annual or short-lived perennial herb with fine spreading yellowish or white hairs, 1(-2) m tall; leaves

CROTALARIA OOCARPA

crowded on very short axillary shoots; inflorescences of 2 sorts: primary ones short, laxly few-flowered, supplementary ones 1-2-flowered on slender short axes from leaf-tufts; standard lined reddish.

Upland dry grassland, weed of waste ground, roadsides and abandoned cultivations; 1100-2000 m alt. (subsp. **oocarpa**). – Upland grassland, in open grassland on escarpment, and derelict cultivated ground in lower rainfall areas; 1100-1850 m alt. (subsp. **microcarpa**).

Variable in size of pod and type of indumentum.

Yemen.

Comprises 2 subsp.: – subsp. **oocarpa** (syn.: *C. endlichii* Harms) with larger pod and spreading hairs in S part of range; subsp. **microcarpa** Milne-Redh. (syn. *C. africana* Buscal. & Muschl.).

Similar to *C. pilosiflora* but less robust.

C. orientalis Burt Davy ex I. Verdoorn subsp. **allenii** (I. Verdoorn) Polhill & A. Schreiber

Erect ± glabrous virgate herb or subshrub 0.4-1 m tall; branches ribbed; leaves simple, a few 3-foliolate, leaflets linear; stipules absent; racemes laxly few-flowered; flowers fairly large; standard white inside, yellow lined red-brown and pubescent outside.

Open and wooded grassland, *Baikiaea* woodland, usually on Kalahari sand; often at edges of wet pans or vleis; 1200-1600 m alt.

Namibia, S. Africa (Transvaal); subsp. **orientalis** (syn.: *C. spartioides* sensu auctt., e.g. Bak. f. in J. Linn. Soc., Bot. 42: 270, 1914, p.p., quoad specim. Allen 226, non DC.) in Botswana, Namibia, S. Africa; the 2 subsp. overlap in the Transvaal.

Closely related to *C. virgultalis* Burch. ex DC. (S. Africa, S Namibia).

C. orixensis Rottler ex Willd. – Icon.: J. S. Britto in J. Econ. Taxon. Bot. 26 (3): 584, 2002.

syn.: *C. macropoda* Hochst. ex A. Rich.

Spreading annual herb, ± spreading long-hairy, with long spreading lower branches, (5-)15-50 cm tall; racemes mostly short and few-flowered; flowers small; beak of keel straight, twisted through 180°.

Plateau and montane grassland, in damp places, also ruderal; 1300-1900 m alt.

W Peninsular India; in SE Peninsular India, Tamil Nadu (= Madras), rediscovered between 1999 and 2001 after nearly 90 years (Britto l.c.); also Malaysia?

C. orthoclada Welw. ex Bak., incl. var. *claessensii* De Wild.

syn.: *C. harmsiana* sensu Hepper, Fl. W. Trop. Afr., Ed. 2, 1(2): 549, 1958, non Taub. (= *C. caudata*).

Shrubby short-lived tomentose perennial herb (or scrambling shrub ?), usually with a single ± woody stem with numerous ascending branches above, to 1-3 m tall; leaves ± erect, shortly petiolate; stipules absent; racemes lax, few-flowered; calyx nearly as long as keel; standard dull yellow, often tinged red.

Upland grassland and evergreen bushland, descending into *Brachystegia* woodland along rivers; 1050-2250 m alt. (E Africa); scrub, grassland, marshy grassland, 1600-2600 m alt. (Zaire, Rwanda); very abundant at the grassy margins of forest at c. 1800 m alt. (Angola); grassland and evergreen forest by lakes, rivers, marshes; (1200-)1350-1800 m (Fl. Zambes. area).

Variable in length of inflorescences (shorter and denser in W part of range).

CROTALARIA

C. ovata Polhill

Prostrate spreading-hairy annual herb with radiating branches to 15 cm long; leaves simple, ovate; racemes with few flowers at top of well-developed peduncle (1-2 cm); calyx becoming truncate and deflexed against pedicel; flowers small; standard cream, veined purple.

Upland grassland as a pioneer in old cultivations and quarries; 1850-1900 m alt. (Matanana Plateau, Tanzania).

Closely related to *C. iringana*.

C. oxphylla Harms

Perennial plant with many slender well-branched ± spreading-hairy stems to 40 cm tall; leaves short-petiolate, leaflets needle-like; stipules absent; flowers few in sessile heads; calyx lobes with long tips; pod 1-2-seeded.

Grassland with shrubs; sometimes in damp places; c. 1780 m alt.

C. oxphyloides R. Wilczek

Perennial plant with several slender silvery appressed pubescent stems 30-80 cm tall, developing a few ascending branches; upper leaves often 1-foliolate, stipules absent; racemes short, lax, with many other flowers in axils below, generally on short lateral shoots; flowers small, standard lined red, keel often red-speckled; pod small, few-ovulate; seeds unknown.

Deciduous woodland, e.g. with *Marquesia* and *Brachystegia microphylla*, on rocky outcrop.

C. pallida Ait.

syn.: Enum. 2: 75, 1992; *C. pisiformis* Guill. & Perr.; *C. fertilis* Del.; *C. striata* DC., incl. fa. *latifoliolata* De Wild. and var. *acutifolia* Trin.; *C. brownei* Bert. ex DC.; *C. hookeri* Arn. – All of var. **pallida**.

Erect annual or short-lived perennial herb, well-branched, short appressed hairy, 1-2(-3) m tall; petiole as long as leaflets (3-4); stipules filiform, caducous or absent; racemes long, closely many-flowered; flowers large; calyx becoming truncate at base and deflexed against pedicel; standard usually veined red-brown; keel yellowish green, veined brown, with projecting beak.

River banks, extending into woodland and grassland; meander of stream with *Cassia occidentalis* and weeds (Imatong Mts, Sudan); bushland near rivers and lakes; also cultivated ground; 0-2000 m alt.; (1300-1450 m, Ethiopia); var. **pallida**. – Lake shores, seasonally flooded (or not) river banks, also extending into deciduous bushland and grassland; sand dunes (Burkina Faso, Niger); tall grassland (Ethiopia, 1200-1350 m alt.); a weed; 450-1800 m alt.; var. **obovata** (normally in wetter situations than var. **pallida**).

Variable in shape and size of leaflets.

Cape Verde Isl.; S. Tomé, Príncipe; Swaziland, NE S. Africa; Madagascar (possibly native). Pantropical; natural distribution obscured by widespread cultivation (green manure, fodder, fibre) and subsequent naturalization (var. **pallida** perhaps introduced in Fl. Zambes. area). – Invasive weed in Taiwan (Taxon 54: 133-138, 2005).

Comprises 2 vars.: – var. **pallida** mostly in the northern savannas, coastal E Africa and Madagascar; var. **obovata** (G. Don) Polhill; syn.: *C. striata* Schumach. & Thonn. 1827, non DC. 1825, nom. illegit., nec A. Br. 1841 (= *C. impressa*) in coastal W. Africa, along the Congo and the Nile, and around the Great E. African Lakes.

JING-RU WENG & al. (2003). Anti-inflammatory constituents and new pterocarpanoid of *Crotalaria pallida*. *J. Nat. Prod.* 66: 404-407.

CROTALARIA

C. pallidicaulis Harms

Shrub 1-3(-4) m tall with glabrescent branches; bark streaky, peeling; leaves also clustered on short axillary shoots, long-petioled; stipules absent; racemes laxly many-flowered; flowers large, standard marked reddish; pod oblong-clavate, stiped.

Deciduous, dry woodland, incl. *Brachystegia* associations, bushland, secondary scrub, often in rocky places and around termite mounds; waste land; 750-1620 m alt.

Very variable in shape of leaflets (base for varieties).

Botswana.

Closely related to *C. monteiroi*, and can be confused with *C. monteiroi* var. *galpinii* in S distribution area.

C. paracistoides Torre

Annual or perennial herb with erect, sparingly branched, densely pubescent stems 20-50 cm tall, from a taproot or ? small rhizomatous rootstock; leaflets narrow; stipules absent; racemes sessile, densely few-flowered; flowers small; pod globose, few-seeded; mature seeds unknown.

Wooded mountain pastures, burnt in winter-time; riverine and upland grassland, deciduous woodland.

C. paraspartea Polhill

Erect annual crisped-pubescent herb to 70 cm tall; branches ascending, lower ones more curved; leaves 1-foliolate, long, linear; racemes laxly few-flowered; flowers fairly small, standard lined purple, wings very short; mature seeds unknown.

Brachystegia woodland, on sandy soils (around Nampula, Mozambique); 350-400 m alt.

Resembling *C. spartea* and *C. incompta*.

Known from only 2 collections.

C. parvula Welw. ex Bak.

Annual herb with slender erect stem 5-40 cm tall, developing numerous slender ascending or spreading branches from the base and often also flowering branchlets at the top; leaflets small, linear; stipules absent; flowers small, 1-3(-6) in dense heads; standard pale yellow, marked reddish; pod 2-seeded.

Short damp grassland in open disturbed places, sometimes on rock pavements; exposed grassy places around lake (Angola); 1350-1800 m alt. (SW Tanzania).

C. passerinoides Taub.

Erect appressed pubescent herb 20-70 cm tall; if branched, only from base or only above; leaves 1-foliolate, linear; stipules absent; racemes short, ± densely many-flowered, with other flowers in axils below; flowers small, standard later lined red; pod 1-2-seeded.

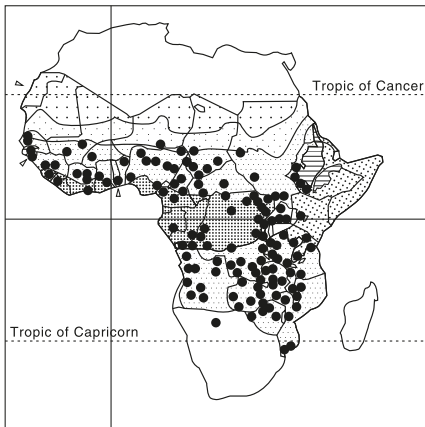
Swampy and marshy depressions in *Brachystegia* woodland; wet grassland; 1100-1750 m alt.

Variable in type of indumentum and in shape of leaflets.

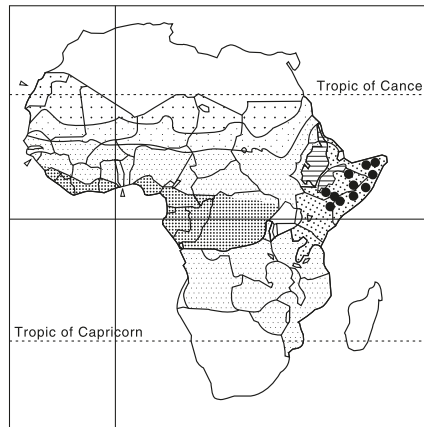
Similar to *C. ringoetii* but stems more leafy and branches more crowded.

C. patula Polhill

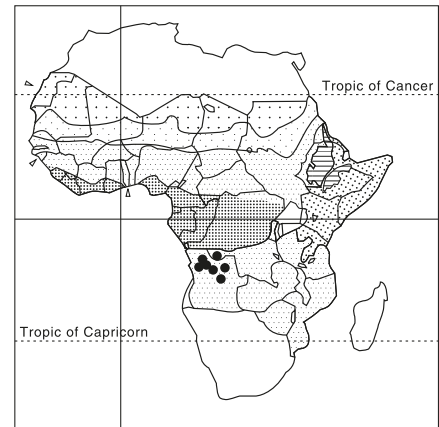
Perennial herb, straggling-ascending, well-branched, spreading-hairy or rarely ± appressed pilose, to 45 cm tall; racemes short, closely many-flowered; flowers small, standard veined red-brown; pod short, cylindrical, maturing c. 12 seeds from 26-30 ovules.



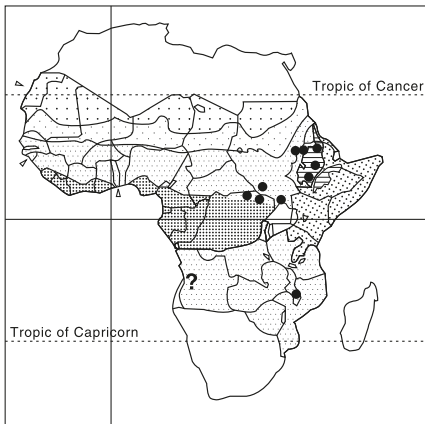
Crotalaria ochroleuca



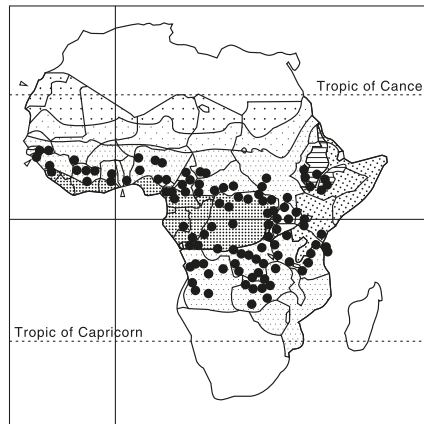
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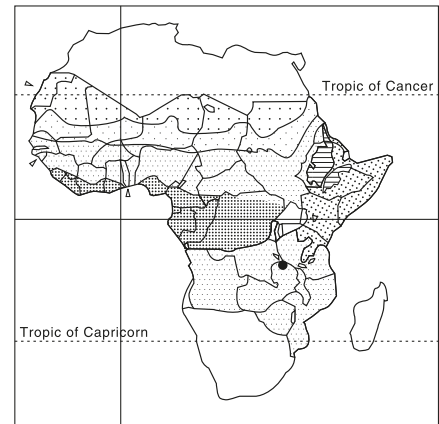
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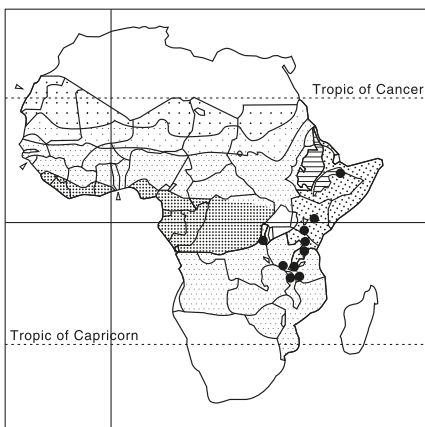
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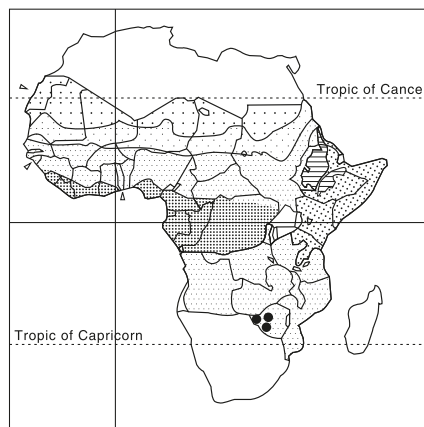
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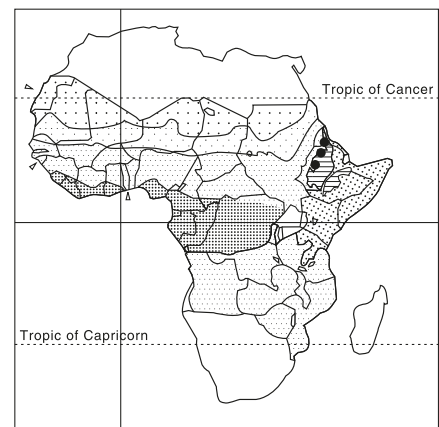
Crotalaria onusta



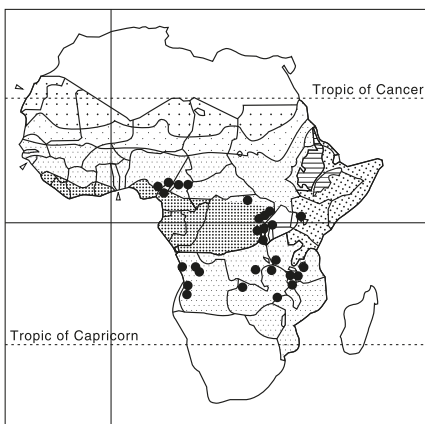
Crotalaria ocarpa



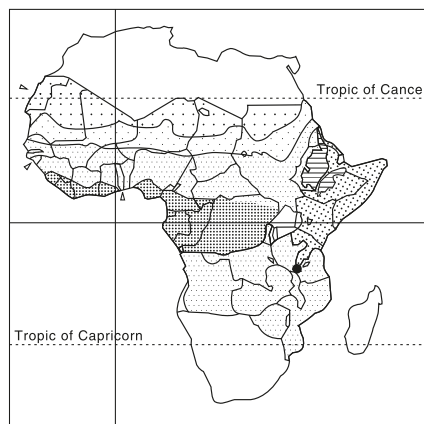
Crotalaria orientalis subsp. *allenii*



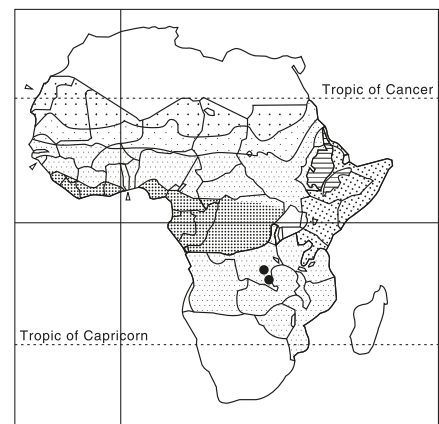
Crotalaria orixensis



Crotalaria orthoclada



Crotalaria ovata



Crotalaria oxyphylla

CROTALARIA PATULA

Combretum bushland of former cultivations; *Acacia-Commiphora* thornbush; rocky outcrop with *Acacia*, *Commiphora*, *Euphorbia* scrub on red soil; scattered-tree grassland; open grassy area in tree-tall shrub thicket; in very dry area between desert and steppe belts; also cultivated ground and roadsides; 125-420 m alt.

Closely allied to *C. uguensis* and *C. massaiensis*.

[C. paulina Schrank]

Erect herb or shrub, glaucous, glabrous, 1.5-3 m tall; leaves simple, large, stipules large, sometimes absent; racemes lax, long with many large flowers; pod long, many-seeded.

Native of Brazil; introduced (green manure) in Ethiopia, Kenya, Zimbabwe. – Not mapped.

C. pentaphylla Bak. f.

Erect annual herb, laxly branched, >40 cm tall, soon glabrescent; leaves (3-)5-foliolate; stipules linear, caducous; racemes lax, many-flowered; flowers large; mature seeds unknown.

Undergrowth in open forest, i.e. deciduous woodland (at railroad).

Known only from the type (Pearson 2829).

Perhaps only a local variant of *C. barnabassii* (fide Polhill, *Crotalaria*: 85, 1982).

C. perbracteolata Polhill

Annual silky-hairy herb with ascending branches from the base upwards, 20-30 cm tall; stipules absent; racemes short, laxly few-flowered, with other flowers in axils below; flowers small; ovary tomentose, 10-ovulate; pod and seeds unknown.

Marquesia woodland.

Known only from the type (Duvigneaud 2428 Crot).

Resembling *C. kandoensis*.

C. peregrina Polhill

Erect appressed-pubescent annual herb 40-70 cm tall, developing numerous ascending branches from near the base; upper leaves 1-foliolate; leaflets linear; stipules absent; racemes long, laxly many-flowered; flowers also in axils below; bracts leafy; standard lined brown; pod 2-seeded.

Brachystegia woodland in disturbed, sandy, sometimes damp sites; 1050-1450 m alt.

Resembling *C. arcuata*.

C. perlaxa Polhill

Short-lived glabrous perennial herb with a single stem, woody at base, laxly branched above, 0.9-1.2 m tall; leaflets large, stipules absent; racemes laxly few-flowered; flowers large, standard with purple dashes outside; wings short; keel pale greenish, speckled purple; mature seeds unknown.

Brachystegia woodland, in shady gully on steep bank with humus-rich soil; 850 m alt.

Known only from the type (Milne-Redhead & Taylor 10682), collected in 1956.

Flowers similar to those of *C. becquetii* (a shrub) and *C. laburnifolia* (with different leaves and pods).

C. perrottetii DC.

syn.: *Chrysocalyx perrottetii* (DC.) Guill. & Perr.; *Ch. gracilis* Guill. & Perr.; *Crotalaria gracilis* (Guill. & Perr.) Walp.; *C. gambia* Taub.

CROTALARIA PERROTTETII

Annual or short lived perennial herb, erect or spreading, 10-40 cm tall, with numerous spreading branches from the base, brownish spreading-hairy; leaves short-petiolate, 3-foliolate with median leaflet larger than the lateral ones, or 1-foliolate; racemes ± sessile, few-flowered; calyx as long as corolla, 2-lipped, ± accrescent, densely pilose; pod enveloped by calyx, 2-4-seeded.

Dry sandy (waste) places, appearing in the rainy season.

Similar to *C. ebenoides*.

Ivory Coast, fide Aké Assi in Boissiera 57: 316, 2001.

C. persica (Burm. f.) Merrill

bas.: *Cytisus persica* Burm. f.

syn.: *Spartium persicum* (Burm. f.) Willd.; *Crotalaria furfuracea* Boiss.

Deciduous shrublet, intricately branched, straggling or forming clumps, to 30-60 cm tall; branchlets and inflorescences weakly spine-tipped, with short stiff white biramous hairs; leaves mostly fallen at flowering time; leaves long-petiolate; leaflets linear, with inrolled margins; upper leaves reduced; racemes numerous, laxly few-flowered; flowers small; standard bright yellow, veined purple; pod with long stylar beak, 2-4-seeded.

Semi-desert grassland on sand or gravel near the coast.

Tropical Arabia, Socotra, Iran.

Isolated species, seemingly like *C. dumosa*. African specimens slightly different from other material.

C. peschiana Duvign. & Timp.

Perennial plant with numerous ribbed ascending appressed-hairy stems 10-40 cm long, arising from a horizontal rhizomatous rootstock; leaflets linear on short petiole; racemes short, laxly few-flowered, buds ascending; flowers small; standard lined reddish.

Steppe (shrub-savanna) on earthy slope, steppe recolonized with *Monocymbium*, steppe with *Protea goetzeana*; all on soils of high copper content.

Morphologically nearly indistinguishable from *C. subcaespitosa* (from around Lake Malawi), and perhaps geographically and ecologically isolated. But if more widespread than actually known, and if not so much a cuprophyte as restricted to poor soils, the two species should be amalgamated (fide Polhill, *Crotalaria*: 287, 1982).

C. petitiiana (A. Rich.) Walp.

bas.: *Chrysocalyx petitiiana* A. Rich.

Erect well-branched bushy annual or short-lived perennial herb 0.5-2 m tall with ribbed appressed- or spreading- hairy stem; leaflets large, variable; stipules absent; racemes ± densely many-flowered, bracts long; calyx becoming truncate and deflexed against pedicel; standard veined purple.

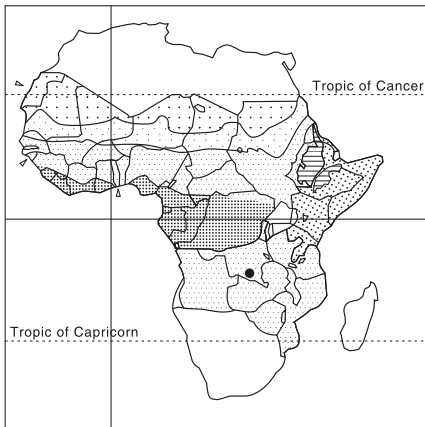
Grassland and bushland, forest edges; at lower altitudes, swamp margins and by rivers; also cultivated ground, ruderal; 700-2500 m alt. (1780-2500 m, Ethiopia).

Variable in shape and indumentum of leaflets.

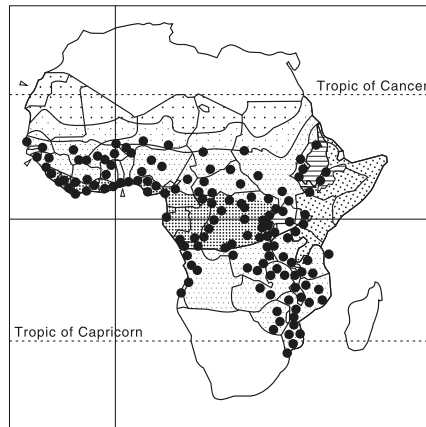
C. phillipsiae Bak.

syn.: *C. ukambensis* sensu Chiov. in Cufod. & al., Miss. Biol. Paese Borana 4, Racc. Bot.: 67, 1939, non Vatke

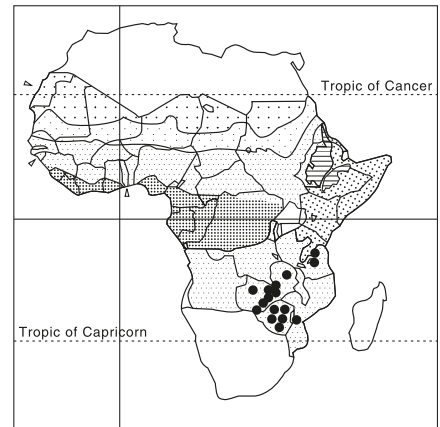
Procumbent or usually weakly ascending annual or short-lived perennial herb 0.3-2 m long, laxly branched, ± spreading hairy; leaflets variable in shape, shorter (lower part of branches) or



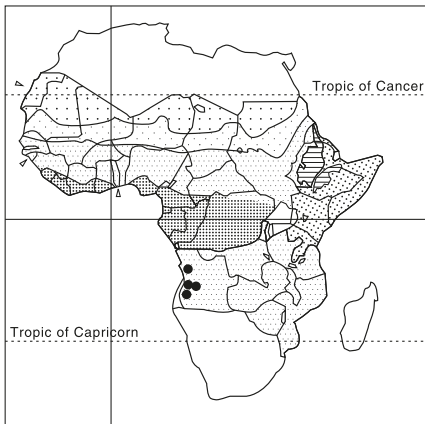
Crotalaria oxyphyloides



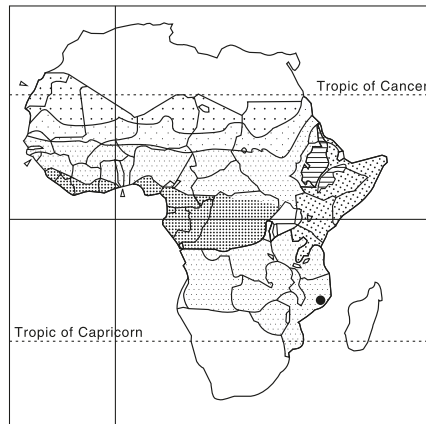
Crotalaria pallida



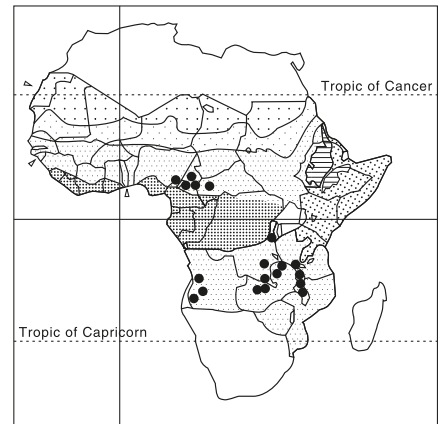
Crotalaria pallidicaulis



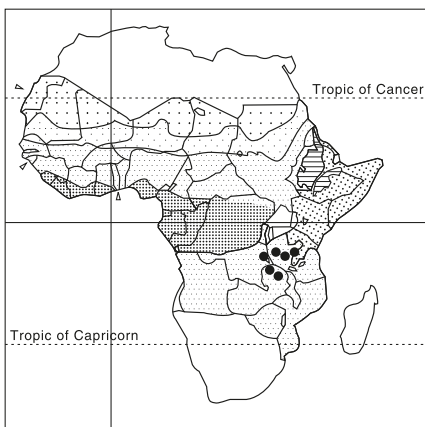
Crotalaria paracitoides



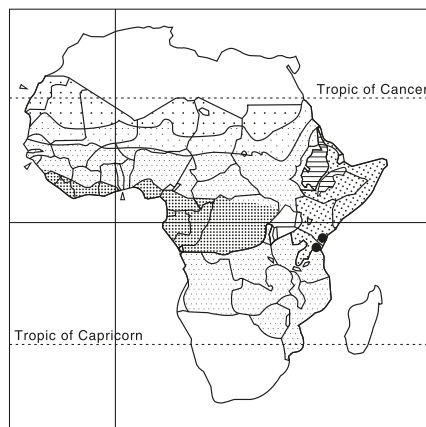
Crotalaria paraspartea



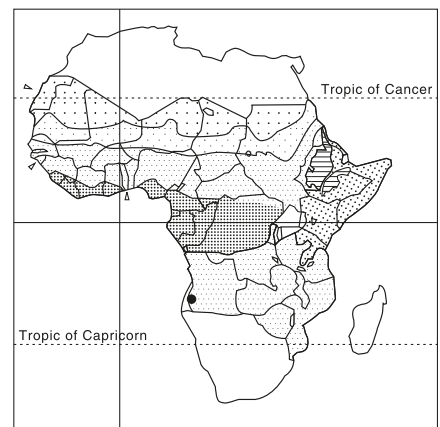
Crotalaria parvula



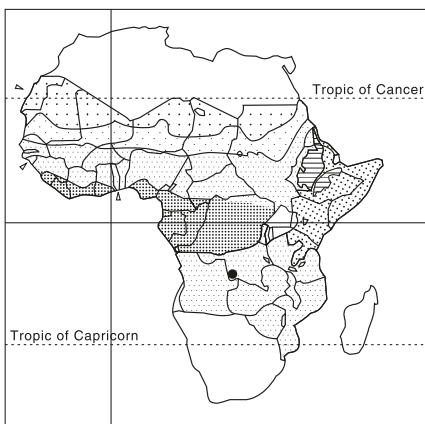
Crotalaria passerinoides



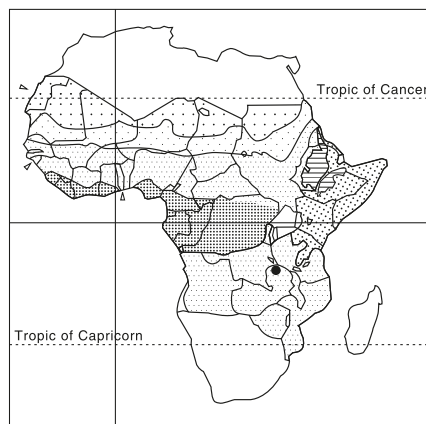
Crotalaria patula



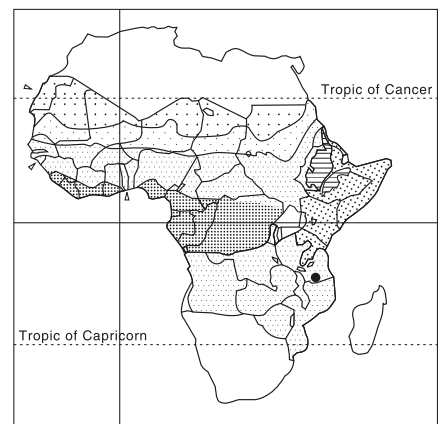
Crotalaria pentaphylla



Crotalaria perbracteolata



Crotalaria peregrina



Crotalaria perlaxa

CROTALARIA PHILLIPSIAE

longer (upper part) than petiole; racemes long with long slender peduncle, flowers laxly arranged; standard cream or yellow, veined red-purple; pod broadened apically, many-seeded.

Deciduous (*Acacia*, *Commiphora*) bushland or woodland, often in open grassy places; 175-1700 m alt.

Variable in shape of leaflets.

Closely related to *C. ukambensis* and could eventually be reduced to a subspecies of the latter (fide Polhill, *Crotalaria*: 213, 1982).

C. phyllicoides Wild

Shrubby or suffrutescent, densely spreading-hairy herb to 90 cm tall; leaves closely arranged, ± sessile; leaflets small, linear, with recurved apiculus and inrolled margins; flowers solitary or in pairs; mature seeds unknown.

Quartzite crags in montane grassland; 1700-1950 m alt.

Endemic on the Chimanimani Mts.

Allied to *C. gazensis* (not *C. caudata* as suggested in original description).

C. phylloloba Harms

Annual herb to 60 cm tall, with well-branched erect stem and long decumbent lower branches, spreading hairy with long hairs swollen at base; leaflets to 5-9 cm long, on shorter petiole; stipules filiform 0,5-1,3 cm long; racemes lax, few-flowered; flowers large, calyx enveloping corolla; pod shorter than calyx, many-seeded; seeds orange-red.

Deciduous bushland, secondary deciduous woodland, in sandy places; also roadsides and cultivated ground; 850-1600 m alt.

C. phyllostachys Bak.

Annual erect herb to 1 m tall, silky-hairy, shortly branched above in older plants; stipules absent; racemes short, lax, but most of the flowers in axillary clusters far down the stem; standard lined red; pod 1-2-seeded.

Brachystegia woodland (Nyika Plateau); 750-1800 m alt.

Known from only the syntypes and 2 other collections.

C. pilosiflora Bak.

syn.: *C. oocarpa* sensu Bak. f. in J. Linn. Soc., Bot. 42: 339, 1914 p.p., and sensu Verdoorn in *Bothalia* 2: 408, 1928 p.p., non Bak.

Shrubby spreading-hairy herb to 1,5 m tall; leaves with tufts of smaller leaves in the axils; inflorescences of 2 sorts: racemes on long shoots 6-12 cm long, laxly few-flowered; others 1-flowered from leaf-tufts on a peduncle 1-1,5 cm long; flowers fairly large; pod short, few-seeded; mature seeds unknown.

Brachystegia woodland, often in grassy places and along streams; 950-2100 m alt. (Nyika Plateau only).

C. pisicarpa Welw. ex Bak.

syn.: *C. pilulicarpa* Taub., incl. var. *schinzii* Bak. f.

Annual or short-lived perennial herb with short erect stem and long trailing much-divided spreading-hairy branches radiating from the base, to >60 cm long; leading shoot with longer leaves (to 7 cm long); racemes short, leaf-opposed, ± umbelliform, few-flowered; flowers small; standard finely veined red-brown; pod thick-walled, 1-3-seeded.

Commiphora, *Acacia* deciduous bushland and thicket, secondary scrub; ubiquitous in open dry sandy places; stream-beds, grassland, roadsides, cultivated ground, waste places; damp meadows

CROTALARIA PISICARPA

at riverbanks, on ant-hills, and in company with *Indigofera* spp., also in roadway (Angola); distribution usually skirts round the major blocks of *Brachystegia* woodland (where *Crotalaria reptans* grows); 550-1350 m alt.

Namibia, S Botswana, S. Africa (Transvaal).

Intermediates (perhaps of introgressive origin) with *C. reptans* (ranges of both are overlapping) occur near Zambesi River and its tributaries.

C. pittardiana Torre

Bushy, spreading, tomentose, ? annual herb 10-60 cm tall; racemes lax, few-flowered; pod broadened upwards, densely spreading-hairy.

Brachystegia woodland in higher rainfall area; c. 700-1800 m alt.

Allied to *C. densicephala*.

C. platysepala Harv. (excl. syn. *C. ulbrichiana* Harms in Verdoorn, *Bothalia* 2: 406, 1928, sphalm. "platysepala").

syn.: *C. apiculata* Schinz

Erect and spreading annual herb (0,1-)0,3-1,2 m tall, with subappressed pubescent branches; in adverse conditions (e.g. around Chikwatata Hot Springs, Zimbabwe) dwarfed and rooting at nodes with only short erect shoots; racemes long, laxly many-flowered, buds becoming deflexed then spreading; standard finely veined red-brown.

Various woodland (*Baikiaea*, mopane, *Acacia*, *Terminalia*) and grassland associations, on Kalahari sands, sometimes in disturbed places; 350-1050 m alt.

N Namibia, Caprivi Strip; NW Botswana.

C. pleiophylla Polhill

Herb with widely spreading, early glabrescent branches from a short stem; leaves 4-6-foliolate, petiole of ± same length as leaflets; racemes 5-20 cm long, laxly 10-40-flowered; pod clavate-fusiform, stiped, many-seeded.

Bushland on sand; 5-300 m alt. (Somalia), to 600 m in Ethiopia.

Resembling *C. somalensis*. Type specimen [Glover & Gilliland 288 from Ogaden, Ethiopia, formerly included by Polhill (*Kew Bull.* 22: 256, 1968) in *C. somalensis* subsp. *fusula*].

C. plowdenii Bak.

syn.: *C. brachycephala* Harms ex Bak. f.

Annual or short-lived perennial straggling herb, with ± appressed-pubescent branches, (0,1-)0,3-1 m tall; stipules absent; racemes variable, dense, ultimately many-flowered; flowers small, calyx becoming truncate and deflexed against pedicel; standard veined purple.

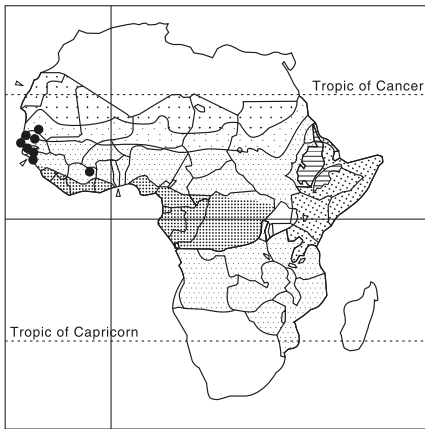
Upland grassland; 1150-2200 m alt.

Yemen.

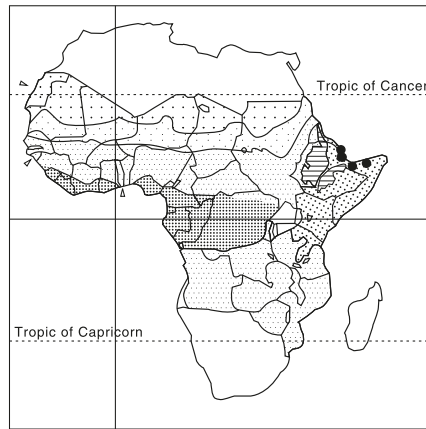
Resembling *C. comosa* (and critical forms occur near Lake Tana) but bracts and bracteoles short; but also similar to *C. brachycephala*.

C. podocarpa DC., incl. var. *villosa* Schinz, subsp. *flexuosa* (Bak.) Bak. f. and subsp. *belckii* (Schinz) Bak. f.

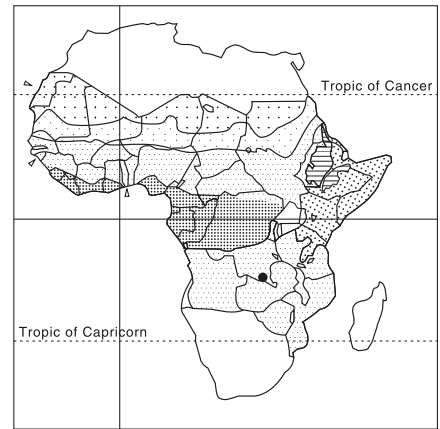
syn.: *C. arvensis* Klotzsch; *C. pilifera* Klotzsch; *C. flexuosa* Bak. 1871, non Moench 1802, nom. illegit.; *C. fulgida* Bak.; *C. belckii* Schinz; *C. hirsutissima* Schinz; *C. mutabilis* Schinz; *C. damarensis* Engl. var. *maraisiana* Torre



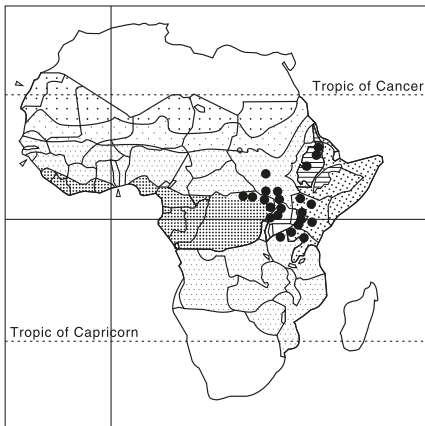
Crotalaria perrottetii



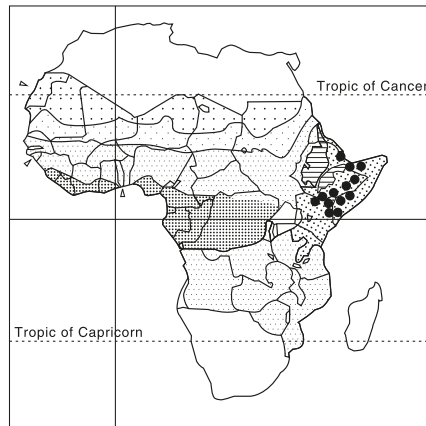
Crotalaria persica



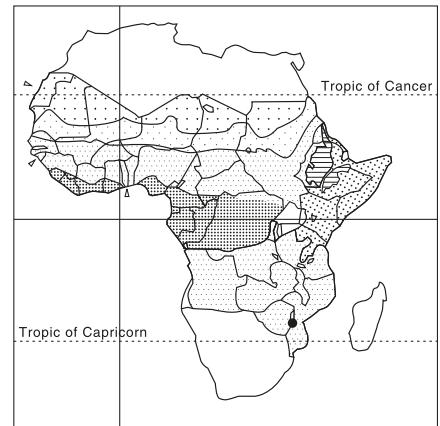
Crotalaria peschiana



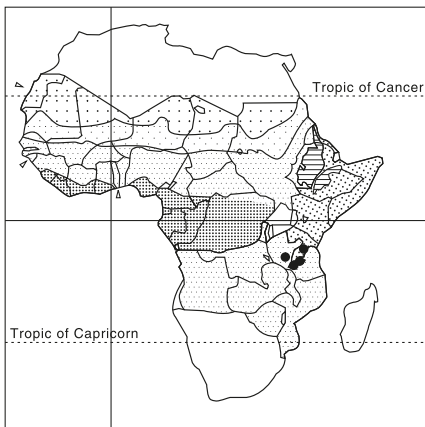
Crotalaria petitiiana



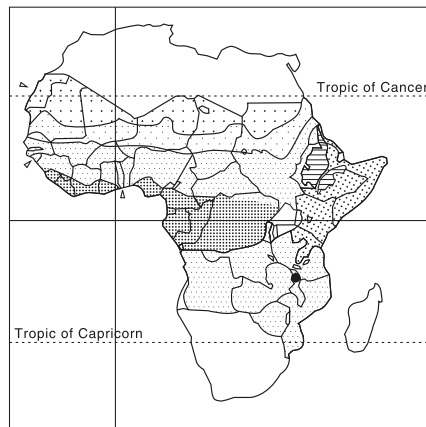
Crotalaria phillipsiae



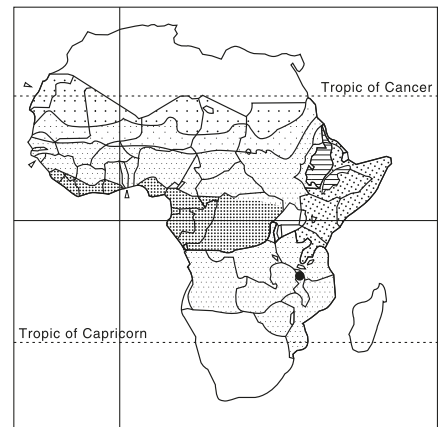
Crotalaria phylcooides



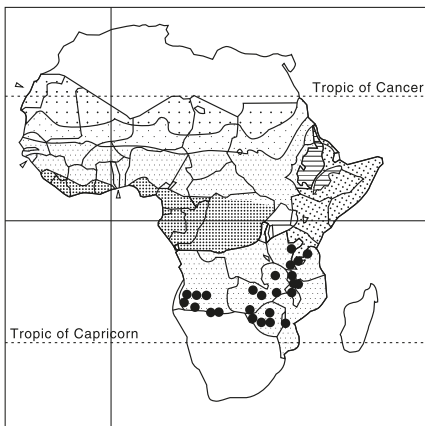
Crotalaria phylloloba



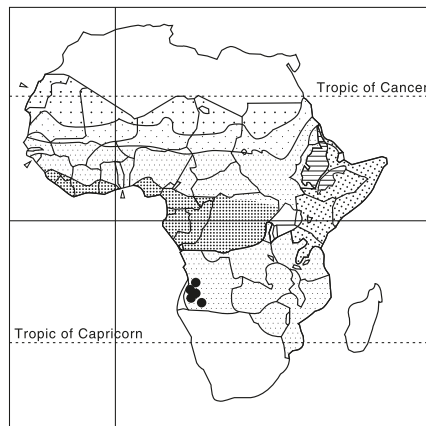
Crotalaria phyllostachys



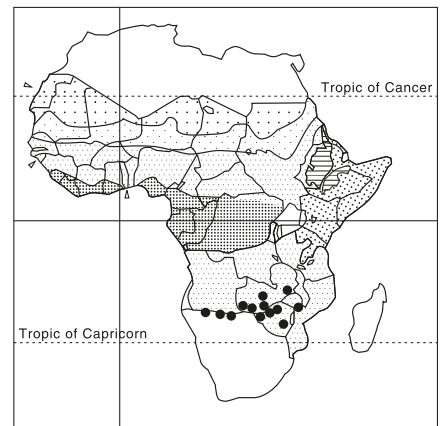
Crotalaria pilosiflora



Crotalaria piscarpa



Crotalaria pittardiana



Crotalaria platysepala

CROTALARIA PODOCARPA

Annual erect herb with long spreading or decumbent lower branches, mostly spreading-hairy, to 70 cm tall; leaflets large; stipules 5-17 × 3-7 mm, curved; racemes long-pedunculate, laxly few-flowered; flowers large; pod stipitate, inflated, few-seeded.

Deciduous (mopane, *Acacia*, *Combretum*) woodland and bushland, wooded grassland, in open generally sandy places particularly where a little additional water collects, e.g. seasonal streambeds, roadsides and around rocky outcrops; cultivated and fallow ground; locally common; 800-1800 m alt.

Variable in size, indumentum, shape of leaflets; in southern Africa introgression with *C. damarensis*.

Namibia, Botswana, S. Africa.

C. poecilantha Polhill

Perennial plant with long trailing appressed-puberulous stems from a woody rootstock; leaflets to 5 cm long, oblong; racemes long-pedunculate, laxly few-flowered; flowers large; calyx as long as keel, accrescent, with long lobes; standard bright yellow inside, purplish-brown and yellow flushed outside; pod clavate, brown tomentellous; mature seeds unknown.

Cryptosepalum woodland on sandy soil; c. 1500 m alt.

Known only from the type (Greenway & Hoyle 8348) collected in 1949.

Closely related to *C. protensa*.

C. polhillii Thulin

Erect annual finely appressed-pubescent herb to 1,5 m tall; leaflets long, linear; stipules minute; racemes fairly dense, many-flowered; calyx becoming truncate and deflexed against pedicel; flowers small with short keel; standard veined purple-brown on outside.

Swampy grassland; 1500-1800 m alt.

Closely related to *C. lanceolata*.

A specimen (Benedetto 122) from Wellega (Ethiopia), without stipules, has been associated with *C. polhillii*. It most likely represents another undescribed species (fide Thulin in Nord. J. Bot. 2: 117, 1982); *C. sp.* Fl. Ethiop. 3: 207, 1989).

C. poliochlora Harms

Perennial plant with numerous prostrate to weakly ascending, sparingly branched, spreading-hairy stems 15-40 cm long, from a napiform rootstock; stipules absent; racemes short, lax; flowers small, standard veined purple. – Flowering in the dry season.

In deciduous, *Brachystegia*, woodland areas, in grassland, secondary bushland, pathsides; in disturbed grassy places; 1200-1620 m alt.

C. polyantha Taub.

Subshrub with several erect stems 0,5-1 m tall from a woody rootstock; stems ribbed, velvety-silky tomentose, developing numerous short flowering branches above; stipules absent; upper leaves reduced; leaves drying blackish; primary racemes short, laxly few-flowered, supplementary ones numerous on progressively shorter side shoots, the whole forming a leafy pseudopanicule. Shrub savanna with *Hymenocardia*, edges of woodland, sometimes in damp places.

C. polychroma Polhill

syn.: *C. versicolor* Bak. 1871, non E. Mey. 1832, nom. illegit., excl. var. *camerunensis* Bak. f. (= *C. glaucifolia*).

CROTALARIA POLYCHROMA

Erect annual, densely appressed pubescent herb 30-80 cm tall, with ascending branches from near the base; leaflets long, linear; stipules ca 1 cm long; racemes lax; standard copper-red outside, violet-blue inside, wings pale blue, keel yellow-green with high crest behind the small blunt beak; young pod stipitate; seeds unknown?

Secondary thickets, in open places, at river bank.

C. polygaloides Welw. ex Bak.

Diffuse pubescent annual herb 15-45 cm tall, with habit of *Polygala*; leaves simple, narrow; stipules absent; flowers small in terminal racemes and clustered in axils below; calyx exceeding corolla, deeply divided; standard marked red at base inside; pod on recurved pedicel, small, oblong-clavate, few-seeded.

On sparingly grassy declivities among mountains, in hot situations among crops of *Manihot utilissima* (Angola); damp grassland and waste places; c. 300-800 m alt. (Angola).

Variable in habit, size of leaves, pubescence of pod.

Comprises 2 subsp. (subsp. **orientalis** Polhill, erect, little known, in Tanzania).

Disjunct distribution.

Record from SW Nigeria very doubtful (Husaini & Gill in Bol. Soc. Brot., Sér. 2, 58: 157, 1985): described as a 2 m tall shrub in tall grass on sandy soil.

C. polysperma Kotschy, incl. subsp. *winkleri* (Bak. f.) Bak. f., subsp. *stewartii* (Bak.) Bak. f. and subsp. *grantii* (Bak.) Bak. f. syn.: *C. grantii* Bak.; *C. stewartii* Bak.; *C. macrocarpa* Penzig 1893, non E. Mey. 1836, nom. illegit.; *C. winkleri* Bak. f.

Erect annual herb, well-branched, appressed- and spreading-hairy, 0,3-1,2 m tall; leaflets large, ± of same length as petiole; stipules filiform, 8-16 mm long; racemes lax; flowers large, blue, calyx accrescent; pod long, clavate, with up to 100 seeds.

Wooded grassland, *Acacia-Commiphora* bushland, deciduous bushland, grassland of dry and seasonally inundated places; also roadsides and cultivated ground; 0-2100 m alt. (c. 1000-2000-2400 m, Ethiopia).

Variable in indumentum and size of pods (divergent forms in NE Tanzania).

C. polytricha Polhill

Erect short-lived perennial herb or shrub, bushy, long-hairy, to 1,6 m tall; leaves short-petiolate; racemes laxly 2-4-flowered; calyx with long lobes as long as corolla, 1,2-1,4 cm long.

Edge of evergreen thicket (at Lake Chilengwa, Zambia).

Known only from the type collected in 1953 (Fanshawe 11467).

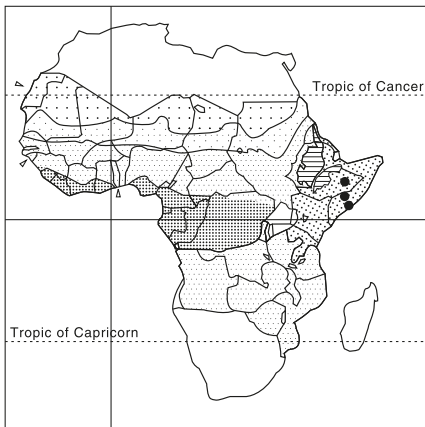
Resembling *C. densicephala* and *C. lachnocarpoides*.

C. praetexta Polhill

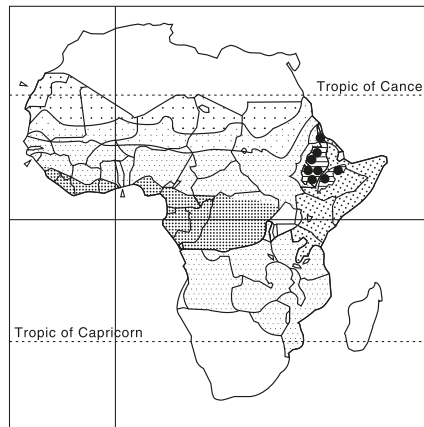
Erect annual herb, densely stiff-hairy, 10-30 cm tall, sometimes with a few weak branches from the base and numerous mostly suppressed flowering branches above; the latter with reduced, 1-foliolate leaves; leaves small; stipules absent; flowers small, in clusters or short racemes terminal or in axils below; standard and keel lined reddish; pod 2-seeded.

Brachystegia woodland; 1200-1400 m alt.

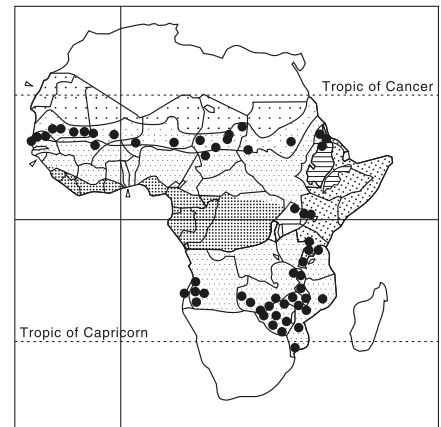
Resembling *C. ephemera*.



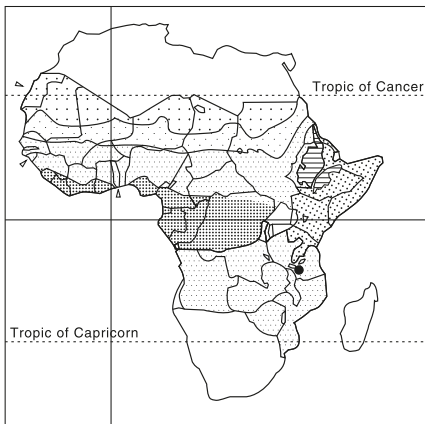
Crotalaria pleiophylla



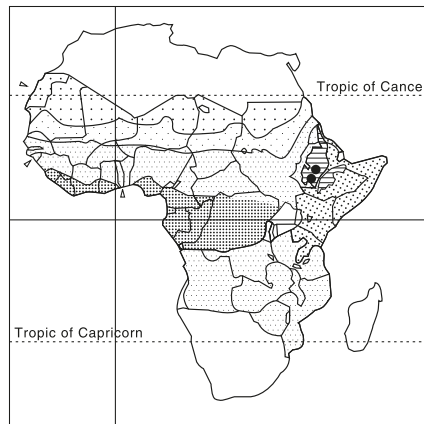
Crotalaria plowdenii



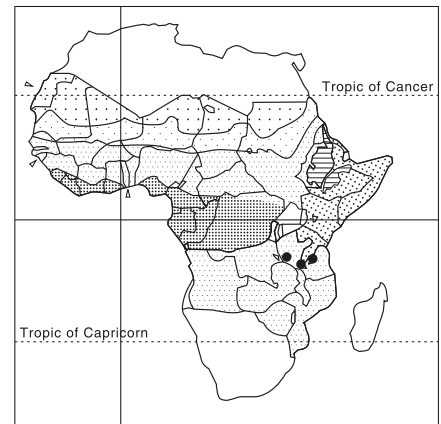
Crotalaria podocarpa



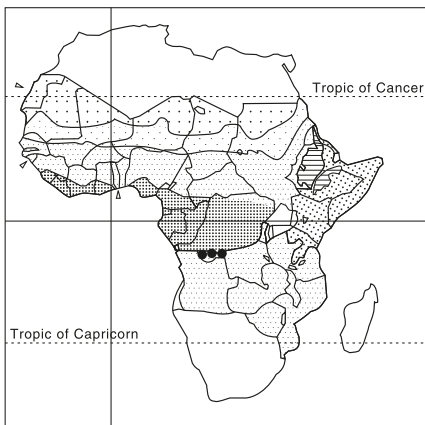
Crotalaria poecilantha



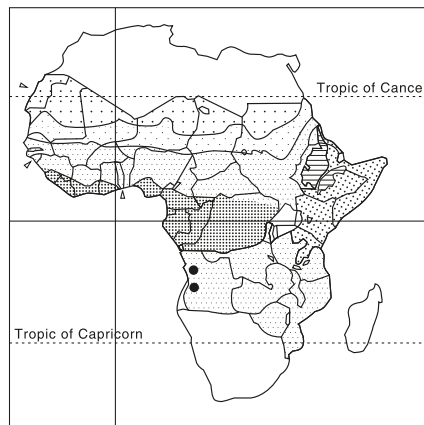
Crotalaria polhillii



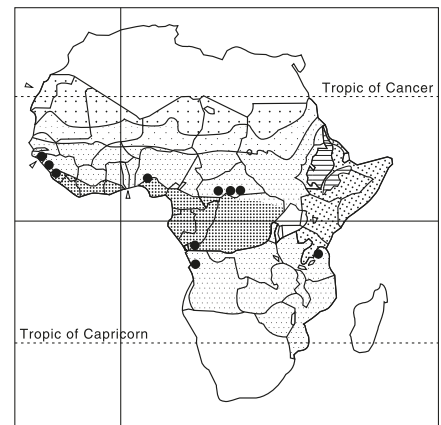
Crotalaria poliochlora



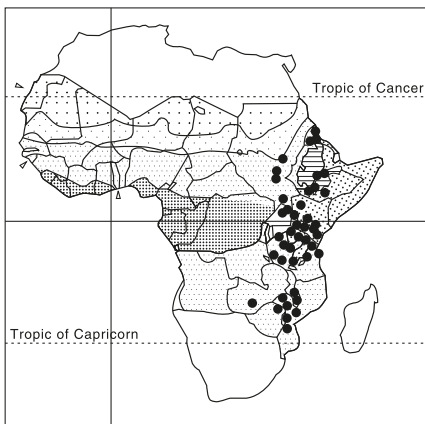
Crotalaria polyantha



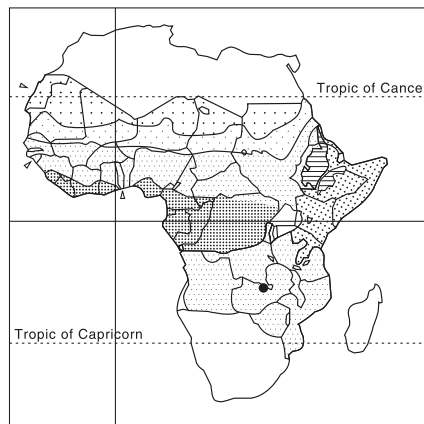
Crotalaria polychroma



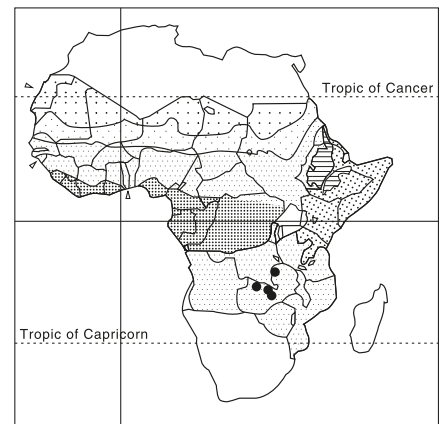
Crotalaria polygaloides



Crotalaria polysperma



Crotalaria polytricha



Crotalaria praetexta

CROTALARIA

C. preladoi Bak. f.

Annual herb, thinly appressed pilose, with weak slender branches; leaflets variable in shape; racemes leaf-opposed, laxly few-flowered; flowers small; standard white?, lined red-purple; pod short; seeds unknown.

Coastal vegetation.

Allied to *C. steudneri* (and probably a synonym under this); imperfectly known.

Known only from the type collected in 1894 (Prelado 38, B destroyed, fragment at BM).

C. prittwitzii Bak. f.

syn.: *C. natalitia* Meisner var. *sengensis* Bak. f.

Erect perennial herb, bushy, ± woody, densely appressed and spreading hairy, to 1 m tall; stipules falcate, unequal-sided, 7-15(-20) mm long; racemes lax, few-flowered; flowers large; mature seeds unknown.

Deciduous woodland, particularly in secondary growth and margins; grassland in seasonally inundated places; rising ground above lake in secondary woodland, at lake among long grass; edge of woodland on lower mountain slope; open bush near village; in grassland by river; on sandy soils; "only on burnt forest soil"; also roadsides, on sandy soil; 1200-2450 m alt.

C. prolongata Bak.

syn.: *C. dubia* De Wild. 1903, non Grah. ex Benth. 1843, nec Balf. f. 1882 (= *C. leptocarpa*).

Erect annual herb 15-75 cm tall, long spreading-hairy, later with curved-ascending branches from near the base; racemes sessile, compound, fairly short, densely flowered, silvery hairy; standard dull yellow, flushed maroon; pod 1-2-seeded.

Brachystegia woodland (higher rainfall areas); common along roadsides; in grassy places along river banks, along forest margins, sporadic (Angola); lakes and marshes; 900-1500 m alt.

Approaching *C. cuspidata*? Type gathering (Welwitsch 1955, Angola) seems to be a mixture of both, showing features which bridge the differences, although they are "otherwise strikingly constant over a wide geographical range" (Polhill, *Crotalaria*: 309, 1982).

C. protensa Welw. ex Bak.

Prostrate herb; stems appressed pubescent, to 0,6-1,3 m long; leaves short-petiolate; leaflets narrow, glossy; racemes pedunculate, with 12-16 large flowers, close towards the top; pod and seeds unknown.

In damp pastures near river; 800-1300 m alt.

Known only from the type (Welwitsch 1929) collected in 1857.

C. psammophila Harms

Erect annual herb to 1,2 m tall; branches stiffly ascending, finely ribbed, appressed strigulose; leaves 1-foliolate, linear; stipules absent; racemes lax, few-flowered; flowers small; standard veined reddish outside; pod oblong-ovoid, stiped, 2-seeded; mature seeds unknown.

Deciduous bushland in grassy places on Kalahari sand; c. 1200 m alt.

CROTALARIA

C. pseudo-alexandri (as "pseudo-Alexanderi") R. Wilczek
syn.: *C. randii* Bak. f. var. *congoensis* Bak. f.

Annual herb with numerous spreading-ascending branches, long spreading-hairy, 20-30 cm tall; stipules absent; racemes short, sessile, dense, with other flowers in many axils below; bracts leafy; flowers small; pod 2-6-seeded.

Ecology not recorded.

C. pseudodiloloensis R. Wilczek

Perennial plant with several erect, slender stems 5-35 cm tall from a slender vertical rhizomatous rootstock; stems ± ribbed, subappressed pubescent, simple to sparingly branched; stipules absent; leaves often little developed at flowering time, uppermost 1-foliolate; leaflets short, linear; racemes short, ± lax, fairly many-flowered; flowers small, standard generally flushed crimson. – Flowering in the dry season.

Brachystegia woodland, grassland subject to burning; often in disturbed places; c. 1500 m alt. Fire tolerant.

A specimen collected at the end of the rains differs in being more luxuriant.

C. pseudoquangensis Torre

Perennial plant with several slender, ± ribbed, coarse subappressed-spreading hairy stems 15-25 cm long, arising from a woody rootstock; upper leaves 1-foliolate, short, narrow; stipules absent; racemes short; ovary 2-ovulate; pod and seeds unknown.

Ecology unknown.

Known only from the type (Lynes 329b) collected in 1933.

C. pseudo-seretii R. Wilczek

Erect annual herb with branched, obscurely ribbed, appressed pubescent stem to 1 m tall; upper-most leaves 1-foliolate; racemes sessile, long, sublax; standard lined reddish; pod 2-seeded.

Deciduous woodland, in understorey.

Closely related to *C. cuspidata*.

C. pseudospartium Bak. f.

Much-branched glabrous shrub, scarcely woody, 1-3 m tall; leaflets very reduced, 3-8 × 1-5 mm, on long petiole (4-8 cm); stipules absent; racemes lax, few-flowered; flowers large with upper and lateral calyx lobes joined; standard often flushed salmon or brown; keel 3-3,5 cm long with upwardly directed truncate beak; pod oblong-clavate, long-stiped.

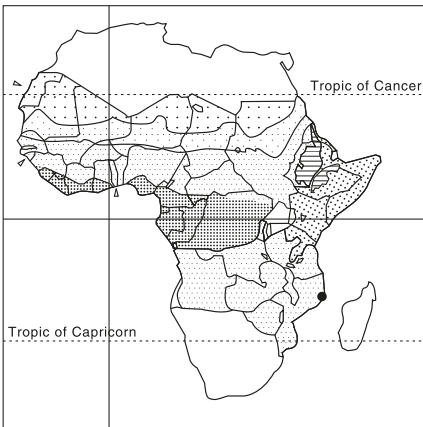
Exposed grassy rocky places in very dry *Tarchonanthus*, *Acacia* bushland on volcanic soils; 1400-2500 m alt.

Resembling *C. laburnifolia* but with very long-stalked leaves with reduced leaflets.

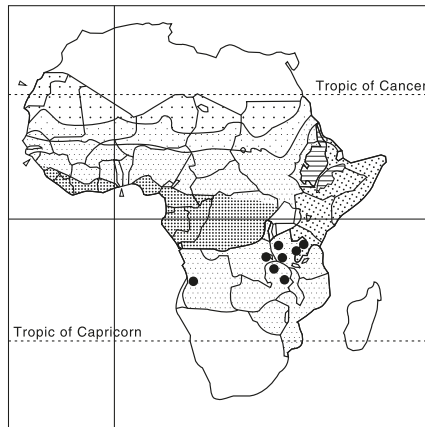
C. pseudotenuirama Torre

Erect annual appressed-pubescent herb with numerous slender ascending branches from the base upwards, 20-90 cm tall; leaflets linear; stipules absent; racemes short, ± lax, fairly many-flowered; flowers small, standard pale yellow, veined brown, golden-brown tomentose outside; pod 1-2-seeded.

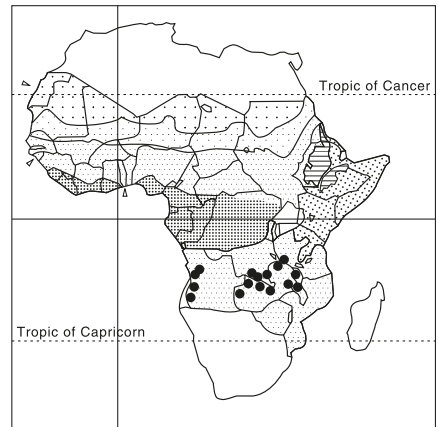
Wet open grassland; grassy places in valleys with impeded drainage, dambo, seasonally inundated depressions; edges of lakes, rivers, marshes; permanent swamp; often on sandy soils; 1000-2700 m alt. (1400-1650 m, Ethiopia).



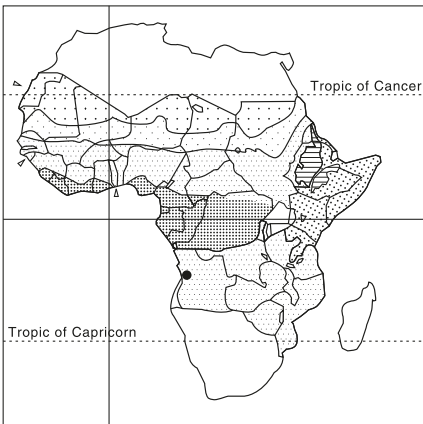
Crotalaria preladoi



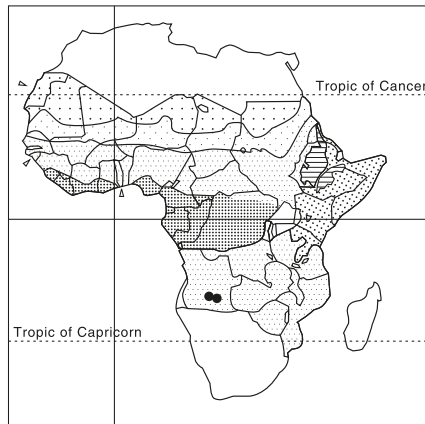
Crotalaria prittwitzii



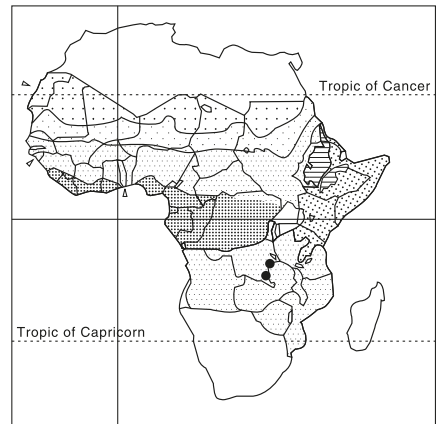
Crotalaria prolongata



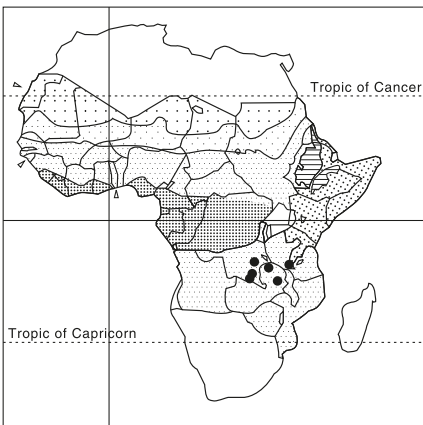
Crotalaria protensa



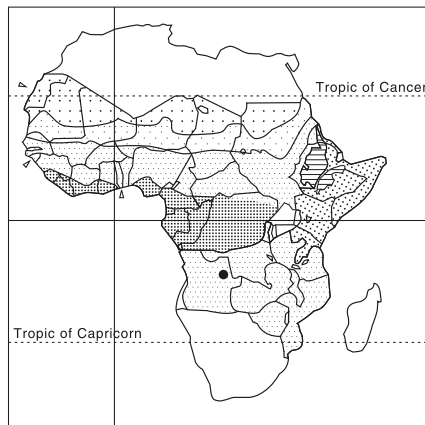
Crotalaria psammophila



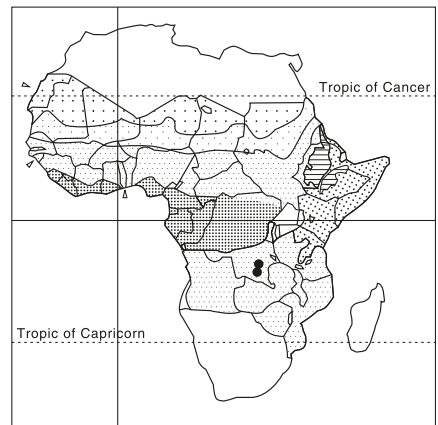
Crotalaria pseudo-alexandri



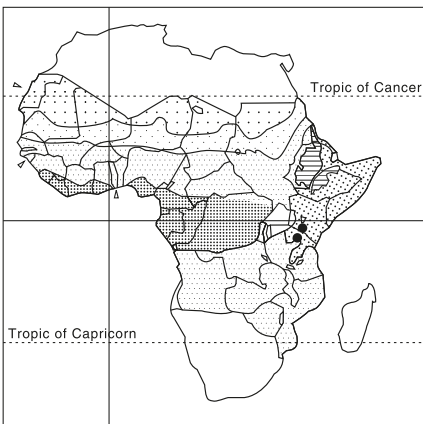
Crotalaria pseudodiloloensis



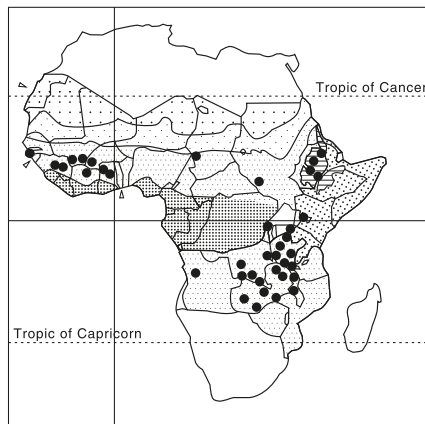
Crotalaria pseudoquangensis



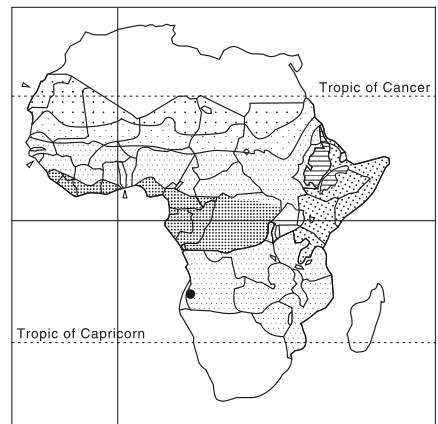
Crotalaria pseudo-seretii



Crotalaria pseudospartium



Crotalaria pseudotenuirama



Crotalaria pseudovirgultalis

CROTALARIA PSEUDOTENUIRAMA

Has often been included in *C. hyssopifolia*; their ranges are overlapping but ecological requirements different.

Wide but scattered distribution.

C. pseudovirgultalis Torre

Bushy shrublet with numerous ribbed stems c. 60 cm tall arising from a woody rootstock; leaves sessile, 1-foliolate, linear, glabrous, with inrolled margins; racemes lax, few-flowered; flowers large, standard lined purple.

Brachystegia, *Julbernardia* woodland (known only from the Huila Plateau, Angola).

Distinguished from the allied *C. orientalis*, *C. virgultalis* Burch. ex DC. (S. Africa), *C. spartioides* by the presence of stipules.

C. pterocalyx Harms

Suffrutex with several erect laxly branched, appressed pubescent stems 0.2-1 m tall arising from a well-developed rootstock; leaflets large, to 12.5 cm long, obovate; racemes pedunculate many-flowered; flowers fairly large; pod asymmetrical.

Open deciduous woodland, riverine thicket; 230-500 m alt. Allied to *C. schlechteri*.

C. pteropoda Balf. f.

Annual or short-lived perennial herb with prostrate radiating appressed pubescent stems to 20 cm long; flowers solitary in leaf axils, ± sessile, with a winged "pedicel" representing an extreme development of the hypanthium; calyx to 15 mm long with 4 large lobes enclosing the corolla; standard pale pink to brown-purple; wings yellows; keel greenish, with straight untwisted beak; pod 14 × 7 mm, many-seeded.

In shallow soil over limestone; common; 750-900 m alt.

Socotra; Oman.

Peculiar, isolated species, first collection on Socotra (Balfour 1882; the type was the only collection known for a long time); found in Oman (1979), and in NE Somalia (1953; 1986).

C. pterospartioides Torre

Erect perennial herb, finely appressed pubescent but glabrescent, with 2-3-winged stems 1-1.5 m tall; flowering from first year of growth; leaves 1-foliolate, linear; racemes laxly ± few-flowered; standard veined brown-purple.

Ecology not recorded.

C. pudica Polhill

Perennial plant with numerous ascending slender, slightly ribbed, strigulose (hairs with brown base) stems 15-30 cm tall arising from a small woody rootstock; stipules absent; racemes short, ± densely many-flowered; flowers small; standard lined reddish; ovary 2-ovulate; pod and seeds unknown.

Brachystegia woodland; 1500-1650 m alt.

Resembling *C. hyssopifolia* and *C. graminicola*.

C. pycnostachya Benth., excl. var. *angolensis* Bak. f. (= *C. comosa*).

syn.: *C. melilotoides* Steud. ex A. Rich. (of subsp. **pycnostachya**).

Erect or decumbent much-branched annual herb with ribbed appressed pubescent branches, 15-130 cm tall; petiole shorter than leaflets; stipules filiform, to 9 mm long; racemes ± sessile, dense, many-flowered; flowers small.

Open or wooded grassland; *Acacia-Commiphora*, deciduous bushland, stony hillsides, dry river banks; on stony, sandy, limestone or clay soils; also weed of cultivated and waste ground;

CROTALARIA PYCNOSTACHYA

(460-)750-2300(-2600) m alt. (subsp. **pycnostachya**). – *Acacia-Commiphora* bushland; 200-1500 m alt. (subsp. **donaldsonii**; E part of range, inland). – Deciduous bushland; weed of cultivated ground; 10-140 m alt. (subsp. **tropeae**; SE Somalia, SE coastal Kenya).

Tropical Arabia (subsp. **pycnostachya**).

Comprises 3 subspp.

Specimens Ash 1199 and J. De Wilde 6407 from Jijiga in Harare (Ethiopia) cited by Polhill (Crotalaria: 179, 1982) as intermediate between *C. pycnostachya* subsp. *donaldsonii* and *C. bogdaniana* belong to *C. jijigensis*.

C. pygmaea Polhill

Dwarf annual densely pubescent herb with slender erect stem developing numerous ascending branches from the base, 2-10 cm tall; leaflets 7-20 × 3-6 mm on narrowly winged petiole 5-10 mm long; stipules absent; flowers silky tomentose, few in sessile terminal heads; mature seeds unknown.

Brachystegia woodland and grassland, sometimes in rocky or damp places; 1050-1200 m alt. (only E of Lake Mweru).

Resembling *C. congoensis* but flowers much larger and petiole winged.

C. quangensis Taub.

syn.: Enum. 2: 76, 1992; *C. globifera* sensu Harms in O. Warburg, Kunene-Sambesi-Exped.: 254, 1903, non E. Mey. – All of var. **quangensis**.

Perennial plant with many erect, simple to sparsely branched, spreading hairy and ribbed stems 10-70(-100) cm tall, arising from a napiform and/or rhizomatous rootstock; leaflets (linear to) oblanceolate on winged petiole; stipules absent; racemes 1-17 cm long, densely to ± laxly many-flowered; flowers fairly small; standard sometimes lined or flushed reddish; pod globular, 2-8-seeded.

Valleys and dambos on old Kalahari sands; wooded savanna on sandy soil; occasionally burnt places in miombo woodland (atypical forms); c. 890-1400 m alt.

A difficult aggregate variable in shape and size of leaflets, length of racemes, indumentum of stems and flowers, size of flower keel.

Comprises 4 vars.: – var. **capituliformis** (R. Wilczek) Polhill (bas.: *C. malangensis* Bak. f. var. *capituliformis* R. Wilczek). – Var. **malangensis** (Bak. f.) Polhill (bas.: *C. malangensis* Bak. f. s. str.). – Var. **quangensis** and var. **malangensis** intergrade around Malange (Angola); var. **muellendersii** (R. Wilczek) Polhill and *C. florida* are very close, and introgression is suspected.

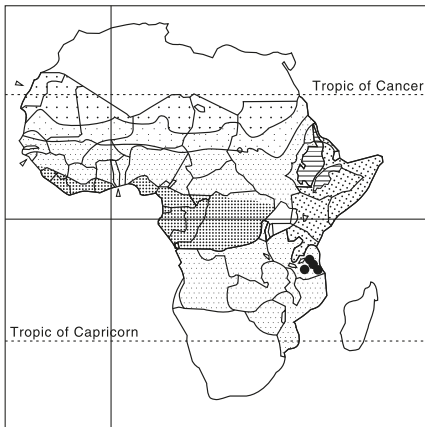
C. quarrei Bak. f.

Dwarf annual herb with slender densely appressed pubescent stem and numerous decumbent-shortly ascending branches from the the base, 5-10 cm tall; upper leaves often 1-foliolate; stipules absent; flowers small, few-many in sessile to pedunculate heads or racemes; standard bright yellow, marked red at base inside, reddish lined outside; pod small, globose, many-seeded.

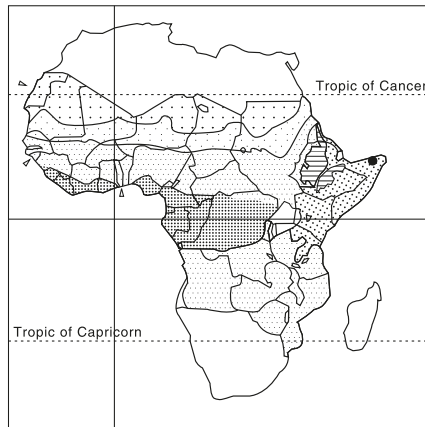
Brachystegia plateau woodland; savanna grazed by cattle; sandy dry ground in open bush; short dry grassland; edge of woodland, damp shady side of path; sandy ground by stream; weed in garden; often in disturbed places; 1350-1750 m alt. (var. **quarrei**). – *Brachystegia* woodland, also on red stony laterite ground; in bush on rather stony ground; weed in garden on sandy soil; pioneer on hard stony laterite soil; 900-1440 m alt. (var. **longipes** Polhill).

Variable in shape of inflorescences and length of bracts.

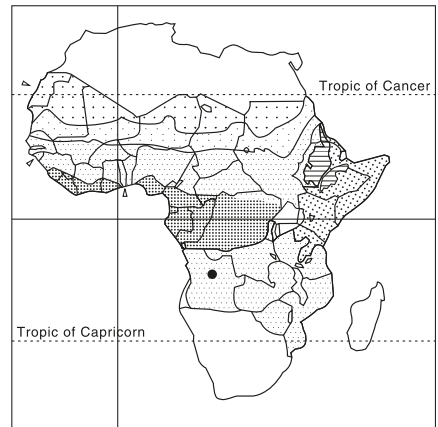
Comprises 2 vars.



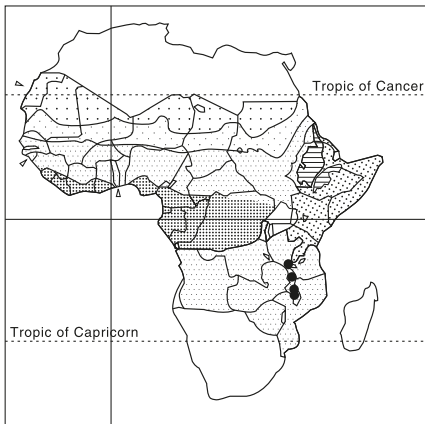
Crotalaria pterocalyx



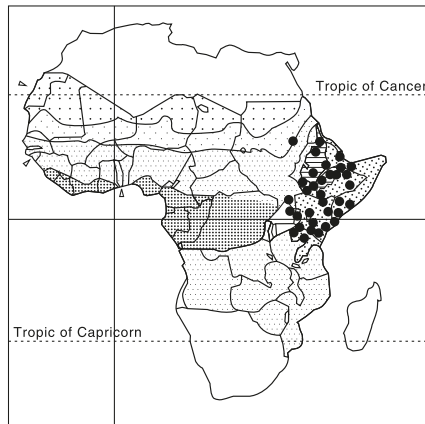
Crotalaria pteropoda



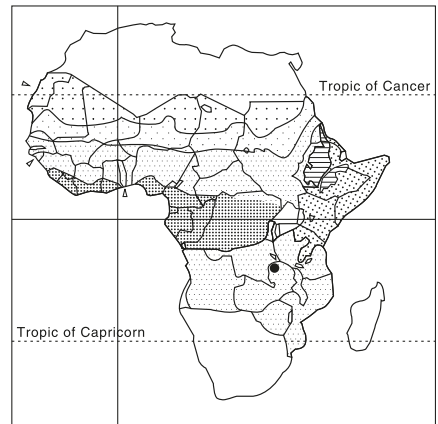
Crotalaria pterospartioides



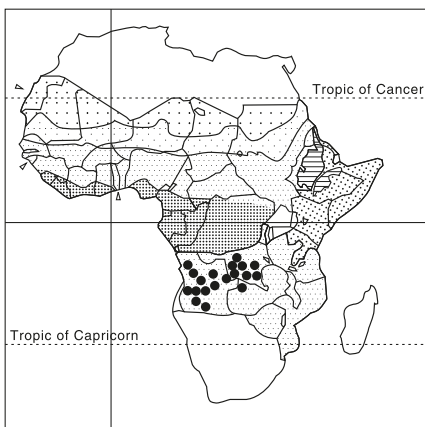
Crotalaria pudica



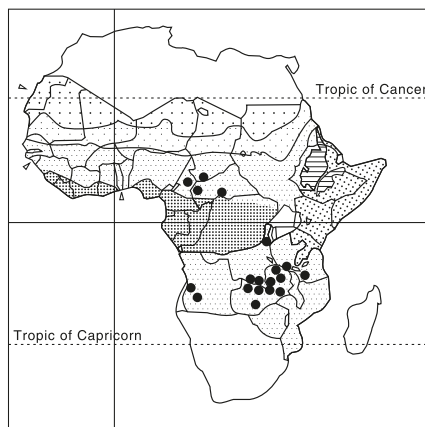
Crotalaria pycnostachya



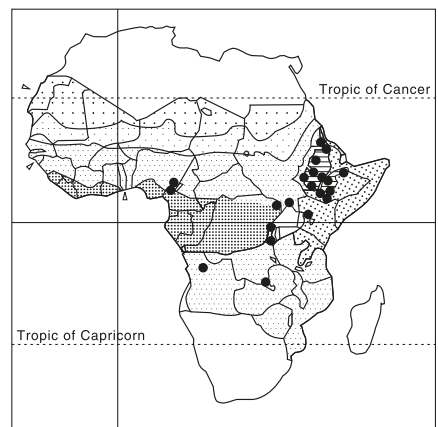
Crotalaria pygmaea



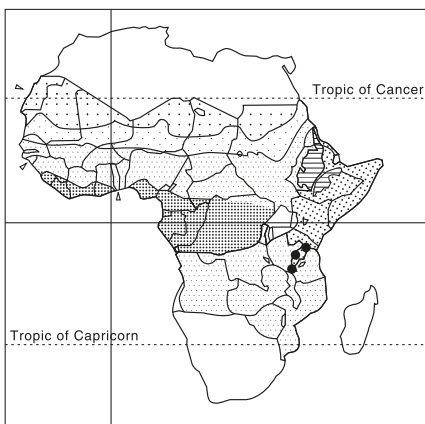
Crotalaria quangensis



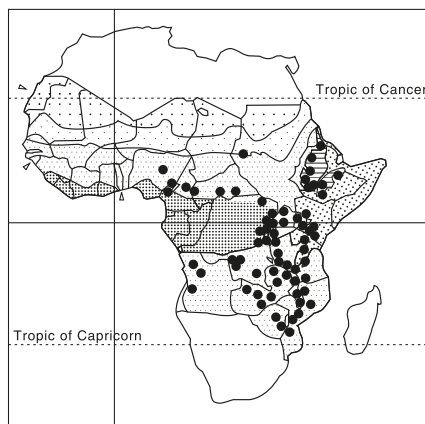
Crotalaria quarrei



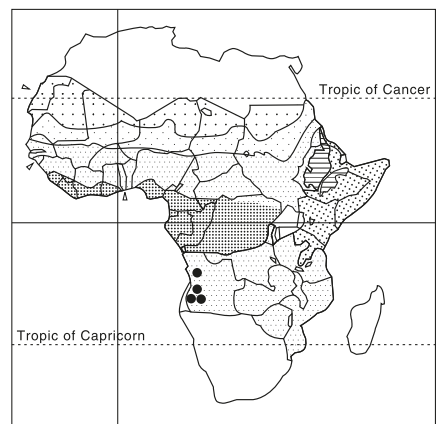
Crotalaria quartiniana



Crotalaria reclinata



Crotalaria recta



Crotalaria recumbens

CROTALARIA

C. quartiniana A. Rich. (1847).

syn.: Enum. 2: 76, 1992; *Phyllocalyx quartinianus* A. Rich. (1847), non *Chrysocalyx quartiniana* A. Rich. (= *C. comosa*).

Straggling or ascending herb with slender pilose branches, 0,3-1,5 m tall; leaflets large; stipules filiform, to 7 mm long; racemes lax, few-flowered; bracteoles large, curved; calyx enveloping corolla; standard cream or clear yellow, sometimes flushed bluish or red.

Upland rain-forest, particularly at margins, in clearings, riverine and secondary growth; upland evergreen bushland; rare in forest edges or in grass and bush nearby; 1200-2660 m alt. (E. Africa, Ethiopia). – On the edge of a clump of *Beilschmiedia mannii* by a water course in upland grassland, c. 1460 m (Chapman & Chapman, Forests of Taraba & Adamawa States, Nigeria: c25, 2001). – Neglected *Cedrela* plantation with regenerating mixed woodland of *Combretum collinum*, *Stereospermum kunthianum*, *Acacia hockii*, *Albizia grandibracteata* on ground with rocky outcrops; upland rain-forest with *Albizia*, *Macaranga*, *Croton*, *Ocotea*, forest edge (950 & 1900 m alt.; Sudan: Imatong Mts.).

Tropical Arabia. Disjunct distribution in tropical Africa (in highland areas).

C. reclinata Polhill

Prostrate puberulous perennial herb with laxly branched slender radiating stems 40-90 cm long, with a deep taproot; leaves spaced, leaflets linear on shorter petiole; stipules stalked, long, unequal-sided; racemes on the ground, only pedicels ascending, lax, few-flowered; flowers large with short straight blunt beak.

Deciduous plateau woodland, bushland, short grassland, in *Brachystegia-Acacia* scrub woodland; in sandy soil at side of road, verge of road on sandy red gritty soil; 1200-1620 m alt.

Similar in habit to *C. rhodesiae* but flowers and racemes more like *C. natalitia*.

C. recta Steud. ex A. Rich., incl. var. *katangensis* Robyns ex R. Wilczek and subsp. *simplex* (A. Rich.) Bak. f.

syn.: *C. simplex* A. Rich.; *C. crepitans* Hutch.; *C. beniensis* De Wild.

Robust perennial herb with several erect, appressed pubescent, sparingly branched stems 1-3 m tall; stems hollow, ribbed; leaflets linear-elliptic; stipules long, deflexed; racemes long, with stout peduncle, ± dense, many-flowered; bracts long; flowers large; standard veined maroon-purple; pod long, broadly oblong, many-seeded.

Grassland, sometimes extending into bushland and to forest margins, and at lower altitudes to marshy places; also on cultivated ground; 850-2700 m alt. (E. Africa; 1800-2700 m in Ethiopia); montane savanna (W. Africa); forest margins, upland grassland, miombo in higher rainfall areas, extending into drier areas along streams and dambos; 1050-2000 m alt. (Fl. Zambes. area).

Variable in size of leaflets and indumentum of calyx; populations with very hairy calyces and smaller leaflets from NW Zambia and the Katanga (Zaire) have been described as var. *katangensis*.

S. Africa (Transvaal), Swaziland.

Showy and ornamental in flower.

CROTALARIA

C. recumbens Polhill

Perennial herb with trailing spreading pilose stems and ascending flowering branches; stipules long, falcate; racemes long-pedunculate, densely few-many-flowered; keel sometimes purplish; mature pod and seeds unknown.

On stony declivities along streams on higher plateaux, and in grassy places by the sides of rocks.

C. renierana R. Wilczek

Subshrub probably with a woody rootstock; stems 0,3-1,3 m tall, several, erect, conspicuously ribbed, strigulose-puberulous (hairs 0,05-0,2 mm long) and with a few spreading hairs interspersed; with numerous short flowering branches; upper leaves reduced; stipules absent; primary racemes short, lax, few-flowered; lateral ones closely 6-12-flowered, and other flowers in axils below; pod 2-4-seeded.

Grassy savanna.

C. reptans Taub.

Annual or short-lived perennial pilose herb with a short erect stem and many long slender trailing, much-divided branches to 30-90 cm long; leaflets often to 7 cm long; racemes leaf-opposed, subumbelliform, few-flowered; calyx shorter than corolla; standard veined brown; pod discoidal-subglobose, thick-walled, rugose, tardily dehiscent, with vein-network impressed-± raised, 1-3-seeded.

Brachystegia and sometimes mopane woodland and derived secondary woodland, in open and disturbed places, roadsides, cultivated ground; rarely in wooded grassland (Uganda); 250-1350 m alt.

Very closely related to *C. pisicarpa* (which has smaller flowers), with intermediates, perhaps of introgressive origin, near River Zambezi and its tributaries.

C. retusa L.

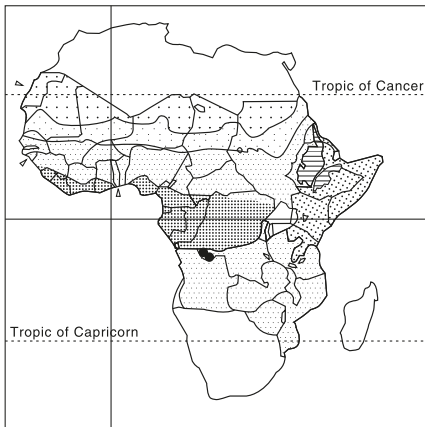
Erect annual or short-lived perennial, well-branched herb 0,5-1,5 m tall; stem ribbed, short-hairy; leaves simple, long (to 11 cm), rounded, on short petiole; racemes variably long, many-flowered; flowers large; standard pale yellow, often veined purple inside and diffused red-purple outside with darker veins. – Flowers showy, ornamental.

Coastal and inland grassland and woodland; waste places, old cultivations and around dwellings; 0-240(-1170) m alt. (E. Africa; 1000-1800 m in Ethiopia, possibly not native; var. **retusa**). – Grounwater savanna, 700 m, Imatong Mts, S Sudan. – Coastal grassland and bushland, on dunes, coral crags, salt marsh edges; also roadsides and cultivated ground; 0-150 m (E. Africa – Somalia – Mozambique; var. **tunguensis**).

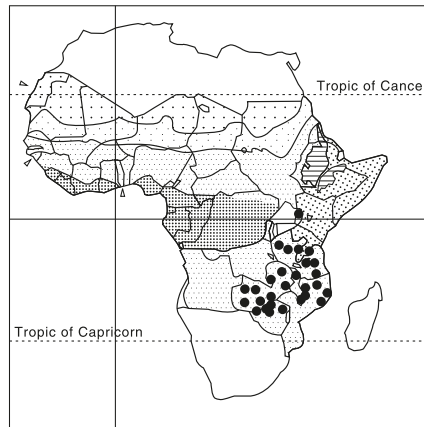
Variable in type of racemes, in indumentum of stems and calyx.

Pantropical. The original distribution is now much obscured by widespread cultivation or introduction as a weed. Generally regarded as Asiatic, but may well be native to the coastal regions of E Africa and the Mascarene Isl. where 2 variants occur.

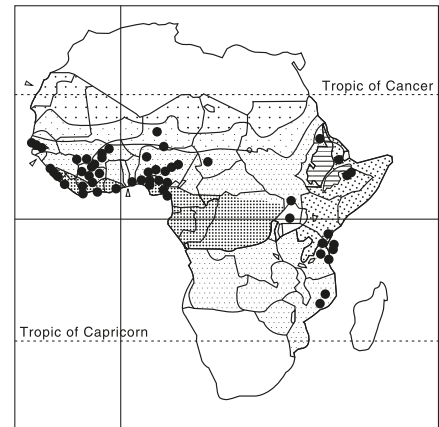
Comprises 2 vars.: – var. **tunguensis** (Pires de Lima) Polhill (bas.: *C. tunguensis* Pires de Lima) seems to occur in more undisturbed places than var. **retusa** (which is not yet recorded from Somalia); it is possible that some spread has occurred naturally from sea-borne pods (fide Polhill, *Crotalaria*: 272-273, 1982). Var. **retusa** widely naturalized throughout W. Africa, from Cape Verde Isl., Mauritania, Senegal to Centr. Afr. Rep. and Gabon.



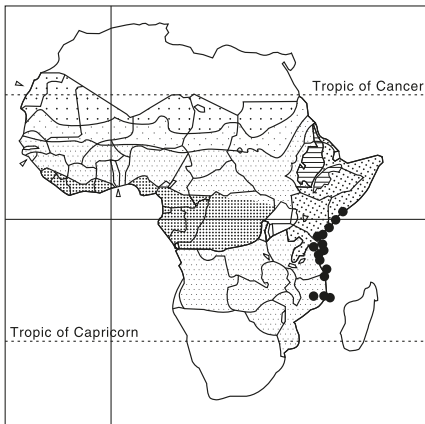
Crotalaria renierana



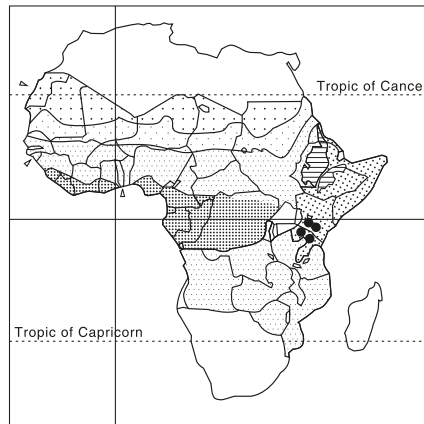
Crotalaria reptans



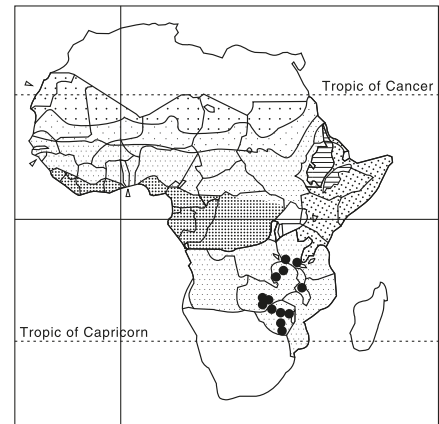
Crotalaria retusa var. *retusa*



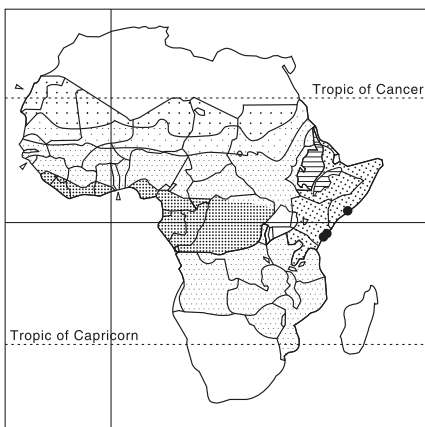
Crotalaria retusa var. *tunguensis*



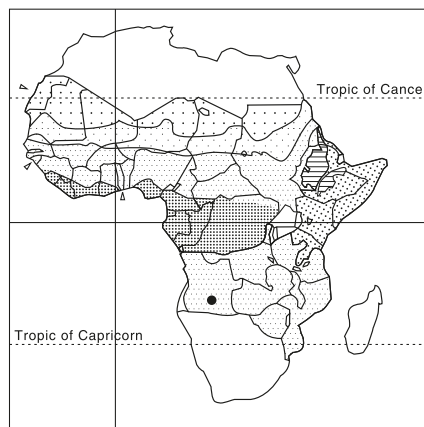
Crotalaria rhizoclada



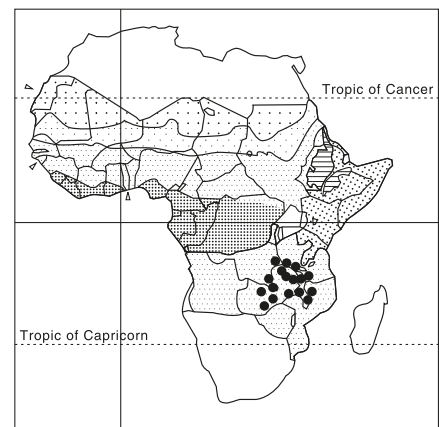
Crotalaria rhodesiae



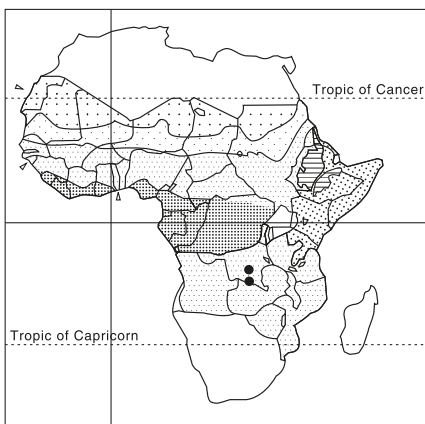
Crotalaria rynchocarpa



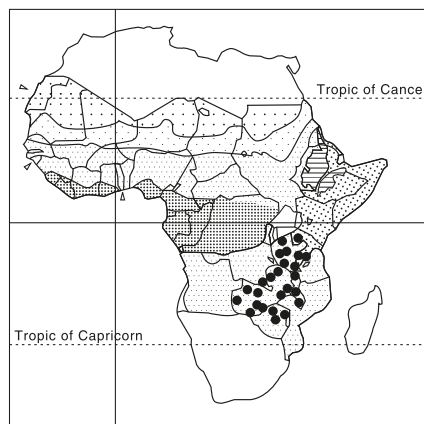
Crotalaria rynchotrioides



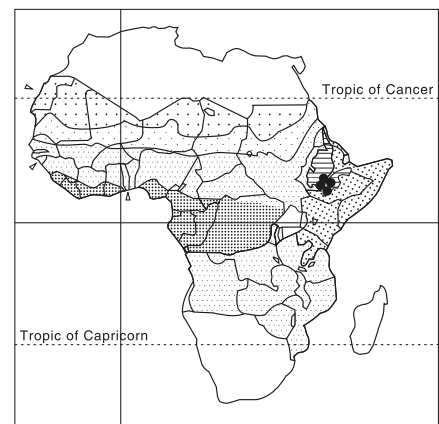
Crotalaria ringoetii



Crotalaria riparia



Crotalaria rogersii



Crotalaria rosenii

CROTALARIA RETUSA

Widespread due to its use as fibre plant and, more recently, green manure. Grown as an ornamental in Florida and tropical America. Only occurrences of var. **tunguensis** in the E part of Africa mapped.

C. rhizoclada Polhill

Perennial plant with decumbent-prostrate, radiating well-branched, densely appressed hairy stems to 40 cm long; new shoots arising underground from adventitious buds on a root-like stock; hairs white, rigid; leaflets small; racemes long-pedunculate, short, laxly few-flowered to subumbelliform; standard veined purple.

Upland grassland of plains with black heavy soil and on grey-brown compacted clay; on top of escarpment; in shade of large rocks on quartzite hill; on bare sand of seasonal stream in open grass plain; abundant in dry short grassland on calcareous tuff soil; in roadside ditch on seasonally waterlogged black clay soil; in disturbed soil by roadside in desert grass country on grey volcanic dust; often on volcanic soils; 1200-2500 m alt.

Inflorescence variable in number of flowers.

C. rhodesiae Bak. f.

syn.: *C. natalitia* Meisner var. *procumbens* Bak. f. and var. *pseudo-rhodesiae* Merxm.

Prostrate perennial herb with many well-branched hairy radiating angular stems to 60 cm long; leaves well spaced; stipules ± falcate, long; racemes lax, few-flowered; flowers fairly large.

In a variety of plateau and upland grassland, woodland and bushland, often on sand, also roadsides and disturbed places; sometimes in local seepage areas; 900-1900 m alt.

S. Africa (Transvaal).

C. rhynchocarpa Polhill

Perennial much-branched slightly woody herb with puberulous branches, 1-1,6 m tall; stipules absent; leaflets large, glabrous; racemes with numerous closely arranged fairly large flowers; pod cylindrical-fusiform, with impressed sutures. – Conspicuous.

Disturbed coastal bush on sandy soil; sand dunes with *Uvaria*, *Cordia*, *Suregada* [*Gelonium*], *Euphorbia cuneata*, *Strychnos*, *Cassytha*; very locally common in white sand on margins of coconut plantation and above high water line on the sea shore; in sandy soil by roadside; cultivated ground on red sandy soil; to c. 150 m alt.

Close to *C. leucoclada*.

C. rhynchotrioides Bak. f.

Perennial plant with erect stems 30-50 cm tall; branches long, slender, ascending from near the base, 4-angled, ribbed, ± glabrous; leaves 1-foliolate, linear, stiff, with inrolled margins; racemes laxly few-flowered; flowers small, bluish; mature pod, and seeds unknown.

Deciduous woodland, riverside grassland with shrubs.

C. ringoetii Bak. f.

Erect annual herb 0,2-1 m tall, laxly branching above; stem slender, puberulous; leaves 1-foliolate, long, linear-oblong; stipules absent; racemes variable in length, laxly many-flowered; flowers small; standard pale yellow, veined reddish, with red fringed deeper yellow basal patches inside; pod 2-seeded.

Brachystegia, miombo woodlands; also weed of cultivated ground; 800-1800 m alt.

CROTALARIA

C. riparia Polhill

Erect annual or short-lived perennial, thinly appressed pubescent herb, with single stem 40-80 cm tall, from a taproot; usually with numerous ascending branches; stipules absent; racemes variably long, laxly many-flowered; pod 2-seeded.

Edge of river, wet places.

Resembling *C. bredoi*.

C. rogersii Bak. f., incl. fa. *kilwaensis* R. Wilczek

Perennial herb with erect or rarely decumbent simple to much-branched, spreading or crisped hairy stems to 2,7 m tall, arising from a woody rootstock; also flowering in first year of growth; stipules caducous or absent; racemes terminal with many flowers closely arranged towards the top; calyx becoming truncate and deflexed against pedicel; standard veined reddish; keel flushed purple.

Brachystegia woodland, extending into deciduous bushland, grassland, lake shores; valleys near river; also in pastures, cultivated ground; 600-2550 m alt.

General aspect varying strikingly with the time of year and habitat. After burning: small suffruticose plants with short little-branched sparsely hairy stems and small, narrow leaflets; at the end of the rains, the older plants have grown out, having large elliptic leaflets and dense spreading hairs. At the same time, plants in first year of growth may be found, appearing annual. – Stipules often on early season growth, may be lacking later. Flowers variable in size and keel not always flushed purple.

In the first year of growth not always easy to distinguish from *C. pallida* until the characteristic pods are formed (c. 3 cm long in *C. rogersii*, c. 4-5 cm in *C. pallida*).

C. rosenii (Pax) Milne-Redh. ex Polhill

bas.: *Erythrina rosenii* Pax

Glabrous shrub 2-4 m tall, sometimes pubescent on young parts; stipules absent; racemes lax, many-flowered, bracts large, early caducous; flowers very large; standard yellowish green, veined brown; keel with long beak, incurved, darkcoloured; pod oblong-clavate, 9-12 cm long.

Upland evergreen bushland, secondary scrub, grassland, forest margins; stream-sides; 1350-2800 m alt.

Specimens from Bale Mts and the Rift Valley flanks (Mt Zuquala) approach *C. agatiflora* (keel ± straight); probably due to introgression.

C. rufocaulis Gilli

Annual or short-lived perennial herb, ascending or spreading, with long spreading bristly redbrown hairs, to 1 m tall; stipules long; racemes laxly few-many-flowered; flowers large; calyx accrescent; standard white or greenish yellow, veined green; pod ellipsoid-clavate, many-seeded; mature seeds unknown?

Grassland, deciduous and secondary bushland; 230-1700 m alt. (Somalia; 1000-1620 m Ethiopia, Kenya).

Closely allied to *C. barkae*.

C. rupicola Bak. f.

Small erect annual herb with very slender, appressed puberulous branches; leaves 1-foliolate, needle-like, terete with median groove adaxially; stipules absent; racemes 2-3-flowered; flowers fairly large, colour not stated; pod and seeds unknown.

Rocky site on Mt Senga (Zaire; cf. also *C. sengensis*).

Known only from the fragmentary type (Kassner 2976).

CROTALARIA

C. ruspoliana Chiov.

Erect annual or short-lived perennial herb, with ascending, ribbed, densely *white-hairy* branches above; stipules absent; leaves with *short petiole*; racemes laxly many-flowered; calyx becoming truncate and deflexed against pedicel; standard veined brown. Upland grassland.

Known only from 2 collections (Ruspoli & Riva 604, Massa 36).

C. sacculata Chiov.

Small spreading perennial herb with numerous slender much-branched stems; stipules foliaceous, 1-3-partite; racemes short, lax; flowers small; standard pale yellow, veined and flushed crimson-purple; mature seeds unknown?

Upland grassland; c. 2000 m alt.

Distinctive local species.

C. saharae Coss.

Perennial herb or subshrub spreading-ascending, with retrorsely white tomentose branches, 10-60 cm tall; leaves 3-7-foliolate, petiole shorter than leaflets; racemes variably long, few-many-flowered; bracts deflexed, persistent; calyx deflexed against ascending pedicel at first, later spreading; standard golden yellow becoming red-edged and lined with age; pod 2(-4)-seeded; mature seeds unknown?

Sandy beds and wadis, with *Tamarix aphylla*, *Farsetia ramosissima* or with *Artemisia judaica*, *Astragalus trigonus* (Central Sahara, Hoggar); or with *Arthrophytum scoparium*, *Aristida obtusa*; 200-over 1300 m alt. (Sahara).

SE Morocco, Algeria, Libya.

Related to *C. vialattei* but distinct; also restricted to W Sahara region.

C. saltiana Andr. – Icon.: Bot. Repos. 10: pl. 648, 1811.

syn.: *C. lupinoides* Hochst. ex Benth.; *C. argyrea* Franch. 1882, non Welw. ex Bak. 1871, nom. illegit.; *C. franchetii* Bak. f.; *C. farcta* R. Br. ex Bak. f.; *C. thomasii* Harms, incl. var. *sericea* Chiov.

Bushy white-hairy short-lived perennial herb to 30-70 cm tall, sometimes with spreading procumbent branches from near the base; stipules absent; racemes lax below, crowded above; flowers fairly large; pod oblong-clavate, densely hairy inside.

Deciduous bushland, semi-desert scrub, in sandy and rocky places; often where extra water collects, e.g. sandy wadis, tugs, alluvial flats; in maritime sandy situations and in secondary thickets (Angola); 0-1300 m alt.

Some specimens from Ogaden (Ethiopia) and N Somalia deviate by having fewer ovules (2-8). *C. thomasii* is considered as a small-flowered form, fide Fl. Somal. 1: 451, 1993.

Arabia.

C. sapinii De Wild.

Perennial plant with numerous erect simple or little-branched stems to 45 cm tall; stems ribbed, white spreading-hairy, from a woody rootstock; leaflets (3-1) linear; stipules absent; racemes short, densely many-flowered, sometimes terminal racemes suppressed, and flowers then in axillary clusters; pod 2-seeded. Grassland and dry woodland subject to fire; sometimes in damp places.

Comprises 2 subspp.: – subsp. **kasaiensis** (R. Wilczek) Polhill in W part of range, with terminal racemes suppressed; intermediate forms between this and subsp. **sapinii** occur. Subsp. **kasaiensis** also seems to form a morphological link between *C. sapinii* and *C. stenothyrsa*.

CROTALARIA

C. scassellatii Chiov.

Shrubby short-lived perennial herb with densely white appressed puberulous branches, 0,5-3 m tall; leaflets large on very long petiole; stipules minute; flowers large, 2-6 in axillary fascicles; standard bright yellow turning brown with age; pod long, inflated, stipitate.

Grassland, deciduous bushland, forest edges, often among rocks; edges of pools, or on dunes; 0-1750 m alt. (Kenya); 10-280 m Somalia.

Closely related to *C. axillaris* which occupies less dry situations; and pod different.

C. schinzii Bak. f.

Small perennial herb with trailing slender laxly branched, densely spreading hairy branches 20-60 cm long; racemes leaf-opposed, lax, few-many-flowered; bracteoles just below calyx; standard veined purple outside; pod subcylindrical, broadened upwards, many-seeded.

Woodland, wooded grassland (Limpopo valley basin); 100-1000 m alt.

Botswana, S. Africa (Natal).

Locality in Zambia (Chinsaly District, Richards 10685) uncertain, probably representing a new species [appearing as *C. sp. A* (Nr. 84) sensu Polhill in Fl. Zambes. 3/7: 149, 2003].

C. schlechteri Bak. f.

Perennial herb with laxly branched silvery tomentose stem 40-80 cm tall; leaflets large on short petiole; racemes dense, buds mostly spreading or reflexed; flowers fairly large.

Coastal plain savanna and grassland.

S. Africa (E Transvaal).

C. schliebenii Polhill

Erect annual or short-lived silvery long-hairy perennial herb 0,6-1 m tall, with numerous ascending flowering branches above, and sometime a few long ones from near the base; stipules absent; racemes short, densely many-flowered; also other flowers in axils below; flowers small, standard with darker red fringed marks at base inside, lined brown outside; pod 2-seeded.

Grassland, woodland, at riversides, swampy places; c. 400 m alt. (Tanzania).

C. schmitzii R. Wilczek

Annual erect rather slender, hairy herb to 45 cm tall, not or slightly branched; leaves small; stipules absent; racemes short, densely many-flowered; flowers small; pod and seeds unknown. Seasonal marsh on laterite slab; plateau.

Known only from the type? (Schmitz 1574) collected in 1948.

C. seemeniana Harms

Perennial herb or subshrub, hairy, much-branched, decumbent or spreading-ascending, from a taproot; leaves small; stipules absent; flowers fairly small, many in dense heads; standard marked red.

Upland grassland; also roadsides and cultivated ground; 1500-2050 m alt.

Only known from Mt Rungwe (Tanzania).

C. senegalensis (Pers.) Bacle ex DC., incl. var. *macilenta* (Del.) Chiov., var. *sanguinolenta* Chiov. and var. *carinata* (Steud. ex A. Rich.) Bak. f.; but excl. var. *gracilis* Chiov. (= *C. malindiensis*).

CROTALARIA SENEGALENSIS

syn.: *C. uncinella* Lam. var. *senegalensis* Pers.; *C. macilentata* Del.; *C. carinata* Steud. ex A. Rich.; *C. karongensis* Bak.; *C. shamvaensis* sensu Torre in *Consp. Fl. Angol.* 3/2: 53 (1962), non Verdoorn; *C. maxillaris* sensu auctt., e.g. Klotzsch in *Peters Reise Mossamb., Bot.* 1: 58, 1862 (cf. also *C. laburnoides*).

Erect or spreading much-branched annual or short-lived perennial, ± woody herb with appressed pubescent branches, (0,1-)0,3-1 m tall; racemes long, laxly many-flowered; flowers fairly large; standard often finely lined and ageing reddish.

Brachystegia woodland, scattered-tree grassland, (secondary) bushland, flood plains, often on sand; frequent along sandy grassy river banks (Angola); dry fields, sand (W. Africa); 200-2000 m alt. (Ethiopia; -1550 m E. Africa).

Variable in shape and size of leaflets, number and size of flowers. Cape Verde Isl.; N Botswana; Egypt; Yemen.

Disjunct distribution (E Rift Valley: Ethiopia – S Tanzania).

C. sengensis Bak. f.

Branched annual herb, sparsely pubescent; leaves presumably simple, narrow; racemes few-flowered; pod unknown.

Only known from the description (type: Kassner 2770, BM, not located; fide Polhill, *Crotalaria*: 241, 1982).

Perhaps a synonym of *C. rupicola*.

C. serengetiana Polhill

Annual or short-lived perennial pilose herb to 50 cm tall, erect or spreading, often with long decumbent lower branches; with thick woody taproot; stipules long, filiform; racemes lax, few-flowered; flowers large; calyx as long as corolla; standard dull yellow-green, becoming strongly suffused with blue inside.

Grassland plains, on dark brown volcanic dust; *Themeda triandra* grassland on grey clay loam overlying limestone concretions; common on overgrazed open grass plain (on tuff soil); 1500-1700 m alt. Closely allied to *C. barkae*. *C. polysperma* has similar blue flowers.

C. sericifolia Harms, excl. var. *gweloensis* Bak. f. (= *C. variegata*).

Shrubby plant, erect or spreading, much-branched, silky tomentose, to 1,3 m tall; leaves silvery white hairy; flowers solitary or in pairs on short leaf-opposed peduncles; standard pale blue-violet inside, ultimately reddish flushed outside; mature seeds unknown.

Deciduous woodland in dry open places on Kalahari sand; along rivers; c. 1100 m alt.

NE Namibia.

C. serpentinicola Leteinturier & Polhill, *Syst. Geogr. Pl.* 73: 287, 2003.

syn.: *C. sp. B*, sensu *Fl. Zambes.* 3(7): 174, 2003; specim. Drummond 6843 cited under *C. friesii* by Polhill in *Crotal. Africa Madaga.*: 281, 1982.

Short-lived perennial herb with a thickened taproot; stems numerous from the top of this root, slender, diffuse, much-branched, procumbent to weakly ascending, 20-30 cm long; flowers small; pods small, few-seeded; mature seeds unknown.

At the foot of a grass-covered serpentine hill, on serpentine. Resembling *C. friesii*, but not stoloniferous; very similar to *C. cupricola*.

Only known from the type gathering (Drummond 6843) from 1960.

CROTALARIA

C. sertulifera Taub.

Dwarf annual herb with very short erect stem and relatively long radiating procumbent strigulose, slender branches from the base, 5-10 cm long; stipules absent; racemes pedunculate, ± umbelliform, few-flowered; flowers small; pod short, many-seeded.

Brachystegia woodland, pioneer of bare ground; short grassland; 1000-1400 m alt.

C. sessilis De Wild.

Erect annual or short-lived perennial herb, well-branched, densely appressed hairy, 0,4-1,5 m tall; leaves sessile, leaflets held erect, linear; stipules absent; racemes numerous, leaf-opposed, laxly few-flowered; flowers small; standard ± marked reddish.

Marshy savanna, watersides.

C. shirensis (Bak. f.) Milne-Redh.

bas.: *C. bongensis* Bak. f. var. *shirensis* Bak. f.

Erect annual herb, 5-25(-40) cm tall, sometimes much-branched; stem thread-like; leaves simple, ± linear; racemes slender, lax, 1-3-flowered; flowers small; standard pale yellow with darker red-fringed mark at base inside, reddish veined outside. – Inconspicuous.

Brachystegia and other deciduous woodlands, (upland) short grassland; among grass in stony soil on slope near rocky outcrop in *Brachystegia* woodland; on sand, clay, red loam, gravel; on granite whale-back in damp ground; sandy lateritic soil by side of track; roadsides in sand and gravel, weed of cultivations and other places with low competition; *Loudetia arundinacea* grassland with scattered trees (Sudan, Imatong Mts); 500-2000 m alt.

Very similar to *C. teretifolia* and *C. minutissima*; in southern part of range approaching *C. minutissima*.

C. simoma Polhill

Annual herb with erect slender, laxly branched, puberulous stem 25-45 cm tall; leaves simple, linear; racemes numerous, 1-3-flowered; flowers fairly large; standard lined brown.

Roadside, sandy soil; 1050-1300 m alt.

Known only from the escarpment at S end of Lake Tanganyika.

Resembling *C. vanmeelii* from the same area.

C. simulans Milne-Redh.

Shrub with thin straggling silvery hairy branches, to 3,3 m tall; epidermis of older stems peeling; racemes lax, many-flowered; flowers large; calyx as long as corolla; standard speckled purple; pod long, clavate.

Acacia-Capparaceae desert bushland; deciduous thicket; 1100-1350 m alt.

Closely related to, and confused with *C. goodiiiformis*; but growing in much drier habitats.

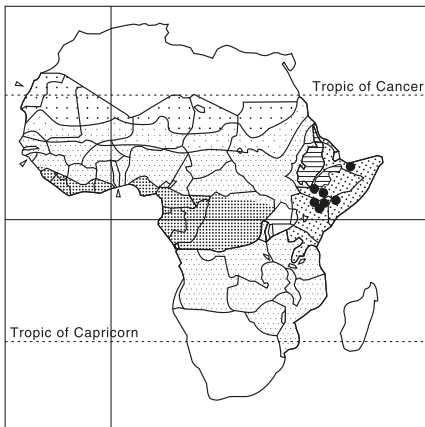
C. singulifloroides R. Wilczek

Erect, well branched, appressed puberulous annual herb 24-40 cm tall; racemes laxly few-flowered, and clusters of flowers in axils all along the branches; ovary 6-ovulate; pod and seeds unknown.

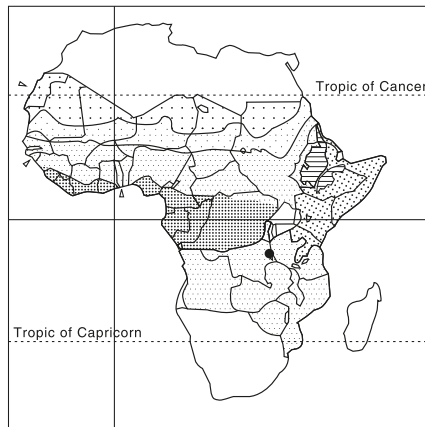
Riverside.

Known only from the type (Hoffmann 905) collected in 1949.

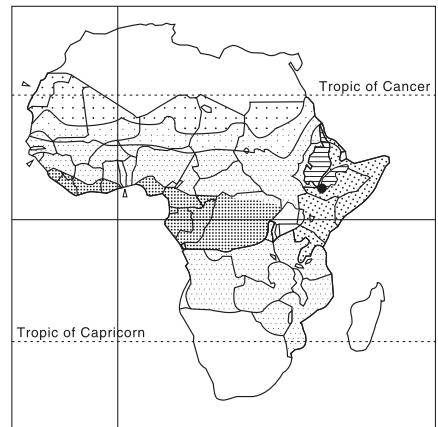
Perhaps an extreme form of *C. argyrolabioides*.



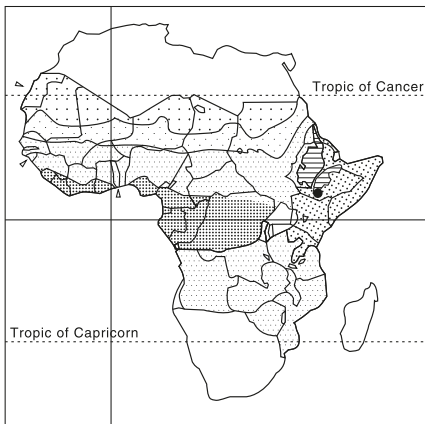
Crotalaria rufocaulis



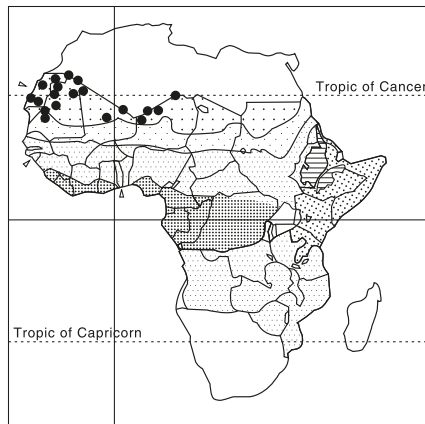
Crotalaria rupicola



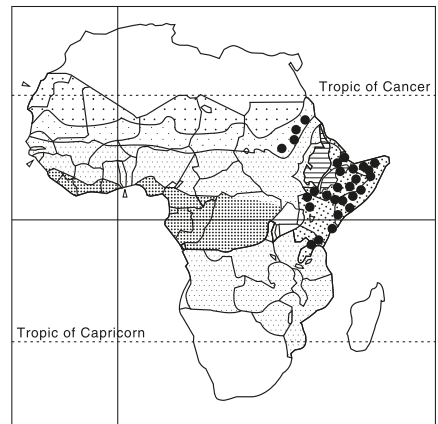
Crotalaria ruspoliana



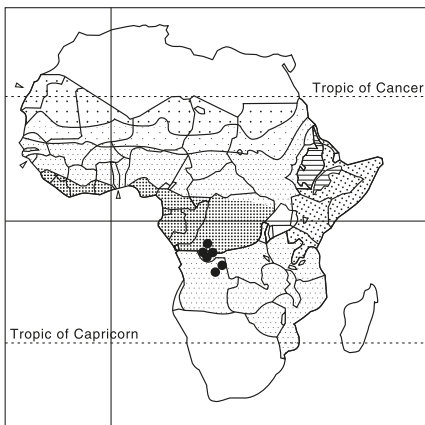
Crotalaria sacculata



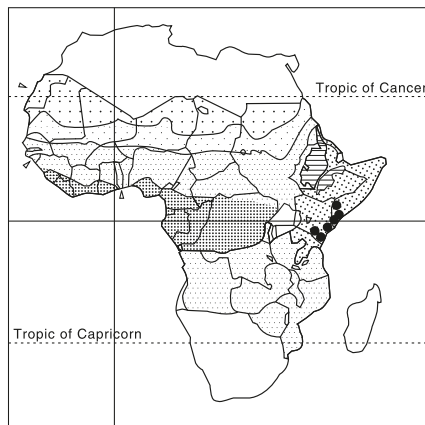
Crotalaria saharae



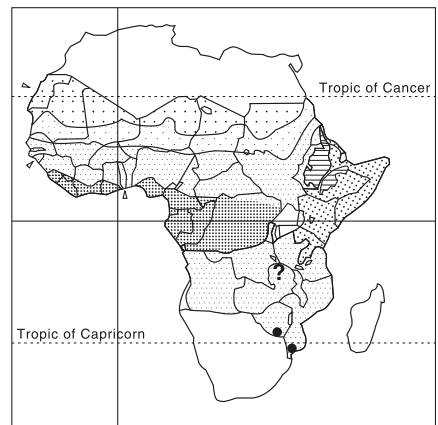
Crotalaria saltiana



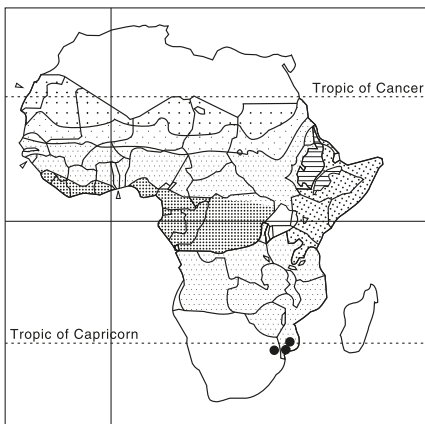
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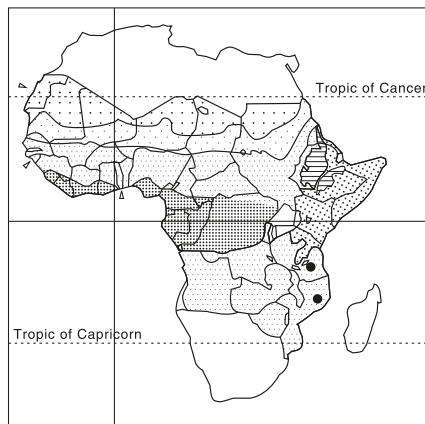
Crotalaria scassellatii



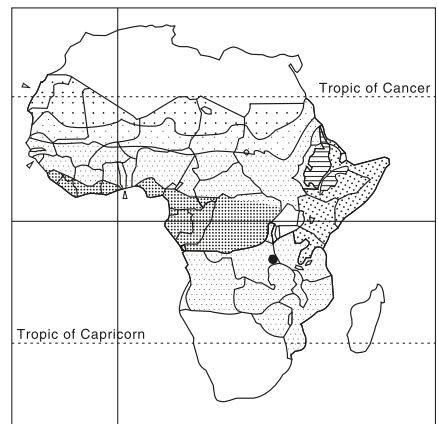
Crotalaria schinzii



Crotalaria schlechteri



Crotalaria schliebenii



Crotalaria schmitzii

CROTALARIA

C. somalensis Chiov.

Erect or spreading herb with shortly appressed pubescent branches, to 1 m tall; stipules absent; racemes long, many-flowered.

Deciduous bushland; 150-350 m alt. (subsp. **somalensis**); deciduous bushland on sand; c. 450-600 m alt. (subsp. **fusula**; Ogaden, Ethiopia).

Variable in shape and length of pod.

Comprises 2 subsp.: – subsp. **somalensis** and subsp. **fusula** Polhill 1968 pro majore parte (quoad specim. Aethiopiae), excl. Glover & Gilliland 288 (= *C. pleiophylla*).

C. sparsifolia Bak.

Erect annual herb with slender ascending, silvery hairy, branches, 10-50 cm tall; leaves sometimes small or deciduous at flowering time, leaflets (3-1) linear; stipules absent; racemes short, laxly few-flowered, and other flowers in axils below; flowers small; standard pale yellow with deeper red-fringed marks at base inside; pod globose, few-seeded.

Brachystegia, miombo woodlands and derived scrub, often in sandy places; rocky outcrop in *Brachystegia* woodland (Katanga); 900-2000 m alt.

Can be confused with *C. oxyphyloides* which differs in having a horizontal rootstock.

Related similar specimens from the Manika Plateau of Shaba (Zaire) are cited by Polhill, *Crotalaria*: 343-344, 1982 (Duvi-gneaud 2271P2, 3053 Cr); and from N Zambia (Greenway 5435).

C. spartea Bak. p.p., excl. specim. Afzelius (= *C. deightonii*).

Erect or straggling glabrescent annual herb 0,2-1,3 m tall, with well spaced curved-ascending branches; leaves simple; flower standard veined red-brown outside.

Upland grassland; at lower altitudes in damp valley grassland of *Brachystegia* woodland area, near water, in marshes, dambos; also roadsides and cultivated ground; wooded sandy meadows, damp at collecting time, with *Gladiolus*, *Polygala*, a shrubby *Protea*, abundant (Angola); 900-2050 m alt. (E. Africa; 1000-1750 m Fl. Zambes. area).

S. Africa (Transvaal).

(C. spartioides DC).

A virgate shrubby plant, 0,4-2 m tall, introgressing with *C. virgultalis* Burch. ex DC., seems to occur outside our area, i.e. in Namibia, Botswana, S. Africa (Cape Prov.).

C. spathulato-foliolata Torre

Erect much-branched annual or short-lived woody perennial herb with subangular, ribbed, appressed puberulous branches, to 1 m tall; racemes lax, few-flowered; standard lined and later flushed brown-purple; mature seeds unknown.

Deciduous woodland.

[C. spectabilis Roth]

syn.: *C. sericea* Retz. 1788, non Burm. f. 1768, nom. illegit. Erect well-branched annual herb with angled hollow stems, 0,5-2 m tall; leaves simple, large; racemes long, many-flowered; flowers fairly large; pod large, glabrous (confusion with *C. retusa* possible).

Asian species; widely introduced into Africa and Madagascar as a green manure but notably poisonous. – In Kenya locally naturalised in wooded grassland on old cultivations; c. 1300 m alt. (fide Agnew & Agnew, Upl. Kenya Wild Fl.: 145, 1994).

Not mapped.

CROTALARIA

C. sphaerocarpa Perr. ex DC.

Erect annual much-branched herb 0,3-1(-1,7) m tall, with long appressed-spreading hairs, or glabrous overall (subsp. **polycarpa**); leaflets long, on shorter petiole; racemes laxly few-many-flowered; flowers fairly small.

Savannas of the Sahel and Zambeian regions, in rather low rainfall areas; particularly common in locally damper places by roadsides and rivers, often on sand; deciduous bushland, grassland, open sandy damper situations; also cultivated ground; 750-1350 m alt. (E. Africa); 0-1350 m in Fl. Zambes. area.

Variable in shape of leaflets, length of inflorescences, and size of flowers.

Namibia, Botswana, S. Africa, Swaziland, Lesotho.

Comprises 2 subsp.: – subsp. **sphaerocarpa** with syn.: *C. sphaerocarpa* var. *lanceolata* Schinz, var. *angustifolia* Hochst. ex O. Kuntze, var. *pubescens* O. Kuntze, var. *grandiflora* Schweinf. ex Bak. f., and ? var. *schweinfurthii* O. Kuntze; *C. nubica* Benth.; *C. nutans* Welw. ex Bak.; *C. cernua* Schinz, incl. fa. *latifolia* Schinz ex Bak. f.; *C. squarrosa* Schinz, incl. var. *dinteri* Bak. f.; *C. truncata* Schinz – Subsp. **polycarpa** (Benth.) Hepper only in Senegal.

Disjunct distribution.

Also in Mauritania?

C. spinosa Hochst. ex Benth., excl. specim. Kotschy 552 (= *C. aculeata* subsp. *claessensii*), var. *macrocarpa* Bak. f. (= *C. kapiensis*), subsp. *aculeata* (De Wild.) Bak. f. (= *C. aculeata*), and var. *schlechteri* Bak. f. (= *C. eremicola* subsp. *parviflora*).

syn.: *C. minima* Bak. f.

Erect or spreading annual or short-lived perennial herb 0,2-0,8 m tall, spiny, wiry to bushy, subappressed pubescent; with the habit of an *Ononis*; leaves mostly clustered on short shoots; flowers small, 1(-3) on spine-tipped axes from short shoots all along the branches, or when young on spineless leaf-opposed racemes; standard veined reddish; pod short, oblong, few-seeded.

In a variety of open habitats (in low rainfall areas with relatively high water table or local water catchment); deciduous bushland and grassland, near lakes, rivers, swamps, dried-out depressions, and around rock outcrops, along roadsides; in drier thickets at river bank (Angola); favoured in disturbed and overgrazed places; cultivated ground, waste places; 750-2600 m alt. (1500-1800 m, Zaire; 1350-2600 m, Ethiopia).

Yemen; Socotra.

Spreading as a weed with scattered modern records from Senegal, Sudan, S Zambia and Zimbabwe (not prior to 1955).

C. kapiensis and *C. aculeata* have been included in *C. spinosa* at times (cf. above) from which they differ in size; growing together now, partly as a result of recent spread as weeds. Introgression seems to occur in certain areas.

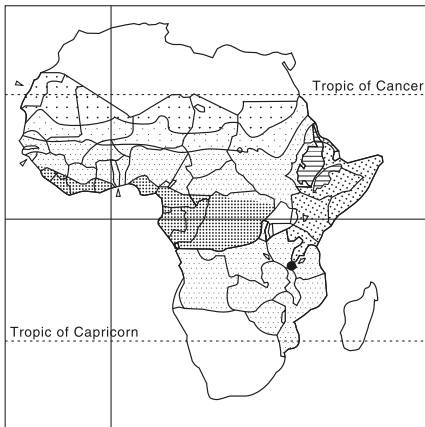
C. staneriana Bak. f.

Erect shrub (or subshrub?), glabrous except on younger parts; leaflets fairly large, membranous; stipules absent; racemes laxly 2-4-flowered, with slender axis; flowers large; pod long, cylindrical; mature seeds unknown.

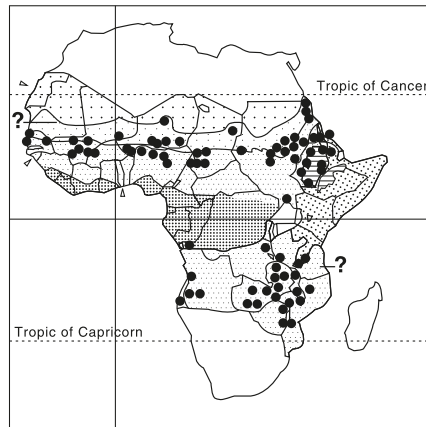
Savanna.

Known only from the type (G. de Witte 315).

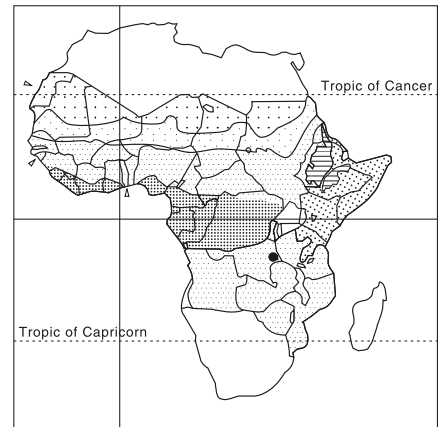
Resembling *C. tabularis* but less hairy and with smaller pods.



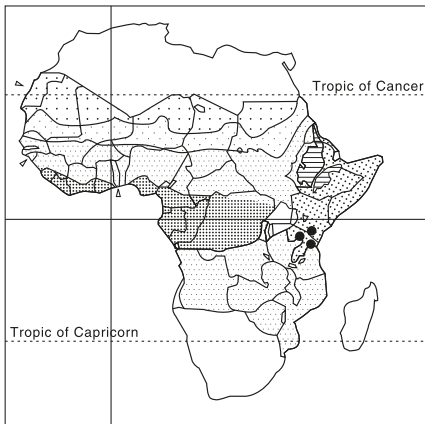
Crotalaria seemeniana



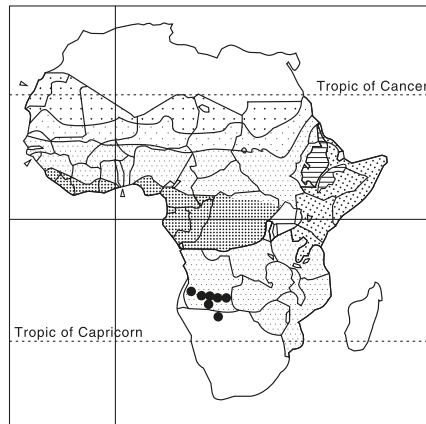
Crotalaria senegalensis



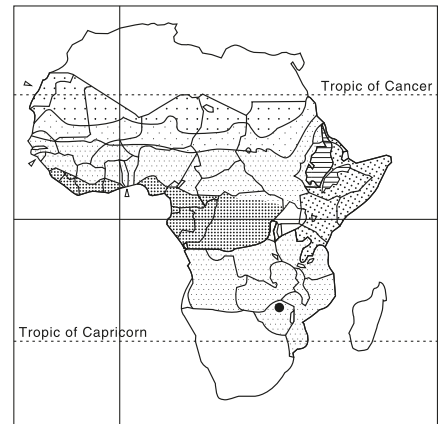
Crotalaria sengensis



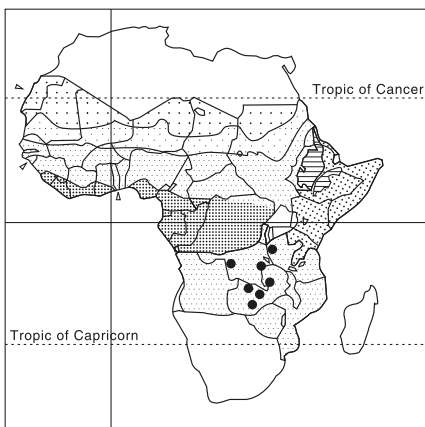
Crotalaria serengetiana



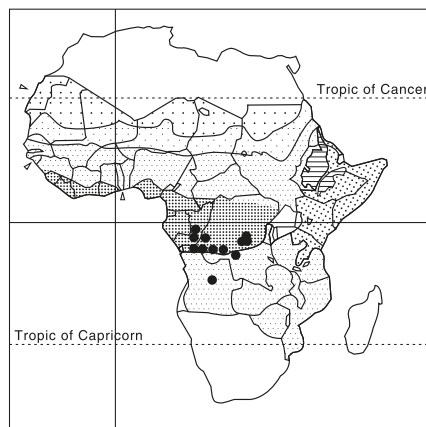
Crotalaria sericifolia



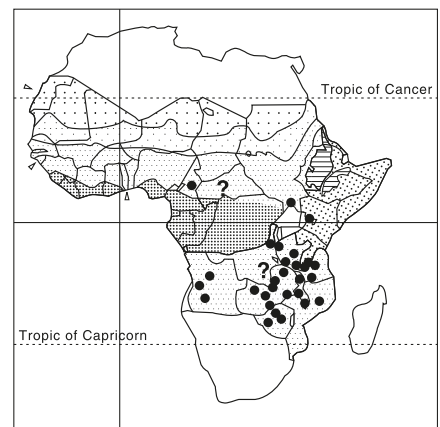
Crotalaria serpentinicola



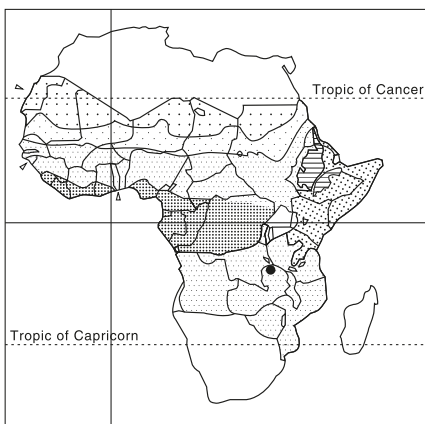
Crotalaria sertulifera



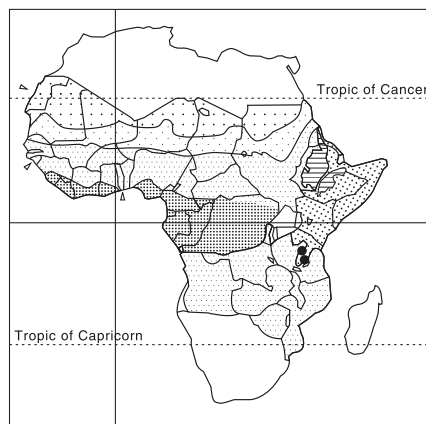
Crotalaria sessilis



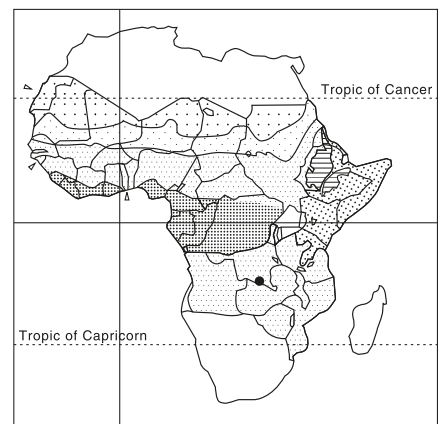
Crotalaria shirensis



Crotalaria simoma



Crotalaria simulans



Crotalaria singulifloroides

CROTALARIA

C. stenopoda Bak. f.

Erect annual herb with many slender spreading branches, thinly pubescent, 20-40 cm tall; leaflets linear; racemes very lax, few-flowered, with slender axis; standard veined purple; pod short, oblong; seeds very obliquely cordiform.

Dry scrub, semi-desert areas.

Very close to *C. heidmannii*, and "probably best treated as a subspecies" of it (fide Polhill, *Crotalaria*: 235, 1982). – *C. nematophylla* Bak. f. is perhaps a synonym.

C. stenoptera Welw. ex Bak., incl. var. *latifolia* Bak. f.

Perennial plant with ultimately numerous erect variously branched stems 0,5-1 m tall, from a woody rootstock; flowering from first year of growth; stems glabrous, 3-4-angled, narrowly winged; stipules on outer points of wing and decurrent into angle of the stem lower down; leaves simple, linear, 4-14 cm long, leathery; stipules long; racemes lax, few-flowered; standard lined and later flushed red-brown; pod cylindrical, venose; seeds unknown?

Deciduous woodland, riverine thickets, depressions, marshes; in dry and damp sites, usually on Kalahari sand; c. 900-1250 m alt. Variable in leaf-shape, apparently related to age and growth conditions (var. *latifolia*).

C. stenorhampha Harms

syn.: *C. senegalensis* (Pers.) Bacle ex DC. var. *carinata* auct., non (Steud.) Bak. f., in *Fl. Pl. Sudan* 2: 187, 1952, quoad specim. ex Imatong Mts.

Perennial plant with many ± erect, slender, hairy stems 15-75 cm tall, from a vertical woody rootstock; stipules absent; racemes long, laxly many-flowered; pod obliquely inserted, short, oblong, few-seeded.

Grassland subject to burning, appearing soon after grass fires; 1300-1700 m alt.

Hybridising with *C. florida*?

C. stenothyrsa Taub.

Perennial plant with 1-several erect, mostly unbranched, ribbed, densely villous stems to 75 cm tall; leaves linear, upper ones 1-foliolate; stipules absent; flowers mostly clustered in upper axils; pod 2-seeded.

Dry woodland, savanna.

C. sapinii subsp. *kasaiensis* forms something of a morphological link between *C. stenothyrsa* and *C. sapinii* subsp. *sapinii*.

C. steudneri Schweinf., incl. fa. *latifolia* Lanza

syn.: *C. hispida* Schinz; *C. tanganyikensis* Bak. f.

Much-branched long-hairy annual herb, ascending and spreading, sometimes up to 0,6(-1) m tall, usually smaller; racemes laxly few-many-flowered; flowers small; standard veined brown outside; pod globose-ellipsoid, many-seeded.

Deciduous (mopane, rarely miombo) woodland (generally excluding *Brachystegia* formations), bushland, grassland; on sandy and clay soils; mixed alluvial thicket; sometimes in seasonally inundated places; also roadsides, waste places; 600-1500 m alt. (E, SE Africa), 1800-2500 m (West Eritrea); 250-1300 m (Fl. Zambes. area).

In Tanzania and N Mozambique particularly, variable in shape of flower keel (beak straight to strongly incurved) and pod; and in indumentum of calyx. *C. preladoi* Bak. f. is perhaps a synonym.

N Namibia, N Botswana, S. Africa (N Transvaal).

Disjunct distribution.

CROTALARIA

[C. stipularia Desv.]

Erect annual coarsely hairy herb 30-90 cm tall; leaves simple; stipules falcate-triangular, decurrent as a tapering wing on stem; racemes lax, fairly few-flowered; calyx 2-lipped, as long as corolla.

Native of W. Indies and tropical S. America. Recorded from Ghana. – Not mapped.

C. stolzii (Bak. f.) Milne-Redh. ex Polhill

Straggling ± woody herb with lax spreading branches ascending to 1-3 m height; stipules large heart-shaped; racemes laxly few-flowered; flowers fairly large.

Upland grassland, margins and clearings of upland rain-forest, usually by streams; sometimes extending into open secondary grassland; 1200-3350 m alt.

Rarely collected and disjunctly distributed in mountainous areas; never very common? Or not very conspicuous.

C. streptorrhyncha Milne-Redh.

Erect simple or branched herb 40-80 cm tall, densely strigose-pubescent; stipules absent; racemes short, densely many-flowered and other flowers clustered in axils; pod 2-seeded.

Brachystegia and riverside woodland; c. 1200-1350 m alt.

Similar to *C. kipilaensis*.

C. stuhlmannii Taub.

Annual herb 0,3-0,5(-1,3) m tall with erect stem and numerous slender weakly ascending, straggling or procumbent laxly divided branches, particularly from near the base; leaves 1-foliolate, long, linear; racemes lax, few-flowered; flowers small; standard veined purple.

Brachystegia spiciformis, *Bussea massaiensis*, *Canthium burtii*, *Grewia* closed bushland, along roadside; *Brachystegia*, *Julbernardia globifera*, *Pterocarpus angolensis*, *Commiphora fischeri* woodland; (secondary) deciduous woodland; grassland; sometimes in damp places; also along roadsides; 1100-1200 m alt. (var. *stuhlmannii*); *Brachystegia* woodland, 1200-1470 m (var. *acuticarinata* Polhill); damp sandy places in deciduous bushland and thicket, 1300-1450 m alt. (var. *crassicarpa* Polhill).

Variable in size and shape of flowers and pods. – Cf. under *C. tenuirostrata*.

Comprises 3 vars.

C. subcaespitosa Polhill

syn.: *C. caespitosa* Bak. 1897, non Roxb. 1832, nom. illegit. Perennial plant with numerous ascending stems 10-25 cm long, slightly angular and ribbed, hairy, arising from a vertical woody rootstock; racemes short, few-flowered; standard lined or flushed red outside.

Brachystegia woodland, upland grassland subject to burning; also in disturbed places on poor soils; 1400-2250 m alt.

Is perhaps synonymous with *C. peshiana* (cuprophyte); morphologically they are virtually indistinguishable around Lake Malawi (fide Polhill, *Crotalaria*: 287, 1982).

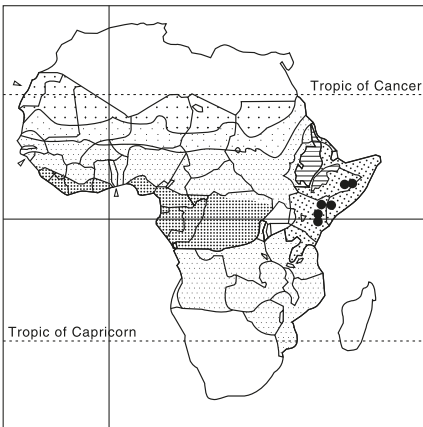
C. subcalvata Polhill

Erect annual herb with ascending branches, c. 50 cm tall; stem striate below, spreading-hairy; stipules absent; racemes short, densely many-flowered; pod 2-seeded.

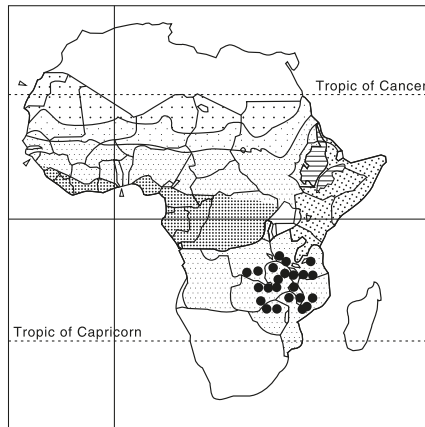
Edge of marsh; 620 m alt.

Known only from the type? (Lukuesa 577).

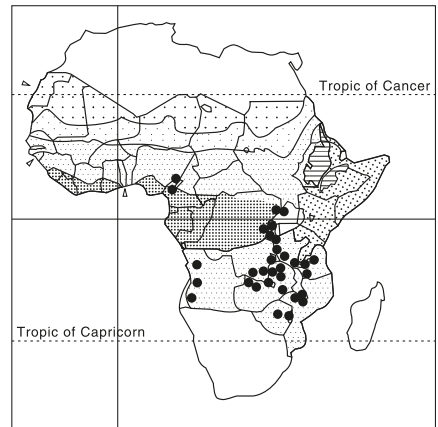
Resembling *C. bredoi*.



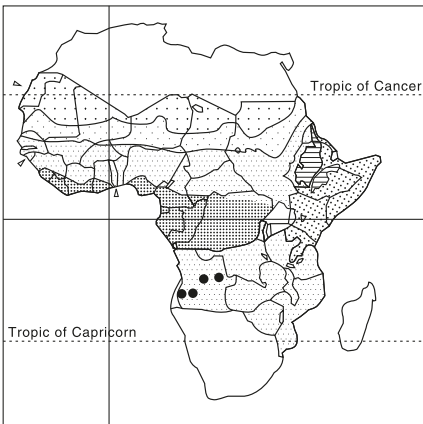
Crotalaria somalensis



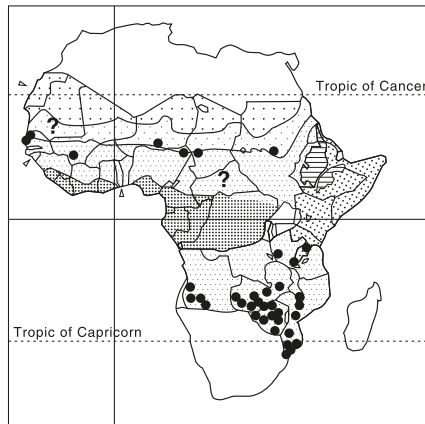
Crotalaria sparsifolia



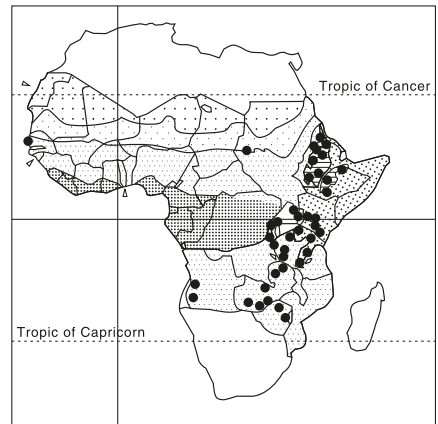
Crotalaria spartea



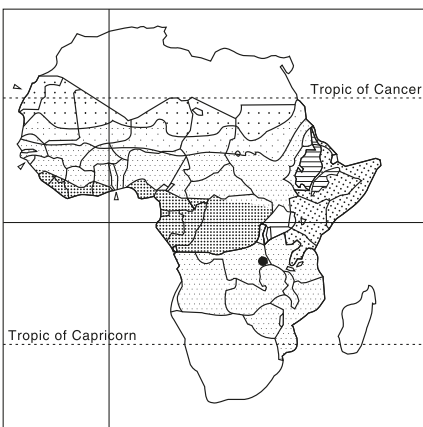
Crotalaria spathulato-foliolata



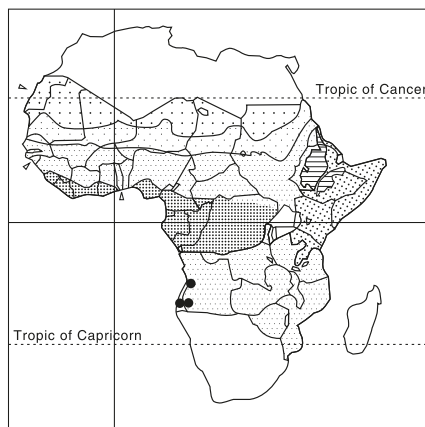
Crotalaria sphaerocarpa



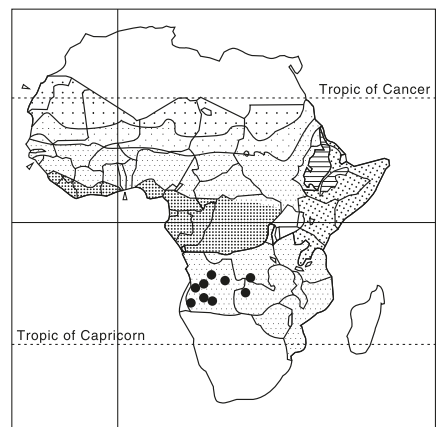
Crotalaria spinosa



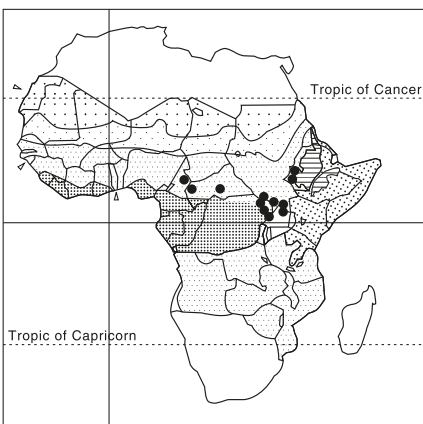
Crotalaria staneriana



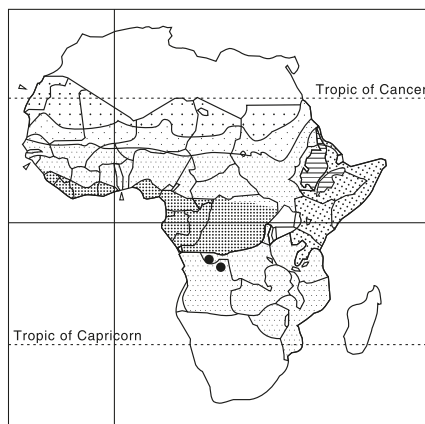
Crotalaria stenopoda



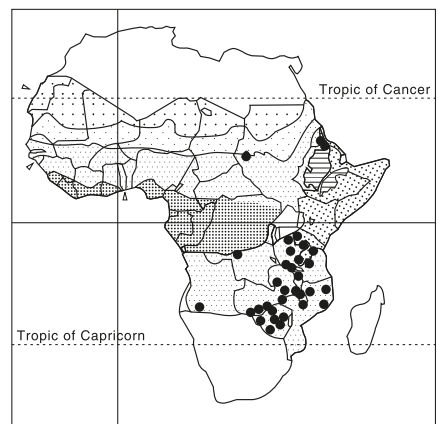
Crotalaria stenoptera



Crotalaria stenorhampha



Crotalaria stenothyrsa



Crotalaria stuedneri

CROTALARIA

C. subcapitata De Wild.

syn.: Enum. 2: 77, 1992.

Procumbent or straggling annual or perennial herb, to 0,5-1,3 m tall; branches ± ribbed, appressed or spreading hairy; leaflets generally varied in shape up the stem, longer and narrower above; calyx becoming truncate at base and deflexed against pedicel; standard veined purple.

In a variety of grassy habitats, often along streamsides; deciduous woodland, margins of upland rain-forest; also cultivated ground; 600-2300 m alt. (subsp. **subcapitata** var. **subcapitata** in E. Africa). – Damper situations, and often more open than for var. **subcapitata** typical of marshy places, ditches, lakesides, (800-)1500-1900 m alt. (var. **fwamboensis**; in SE part of range). – Mountain grassland (Cameroon Highlands, SE Nigeria); c. 1500-2400 m alt. [subsp. **oreadum** (Bak. f.) Polhill].

Polymorphic species; very variable in habit, in size and shape of leaflets (also often varying up the stem), in size of stipules, in length of racemes, in size of flowers and pods, in hairyness of pods.

Botswana.

Comprises 2 subsp.: – subsp. **subcapitata** with 2 vars. [var. **fwamboensis** (Bak. f.) Polhill with add. syn.: *C. utschungwen-sis* Bak. f.].

In Fl. Zambes. area easy to distinguish from related species by the presence of stipules. Introgression possible with *C. kirkii*, *C. lanceolata*.

C. subsessilis Harms

Erect or spreading virgate perennial herb or subshrub 40-60 cm tall, with slender appressed puberulous branches; leaflets linear-oblongate; inflorescences reduced, flowers 1(-2-4), small; standard violet or pale blue inside, copper-red outside; pod 2-4-seeded; mature seeds unknown.

Dry woodland on Kalahari sand; 1200 m alt.

C. subspicata Polhill

Annual erect herb, usually unbranched, spreading-hairy, to 30 cm tall; stipules absent; racemes short, dense, many-flowered; also other flowers in axils below; flowers small; pod globose, few-seeded.

Brachystegia woodland, on grey sandy loam; in red soil by roadside; 500-910 m alt.

Resembling *C. vandenbrandii* (with more westerly distribution).

C. subtilis Polhill

Annual erect herb with slender, sometimes ascending branches, spreading-hairy, 10-40 cm tall; leaflets linear-oblong; stipules absent; racemes short, laxly few-many-flowered; flowers small; standard lined red-brown; pod 2-seeded.

Brachystegia woodland, in rocky places; on schist; in scrub on roadside; 1200-1500 m alt.

Resembling *C. axillifloroides*, but clearly distinct, and without signs of introgression where they grow together (S end of Lake Tanganyika).

C. sylvicola Bak. f.

Perennial herb or suffrutex with numerous slender branched ± spreading-hairy stems to 15-40 cm tall; leaves small, with *raised marginal nerve of leaflets*; stipules absent; flowers small, 1-2, leaf-opposed; standard pale green yellow.

Grassy places with subshrubs at edges of dambos, on Kalahari sand; deciduous woodland; 1360 m alt. (NW Zambia).

CROTALARIA

C. szaferiana R. Wilczek

Suffrutex with numerous silvery-hairy stems 60-80 cm tall, from a woody rootstock; leaflets needle-like with inrolled margins; stipules very small or absent; flowers few in sessile heads; ovary 2-ovulate; pods and seeds unknown.

Grassland with subshrubs; 1870 m alt.

Is perhaps a hybrid between *C. lawalreeana* and *C. gnidioides*, but more material needed for consideration.

Known only from the type? (Verheyen in G. de Witte 3223) collected in 1948.

C. tabularis Bak. f.; sensu Polhill, Kew Bull. 22: 307, 1968, excl. syn. *C. staneriana*.

Shrub or woody herb with puberulous glabrescent branches, 1-3,5 m tall; stipules sometimes absent; racemes ± laxly many-flowered; flowers large.

Montane forest margins or in undergrowth and on stream banks, and associated evergreen bushland and grassland; in bracken and tall grass area in forest belt; 1200-3000 m alt.

Variable in size of flowers, stipules and bracts.

Resembling *C. staneriana* and has been confused with the latter.

C. tamboensis R. Wilczek

Erect annual herb with some suppressed flowering branches in upper part, densely appressed hairy, 20-70 cm tall; leaflets 3 (-1 in flowering part); stipules absent; racemes short, laxly many-flowered, and flowers in clusters below racemes; standard with 2 darker red-fringed marks at base inside; ovary 8-10-ovulate; pods and seeds unknown.

Rocky places on escarpment; 1300-1400 m alt.

Known only from the type? (Van Meel in G. de Witte 6100) collected in 1949.

C. teixeirae Torre

Erect annual hairy herb 50-80 cm tall; racemes laxly many-flowered; flowers fairly small; standard usually finely reddish lined; pod stiped, short, 2-4-seeded.

Woodland, grassland, often in sandy places by streams.

NW Namibia.

C. tenuipedicellata Bak. f.

Erect annual appressed puberulous herb branching above, 0,5-1,2 m tall; leaves 1-foliolate, linear; stipules absent; racemes short, few-flowered; standard pale yellow, lined reddish; pod 2-seeded; mature seeds unknown.

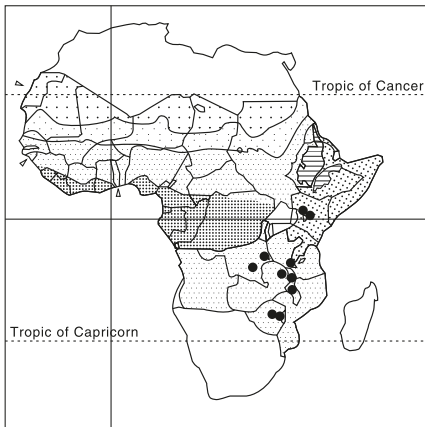
Brachystegia woodland, in rocky shady places; 1200-1350 m alt.

C. tenuirama Welw. ex Bak.

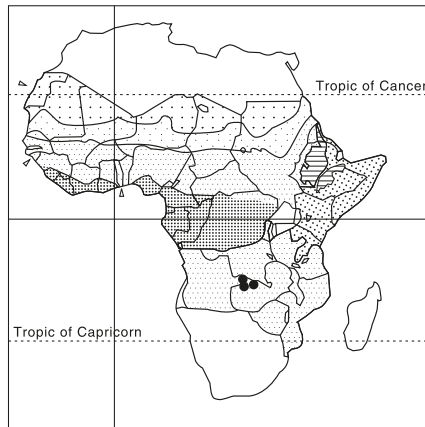
Erect annual appressed puberulous herb 15-75 cm tall, with stiffly ascending slender flowering branches above; leaflets 3(-1, in upper part); stipules absent; racemes short, laxly few-many-flowered; flowers small; standard lined red-brown; pod 2-seeded.

Brachystegia woodland, often in damp disturbed places; mixed alluvial thicket; in coarse sand in the old beds of streams, frequent, and in rocky mountain pastures (Angola); 600-1300 m alt.

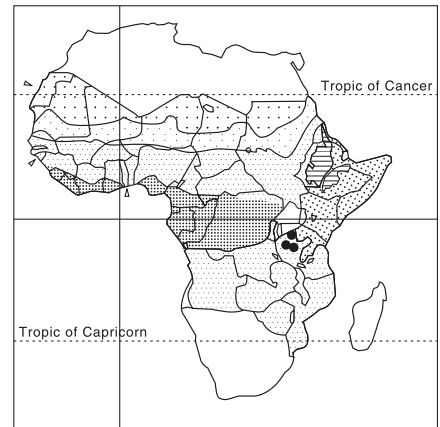
Difficult to distinguish from *C. hyssopifolia* (variable and widespread), but flowers more laxly inserted, branches fairly short, slender.



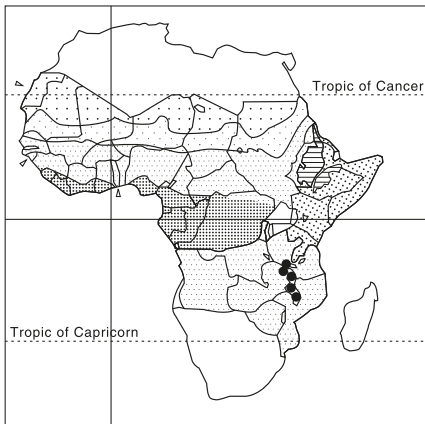
Crotalaria stolzii



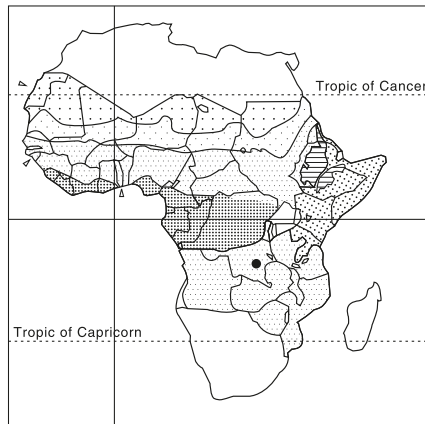
Crotalaria streptorrhyncha



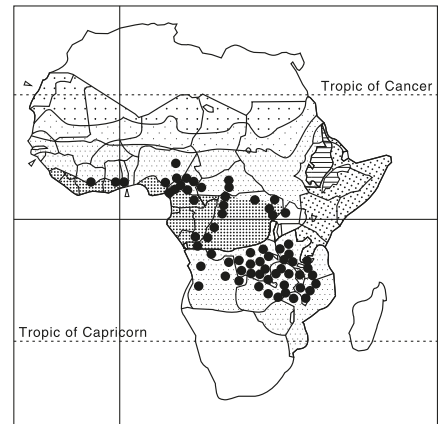
Crotalaria stuhlmannii



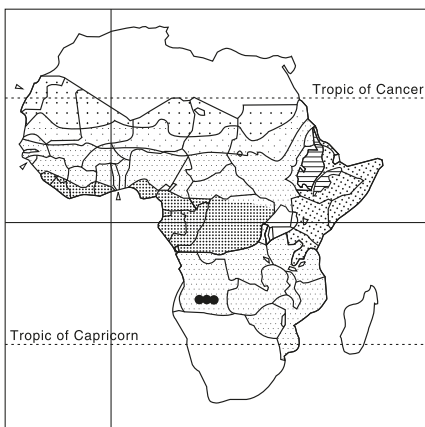
Crotalaria subcaespitosa



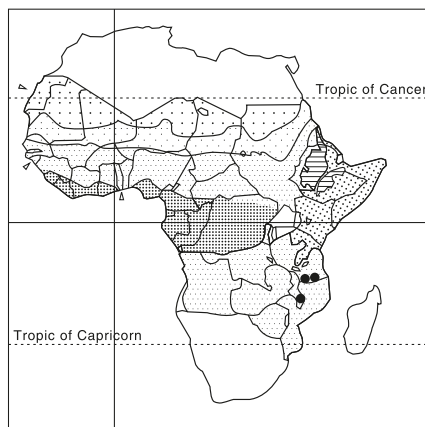
Crotalaria subcalvata



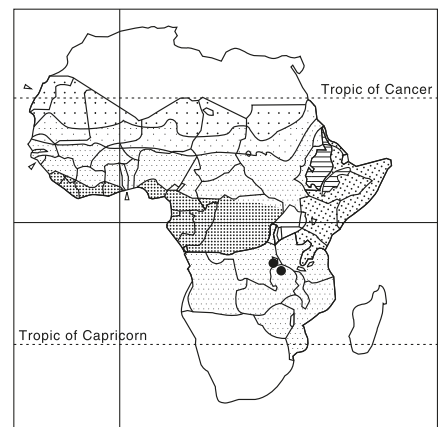
Crotalaria subcapitata



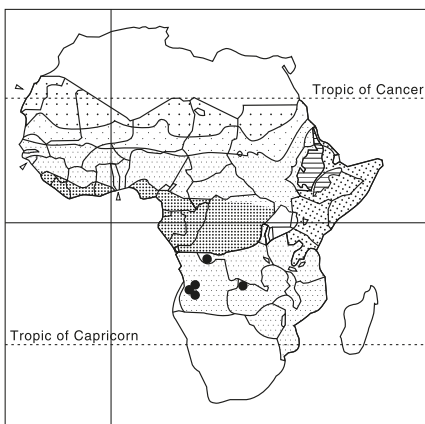
Crotalaria subsessilis



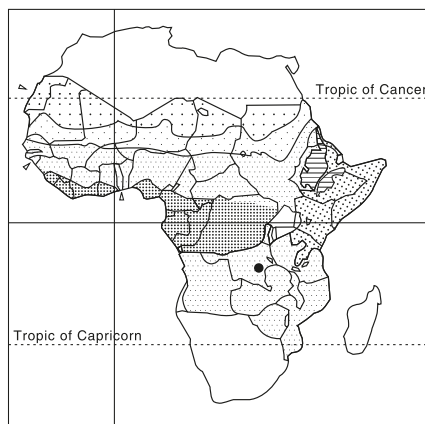
Crotalaria subspicata



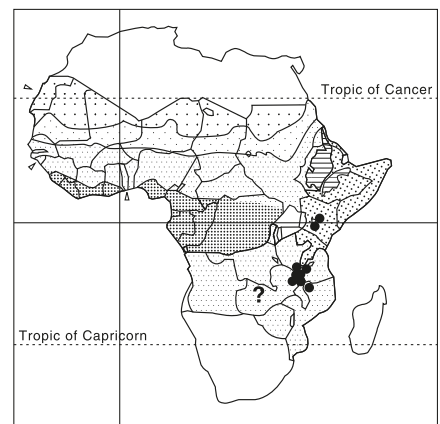
Crotalaria subtilis



Crotalaria sylvicola



Crotalaria szaferiana



Crotalaria tabularis

CROTALARIA

C. tenuirostrata Polhill

Perennial herb with slender, laxly branched, prostrate radiating stems to 30-45 cm long; leaves 1-foliolate, large; racemes laxly few-many-flowered; standard heavily veined red-brown; pod short, cylindrical, thick-walled, tardily dehiscent, many-seeded.

Deciduous woodland with *Brachystegia spiciformis*, *Combretum zeyheri*, *Commiphora*; and grassland, overgrazed grassland, locally common in damp sandy places; 1400-1620 m alt.

Closely allied to *C. stuhlmannii* and introgression seems to occur (*C. stuhlmannii* var. *crassicarpa* apparently intermediate).

C. teretifolia Milne-Redh.

Erect wiry annual herb, sometimes much-branched with glabrous slender stems, to 25 cm tall; leaves simple, terete, narrow; racemes laxly 1-3-flowered with filiform rhachis; flowers small; standard pale yellow, with a darker red-fringed mark at base inside, brown veined outside; keel with forwardly bent beak, lined brown at tip. – Inconspicuous.

Brachystegia woodland, short grassland; in rocky places, sandy roadside verge, bare or gravel soil near rock outcrop, pockets of soil on exposed rocks, sandy ground with *Crotalaria shirensis*, dry sand by road, damp sand among flat ironstone rocks, by dams and in pans; c. 900-1800 m alt.

Closely related to *C. shirensis*, but leaves terete.

C. tetraptera Torre

Erect annual herb, laxly branched, to 1,2 m tall; branches narrowly 4-winged, glabrescent; flowers large, keel with forward-pointing beak; pod cylindrical, sometimes markedly inflated.

Deciduous woodland, secondary bushland.

C. thebaica (Del.) DC.

bas.: *Spartium thebaicum* Del.

Shrublet with long-hairy, ribbed branches, 10-60 cm tall; leaves simple, ovate, usually present at flowering time, but sometimes small; stipules absent; racemes short, laxly few-flowered, with rigid rhachis becoming spine-tipped; flowers small, calyx 2-lipped, longer than corolla tube; standard veined brown; keel with a straight beak circumflexed 120°-180°; pod 2-3-seeded.

Desert wadis, dunes, cultivated ground; wadis in sandstone mountains (not on granite), sandy desert plains, on various substrates but mostly in pure sand or in *Acacia-Panicum* associations (630-840 m alt.), and with optimum development in association with *Citrullus* and *Stipagrostis* spp. (630-660 m); also in gorges with sandstone blocks mixed with sandy pockets (600-800-1000 m); or in gorges with *Aerva*, *Acacia*, *Fagonia*, in company with *Fagonia* and *Atractylis* (1120-1380 m); also on gneiss mixed with sandstone gravel, together with *Fagonia*, *Cleome chrysantha*, *Stipagrostis* spp. (650-850 m); 600-1380 m alt. (Jebel Uweinat, NW Sudan, fide J. Léonard in Syst. Geogr. Pl. 69: 222-224, 1999).

S Libya, Egypt (Nile Valley).

Choice fodder of gazelles and moufflon sheep; browsed plants are stunted, becoming small dense cushions.

CROTALARIA

(**C. thomasii** Harms – See *C. saltiana* above).

C. torrei Polhill

Rhizomatous shrub with densely spreading-hairy branches, to 1,5 m tall; racemes short, closely many-flowered; buds spreading; standard finely lined brown; ovary few-seeded; pod ovoid-fusiform; seeds unknown.

Montane grassland in sometimes rocky and damp places; c. 1700 m alt. (known only from Gurué mountain range).

Resembling *C. collina*.

C. trichotoma Bojer

syn.: *C. zanzibarica* Benth.; *C. usaramoensis* Bak. f.; *C. thomeensis* Bak. f.

Erect annual or short-lived bushy semi-woody perennial herb 0,7-2,7(-3) m tall; branches ribbed, appressed puberulous; leaflets 6-14 cm long; stipules lacking; racemes long, many-flowered; flowers fairly large; calyx becoming basally truncate and deflexed against pedicel; standard veined red-purple outside; pod long, cylindrical, 50-70-seeded.

Clearings in rain-forest and bushland, *Brachystegia* woodland; upland, swamp and valley grasslands; in grassy places; also roadsides and cultivated ground; 0-1800 m alt.

Variable in type of indumentum, in size and shape of pods.

Native to coastal regions of Tanzania, N Mozambique; extending inland to Lake Malawi. – Mapped. Possibly also native to NW Madagascar.

Widely cultivated (cover crop, green manure), and naturalized in tropical Africa (e.g. Senegal, Guinea-Bissau, Guinea, Ivory Coast, Cameroon, Angola; S. Tomé), and sporadically elsewhere (e.g. India).

Without fruits sometimes difficult to distinguish from *C. kirkii*.

C. cleomoides Klotzsch is perhaps a synonym (or of *C. kirkii*, or of *C. lanceolata*).

C. trifoliolata Bak. f.

Robust herb with felted tomentum; racemes with numerous flowers, lax below, crowded above; pod and seeds unknown.

Dry bushland?; c. 1400 m alt.

Only known from the type (Donaldson Smith 213) collected in 1894.

C. trifoliolata sensu Chiovenda = *C. fascicularis*.

C. trinervia Polhill

Perennial herb with 1-many simple or branched (above) stems, to 1,5 m tall, 4-angular, ribbed, glabrous, arising from a horizontal woody rootstock; leaves mostly 1-foliolate, the uppermost reduced, stipules long; racemes laxly few-flowered; flowers large, standard pale violet inside, yellowish brown with deep brown veins outside; young pods oblong-ellipsoid; seeds unknown.

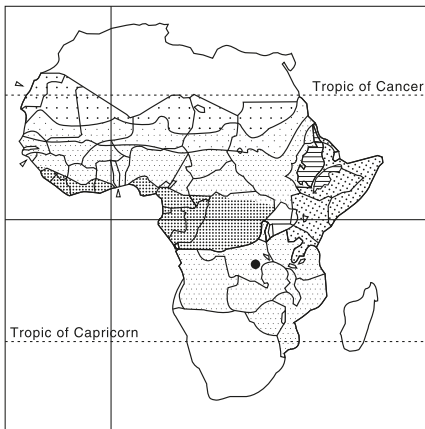
Brachystegia woodland on plain; c. 1300 m alt.

Allied to *C. stenoptera* and *C. angulicaulis*.

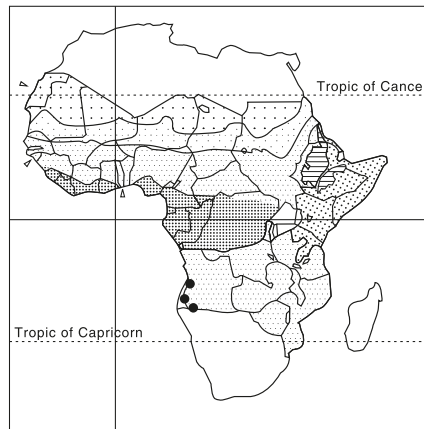
Known only from the type gathering of 1938 (Milne-Redhead 3914).

C. tristis Polhill

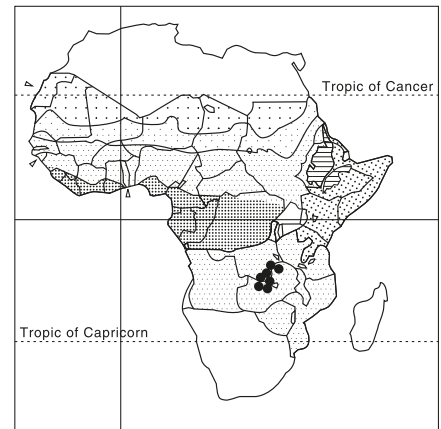
Bushy shrub with dullish tomentose branches, to 1,3 m tall; stipules small or absent; racemes laxly few-flowered; flowers fairly large; pod oblong-clavate, stiped.



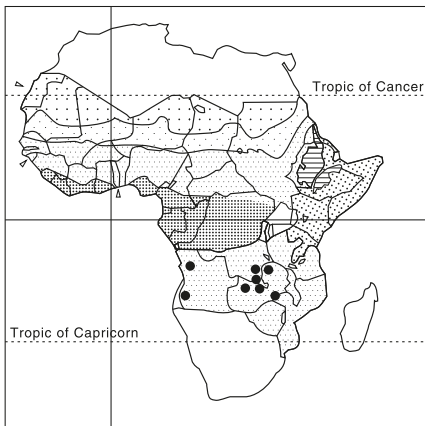
Crotalaria tamboensis



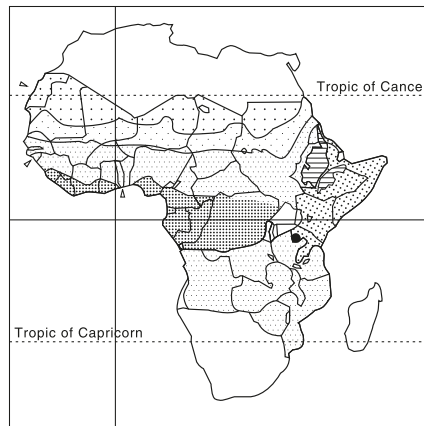
Crotalaria teixeirae



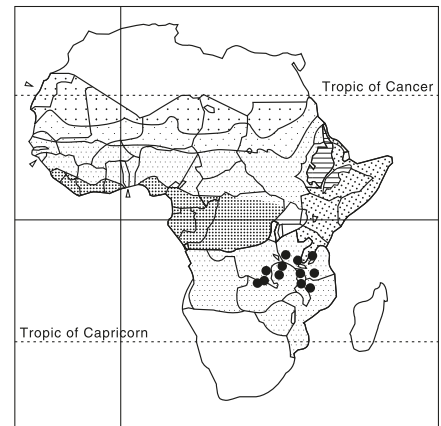
Crotalaria tenuipedicellata



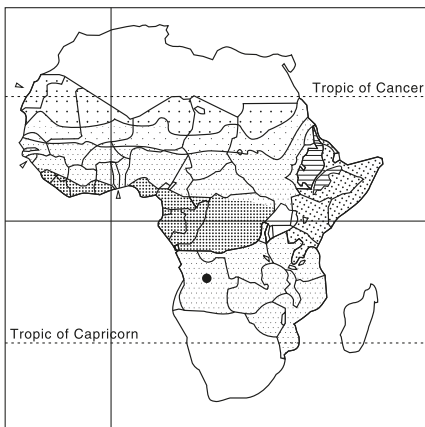
Crotalaria tenuirama



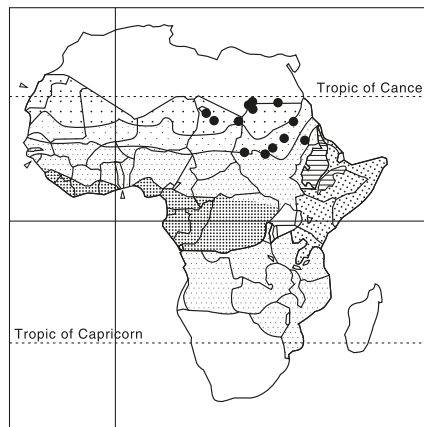
Crotalaria tenuirostrata



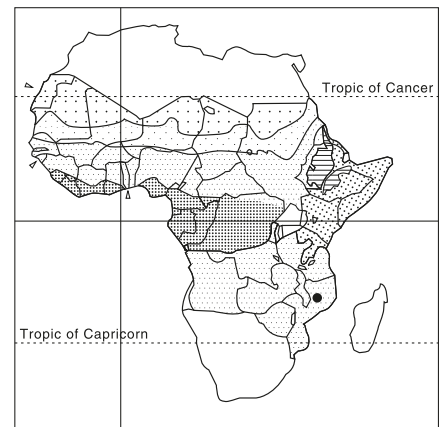
Crotalaria teretifolia



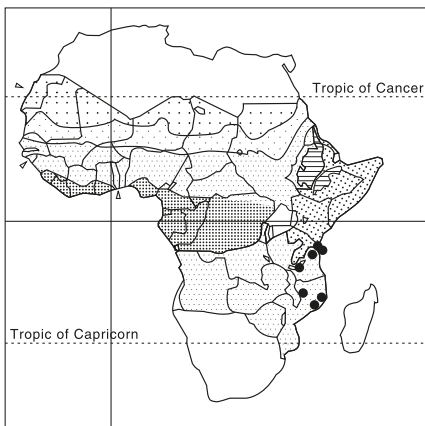
Crotalaria tetraptera



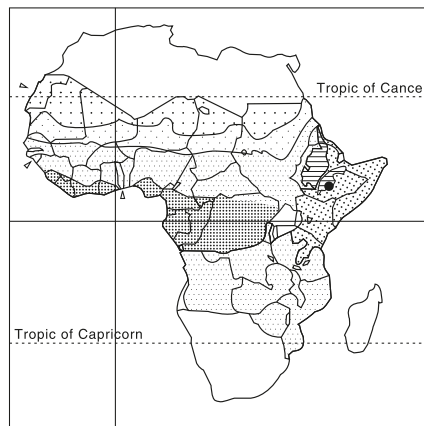
Crotalaria thebaica



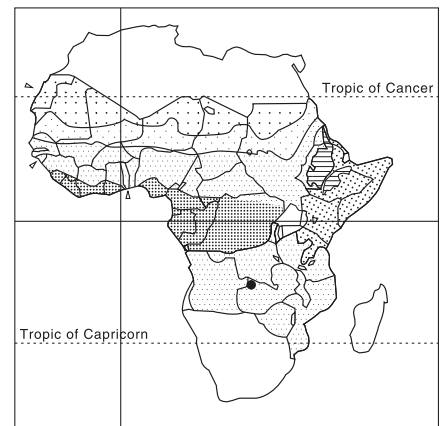
Crotalaria torrei



Crotalaria trichotoma (native populations)



Crotalaria trifoliolata



Crotalaria trinervia

CROTALARIA TRISTIS

Plateau woodland, presumably secondary miombo associations; 1500 m alt.

Close to *C. amoena* and *C. chrysotricha*.

Known only from 2 collections (type collected in 1957).

C. tsavoana Polhill

Woody perennial herb 0,3-1,2 m tall, much-branched, silvery hairy; stipules absent; flowers large; keel flushed crimson brown; pod clavate-fusiform, stiped, many-seeded.

Open mixed deciduous bushland in orange-brown sandy loam; *Acacia-Commiphora* bushland; wooded grassland; 250-900 m alt.

C. uguenensis Taub.

Annual or short-lived perennial herb, decumbent or spreading-erect, ± spreading hairy, to 70 cm tall, but often smaller; stipules long; flowers small in dense racemes; standard and keel veined purple.

Acacia-Commiphora deciduous bushland often around rock outcrops; rock hilltops and ravines; *Acacia* wooded grassland on clay soils, in seasonal stream-beds; also roadsides, cultivated ground; uncommon (Kenya); 200-2000 m alt. (1000-1400 m, Ethiopia).

Variable in habit, indumentum, size of parts, shape of flower keel. Closely allied to *C. ukambensis* and *C. patula*. In NE Tanzania difficult to distinguish from the former in absence of fruits; perhaps introgression here, too.

C. ukambensis Vatke

syn.: *C. citricolorata* Bak. f.

Much-branched annual or short-lived perennial herb, procumbent or ascending, spreading long-hairy, to 1 m tall; stipules long; racemes very long with many flowers usually crowded towards the top; standard cream or yellow, veined or sometimes suffused purple.

Deciduous bushland, scattered-tree grassland; *Acacia-Commiphora* bushland on rocky outcrops (Tanzania); local species; 450-1200 m alt. – *Acacia-Commiphora* bushland, 1200 m (Ethiopia).

Variable in size and shape of leaflets.

Closely related to, and some specimens approaching *C. uguenensis*.

C. ukambensis sensu Chiovenda = *C. phillipsiae* (cf. under this species).

C. ukingensis Harms

Bushy shrub, brownish velvety-hairy, to 2 m tall; leaves small, with tufts of smaller leaves in the axils; inflorescences of 2 sorts: racemes on long shoots laxly 4-6-flowered, supplementary ones 1-2-flowered from leaf-tufts; flowers fairly large; standard lined brown-purple; pods and seeds unknown.

Edge of riverine forest; 1700 m alt.

Known only from the type (Goetze 1195) collected in 1899.

C. ulbrichiana Harms

Erect annual pubescent herb, laxly branched, 0,4-1,2 m tall; stipules fairly long; racemes short few-flowered at first, elongating considerably with many flowers; flowers large; pod stiped, broad.

Deciduous woodland and bushland in arid areas, often in rocky places; c. 900-c. 1100 m alt.

N Namibia.

CROTALARIA

C. umbellifera R. E. Fries

Prostrate perennial herb with slender densely strigose-pubescent stems to 40 cm long; racemes subumbelliform, few-flowered; standard royal blue-mauve or ? whitish; wings yellow; ovary 2-ovulate; pods and seeds unknown.

Deciduous woodland in higher rainfall areas; on burnt land, probably marshy during the rainy season; 1350-1650 m alt.

Inadequately known. – The type said to have yellowish flowers, but perhaps polychromatic with whitish standard.

Similar in habit, flower arrangement and petal coloration (but different keel) to *C. variegata*; confusion possible.

C. uncinata Welw. ex Bak.

Straggling annual or short-lived perennial herb, laxly branched, appressed pubescent, to 0,5 m (and more) tall; racemes many-flowered; standard dull yellow, veined purple.

In tall-grassy wooded pastures and meadows; open bushland; c. 1500 m alt.

C. uncinella Lam. subsp. **uncinella**. – Excl. var. *senegalensis* Pers. (= *C. senegalensis*) and var. *glabra* DC.

Woody herb or shrub, densely velvety brown hairy, 0,5-3(-5) m tall; stipules inconspicuous, often hidden by indumentum; racemes dense many-flowered; pod 1-2-seeded.

Forest margins, rocky peaks and outcrops; upland grassland; 450-1100 m alt.

Variable in size and indumentum of leaflets.

Madagascar, Mascarene Isl. – Subsp. **elliptica** (Roxb.) Polhill in SE Asia (Malaya, S China).

C. uncaulis Bullock

Suffrutex with annual or perennial scarcely woody erect glaucous, ± glabrous stems from a well-developed rootstock; leaves simple or 1(-3)-foliolate; petiole grooved, winged; racemes lax, many-flowered; flowers large; standard veined and speckled red-brown; pod stiped, long; mature seeds unknown.

Brachystegia plateau woodland; bush; locally common; in disturbed places; 1000-1700 m alt.

Herbarium material with trifoliolate leaves have often been referred to *C. tabularis*.

Herbarium material from S Zambia (Trapnell CRS 534) formerly included in this species seems to be *C. laburnifolia* subsp. *laburnifolia* (fide Polhill in Fl. Zambes. 3/7: 96, 2003).

C. vagans Polhill

Annual or short-lived perennial herb with procumbent to ascending terete stems (0,15-)0,5-1,2 m long; white-tawny spreading hairs mixed with appressed ones; leaves simple, stipules absent; racemes few-flowered, lax; flowers fairly large; calyx 2-lipped, exceeding corolla, pale yellow-white; ovary many-seeded; pod long, clavate; seeds unknown.

Open woodland, savanna.

Related to *C. mysorensis* Roth

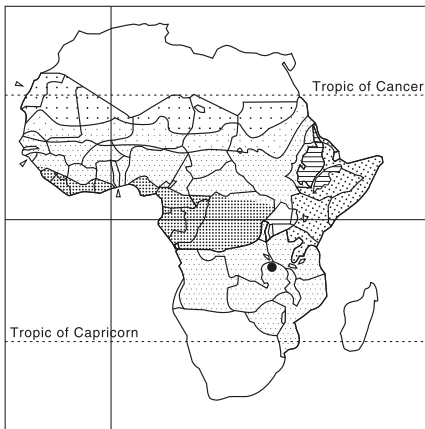
C. valida Bak., excl. specim. Whyte 373.

syn.: *C. lachnocarpoides* Engl. subsp. *valida* (Bak.) Bak. f. quoad specim. Kassner; *C. lachnocarpoides* var. *valida* (Bak.) Verdoorn, quoad specim. Stolz 2360.

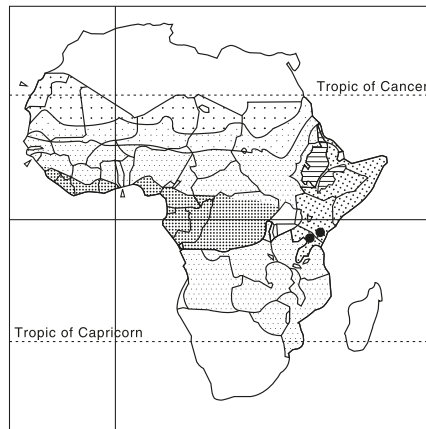
Bushy, spreading-hairy subshrub to 1,3 m tall; leaves 3(-1)-foliolate; stipules often evanescent; racemes few-many-flowered; flowers large.

Plateau miombo woodland, particularly *Julbernardia* associations; upland grassland; 750-2400 m alt.

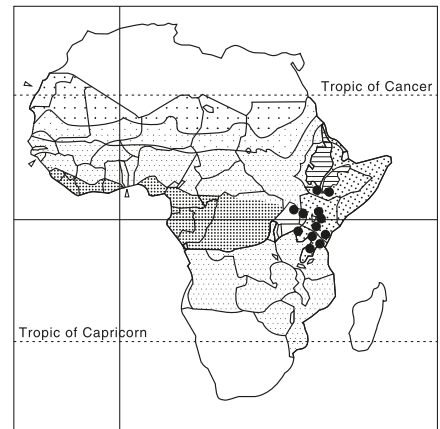
Resembling *C. lachnocarpoides*.



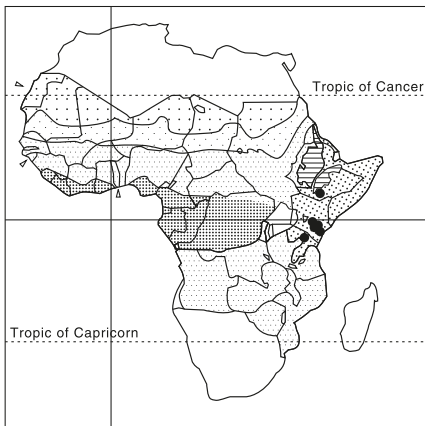
Crotalaria tristis



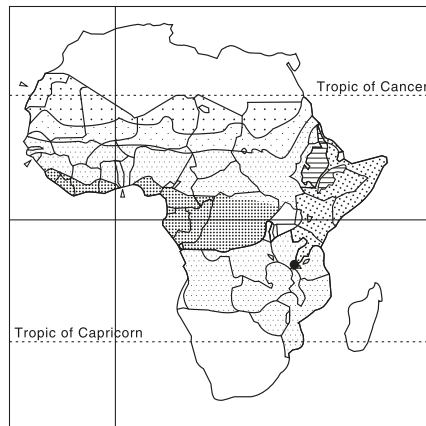
Crotalaria tsavoana



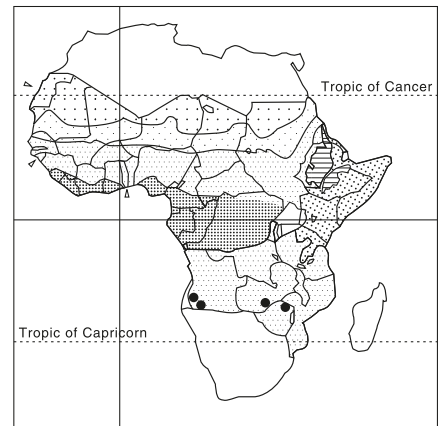
Crotalaria uguensis



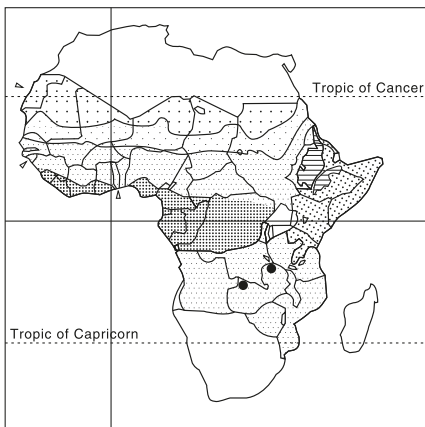
Crotalaria ukambensis



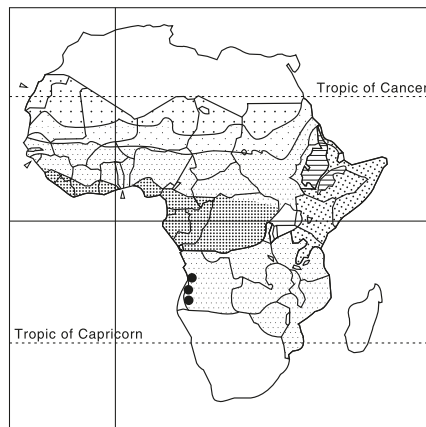
Crotalaria ukingensis



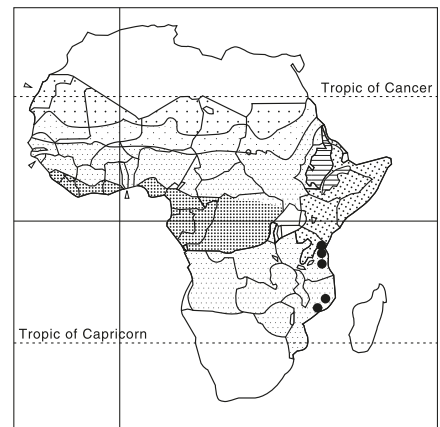
Crotalaria ulbrichiana



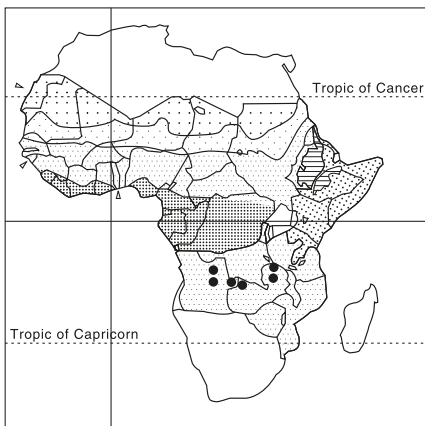
Crotalaria umbellifera



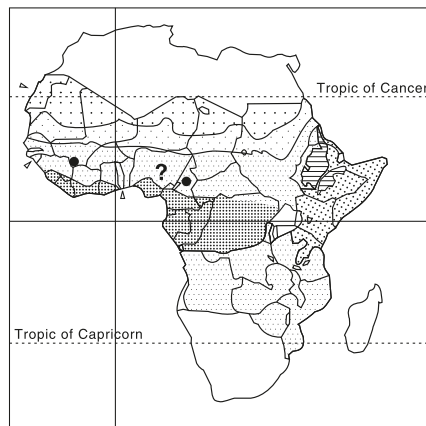
Crotalaria uncinata



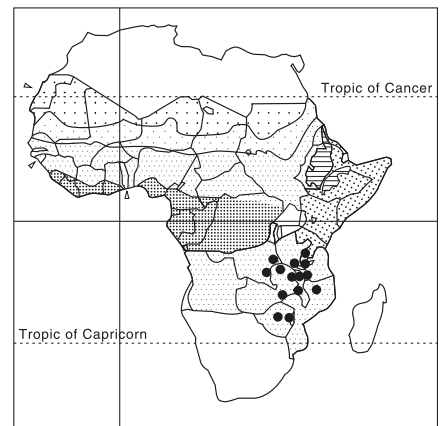
Crotalaria uncinella subsp. *uncinella*



Crotalaria unicaulis



Crotalaria vagans



Crotalaria valida

CROTALARIA

C. vallicola Bak. f., incl. var. *congolensis* De Wild.

syn.: *C. muansae* Bak. f.; *C. oxthoibos* Bak. f. & Martin

Erect bushy annual or short-lived perennial herb 0,2-0,5 m tall, with many spreading branches along stem, densely appressed and spreading hairy; stipules minute, caducous; racemes short, dense, many-flowered; flowers small; calyx becoming truncate and deflexed against pedicel; standard veined or suffused red-brown.

Grassland, secondary bushland, often around rock outcrops or in disturbed places; edges of seasonal pools (Rwanda); also roadsides, cultivations, a weed of cleared ground; 1140-2500 m alt.

C. vandenbrandei R. Wilczek ("vandenbrandii")

Erect annual herb 20-50 cm tall, developing ascending branches along the stem, densely long-hairy (hairs 1-2 mm long, twisted); stipules absent; racemes densely many-flowered; bracts leafy; flowers small; pod 2-seeded.

Brachystegia woodland, upland grassland on rocky hillsides and sandy roadsides; on black alluvial soil under spiny *Acacia* sp. near river (Zaire); 1500-1800 m alt.

C. vanderystii R. Wilczek

Perennial plant with several erect stems, not or little branched, ribbed, densely spreading (-retorse) hairy, to 45 cm tall; stipules absent; racemes short, ± densely many-flowered.

Savanna subject to burning; c. 1100 m alt.

Very close to *C. sapinii*.

C. vanmeelii R. Wilczek

Erect graceful annual herb, laxly branched, with slender, short appressed or spreading hairy stem, 30-80 cm tall; leaves simple, long, linear; racemes laxly few-flowered; standard veined brown; pod short, narrowly cylindrical, many-seeded.

Brachystegia woodland on sandy soils, on steep slopes, along tracks, in disturbed places; 750-1600 m alt. (environs of S end of Lake Tanganyika).

C. varicosa Polhill

Perennial herb with numerous prostrate well-branched hairy stems 60-75 cm long; racemes leaf-opposed, ± umbelliform, few-flowered; flowers small; pod short, subglobose, thick walled, tardily dehiscent, with raised vein-network; mature seeds unknown.

Grassland; common in pastures on coarse red sand; in short grass on dampish ground; common on waste land, fallow cultivation; 1140-1170 m alt. (around S part of Lake Victoria).

C. variegata Welw. ex Bak., incl. var. *humpatensis* Torre

syn.: *C. sericifolia* Harms var. *gweloensis* Bak. f.; *C. thaumasiophylla* Harms

Trailing perennial herb with numerous radiating flexuous stems to 1 m long; young parts hairy; stipules long; racemes terminal and leaf-opposed, short, subumbelliform, few-flowered; flowers fairly small; calyx as long as corolla; standard blue or white inside, reddish outside; wings and keel yellow.

Brachystegia plateau woodland and wooded grassland; also roadsides; c. 800-1700 m alt. – Bushy pastures, flooded in the rainy season; 2000 m (Angola). – Grassy savanna with *Protea*; roadsides (Zaire).

Variable in shape of leaflets, in distribution and density of indumentum. – Cf. under *C. johannis*.

CROTALARIA

C. variifolia Polhill

Perennial herb with several erect sometimes branched, angular stems 45-85 cm tall, from a slender root 20 cm long; leaves 1-foliolate, long, elliptic; stipules absent; racemes terminal, lax, few-many-flowered; flowers large; standard turning brownish; young pod cylindrical, glabrous; mature pod, and seeds unknown.

Upland grassland, common also in old cultivations; among long grass; in secondary growth in abandoned field on clay soil; 1500-2400 m alt.

Similar to the Angolan *C. welwitschii*.

C. vasculosa Wall. ex Benth.

syn.: *C. pseudoeriosema* Vatke; *C. ugandensis* Bak. f.; *C. rufocarpa* Gilli

Shortly erect annual herb 75-90 cm tall, tawny spreading-hairy, with long decumbent branches; racemes densely many-flowered; flowers small; calyx truncate, deflexed against pedicel; standard pale yellow, veined purple; pod subcylindrical, densely brown-hairy.

Grassland, open *Brachystegia* woodland, streamsides, often on sandy soils; wooded grassland in old cultivations; also roadsides, cultivated ground; 0-1650 m alt. (avoiding highlands and arid parts of E Africa).

Variable in shape and size of leaflets.

S. Africa (Natal).

Doubtful that seeds raised in Calcutta (type: plant cultivated in Bot. Gard.) came from Mauritius.

C. vatkeana Engl.

Annual herb, straggling-ascending or with procumbent lower branches, well-branched, densely appressed hairy to 0,3-1,5 m tall; racemes many-flowered, dense; bracteoles long; calyx becoming basally truncate and deflexed against pedicel; standard veined purple.

Upland grassland, forest margins. Upland rain-forest at margins and clearings, upland evergreen bushland and grassland; also roadsides, cultivated ground; 1300-3300 m alt. (E. Africa). – Rocky summit of mountain, and in grassy patches below summit; 3050-3180 m (S Sudan, Imatong).

Variable in shape and hairiness of leaflets.

C. verdcourtii Polhill

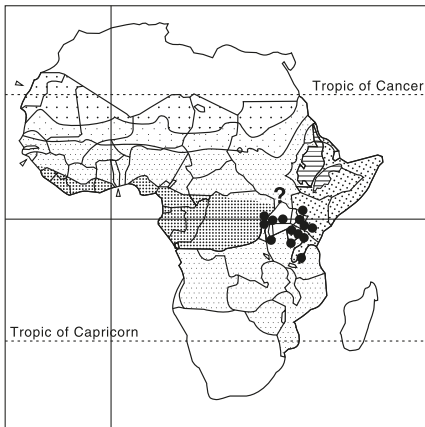
Bushy, densely white-hairy herb to 0,6-1,4 m tall; racemes with numerous laxly or closely arranged large flowers; calyx reflexed; standard usually with a wine-coloured basal mark, flushing reddish overall with age.

Grassland; on black cotton soil with stones; rocky places on mountain slopes; in dry gravel river-bed; *Themeda triandra* grassland marginal to *Acacia xanthophloea* woodland; deciduous bushland of *Acacia senegal*, *A. stuhlmannii*, *Pennisetum mezianum*; roadside weed in original *Acacia* grassland; edges of riverine forest; 550-1700 m alt.

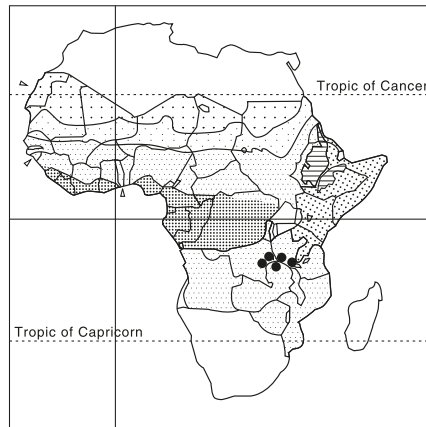
Closely allied to *C. deflersii* but occurring in less arid places and at higher altitude.

[C. verrucosa L.]

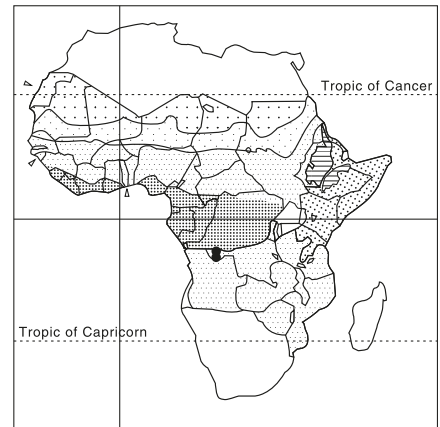
Erect much-branched semi-woody annual herb to 1 m tall, with 4-angled, sulcate, ± flexuous, pubescent branches; leaves simple, large; stipules large, falcate; racemes ± laxly many-flowered; calyx ± as long as corolla; standard yellow tinged blue.



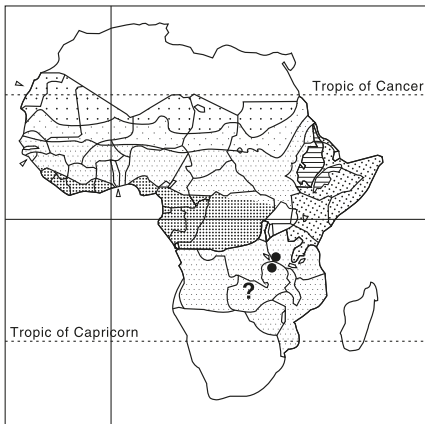
Crotalaria vallicola



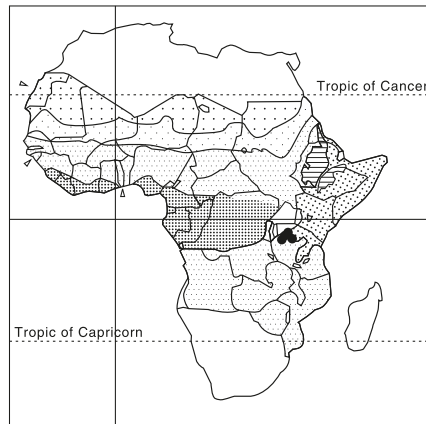
Crotalaria vandenbrandei



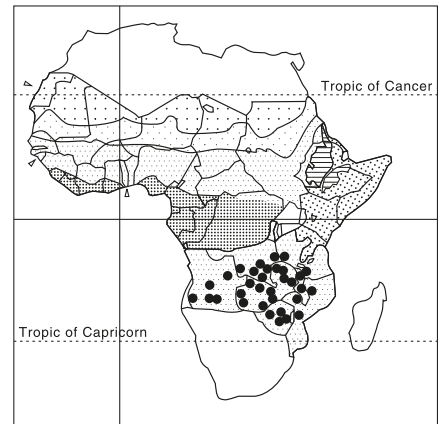
Crotalaria vanderystii



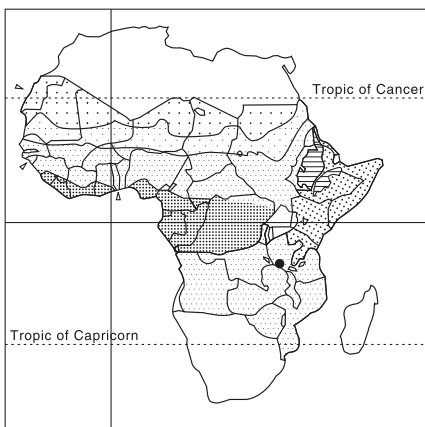
Crotalaria vanmeelii



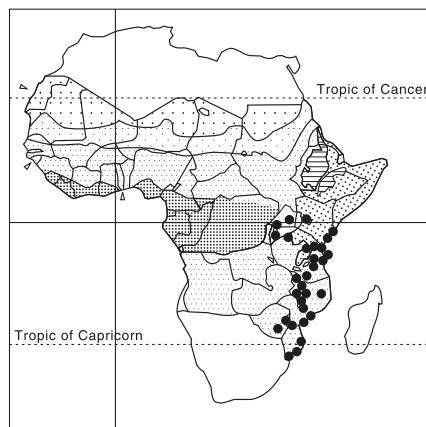
Crotalaria varicosa



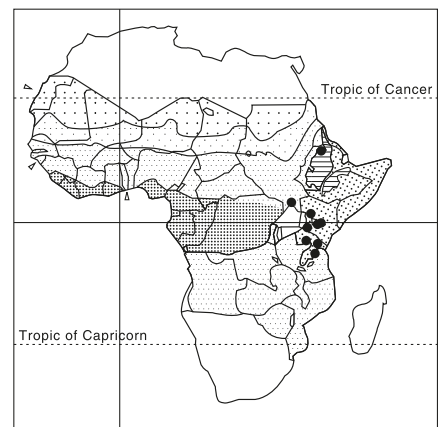
Crotalaria variegata



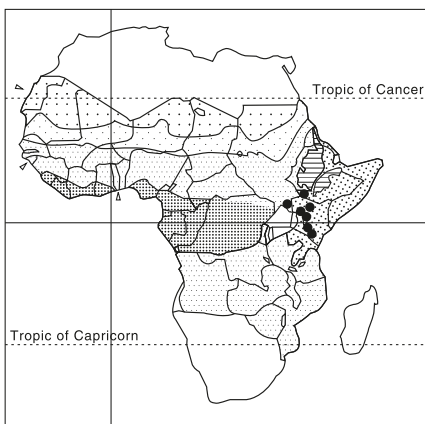
Crotalaria variifolia



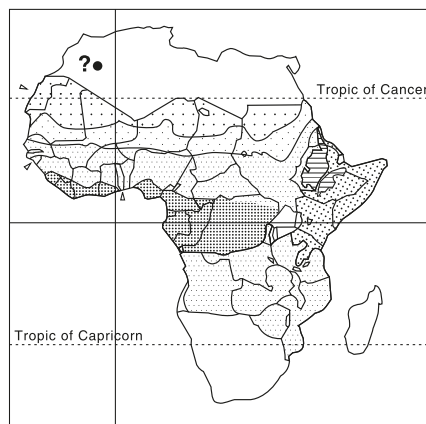
Crotalaria vasculosa



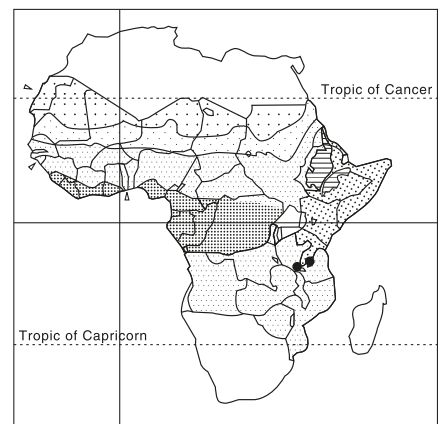
Crotalaria vatkeana



Crotalaria verdcourtii



(*Crotalaria vialattei*)



Crotalaria vialis

CROTALARIA VERRUCOSA

Native of tropical Asia, widely cultivated as green manure, readily naturalised; common as a weed throughout the tropics (incl. Madagascar, the Seychelles, the Mascarenes).

Recorded from Uganda (840 m alt.); Sierra Leone, S Nigeria; Zimbabwe. Not mapped.

(C. vialattei Battand.)

Erect perennial silvery hairy herb with several stems 0.7-1 m tall; racemes laxly many-flowered; calyx deflexed against pedicel at first, later spreading; pod few-seeded; mature pod and seeds unknown?

Margins of ergs on rocks, edge of hamada. Very restricted area. Ecology, detailed distribution map (Algeria), and photograph of the plant in: Ph. Guinet & Ch. Sauvage, in F. Joly & al., Les hamada sud-marocaines, 3e partie, botanique. Travaux de l'Institut Scientifique Chérifien, Sér. Gén. 2: 75-167, 1954 (p. 102, 106, pl. XI).

Restricted to W Algeria (NW Sahara; around Tabelbala, at Erg Iguidi and Hamada du Dra), and adjacent Morocco (fide J. Charco, Guía de los árboles y arbustos del Norte de África: 444-445, Madrid 2001). – Although occurring outside our area the species is mentioned here due to its phytogeographical interest, being the only *Crotalaria* species with this kind of distribution.

Related to *C. saharae*.

C. vialis Milne-Redh.

Annual spreading-hairy herb with short erect stem and long decumbent lower branches, to 25 cm tall; leaves 1-foliolate; racemes with many large flowers crowded towards the top; standard blue with darker lines and yellow basal zone.

Deciduous bushland, on sandy soil; roadsides, cultivated and otherwise disturbed ground; local species; 1200-1650 m alt.

Much resembling some 1-foliolate species, e.g. *C. anthyllopsis*, *C. iringana*, but flower colour different.

C. virgulata Klotzsch (“virgatula” sphalm. in Fl. Trop. Afr. 2: 30, 1871).

syn.: *C. shamvaensis* Verdoorn (of subsp. **virgulata**).

Annual or short-lived perennial subappressed to spreading hairy herb, decumbent to erect, to 1.8 m tall; leaflets small to large; racemes usually of 2 sorts: primary ones terminal or leaf-opposed, 2-40 cm long; supplementary ones from short shoots in axils, 1-2-flowered; flowers small to fairly large; standard often lined red.

Brachystegia woodland, deciduous bushland, upland grassland; 0-1650 m alt.

Variable species with local races; variation in habit, in size and crowding of leaves, development of the inflorescences, flowers and pods (also in direct response to growth conditions), in type of indumentum.

Botswana, S. Africa, Swaziland (subsp. **grantiana**).

Comprises 5 subspp.: – subsp. **pauciflora** (Bak.) Polhill (syn.: *C. forbesii* Bak. var. *vanmeelii* R. Wilczek; ? *C. leptopoda* Harms) in NW part of range (700-1500-2100 m alt.). – Subsp. **forbesii** (Bak.) Polhill (syn.: *C. laevigata* Lam. var. *villosior* Benth.) in NE part of range (40-500-650 m alt.) – Subsp. **virgulata** in W-C part of range (150-2000 m alt.). – Subsp. **longistyla** (Bak. f.) Polhill in N-E Zimbabwe (1000-1600 m alt.) – Subsp. **grantiana** (Harv.) Polhill in coastal regions in SE part of range, extending inland (0-950 m alt.). – Introgression between the subspp. occurs.

CROTALARIA

C. warfae Thulin

Perennial herb or shrublet ± branched, to 30 cm tall, whitish appressed to spreading hairy; stipules absent; racemes lax, many-flowered; flowers small; standard flushed brownish; pod stiped, oblong-falcate, hairy inside, divided into 2 loculi.

Semi-desert bushland on alluvial plains with sparse vegetation; 360-780 m alt.

C. welwitschii Bak., incl. var. *sousae* Torre (1960).

Perennial herb with trailing angular puberulous stems to 60 cm long; leaves 1-foliolate, 4-11 cm long, ± coriaceous; stipules long; racemes lax, few-many-flowered; flowers large; pod narrowly cylindrical; mature seeds unknown.

Sandy damp pastures in plateau regions.

Variable in size of leaves and flowers.

C. wilczekiana Timp.

Erect annual herb, sometimes branching above, with slender appressed puberulous stem 30-90 cm tall; leaves 1-foliolate, small; stipules absent; racemes short, few-flowered, lax, but uppermost ones subumbelliform; also flowers in axils below; calyx very short; standard lined and later flushed red-purple; (young) pod short, many-ovulate; (mature) seeds unknown.

Savanna with *Berlinia giorgii* on damp black sand.

Known only from the type (Duvigneaud 2316C) collected in 1956-1957.

C. youngii Bak. f.

Perennial herb with long much-branched slender trailing-decumbent, spreading-hairy stems (size not recorded); racemes reduced, with 1-several small flowers on a short peduncle, leaf-opposed; standard white inside, brick red outside; pod 1-2-seeded.

Deciduous woodland and bushland in dry places.

Close to *C. variegata*.

* * *

Crotalaria katangensis Dewèvre, nomen nudum. The type specimen, Cornet s.n., has not been found (fide Wilczek, Fl. Congo Belge, Ruanda-Urundi 4: 273, 1953).

C. simplicifolia Bak. f., nomen nudum; type Kassner 2970 from Mt Senga (Haut-Katanga, Zaire) not found (fide Wilczek, l.c.).

* * *

SYNONYMS:

Chrysocalyx ebenoides Guill. & Perr. = **Crotalaria ebenoides**

gracilis Guill. & Perr. = **C. perrottetii**

perrottetii (DC.) Guill. & Perr. = **C. perrottetii**

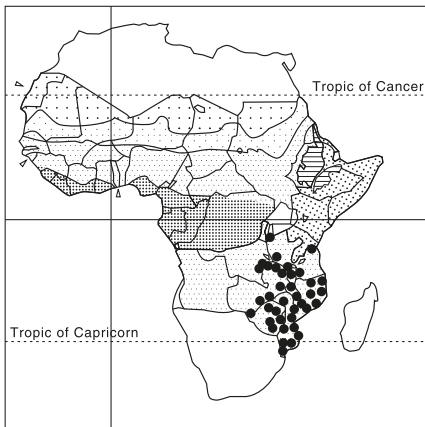
petitiana A. Rich. = **C. petitiana**

quartiniana A. Rich. = **C. comosa**

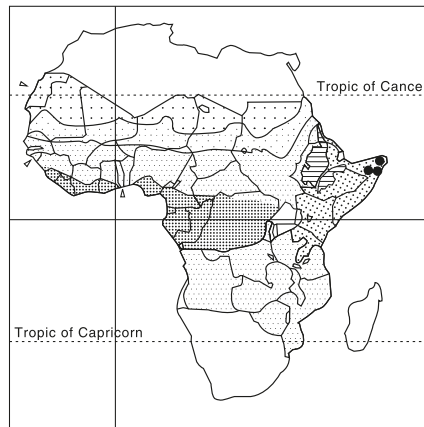
rubiginosa Guill. & Perr. = **C. atrorubens**

Clavulinum pedunculatum (Desv.) Desv. = **Crotalaria laburnifolia** subsp. **laburnifolia**

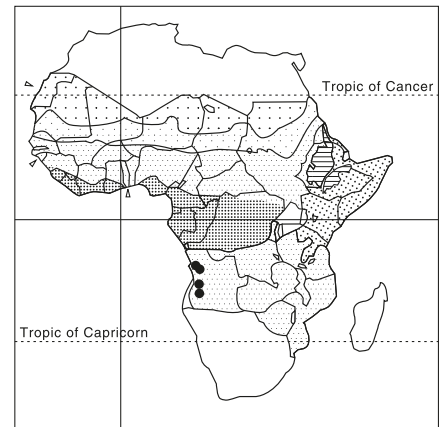
Crotalaria abyssinica D. Dietr. = **C. impressa**



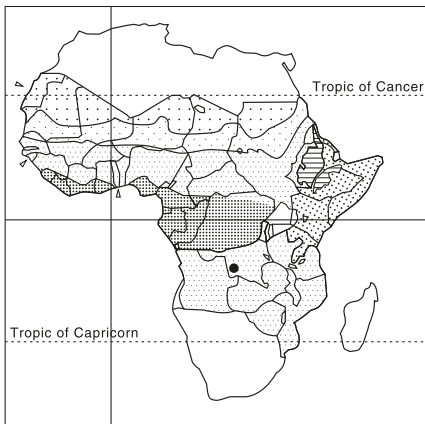
Crotalaria virgulata



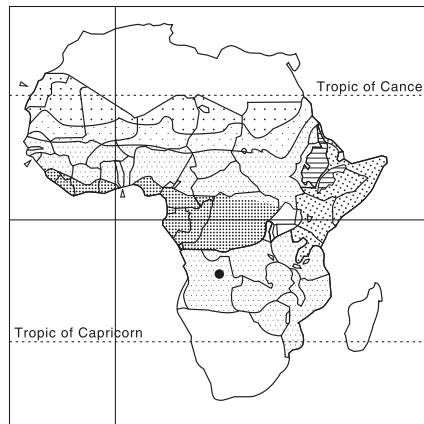
Crotalaria warfae



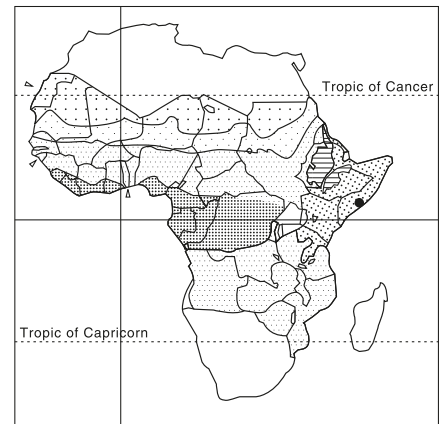
Crotalaria welwitschii



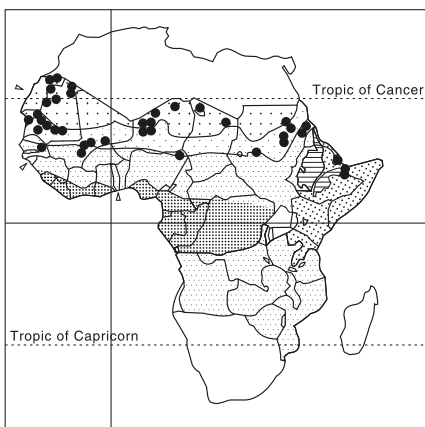
Crotalaria wilczekiana



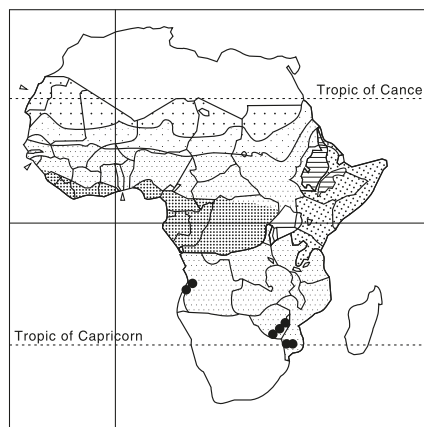
Crotalaria youngii



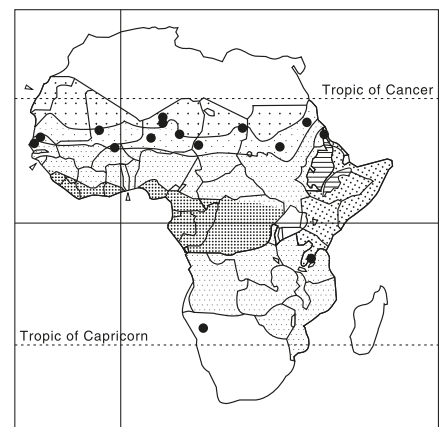
Cullen corylifolium



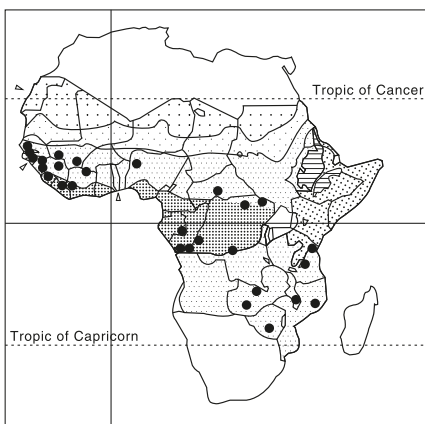
Cullen plicatum



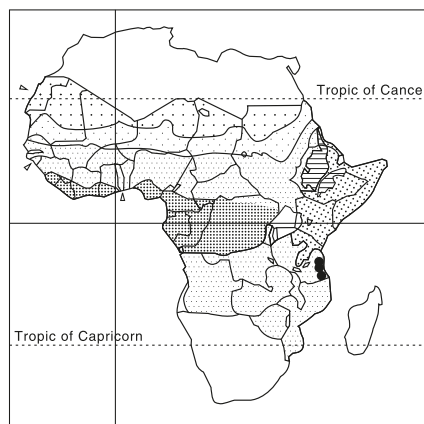
Cullen tomentosum



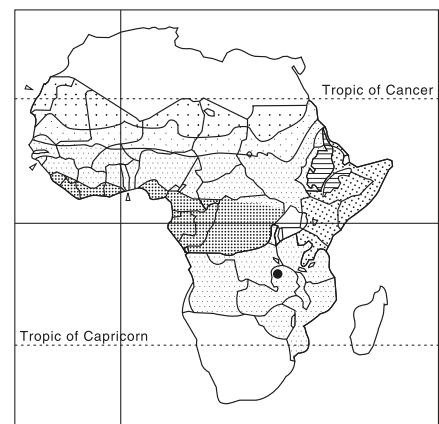
Cyamopsis senegalensis



Cyclocarpa stellaris



Dalbergia acariiantha



Dalbergia acutifoliolata

CROTALARIA

acervata Bak. f. = **C. subcapitata** var. **subcapitata**
acervata sensu auct. = **C. subcapitata** subsp. **oreadum**
aculeata De Wild. var. *aculeata* sensu Polhill
 = **C. aculeata** subsp. **claessensii**
 var. *claessensii* (De Wild.) R. Wilczek = **C. aculeata**
 subsp. **claessensii**
aculeata sensu Verdoorn, non De Wild. = **C. kapiriensis**
acuminatissima Bak. f. = **C. elisabethae**
acuminatissima sensu auct., non Bak. f. = **C. arcuata**
adenocarpoides sensu auct., non Taub. = **C. annua**
africana Buscal. & Muschl. = **C. oocarpa** subsp. **micro-**
carpa
agatiflora sensu auct., non Schweinf. = **C. agatiflora**
 subsp. **imperialis**
albertiana Bak. f. = **C. brevidens** var. **intermedia**
allenii Verdoorn = **C. orientalis** subsp.
amadiensis De Wild., incl. var. *butayei* Bak. f. = **C. glauca**
anagyroides Kunth = **C. micans**
ankaranensis Peltier = **C. bernieri**
antunesii sensu Torre = **C. annua**
apiculata Schinz = **C. platysepala**
arborescens Lam. = **C. capensis**
arenaria sensu Chev. p.p., non Benth. = **Requienia obcor-**
data
argyraea Franch., non Welw. ex Bak. = **Crotalaria**
saltiana
arvensis Klotzsch = **C. podocarpa**
astragalina Hochst. ex A. Rich. = **C. impressa**
 subsp. *onobrychis* (A. Rich.) Bak. f. = **C. onobrychis**
astragalina sensu auct. = **C. subcapitata** subsp. **oreadum**,
C. microphylla, **C. onobrychis**
astragalinoidea Bak. f. = **C. onobrychis**
athroophylla Verdoorn = **C. pallidicaulis**
aurantiaca Bak. = **C. laburnifolia** subsp. **petiolaris**
australis (Bak. f.) Verdoorn = **C. laburnifolia** subsp.
australis
axillifloroides Bak. f. ex R. Wilczek var. *gracilis*
 R. Wilczek = **C. subtilis**
azaisii Sacleux = **C. quartiniana**
bagamoyoensis Bak. f. = **C. laburnoides**
banabassii Dinter ex Bak. f. var. *cunenensis* Torre
 = **C. ulbrichiana**
belckii Schinz = **C. podocarpa**
beniensis De Wild. = **C. recta**
bianoensis Duvign. ex Timp. = **C. pseudodiloloensis**
bicolor I. M. Johnston = **C. quangensis**
bieberi Cufod. = **C. rosenii**
bongensis Bak. f. var. *camerunensis* Bak. f. = **C. bongensis**
 var. *shirensis* Bak. f. = **C. shirensis**
brachycephala Harms ex Bak. f. = **C. plowdenii**
brevidens sensu auct., non Benth. = **C. ochroleuca**
breyeri N. E. Br. = **C. monteiroi** var. **galpinii**
brownei Bert. ex DC. = **C. pallida** var. **pallida**
buchananii Bak. f. = **C. alexandri**

CROTALARIA

caespitosa Bak. = **C. subcaespitosa**
camerounensis Polhill = **C. vagans**
camisassae Chiov. = **C. deserticola** subsp. **deserticola**
cannabina Schweinf. ex Bak. f. = **C. ochroleuca**
capituliformis R. Wilczek = **C. quangensis** var.
carinata Steud. ex A. Rich. = **C. senegalensis**
cataractarum Bak. f. = **C. flavicarinata**
ceciliae sensu Verdoorn p.p. = **C. becquetii**, **C. capensis**
cernua Schinz, incl. fa. *latifolia* Schinz ex Bak. f.
 = **C. sphaerocarpa** subsp. **sphaerocarpa**
cistoides sensu auct., non Welw. ex Bak., quoad Welwitsch
 1928 = **C. paracistoides**
citricolorata Bak. f. = **C. ukambensis**
claessensii De Wild. = **C. aculeata** subsp.
cleomoides Klotzsch = ? **C. trichotoma** or **C. kirkii** or
C. lanceolata
crepitans Hutch. = **C. recta**
cylindrica A. Rich. var. *pusilla* Chiov. = **C. cylindrica**
 subsp. **cylindrica**
cylindrocarpa sensu auct., non DC. = **C. goreensis**
cylindroclados Bak. f. & Martin = **C. glauca**
cylindrostachys sensu auct., non Welw. ex Bak. p.p.
 = **C. anthylloopsis**
damarensis Engl. var. *maraisiana* Torre = **C. podocarpa**
dawei Bak. f. = **C. agatiflora** subsp. **imperialis**
decaulescens Robyns ex R. Wilczek = **C. filicaulis** var.
decumbens
decumbens Welw. ex Bak. = **C. recumbens**
deflersii sensu Chiov., non Schweinf. = **C. emarginella**
delicata Bak. f. = **Lotononis**
densiflora De Wild. = **Crotalaria cuspidata**
dilloniana Bak. p.p. and fa. *camerunensis* Bak. f.
 = **C. comosa**
dilloniana sensu Bak. p.p. = **C. intonsa**
dilloniana sensu R. Wilczek = **C. petitiana**
diloloensis Bak. f., incl. var. *prostrata* R. Wilczek
 = **C. graminicola**
divaricato-ramosa De Wild. = **C. cephalotes**
diversifolia E. Mey. = **Lotononis laxa**
diversistipula Harv. = **Crotalaria damarensis**
drummondii Milne-Redh. = **C. scasselatii**
dubia Balf. f. = **C. leptocarpa** subsp. **leptocarpa**
dubia De Wild. = **C. prolongata**
dumetorum Bak. = **C. densicephala**
edmundi-bakeri sensu auct., non R. Viguier
 = **C. laburnoides** var. **laburnoides**
elata Welw. ex Bak. = **C. lachnophora**
eldomae Bak. f. = **C. laburnifolia** subsp.
emarginella De Wild. = **Indigofera**
endlichii Harms = **Crotalaria oocarpa** subsp. **oocarpa**
engleri Harms ex Bak. = **C. agatiflora** subsp. **engleri**
erisemoides Fic. & Hiern = **Lotononis**
erlangeri (Bak. f.) Harms ex Hutch. & E. A. Bruce
 = **Crotalaria agatiflora** subsp.

CROTALARIA

- ervoides* Welw. ex Bak. = **Bolusia**
falcata Schumach. & Thonn., non Vahl ex DC.
 = **Crotalaria goreensis**
falcata Vahl ex DC. = **C. pallida** var. **obovata**
farcta R. Br. ex Bak. f. = **C. saltiana**
fertilis Del. = **C. pallida** var. **pallida**
filicaulis Welw. ex Bak. var. *katangensis* De Wild.
 = **C. filicaulis** var. **filicaulis**
filicauloides R. Wilczek = **C. filicaulis** var. **grandiflora**
filifolia De Wild., non Rose = **C. durandiana**
fischeri Taub. = **C. uncinella**
fleckii Schinz = **C. damarensis**
flexuosa Bak., non Moench = **C. podocarpa**
florida Welw. ex Bak. var. *richardsiana* Torre
 = **C. kambolensis**
florida misapplied = **C. kambolensis**
forbesii Bak. = **C. virgulata** subsp. **forbesii**
 subsp. *vanmeelii* R. Wilczek = **C. virgulata** subsp.
pauciflora
franchetii Bak. f. = **C. saltiana**
francoisiana Duvign. & Timp. = **C. quangensis** var. **quan-**
gensis
fulgida Bak. = **C. podocarpa**
fulvella Merxm. = **C. abbreviata**
furfuracea Boiss. = **C. persica**
fwamboensis Bak. f. = **C. subcapitata** subsp. **subcapitata**
 var. **fwamboensis**
gambica Taub. = **C. perrottetii**
gamwelliae sensu Drummond p.p. = **C. sp. B** (see note at
C. friesii)
geminiflora Dinter ex Bak. f. = **C. barkae** subsp. **barkae**
genistifolia Vahl ex Schumach. = **C. glauca**
glauca Willd. var. ? *anisophylla* (Welw. ms.) Hiern
 = **C. anisophylla**
globifera E. Mey. var. *congolensis* Bak. f. = **C. florida** var.
congolensis
globifera sensu auctt., non E. Mey. = **C. quangensis** var.
quangensis
gracilicaulis Bak. f. = **C. subcapitata**
gracilis (Guill. & Perr.) Walp. = **C. perrottetii**
gracillima Chiov. = **C. malindiensis**
gracillima Klotzsch = **C. hyssopifolia**
graminicola sensu auctt., non Taub. ex Bak. f.
 = **C. agatiflora** subsp. **engleri**
graminicola Taub. ex Bak. f., p.p. = **C. hyssopifolia**
grandibracteata sensu auct., p.p., non Taub.
 = **C. agatiflora** subsp. **engleri**
grantiana Harv. = **C. virgulata**
grantii Bak. = **C. polysperma**
guilleminiana Dietr. = **C. atrorubens**
guineensis D. Dietr. = **C. goreensis**
gweloensis (Bak. f.) Milne-Redh. = **C. variegata**
gymnocalyx Bak. = **C. natalitia** var. **natalitia**
harmsiana sensu auct., non Taub. = **C. orthoclada**
harmsiana Taub., incl. var. *congoensis* Bak. f.
 = **C. caudata**

CROTALARIA

- helenae* Buscal. & Muschl. = **C. laburnifolia** subsp.
laburnifolia
hildebrandtii Vatke, non Baill. = **C. axillaris**
hirsutissima Schinz = **C. podocarpa**
hislopii Corbishley = **C. anisophylla**
hispidia Schinz = **C. steudneri**
holstii Taub. = **C. goodiiiformis**
homalocarpa Bak. f. = **C. barkae** subsp. **barkae**
homblesi De Wild. p.p. = **C. lachnophora**
hookeri Arn. = **C. pallida** var. **pallida**
hyssopifolia sensu auctt., non Klotzsch
 = **C. pseudotenuirama**
imperialis sensu auctt., non Taub. = **C. agatiflora** subsp.
engleri and subsp. **imperialis**
imperialis Taub. = **C. agatiflora** subsp. **imperialis**
impressa Nees ex Walp. subsp. *onobrychis* (A. Rich.)
 Cufod. = **C. onobrychis**
impressa sensu Andrews = **C. onobrychis**
incana L. fa. *glabrescens* R. Wilczek = **C. incana** subsp.
incana
 fa. *lanata* R. Wilczek = **C. incana** subsp. **purpurascens**
incanescens L. f. = **C. capensis**
inhabilis Verdoorn = **C. monteiroi** var. **galpinii**
intermedia Kotschy = **C. brevidens** var. **intermedia**
 var. *abyssinica* Taub. ex Engl. fa. *sericocalyx* Taub. ex
 Bak. = **C. brevidens** var. **intermedia**
 var. *dorumaensis* R. Wilczek = **C. brevidens** var.
dorumaensis
 var. *parviflora* Bak. f. p.p. = **C. brevidens** var.
parviflora
intermedia sensu auctt. p.p., non Kotschy = **C. ochroleuca**
iodina Benth. = **C. atrorubens**
jamesii Oliv. = **C. dumosa**
junodiana Bak. f. = **C. laburnoides** var. **laburnoides**
kamatini R. Wilczek = **C. elisabethae**
 "kapandensis" sphalm. = **C. kipandensis**
karongensis Bak. = **C. senegalensis**
kasaiensis R. Wilczek = **C. sapinii** subsp. **kasaiensis**
kasikiensis Bak. f. = **C. argyrolobioides**
kassneri sensu Wilczek p.p., non Bak. f. = **C. ephemera**,
C. kassneri
katongaensis R. Wilczek = **C. sparsifolia**
keilii Bak. f. = **C. cleomifolia**
 fa. *chevalieri* Bak. f. = **C. naragutensis**
keilii sensu auct. p.p. = **C. cleomifolia**, **C. alticola**
kigesiensis Bak. f. = **C. deserticola** subsp. **deserticola**
kikangaensis De Wild., incl. var. *longifoliolata* De Wild.
 = **C. deserticola** subsp. **deserticola**
kilimandscharica Taub. = **C. natalitia**
kipiriensis R. Wilczek = **C. florida** var. **monosperma**
kutchiensis Bak. f. = **C. quangensis** var. **quangensis**
kutchiensis sensu Torre pro min. part. = **C. quangensis** var.
malangensis
kyimbilae Harms = **C. nyikensis**

CROTALARIA

laburnifolia sensu auct., non L. = **C. becquetii** subsp. **turgida**, **C. laburnifolia** subsp. **australis**
lachnocarpa Hochst. ex Bak. = **C. lachnophora**
 var. *melanocalyx* Bak. f. = **C. lachnophora**
 var. *strictissima* Hiern = **C. lachnophora**
lachnocarpa sensu auct., non Hochst. ex Bak., p.p. = **C. grandistipulata**, **C. lachnosema**
lachnocarpoides Engl. subsp. *valida* (Bak.) Bak. f. = **C. valida**
 var. *valida* (Bak.) Verdoorn = **C. valida**
lachnoclada Harms = **C. densicephala**
laevigata Lam. var. *villosior* Benth. = **C. virgulata** subsp. **forbesii**
lanata Beddome = **C. lunata**
lanceolata E. Mey. subsp. *contigua* Polhill p.p. = **C. awasensis**, **C. lanceolata** subsp. **contigua**
 var. *malangensis* Bak. f. = **C. subcapitata** var. **subcapitata**
 var. *septentrionalis* Bak. f. = **C. kirkii**
lanceolata sensu auct., non E. Mey. = **C. ochroleuca**, **C. subcapitata** var. **subcapitata**
lathouwersii Bak. f. = **C. dolichonyx**
lathyroides sensu De Wild., non Guill. & Perr. = **C. dolichonyx**
lathyroides sensu Wilczek, Fl. Congo Belge = **C. subcapitata**
latifoliolata (De Wild.) R. Wilczek = **C. laburnoides**
laxa Franchet = **C. emarginella**
laxa sensu Chiov. p.p. = **C. bogdaniana**, **C. thomasii**
leopoldvillensis De Wild. = **C. goreensis**
leptopoda Harms = **C. ? virgulata** subsp. **pauciflora**
leucotricha Bak. = **C. johnstonii**
 "lindenii" auct. = **C. damarensis**
lindneri Schinz = **C. damarensis**
linearifolia De Wild. = **C. leprieurii**
longibracteata De Wild. = **C. cleomifolia**
longifoliolata De Wild., incl. var. *latior* Bak. f. = **C. glaucifolia**
longipedunculata De Wild. ex R. Wilczek, incl. fa. *glabra* R. Wilczek = **C. subcapitata** var. **subcapitata**
longistyla Bak. f. = **C. virgulata**
lotifolia sensu Bak., non L. = **C. axillaris**
lotooides A. Rich., non Benth. = **C. microcarpa**
lotononis Welw. ex Bak. = **C. glaucifolia**
lugardiorum Bullock = **C. karagwensis**
lukomae Bak. f. p.p. = **C. pseudotenuirama**
lukomae sensu Wilczek = **C. pseudotenuirama**
lukuluensis Bak. f. = **C. subcapitata**
lunata Beddome = **C. lunata** Polhill
luniemuensis Bak. f. = **C. subcapitata**
lupinoides Hochst. ex Benth. = **C. saltiana**
luteo-violacea Torre = **C. elisabethae**
lynesii Bak. f. & Martin = **C. naragutensis**
mabobo R. Wilczek = **C. basipeta**

CROTALARIA

macaulayae Bak. f. = **C. distans** subsp. **macaulayae**
macaulayae sensu R. Wilczek = **C. distans** subsp. **macaulayae**
macilenta Del. = **C. senegalensis**
macrocalyx sensu auct., non Benth., p.p. = **C. confusa**, **C. mortonii**
macrocarpa Penzig, non E. Mey. = **C. polysperma**
macropoda Hochst. ex A. Rich. = **C. orixensis**
macrostipula Steud. ex A. Rich. = **C. goreensis**
macrotropis Bak. f. = **C. distans** subsp.
madecassa R. Viguier = **C. uncinella**
malangensis Bak. f. = **C. quangensis** var. **malangensis**
 var. *capituliformis* R. Wilczek = **C. quangensis** var. **capituliformis**
 var. *overlaetii* R. Wilczek = **C. quangensis** var. **quangensis**
marginata N. E. Br. = **Rhynchotropis**
mariae-antoniae Aschers. = **Crotalaria microcarpa**
marlothii Engl. = **C. damarensis**
maxillaris Klotzsch = **C. senegalensis** or **C. laburnoides** ?
 var. *latifoliolata* De Wild. = **C. laburnoides** var. **laburnoides**
maxillaris sensu Chiov., non Klotzsch = **C. emarginella**
megapteryx Bak. f. & Martin = **C. chrysochlora**
megistantha Taub. = **C. agatiflora**
mejusei unpubl. name = **C. longithyrsa**
melilotoides Steud. ex A. Rich. = **C. pycnostachya** subsp. **pycnostachya**
mesopontica Taub. fa. *glabrescens* R. Wilczek p.p. = **C. mesopontica** subsp. **glabrescens**
 var. *congolensis* De Wild. = **C. mesopontica** subsp. **mesopontica**
mesoponticoides R. Wilczek = **C. subcapitata**
microcerus Timp. = **C. duboisii**
minima Bak. f. = **C. spinosa**
minor C. H. Wright = **Lotus mlanjeanus**
minutiflora Bak. f. = **Crotalaria massaiensis**
mitwabaensis Timp. = **C. lawalreeana**
mokoroensis R. Wilczek = **C. axilliflora**
mongaensis Bak. f. = **C. cuspidata**
monosperma De Wild. = **C. florida** subsp.
montana A. Rich., non Roth = **C. incana** subsp. **purpurascens**
 "morrumbensis" sphalm. = **C. morumbensis**
mortelmansii R. Wilczek = **C. quangensis** var. **mullendersii**
mossambicensis Klotzsch = **C. lanceolata** subsp. **lanceolata**
mossamedesiana Bak. f. = **C. barnabassii**
muansae Bak. f. = **C. vallicola**
mucronata Desv. = **C. pallida** var. **pallida**
mullendersii R. Wilczek = **C. quangensis** var.
multicaulis Torre = **C. kelaensis**
multicolor Merxm. = **C. pallidicaulis**

CROTALARIA

mumbwae Bak. f. = **C. elisabethae**
mundyi Bak. f. p.p. = **C. distans** subsp. **macrotropis**
munzeneri sensu De Wild. = **C. longithyrsa** var. **latifolia**
munzneri = **C. muenzneri**
mutabilis Schinz = **C. podocarpa**
natalitia Meisner var. *procumbens* Bak. f. = **C. rhodesiae**
 var. *pseudo-rhodesiae* Merxm. = **C. rhodesiae**
 var. *sengensis* Bak. f. = **C. prittwitzii**
nicholsonii Bak. f. = **C. subcapitata** var. **subcapitata**
nicholsonii sensu Torre p. min. parte = **C. uncinata**
nigrescens Chiov. = **C. cylindrica** subsp. **cylindrica**
nogalensis Chiov. = **C. emarginella**
noldeae Rossberg = **C. adamsonii**
nubica Benth. = **C. sphaerocarpa** subsp. **sphaerocarpa**
nutans Welw. ex Bak. = **C. sphaerocarpa** subsp. **sphaerocarpa**
obovata G. Don = **C. pallida** var.
obovata sensu auct. = **C. naragutensis**, **C. pallida** var. **obovata**
ononoides Benth. var. *grandiflora* R. Wilczek
 = **C. afrocentralis**
oocarpa sensu auctt., non Bak., p.p. = **C. pilosiflora**
oosterboschiana Timp. = **C. oxyphyloides**
oreadam Bak. f. = **C. subcapitata** subsp.
orthoclada sensu auct. non Welw. ex Bak. = **C. caudata**
oxthoibos Bak. f. & Martin = **C. vallicola**
paludosa A. Chev. p.p. = **C. glaucoides**, **C. lathyroides**
paolii Cufod. = **C. malindiensis**
parsonsii Bak. f. = **C. leprieurii**
parvula Beck, non Welw. ex Bak. = **C. dumosa**
passargei Taub. unpubl. name = **C. ? confusa**
pauciflora Bak. = **C. virgulata**
paucifolia Schinz = **C. heidmannii**
paulitschkei Bak. f. = **C. dumosa**
pechueliana Schinz = **C. argyrea**
pedunculosa Desv. = **C. laburnifolia** subsp. **laburnifolia**
pendula Bert. ex DC. = **C. laburnifolia** subsp. **laburnifolia**
petiolaris Franch. = **C. laburnifolia** subsp. **petiolaris**
 var. *australis* Bak. f. = **C. laburnifolia** subsp. **australis**
petitiana sensu auct., non (A. Rich.) Walp. = **C. comosa**
piedboeufii R. Wilczek = **C. kambolensis**
pilifera Klotzsch = **C. podocarpa**
pilulicarpa Taub., incl. var. *schinzii* Bak. f. = **C. pisicarpa**
pisiformis Guill. & Perr. = **C. pallida** var. **pallida**
platycalyx sensu auct., non Steud. ex Bak. = **C. barkae**
 subsp. **barkae**
platycalyx Steud. ex Bak. = **C. quartiniana**
poggei Taub. = **C. quangensis**
polycarpa Benth. = **C. sphaerocarpa** subsp.
polychotoma Taub. = **C. microcarpa**
polyclados Welw. ex Bak. = **C. cyanea**
praecox Milne-Redh. = **C. graminicola**

CROTALARIA

prolongata sensu auct., non Bak., p.p. = **C. cuspidata**
pseudodelicata Torre = **Lotononis**
pseudo-descampsii Bak. f. = **Crotalaria lukafuensis**
pseudoeriosema Vatke = **C. vasculosa**
pseudoflorida R. Wilczek = **C. kambolensis**
pseudokipandensis R. Wilczek = **C. kipandensis**
pseudonatalitia R. Wilczek = **C. prittwitzii**
pseudopodocarpa R. E. Fr. = **C. cylindrocarpa**
psoraleoides Lam. = **Eriosema**
purpurascens Lam. = **Crotalaria incana** subsp.
purpureo-lineata Bak. f. = **C. brevidens** var. **intermedia**
pycnocephala Bak. f. = **C. subcapitata** subsp. **subcapitata** var. **fwamboensis**
 var. *claessensii* De Wild. = **C. mesopontica** subsp. **mesopontica**
pyncnostachya Benth. var. *angolensis* Bak. f. = **C. comosa**
 var. *donaldsonii* Bak. f. = **C. pyncnostachya** subsp. **donaldsonii**
quartiniana sensu auctt., non A. Rich. = **C. barkae** subsp. **barkae**
raffillii Milne-Redh. = **C. rosenii**
ramosissima Bak., non Roxb. = **C. huillensis** subsp. **huillensis** var. **huillensis**
randii Bak. f. = **C. alexandri**
 var. *congoensis* Bak. f. = **C. pseudo-alexandri**
rathjensiana O. Schwarz = **C. emarginella**
rhopalocarpa Chiov. = **C. deserticola** subsp. **deserticola**
rigidula Bak. f. = **C. monteiroi** var. **galpinii**
robinsoniana Torre = **C. germanii**
robysii R. Wilczek = **C. kambolensis**
rotundicarinata Bak. f. = **C. goetzei**
rubiginosa (Guill. & Perr.) Walp., non Willd.
 = **C. atrorubens**
rufocarpa Gilli = **C. vasculosa**
saltiana sensu Chiov., non Andr. = **C. jubae**
sapinii sensu auct., non De Wild. p.p. = **C. benguellensis**
saxatilis Vatke, non Zoll. = **C. goodiiformis**
schimperii A. Rich. = **C. incana** subsp. **purpurascens**
schumanniana Harms = **C. cleomifolia**
schweinfurthii Deflers = **Lotus garcinii**
senegalensis (Pers.) Bacle ex DC. var. *carinata* auct., non (Steud.) Bak. f. p.p. = **Crotalaria stenorhampha**
 var. *gracilis* Chiov. = **C. malindiensis**
sengae Bak. f. ex R. Wilczek = **C. axilliflora**
sennii Chiov. = **C. boranica**
seretii De Wild. = **C. cuspidata**
sericea Retz., non Burm. f. = **C. spectabilis**
sericifolia Harms var. *gweloensis* Bak. f. = **C. variegata**
sessilis sensu auct., non De Wild. = **C. leptoclada**
shamvaensis sensu auct., non Verdoorn = **C. senegalensis**
shamvaensis Verdoorn = **C. virgulata** subsp. **virgulata**
sidamaensis Chiov. = **C. ruspoliana**
simplex A. Rich. = **C. recta**
singuliflora Bak. f. = **C. argyrolobioides**

CROTALARIA

- sp. *A* sensu Hepper, F.W.T.A., Ed. 2 = **C. cuspidata**
sparteae sensu Bak., F.T.A. p.p. = **C. deightonii**
spartioides sensu auctt., non DC. = **C. orientalis** subsp.
orientalis
sp. *B* sensu Fl. Zamb. 3(7), 2003 = **C. serpentinicola**
sp. *C* sensu Fl. Zamb. 3(7), 2003 = **C. cupricola**
sp. *B* sensu Polhill, F.T.E.A. = ?
sp. *C* sensu Polhill, F.T.E.A. = cf. **C. jerokoensis**
sp. *E* sensu Polhill, F.T.E.A. = ?
sp. *F* sensu Polhill, F.T.E.A. = **C. congesta**
sphaerocarpa Perr. ex DC. var. *angustifolia* Hochst. ex
O. Kuntze = **C. sphaerocarpa** subsp. **sphaerocarpa**
var. *grandiflora* Schweinf. ex Bak. f. = **C. sphaero-**
carpa subsp. **sphaerocarpa**
var. *lanceolata* Schinz = **C. sphaerocarpa** subsp.
sphaerocarpa
var. *polycarpa* (Benth.) O. Kuntze = **C. sphaerocarpa**
subsp. **polycarpa**
var. *pubescens* O. Kuntze = **C. sphaerocarpa** subsp.
sphaerocarpa
?var. *schweinfurthii* O. Kuntze = **C. sphaerocarpa**
subsp. **sphaerocarpa**
spinosa Hochst. ex Benth. specim. Kotschy 552
= **C. aculeata** subsp. **claessensii**
subsp. *aculeata* (De Wild.) Bak. f. = **C. aculeata** subsp.
aculeata
subsp. *aculeata* sensu auctt. = **C. kapiiriensis**
var. *macrocarpa* Bak. f. = **C. kapiiriensis**
var. *pubescens* Benth. = **C. aculeata** subsp. **aculeata**
var. *schlechteri* Bak. f. = **C. eremicola** subsp.
parviflora
spinosa sensu auctt. = **C. aculeata**
squarrosa Schinz incl. var. *dinteri* Bak. f. = **C. sphaero-**
carpa subsp. **sphaerocarpa**
stenocladon Bak. f. = **C. graminicola**
stenothyrsa sensu auctt., non Taub. p.p. = **C. benguellensis**
stewartii Bak. = **C. polysperma**
striata A. Br. = **C. impressa**
striata DC., incl. fa. *latifoliolata* De Wild. = **C. pallida** var.
pallida
striata Schumach. & Thonn. = **C. pallida** var. **obovata**
subdisperma Bak. f. = **C. hyssopifolia**
subumbellata Torre = **C. elisabethae**
symoensiana Timp. = **C. annua**
tabularis sensu auctt., non Bak. f. = **C. staneriana**
tabularis sensu Torre = **C. uncaulis**
tanganyikensis Bak. f. = **C. steudneri**

CROTALARIA

- taubertii* Bak. f. = **C. barkae** subsp. **barkae**
teitensis Sacleux = **C. barkae** subsp. **teitensis**
tenuirama sensu auctt., non Welw. ex Bak. p.p.
= **C. hyssopifolia**
thausiophylla Harms = **C. variegata**
thebaica sensu auctt., non DC. = **C. arenaria**
thomasi Harms, incl. var. *sericea* Chiov. = **C. saltiana**
thomensis Bak. = **C. trichotoma**
thomsonii Oliv. = **C. goodiiformis**
tigrensis Bak. = **C. cylindrica** subsp. **cylindrica**
trachycarpa Taub. ex Bak. f. = **C. barkae** subsp. **barkae**
trifoliolata sensu Chiov., non Bak. f. = **C. fascicularis**
tropeae Mattei = **C. pynostachya** subsp. **tropeae**
tropeae sensu Polhill, F.T.E.A. = **C. pynostachya** subsp.
donaldsonii
truncata Schinz = **C. sphaerocarpa** subsp. **sphaerocarpa**
tunguensis Pires di Lima = **C. retusa** var.
ugandensis Bak. f. = **C. vasculosa**
ukambensis sensu auctt., non Vatke = **C. phillipsiae**
uncinella Lam. var. *senegalensis* Pers. = **C. senegalensis**
uniflora Bak., non Koen. ex Roxb. = **C. ? occidentalis**
upembaensis R. Wilczek = **C. subcapitata** subsp.
subcapitata var. **fwamboensis**
usaramoensis Bak. f. = **C. trichotoma**
utschungwensis Bak. f. = **C. subcapitata** subsp.
subcapitata var. **fwamboensis**
valida sensu auctt., non Bak. = **C. lachnocarpoides**
versicolor Bak., non E. Mey. = **C. polychroma**
var. *camerunensis* Bak. f. = **C. glaucifolia**
virgultalis sensu auctt., non Burch. ex DC., p.p.
= **C. spartioides**
vogelii Benth. = **C. leprieurii**
vogelioides Bak. f. = **C. deserticola** subsp. **deserticola**
wildemania Bak. f. & Martin = **C. mildbraedii**
winkleri Bak. f. = **C. polysperma**
wissmannii O. Schwartz = **C. aegyptiaca**
wittei De Wild. & Staner = **C. chrysochlora**
xanthoclada Bojer ex Benth. var. *stolzii* Bak. f. = **C. stolzii**
xassenguensis Torre = **C. quangensis** var. **quangensis**
zanzibarica Benth. = **C. trichotoma**
zimmermannii Bak. f. = **C. barkae** subsp.
- Cytisus persica* Burm. f. = **Crotalaria persica**
Maria-Antonia orientalis Parl. = **Crotalaria microcarpa**
Phyllocalyx quartinianus A. Rich.
= **Crotalaria quartiniana**
Spartium persicum (Burm. f.) Willd. = **Crotalaria persica**
thebaicum Del. = **C. thebaica**

CULLEN / 3

Segregate of *Psoralea* L.; a genus of 32 species, 26 of which native to Australia.

GRIMES, J. W. (1997). A revision of Cullen. *Austral. J. Bot.* 10: 565-648.

[Cullen americanum (L.) Rydb.]

bas.: *Psoralea americana* L.

syn.: *P. polystachya* Poir.; *P. dentata* DC.; *P. lateralis* Salisb., nom. illegit.; *Lotodes americanum* (L.) O. Kuntze; *Psoralea alnifolia* A. Bertoloni

Erect densely black-glandular perennial herb or subshrub to 2 m tall with white flowers is reported from Mauritania by Grimes, o.c.: 591. But no records found by us. Presence to be confirmed. Morocco, Algeria, Tunisia; Madeira; Malta; Spain, Portugal, S Italy. In disturbed places.

Not mapped.

C. corylifolium (L.) Medik. – Icon.: Audru & al., *Pl. vascul. Rép. Djibouti* 2(1): 371, 1994 (photograph, herb. specim.).

bas.: *Psoralea corylifolia* L.

syn.: *Lotodes corylifolium* (L.) O. Kuntze

Erect bushy annual (or ?short-lived perennial) herb to 1,5 m tall; stem branched from the base and arising from the crown of a taproot; plants white-strigose and densely brown-glandular; stems and branches ribbed; leaves 1-foliolate, 9 × 7 cm, coarsely dentate; flowers small, blue-purple, rarely white or yellowish; pod as long as calyx, black-glandular.

On alluvial clayey soils, weed in cultivations; up to c. 150 m alt. Socotra, Oman; India, Sri Lanka, Malay Peninsula, S China (Yunan).

Subspontaneous or cultivated in Djibouti (used in traditional medicine).

C. plicatum (Del.) C. H. Stirton (“plicata”). – Icon.: Audru & al., o.c.: 370 (photograph, idem); L. Boulos, *Fl. Egypt* 1:307, 1999.

bas.: *Psoralea plicata* Del.

syn.: *Lotodes plicatum* (Del.) O. Kuntze; *Psoralea odorata* Blatt. & Hallb.

Perennial glandular herb or subshrub, erect or procumbent, 0,3-2 m tall; stems rigid, striate, grey pubescent, weakly spiny (persistent inflorescence-axes) arising few to many from a ± unbranched root; leaves 3-foliolate, dark-brown-glandular, bicoloured (lower surface darker); flowers small, white or white and purple; pod as long as calyx, glandular and white pubescent.

Sandy or silty often saline ground (NE Africa); alluvial soils on river banks, common (Sudan); sandy wadi beds with *Limonias-trum ifniense*, sandy wadis and reg, very common, sometimes dominant in wadis (Mauritania); clayey seepage areas, seasonally flooded heavy, clayey soils in pre-Saharan zone (Niger).

S Morocco, S Algeria, Libya, Egypt; W and S Arabian Peninsula; coastal Iran, Pakistan (disjunct in the Punjab).

C. tomentosum (Thunb.) J. W. Grimes – Icon.: *Fl. Zambes.* 3(6): 45, 2000.

bas.: *Trigonella tomentosa* Thunb.

syn.: *Psoralea obtusifolia* DC.; *Cullen obtusifolium* (DC.) C. H. Stirton (“obtusifolia”); *Psoralea exigua* Eckl.; *Lotodes tomentosum* (Thunb.) O. Kuntze, non *Psoralea tomentosa* Thunb. [= *Otholobium sericeum* (Poir.) C. H. Stirton] nec *Psoralea tomentosa* Cav.; *Dalea tomentosa* (Cav.) Willd.

CULLEN TOMENTOSUM

Perennial herb to 0,7 m tall, erect (when a weed in cultivated land) but often procumbent or prostrate, mat- or cushion-forming, white strigose or grey hairy, sometimes glabrous, nearly eglandular; stems arising from the crown of the much-branched root, and much-branched from the base; leaves 3-foliolate; flowers small, white and blue or pink; pod densely white hairy, glandular. *Medicago*-like, and smelling like a *Trigonella*.

In a wide variety of habitats; grassy places, edges of pans and rivers, hot dry wooded grassland and scrubland on sandy soil; 90-1000 m alt.

Botswana, Namibia, S. Africa.

Psoralea holubii Burt Davy [= *Cullen holubii* (Burt Davy) C. H. Stirton] put in synonymy by Grimes seems to be a distinct species (fide Verdcourt in *Fl. Zambes.* 3(6): 44, 2000). Equally *Otholobium sericeum* (Poir.) C. H. Stirton (incl. *Psoralea tomentosa* Thunb.) put in synonymy by Grimes seems to be distinct.

CYAMOPSIS / 1

[Cyamopsis dentata (N. E. Br.) Torre]

bas.: *Indigofera dentata* N. E. Br.

syn.: forms intermediate between *C. serrata* and *C. senegalensis* sensu Gillett in *Kew Bull.*, Add. Ser. 1: 7, 1958.

Erect branching annual herb 30-35 cm tall, all over clothed with appressed biramous hairs, with entire or dentate leaflets; flowers mauve-purple, glabrous and erect pods.

Ecology not precised; “subdeserto”; 600-1300 m alt. (Angola).

Variable in shape of leaflets; and certain forms thus considered as intermediate between *C. senegalensis* and *C. serrata* Schinz from Namibia, S. Africa, although typical forms appear to represent a distinct species.

Angola, E & S Zimbabwe; Namibia, Botswana, S. Africa.

Considered as a synonym under *C. serrata* Schinz by A. Schreiber & al. in *Merxmüller, Prodr. Fl. Südwestafrika* 60: 29-30, 1970.

Not mapped.

C. senegalensis Guill. & Perr., incl. var. *stenophylla* Bonnet

syn.: *C. stenophylla* (Bonnet) A. Chev.

Annual herb, half-woody at the base, with erect stems 30-60 cm tall, sometimes prostrate; covered throughout except the upper surface of the leaflets and the corolla with appressed biramous hairs.

Poor grassland on slightly saline clay near river; near niayes; sands; sandy-gravelly soils; cultivations; sometimes ruderal; to 800 m alt.

Namibia; Botswana; Arabia (disjunct area).

[C. tetragonoloba (L.) Taub.]

bas.: *Psoralea tetragonoloba* L.

Annual robust erect herb 1-3 m tall, laxly branched, with ovate-rhomboid leaflets and erect pods.

Hardy, drought-resistant; on deep alluvial soils, sandy loam.

Only known in cultivation. Introduced from India, into W. Africa and many tropical countries.

Not mapped.

CYCLOCARPA / 1

Cyclocarpa stellaris Afzel. ex Bak.

Glabrous herb 3,5-50 cm tall, erect or prostrate, generally ramose, tufted.

Sunny, humid places on granite pan with *Utricularia pubescens*, *Afrotrilepis pilosa*; savanna with *Hyparrhenia*; swamps; cultivations (also in rice fields); clearing; rock crevices; damp ground in grassy places; 0-1280 m alt.

Laos, Vietnam, Thailand, Java, SE Borneo, N Australia and Queensland (vide Webbia 19: 613, 1964); disjunction Africa – Asia – Australia.

DALBERGIA / 55 (+1)

Fruits unknown for seven (+ 1? = c. 12 %) species (and seeds not seen?). For three species (= c. 5 %) the ecology is not recorded. Four species (= c. 7 %) are known only from the type gatherings.

Dalbergia acariiantha Harms; Opera Bot. 59: 46, 1980.

Scandent shrub or tree to 3,6 m tall, sometimes with some relatively short bluntly pointed branches at older nodes; branchlets pubescent with spreading mostly crisped hairs, glabrescent. Deciduous thickets (including secondary growth); 0-600 m alt.

D. acutifoliolata Mendonça & E. P. Sousa

Scandent shrub; young branchlets slightly fulvous-pubescent; old branches having hispid hairs with verrucose base and also appressed tomentum, or glabrous with white linear lenticels; fruit unknown.

Mushitu along stream.

Only 2 collections known.

D. adamii Berh.

Scandent shrub with some branches ± twining, 3-5 m tall or more. Forming thickets along forest margins.

D. afzeliana G. Don

syn.: *D. afzelii* Bak.; *D. macrocarpa* Burt Davy, nom.

Lianescent shrub with hard wood, to 35 m long; stems 15 cm Ø; young branchlets rusty-pubescent; sometimes a small tree. Closed forest; forest gallery; savannas; old regrowths; ? also a small plant creeping in rocks (fide Pellegrin); ± 600 m alt. (Mt. Nimba).

Comprises 2 vars.

Not in Angola.

D. albiflora A. Chev. ex Hutch. & Dalziel – Icon.: Kew Bull. 11: 131, 1956 (fruit).

Climber to 15 m tall or straggling shrub or small tree 3-4,5 m; young branches ferruginous-hispid.

Sandy river bank; cliff top; forest; edge of gallery forest; old regrowths; 1400-1600 m alt. (Mt. Nimba).

Comprises 2 subspp.

DALBERGIA

D. altissima Bak. f.

Liane to 30 m long, much branched at the top; branches much spreading among tall trees; trunk remarkably compressed, to a width of 22 cm or more, by 3 cm in thickness and at regular distances of 1m abruptly twisting 90°, so that the planes stand at right-angles in successive sections. Plant deciduous just before flowering.

Fringing forest. Climbing on *Piptadenia africana*.

D. arbutifolia Bak.

syn.: *D. ochracea* Harms, *excl. descr. legum. and specim. Boehm 128 a (Igonda)*; *D. sambesiaca* Schinz

Shrub or tree, sometimes scandent with aid of modified spiny or coiled branchlets on older wood, 3-10(-18) m tall; branchlets with a yellowish or brown matted tomentum, soon glabrescent.

Riverine forest; deciduous woodland, bushland and thicket; sometimes on rocky hills or along seasonal river; forming thickets on sandy lake shore; 50-1350 m alt.

Comprises 2 subspp.: – subsp. **arbutifolia**; subsp. **aberrans** Polhill [syn.: *D. melanocarpa* Harms].

D. armata E. Mey.

syn.: *D. myriantha* Meisn.

Shrub, generally scandent with aid of relatively short curved or coiled ± spine-tipped branches produced singly or in pairs at older nodes, to 15 m long; branchlets appressed puberulous to tomentellous, glabrescent.

Deciduous woodland, bushland and (riverine) thickets; usually on sandy soil; 240- 660 m alt.

S. Africa, Swaziland.

D. bakeri Welw. ex Bak.

syn.: *D. foenum-graecum* De Wild.; *D. micheliana* De Wild.; *Amerimnon bakeri* (Welw. ex Bak.) Kuntze

Liane, scandent shrub, handsome, stout much-branched, evergreen, or tree, coumarin smelling; young twigs cylindrical, puberulous.

Forests; forest gallery; sparingly.

Comprises 2 vars.

Not in Cameroon (= *D. oligophylla*).

D. bignonae Berh.

Scandent, creeping shrub, to 10-25 m long; branches densely ferruginous pubescent.

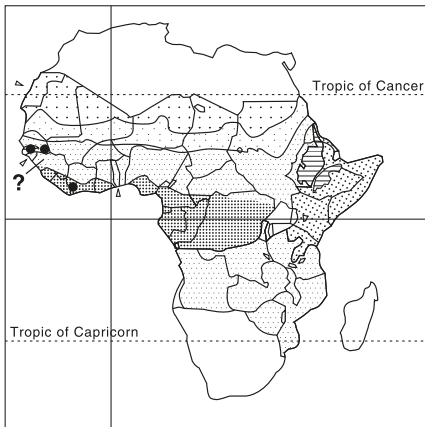
High forest; secondary forest; regrowth; to 1000 m alt.

Central African Rep.?

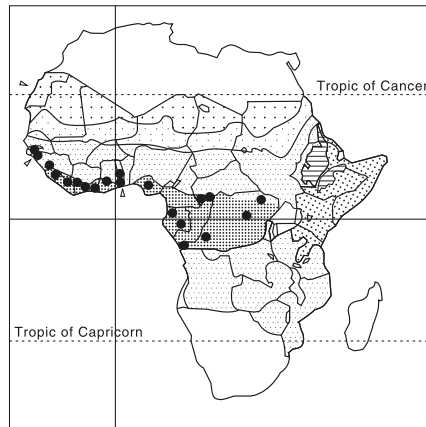
D. boehmii Taub.

syn.: *Byrsocarpus caillei* A. Chev. (*Connaraceae*), nom.; *D. bracteolata* sensu Bak. in F.T.A. 2: 254, 1871, p.p. quoad pl. Zambez.

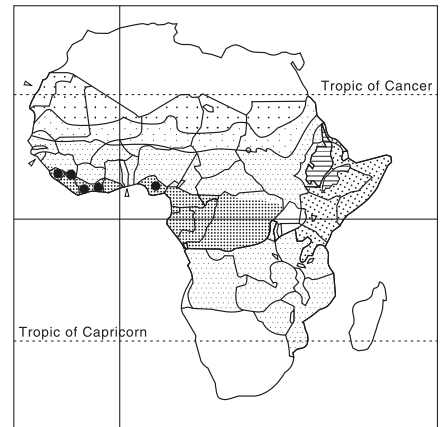
Shrub or tree 4,5-10(-21) m tall; bole 35-40 cm Ø, tortuous, fluted, laxly branched and with ± spreading crown; branchlets with a persistent or evanescent yellowish or off-white matted tomentum, or practically glabrous; panicles produced in profusion from precocious to full-leaf stage.



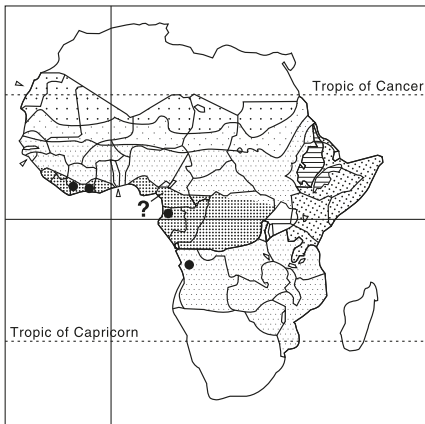
Dalbergia adamii



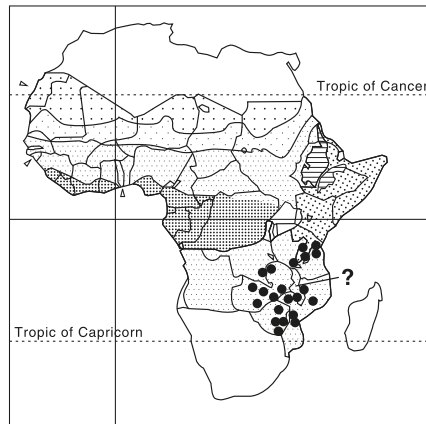
Dalbergia afzeliana



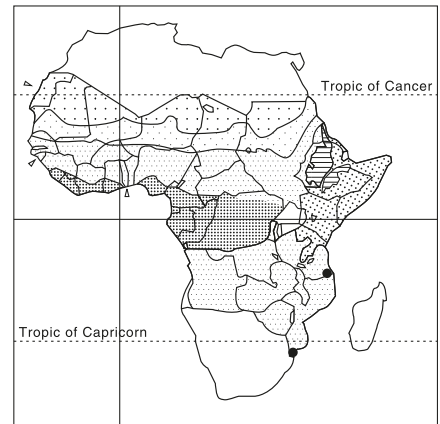
Dalbergia albiflora



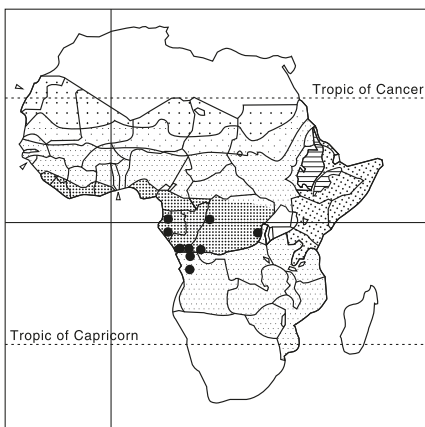
Dalbergia altissima



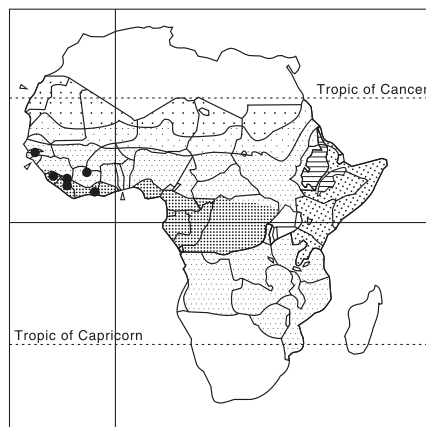
Dalbergia arbutifolia



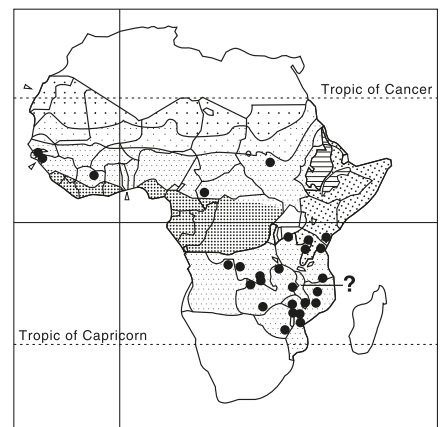
Dalbergia armata



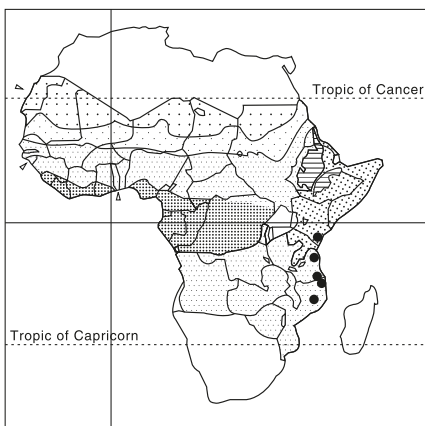
Dalbergia bakeri



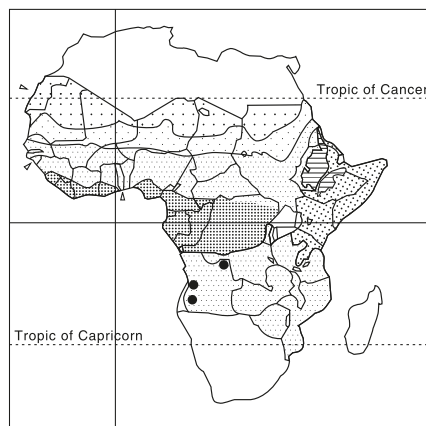
Dalbergia bignoniae



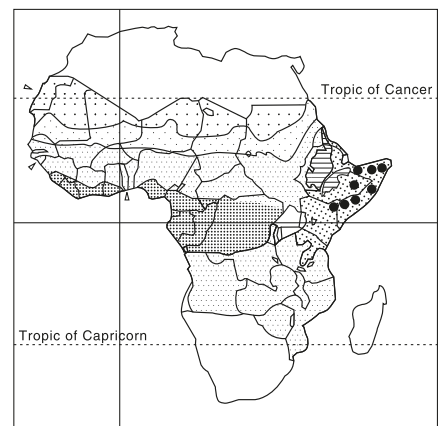
Dalbergia boehmii



Dalbergia bracteolata



Dalbergia carringtoniana



Dalbergia commiphoroides

DALBERGIA BOEHMII

Deciduous woodland, bushland and thicket; wooded grassland; rocky outcrops; variety of dry evergreen and deciduous types of forest; river banks; riverine forests; sporadically in clumps in open *Combretum-Acacia* woodland; 0-1720 m alt.

Comprises 2 subsp.: – subsp. **boehmii** [syn.: *D. elata* Harms; *D. harmsiana* De Wild.]; – subsp. **stuhmannii** (Taub.) Polhill (very common and characteristic plant of the Central Province of Tanzania).

D. bracteolata Bak. p.p., *excl. descr. legumin. et specim. Zambeziacae (= D. boehmii)*.

syn.: *D. richardii* Baill.; *D. goetzei* Harms; *D. grandidieri* Baill.

Shrub or tree, often scandent with aid of modified coiled branchlets which act as tendrils from the older nodes, 3-7,5 m tall or reaching 20-25 m long; stem flattened, 35 cm in width; branchlets subglabrous to crisped-pubescent.

Coastal and deciduous thicket (sometimes much developed under *Brachystegia*); 0-840 m alt.

Madagascar (the only African species of *Dalbergia* known to occur also there).

D. carringtoniana E. P. Sousa

Deciduous shrub or tree, 4-9 m tall; young branchlets appressed-pubescent, soon glabrous.

Near stream; ±900-±1500 m alt.

D. commiphoroides Bak. f., incl. var. *micrantha* Chiov.

Intricate bushy shrub 1,8-5 m tall; branchlets clustered at the nodes, some growing out, others remaining short and not infrequently bluntly spine-tipped, covered at first with small white mostly straight and spreading hairs, soon glabrescent.

Deciduous bushland on sandstone outcrops; *Acacia-Commiphora* bushland; 400-1000 m alt.

D. congensis Bak. f.

Climber ± 30 m long; branches with blackish cork, slightly pubescent; fruit unknown.

Forest near stream sides; sea-level.

D. crispa Hepper – Icon.: Kew Bull. 11: 132, 1956 (fruit).

Climber with cylindrical branches, tomentose when young, ripe ones subglabrous; branchlets slightly pubescent.

Edge of stream; swamp covered with high bush; sometimes frequent.

D. dalzielii Bak. f. ex Hutch. & Dalziel

Shrub, erect or half climbing, 2,5-4 m long; branchlets softly, shortly, reddish-brown tomentose.

Open spaces in the lowland.

D. ealaensis De Wild.

Liane to sometimes 300 m long with stem to 60 cm broad, 25 cm thick; branchlets glabrous; branches cylindrical; flowers sometimes appearing slightly before leaves.

Rain-forest.

DALBERGIA

D. ecastaphyllum (L.) Taub., incl. fa. *trifoliolata* Stapf and var. *cuprea* Pellegr.

bas.: *Hedysarum ecastaphyllum* L.

syn.: *Amerimnon brownei* Jacq., nom. rej.; *Ecastaphyllum (Hecastophyllum) brownei* Pers.; *Dalbergia brownei* Urban

Shrub or sarmentous tree, densely branched, 3-6 m tall, with dark purple branchlets, velvety-silky when young.

Mangrove swamps; coastal bush; marigots or edges of flooded areas; sand dunes besides lagoons, along the landward side of mangrove swamps, in estuaries, brackish sites; forming impenetrable thickets; sea-level to 20 m alt. (? and more).

Bioko / Fernando Poo; West Indies, tropical S. America (Florida to S Brazil).

Drift fruits.

D. eremicola Polhill

Spiny deciduous shrub or tree, 1,5-5 m tall; branches of previous season's growth mostly relatively short, spreading and spine-tipped, often several per node; flowering branchlets very short, cushion-shaped with tufts of leaves, covered with short mostly spreading hairs, glabrescent.

Deciduous bushland; sometimes on rock outcrops; *Acacia-Commiphora* bushland on sand; ±75-810 m alt.

D. fischeri Taub.

Shrub or tree, often scandent with aid of modified ± spiny or coiled branches from the older wood, to 4,5-12 m tall, trunk to 50 cm Ø; branchlets thinly to densely covered with short yellowish mostly crisped hairs, sometimes with stout tubercle-based glandular hairs interspersed.

Riverine forest; bushland; also in deciduous woodland (including *Brachystegia* associations); in clumps of *Parinari excelsa* forest on termite mounds; riverine forests; rain-forest; 200-1800 m alt.

D. florifera De Wild., incl. var. *obscura* De Wild.

syn.: *D. glaucifolia* De Wild., err. cal.; *D. glaucescens* De Wild., non Benth., nom. illegit.

Liane or sometimes shrub; young branches tomentose-puberulous.

Forest; gallery forest.

D. fouilloyana Pellegr.

Liane, branches, even old, villous, reddish-brown; fruit unknown.

Ecology unknown (? forest).

Only known from the type collected in 1930.

D. gentilii De Wild.

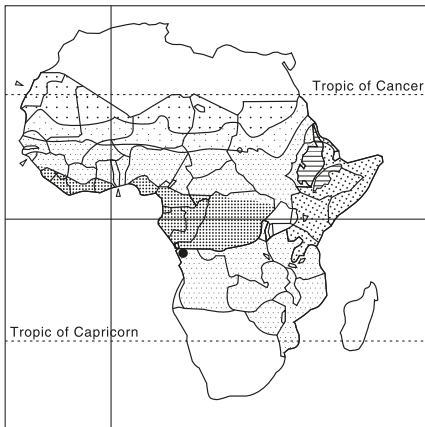
Liane, sarmentous shrub or tree; young branches puberulous, reddish-brown, later glabrous.

Forests.

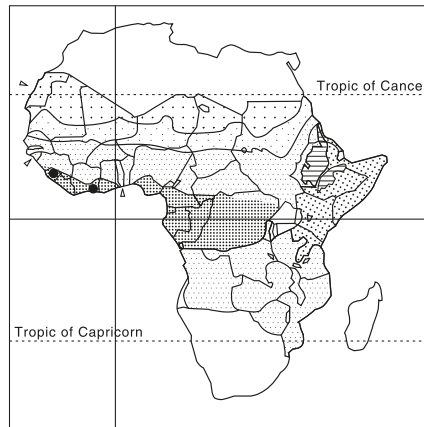
D. gilbertii Cronquist

Spiny liane; stem to 5 cm Ø; young branches strigose-puberulous.

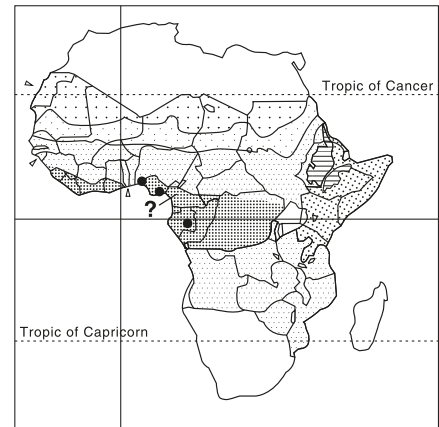
Forests.



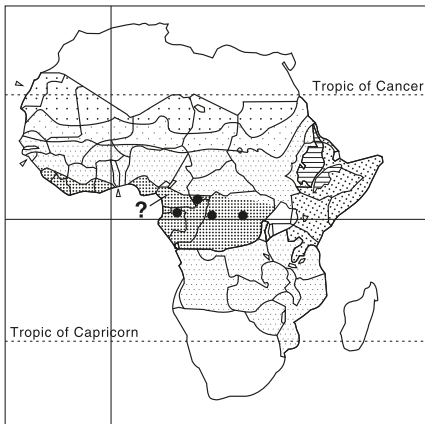
Dalbergia congensis



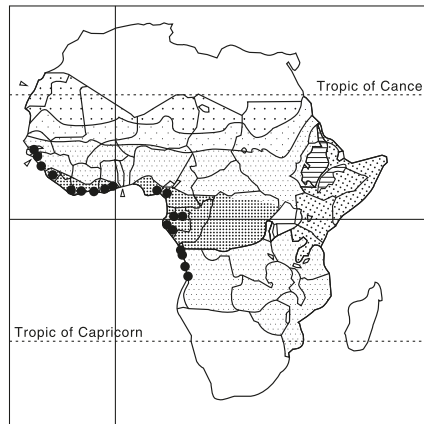
Dalbergia crispa



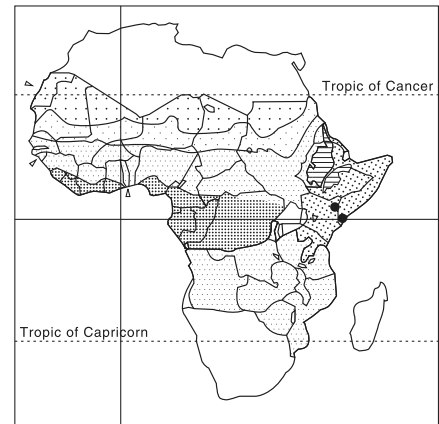
Dalbergia dalzielii



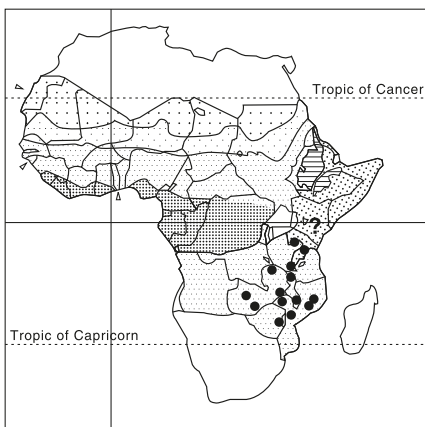
Dalbergia ealaensis



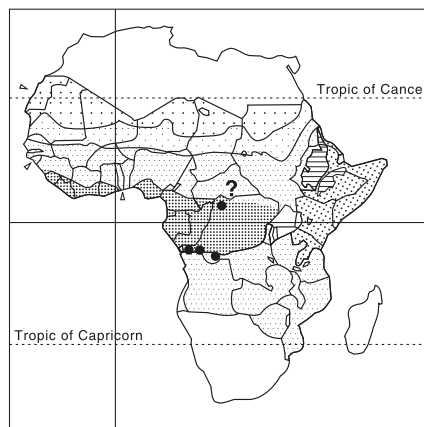
Dalbergia ecastaphyllum



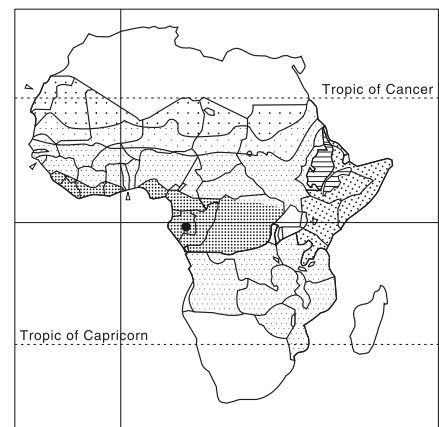
Dalbergia eremicola



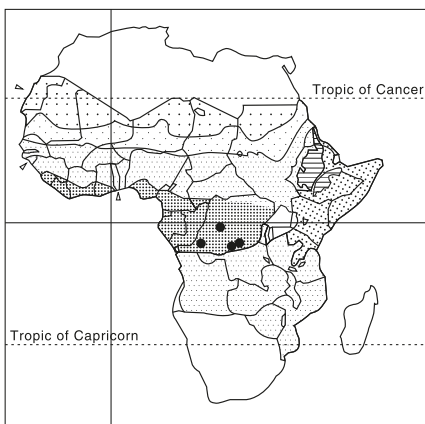
Dalbergia fischeri



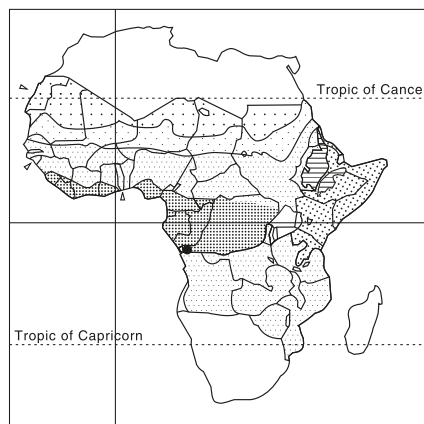
Dalbergia florifera



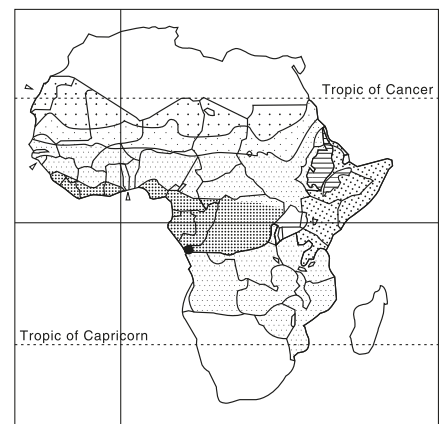
Dalbergia fouilloyana



Dalbergia gentilii



Dalbergia gilbertii



Dalbergia gossweileri

DALBERGIA

(D. gloveri Q. Luke, ined., Annotated checklist Shimba Hills, Kwale Distr., Kenya, in J. E. Afric. Nat. Hist. 94/1: 50, 2005).
Liane 10 m tall; stem to 30 cm.
SE Kenya. Not mapped.

D. gossweileri Bak. f.

Climber with slender sarmentose stem, ±15 m long; secondary branches drooping; fruit unknown.
Steep river banks.
Only known from the type (Gossweiler 8146).

D. grandibracteata De Wild.

syn.: *D. rufo-tomentosa* De Wild.
Liane or sarmentous shrub; stem to 5 cm Ø; young branches with spreading, reddish-brown hairs.
Forest; forest gallery.
Not in Guinea.

D. heudelotii Stapf

syn.: *D. sapinii* De Wild.; *Ecastaphyllum heudelotii* (Stapf) Hutch. & Dalziel
Liane, climbing shrub but sometimes a tree or semi-prostrate shrub; young branches finely puberulous or strigose; branches purple; flowers strongly scented.
Rain-forest; forest gallery; river banks; damp sites.

D. hostilis Benth.

syn.: *D. gillettii* De Wild.; *D. djalonensis* A. Chev., nom.; *D. tessmanni* Harms, nom.; *Amerimnon hostilis* O. Kuntze
Liane or sometimes a sarmentous or erect shrub, to 15 m long, generally spiny with axillary spines sometimes clustered, ± 1,5 cm long; branches numerous, climbing.
Rain-forests and adjacent savannas; forest gallery; thickets; dry woodland; dry deciduous forest; secondary forests; mixed woods; sometimes common; 750-1100 m alt.

D. kisantuensis De Wild. & Th. Durand

Liane or sarmentous shrub; young branches finely velvet-puberulous with short reddish-brown hairs.
Gallery forest; wooded savannas.
Not in Angola.

D. lactea Vatke

syn.: *D. ruwenzoriensis* De Wild.; *D. toroensis* Bak. f.; *D. preussi* Harms; *D. saxatilis* Hook. f. var. *preussii* (Harms) Cronquist
Shrub or tree, generally scandent if support available and sometimes with aid of coiled branchlets or peduncles, 3-9(-25) m tall, ± evergreen; branchlets brownish tomentellous, usually soon glabrescent; briefly deciduous.
Margins and clearings or rain- and swamp-forest; riverine forest; bushland; evergreen bushland; grassland; savanna; evergreen forest; termite mounds; sometimes widespread; 540-2400 m alt.

D. laxiflora Micheli – Icon.: Bull. Soc. Roy. Bot. Belg. 36: tab. 4, 1897.

Liane, sometimes scandent shrub or tree; young stems slightly puberulous with some acicular bristles, becoming glabrous.
Swampy- or periodically flooded forests.

DALBERGIA

D. librevillensis Pellegr.

Liane; branchlets slightly velvety becoming glabrous and lenticellate; fruit unknown?
Ecology unknown (? forest).
This species is placed by Pellegrin in the “Eudalbergiae” Harms with slender, flattened, membranous or hardly coriaceous, oblong or elliptical fruits; but only the ovary, not the fruit, is described in the diagnosis.
Only known from the syntypes.

D. louisii Cronquist

Liane, sometimes scandent shrub, to 5 m long; young branchlets puberulous.
Rain-forest; forest gallery; beside inland streams.

D. macrosperma Welw. ex Bak., excl. var. *longipedicellata* De Wild. (= **D. pachycarpa**).

syn.: *Amerimnon macrospermum* (Welw. ex Bak.) O. Kuntze
Climbing shrub with finely brown-velvety branches.
Thickets on formerly cultivated ground.

D. malangensis E. P. Sousa

Liane or scandent shrub, evergreen, with modified coiled branchlets as climbing aids, or occasionally a much-branched tree, 4-20 m tall; branchlets coarsely hairy with yellowish-brown subappressed or spreading hairs, soon glabrescent.
Riverine forest and thicket; 760-1275 m alt.

D. martinii F. White, nom. nov.

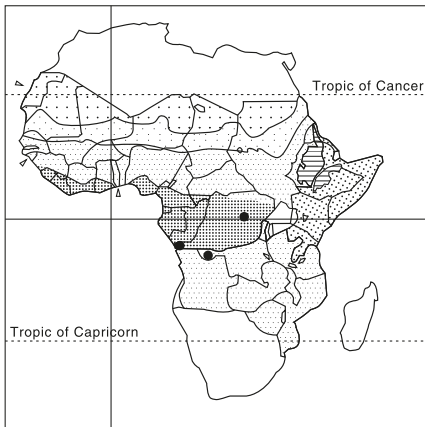
syn.: *D. glandulosa* Dunkley 1935, non Benth. 1860, nom. illegit.
Many-stemmed climbing shrub to ±6 m tall, with well-developed coiled stem-tendrils.
Abundant constituent of *Baikiaea* “mutemwa” on Kalahari sands; deciduous thickets; rocky places; mopane; c. 500-1050 m alt.
Namibia, Caprivi Strip.

D. mayumbensis Bak. f.

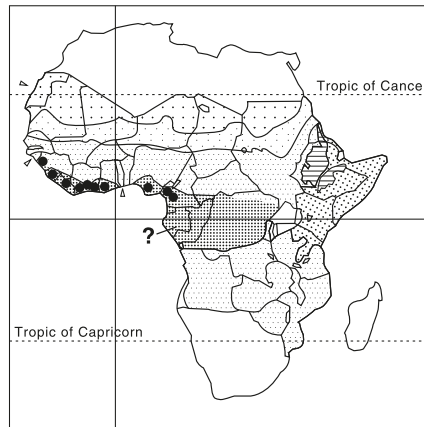
Woody climber over 40 m long, much divided on top; extremities tomentose, brown; fruit unknown.
Humid forest, on river banks.

D. melanoxyton Guill. & Perr.

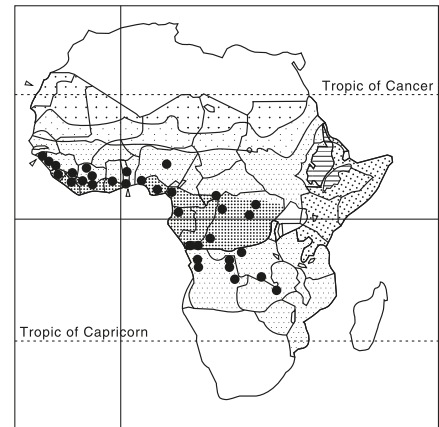
Spiny shrub 1-4 m tall or tree 5-12(-30) m; stem 20-30 cm Ø; typically several-stemmed and much branched to form a low irregularly shaped crown; branchlets clustered at the nodes, some growing out, others relatively short and spine-tipped, covered at first with short crisped hairs, but usually soon glabrescent. Flowering precocious, when only with immature leaves.
Deciduous woodland (but generally absent from *Brachystegia* associations); deciduous, secondary or coastal bushland; wooded grassland; often in rocky places or valleys of impeded drainage; savannas; marigot edges; skeletal soils; sands; thicket on termite mounds; clayey-swampy soil; woodland in extensive cultivations; palm forest; riparian forest; *Julbernardia-Diplorhynchos* woodland; *Acacia* and *Combretum* woodland; dry wooded savanna; 600-1900 m alt.
S. Africa, Botswana, Namibia; India.
Over-exploited in E. Africa; endangered in Malawi.



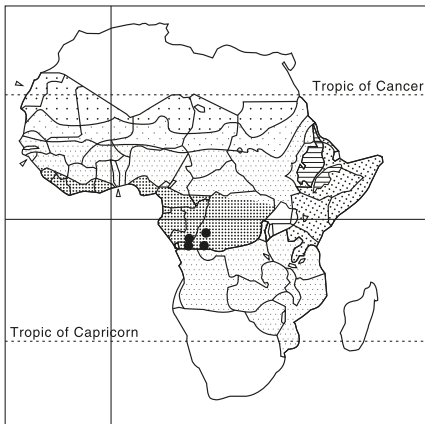
Dalbergia grandibracteata



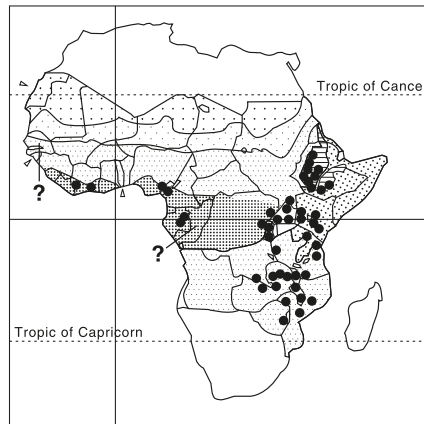
Dalbergia heudelotii



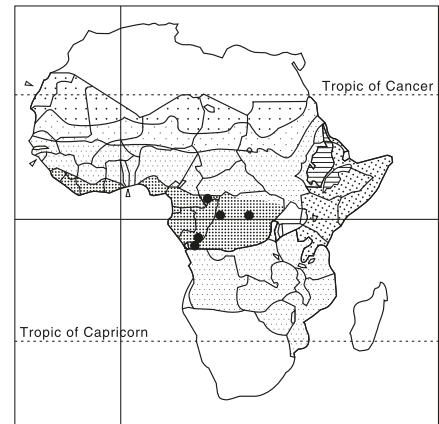
Dalbergia hostilis



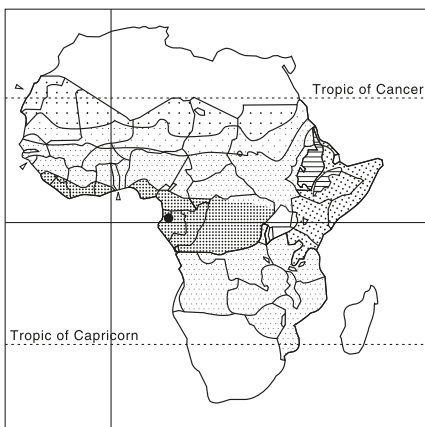
Dalbergia kisantuensis



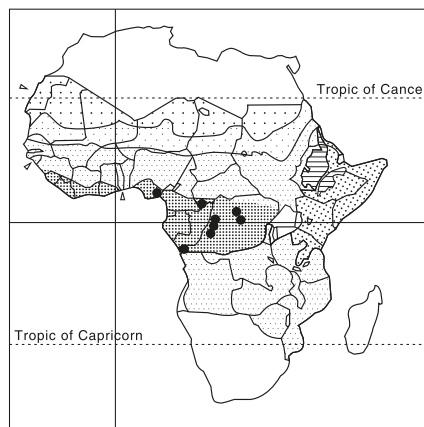
Dalbergia lactea



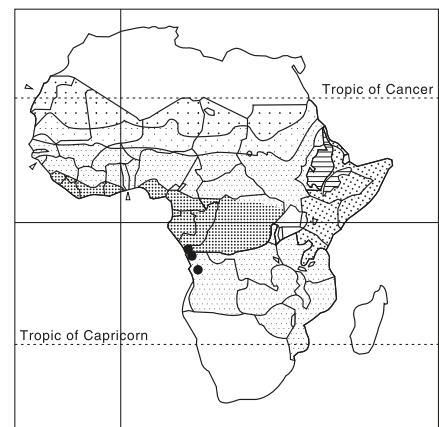
Dalbergia laxiflora



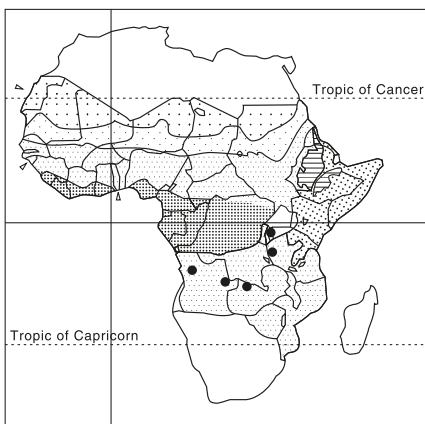
Dalbergia librevillensis



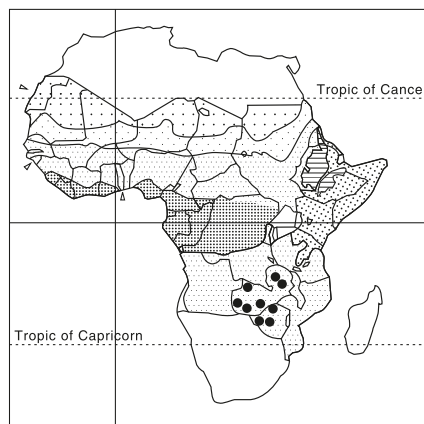
Dalbergia louisii



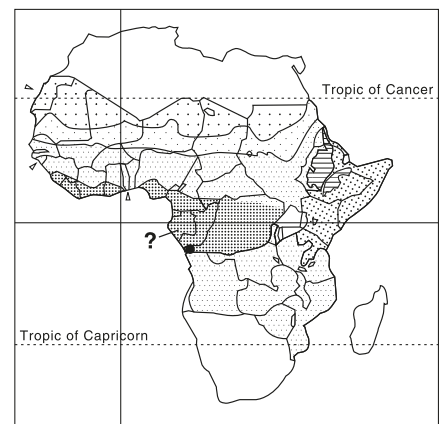
Dalbergia macrosperma



Dalbergia malangensis



Dalbergia martinii



Dalbergia mayumbensis

DALBERGIA

D. microphylla Chiov.

syn.: *D. microcarpa* Bak. f.

Shrub 2-4 m tall, sometimes with the larger branches curved; branches of previous season's growth mostly relatively short, spreading, tapered but scarcely spine-tipped, sometimes several per node, rather densely puberulous, glabrescent; flowering branchlets very short, cushion-shaped with tufts of leaves.

Common in deciduous bushland; extending into (but rare in) montane scrub; *Acacia-Commiphora* bushland; rocky slopes; 80-1500 m alt.

D. ngounyensis Pellegr.

syn.: *D. pachycarpa* (De Wild. & Th. Durand) Ulbrich ex De Wild. var. *latifoliolata* De Wild.; *D. lastoursvillensis* Pellegr.

Liane or scandent tree; young branches puberulous, soon glabrous; branches slender.

Rain-forest; forest gallery.

Not in Sierra Leone.

D. nitidula Bak.

syn.: *D. mossambicensis* Harms; *D. luluensis* Harms; *D. med-icinalis* De Wild.; *D. bequaertii* De Wild.; *Pterocarpus elisabethvillensis* De Wild.; *Amerimnon nitidulum* (Welw. ex Bak.) O. Kuntze; *Dalbergia dekindtiana* Harms; *D. swynnertonii* Bak. f.

Shrub or tree to 2-12 m tall; stem 30-60 cm Ø; branchlets with a short yellowish or grey matted usually somewhat persistent tomentum; crown depressed-dilatated. Axillary buds (inflorescences) frequently galled (long-setose red galls).

Deciduous woodland (including *Brachystegia* associations), bushland and thicket; wooded grassland; frequently recorded from rocky hills and granite out-crops; miombo on sandy soil; open forests and savannas on dry ground; sometimes widespread; 180-1900 m alt.

Variable in indumentum (ovary, fruit).

S. Africa, Namibia.

Branchlets at the time of full flowering quite leafless.

D. noldeae Harms

Scandent shrub; young branches villose, becoming subglabrous or glabrous; fruit unknown.

Rain-forest; 1200 m alt.

Only known from the type collected in 1937 and probably lost (Nolde 504).

Near *D. mayumbensis* (leaflets 8-12, 25-28 × 8-10 mm; 11-18, 20-40 × 10-17 mm in *D. noldeae*).

D. oblongifolia G. Don

syn.: *D. dinklagei* Harms

Densely branched shrub or climber, very ramose from 1 m height, 2-10 m tall; branches clothed with rufous pubescence; with short clusters of fragrant white flowers.

Thickets on sandy ground; regrowths; forests; from near sea-level to 525 m alt.

DALBERGIA

D. obovata E. Mey.

Shrub or tree, 1,8-5 m tall, sometimes scandent with aid of modified tendril-like branches; branchlets covered at first with short yellowish or brown mostly crisped or spreading hairs, glabrescent.

Secondary forest; coastal and riverine evergreen bushland or thicket; wooded grassland; (0-1750 m alt. in S. Africa).

S. Africa.

D. oligophylla Bak. ex Hutch. & Dalziel

Shrub 7,5 m tall.

Gullies at upper edge of montane forest (transition to grassland); 1600-1800 m alt.

D. pachycarpa (De Wild. & Th. Durand) Ulbr. ex De Wild., excl. var. *latifoliolata* De Wild. (= **D. ngounyensis**).

bas.: *Ecastaphyllum pachycarpum* De Wild. & Th. Durand

syn.: *Dalbergia macrosperma* Welw. ex Bak. var. *longipedicellata* De Wild.

Liane or generally scandent shrub to 4 m tall; young branches strigose or puberulous.

Rain-forest, forest gallery and adjacent savanna; here and there in thickets.

D. pluriflora Bak. f.

? Shrub, with cylindrical branches; fruit unknown.

Near coastal streams; 50-100 m alt.

D. rufa G. Don

syn.: *D. pubescens* Hook. f.; *D. lagosana* Harms

Lax-branched scrambling shrub with intermixed branches coiling sometimes like tendrils, or liane to 15 m long; young branches puberulous.

Secondary regrowth; forest; forest gallery; to 1000 m alt.

D. rugosa Hepper – Icon.: Kew Bull. 11: 132, 1956 (fruit).

Climber with cylindrical branches, densely tomentose when young, becoming sub-glabrous.

Ecology unknown; ± 1200 m alt.

D. saxatilis Hook. f., excl. var. *preussii* (Harms) Cronquist (= **D. lactea**).

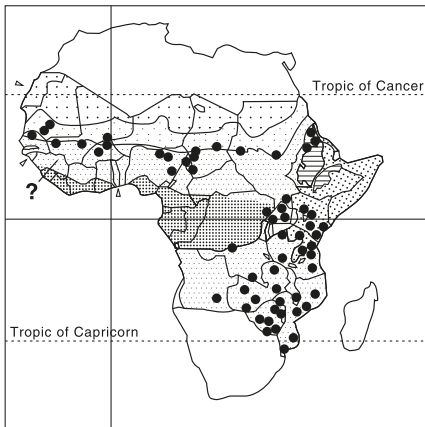
syn.: *Amerimnon pubescens* (Hook. f.) O. Kuntze; *Dalbergia macrothyrsa* Harms

Liane to 20 m long, sometimes scandent shrub; stem to 5(-15) cm Ø at the base; young branches velvety with rather short reddish-brown hairs becoming ±glabrous; branches very tortuous with some modified as woody spine hooks.

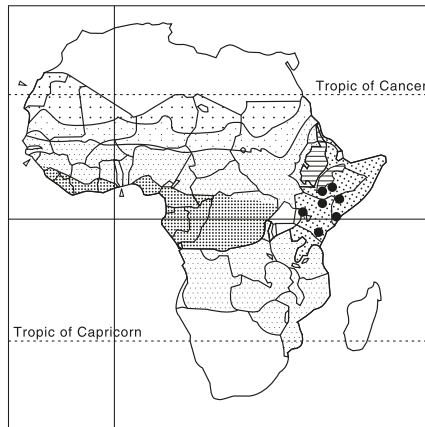
Rain-forest (liane); waste land, brushwood (scrub); forest gallery; mixed forests; regrowths; thickets; forest-cleared places; edge of short-grass savanna; deciduous and dry forests; old farms; sea-level to 1400 m alt.

Comprises 2 vars.: – var **saxalilis**; var. – **isangiensis** (De Wild.) Cronquist

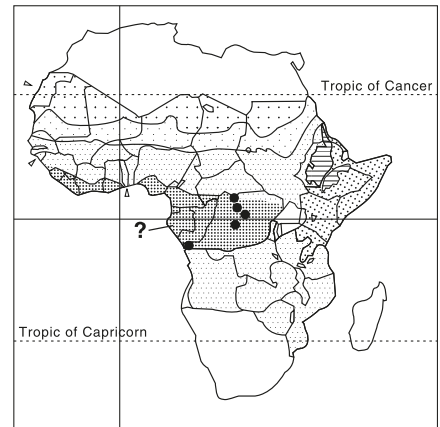
Not in Uganda. Introduced for ornamental purposes: loose panicles of white or pink flowers; foliage graceful. Plant remaining shrubby 2-3 m tall, if cut.



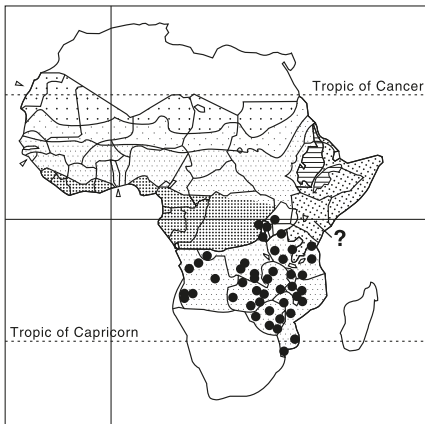
Dalbergia melanoxydon



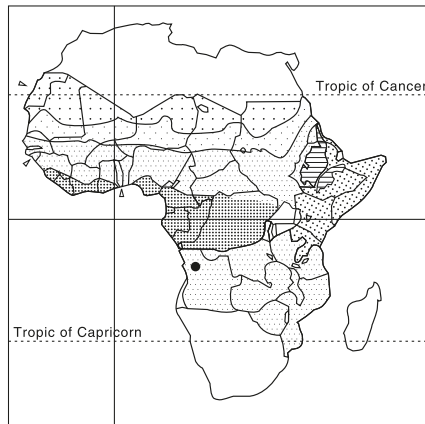
Dalbergia microphylla



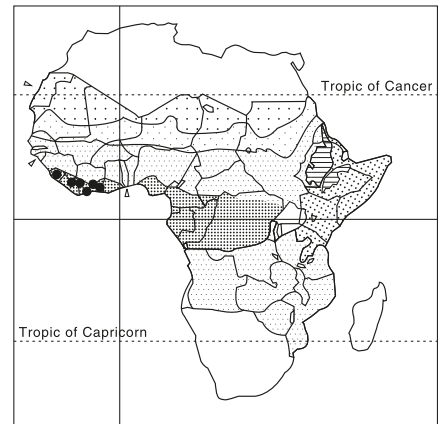
Dalbergia ngounyensis



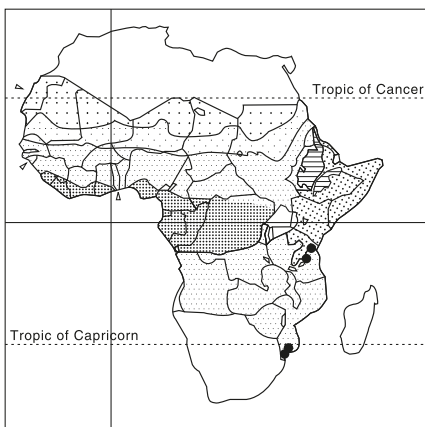
Dalbergia nitidula



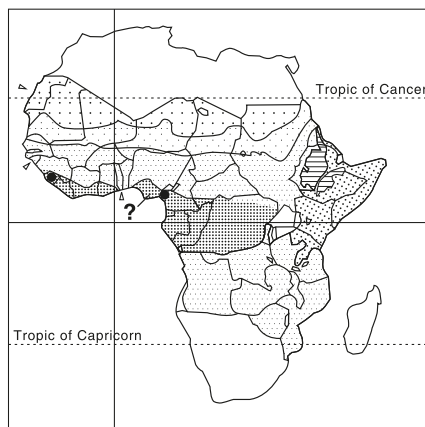
Dalbergia noldeae



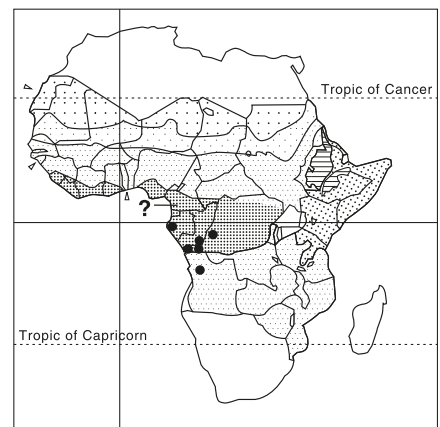
Dalbergia oblongifolia



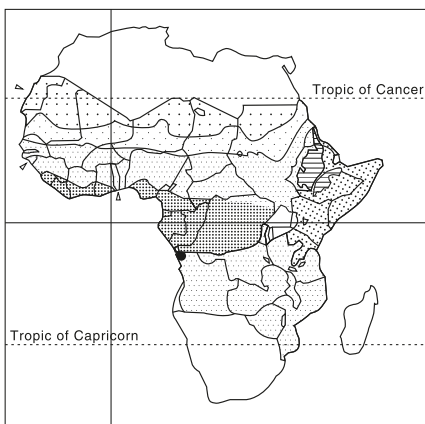
Dalbergia obovata



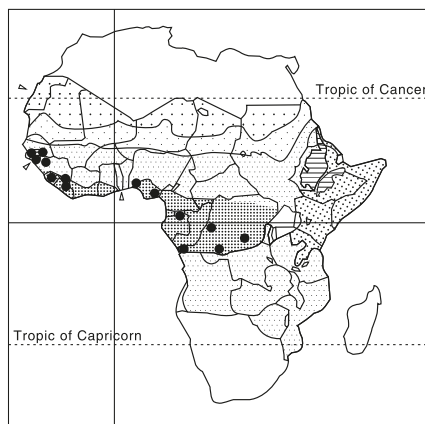
Dalbergia oligophylla



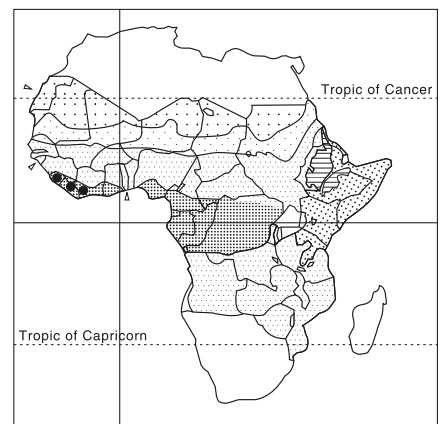
Dalbergia pachycarpa



Dalbergia pluriflora



Dalbergia rufa



Dalbergia rugosa

DALBERGIA

D. setifera Hutch. & Dalziel

Straggling shrub; young parts rusty-villous.

Coastal scrub.

D. teixeirae E. P. Sousa

syn.: *D. glaucifolia* De Wild. *fa.* ? Bak., J. Bot. 66, Suppl. Polypet.: 126, 1928; *D. aff. florifera* sensu E. P. Sousa, Consp. Fl. Angol. 3: 353, 1966.

Shrub or tree with cylindrical, glabrous branches, 2-3 m tall, branched from 2 m above the ground; crown irregular.

Edge of forest near river; ±1600-1700 m alt.

D. uarandensis (Chiov.) Thulin

Shrub 1-2 m tall; branchlets glabrous, often tapered.

Acacia-Commiphora bushland on sand; 50-300 m alt.

D. vacciniifolia Vatke

syn.: *D. mearnsii* De Wild.

Bushy shrub or tree, sometimes scandent, 1,3-10 m tall; branchlets rather persistently and densely covered with short appressed or slightly spreading hairs.

Coastal bushland and thicket; not infrequently on coral outcrops; also in forest (? dry evergreen) and cultivated ground; 0-100 m alt.

INSUFFICIENTLY KNOWN:

Dalbergia monetaria L. f., incl. var. *oyemensis* Pellegr., Les Légum. Gabon, Mém. Inst. Etudes Centrafr. 1: 193, 1948.

The true *D. monetaria* is a plant from Jamaica and tropical and subtropical S. America. The specimens from Gabon and ? Cameroon (Zenker 2153) are perhaps conspecific with *D. heudelotii*.

SYNONYMS:

Dalbergia aff. florifera sensu Sousa = **Dalbergia teixeirae**

afzelii Bak. = **D. afzeliana**

bequaertii De Wild. = **D. nitidula**

bracteolata sensu Bak., F.T.A., p.p. = **D. boehmii** subsp. **boehmii**

brevicaudata Vatke = **Craibia**

brownei Urban = **Dalbergia ecastaphyllum**

dekindtiana Harms = **D. nitidula**

dinklagei Harms = **D. oblongifolia**

djalonensis A. Chev., nom. = **D. hostilis**

domingensis Pers. = **Lonchocarpus**

elata Harms = **Dalbergia boehmii** subsp. **boehmii**

foenum-graecum De Wild. = **D. bakeri**

gillettii De Wild. = **D. hostilis**

glandulosa Dunkley, non Benth. = **D. martinii**

DALBERGIA

glaucescens De Wild. = **D. florifera**

glaucifolia De Wild. err. cal. = **D. florifera**

glaucifolia De Wild. *fa.* ? Bak. (1928) = **D. teixeirae**

goetzei Harms = **D. bracteolata**

grandidieri Baill. = **D. bracteolata**

harmsiana De Wild. = **D. boehmii** subsp. **boehmii**

isangiensis De Wild. = **D. saxatilis** var.

lagosana Harms = **D. rufa**

lastoursvillensis Pellegr. = **D. ngounyensis**

laurentii De Wild. = **Aganope lucida**

luluensis Harms = **Dalbergia nitidula**

macrocarpa Burt Davy, nom. = **D. afzeliana**

macrocarpa Welw. ex Bak. var. *longipedicellata* De Wild.

= **D. pachycarpa**

macrothysa Harms = **D. saxatilis**

macrothysa sensu Cufod. = **D. lactea**

mearnsii De Wild. = **D. vacciniifolia**

medicinalis De Wild. = **D. nitidula**

melanocarpa Harms = **D. arbutifolia** subsp. **aberrans**

micheliana De Wild. = **D. bakeri**

microcarpa Bak. f. = **D. microphylla**

mossambicensis Harms = **D. nitidula**

myriantha Meisn. = **D. armata**

nelsii Schinz = **Philenoptera**

ochracea Harms excl. legum. = **Dalbergia arbutifolia**

pachycarpa (De Wild. & Th. Durand) Ulbrich ex De Wild.

var. *latifoliolata* De Wild. = **D. ngounyensis**

praecox Hochst. ex A. Rich. = **Pterocarpus lucens** subsp.

lucens

preussii Harms = **Dalbergia lactea**

pubescens Hook. f. = **D. rufa**

richardii Baill. = **D. bracteolata**

rotundifolia Sonder = **Pterocarpus**

rufo-tomentosa De Wild. = **Dalbergia grandibracteata**

ruwenzoriensis De Wild. = **D. lactea**

sambesiaca Schinz = **D. arbutifolia**

sapinii De Wild. = **D. heudelotii**

saxatilis Hook. f. var. *preussii* (Harms) Cronquist

= **D. lactea**

sciadendron Chiov. = **D. lactea**

sessiliflora Harms = **D. obovata**

stocksii Benth. = **D. melanoxylon**

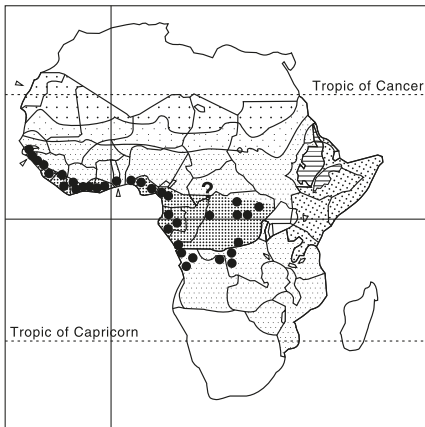
stuhlmannii Taub. = **D. boehmii** subsp.

swynnertonii Bak. f. = **D. nitidula**

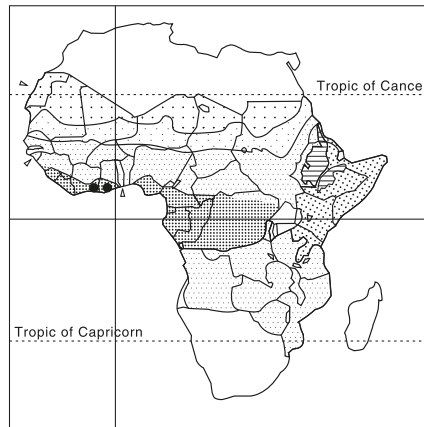
tessmannii Harms = **D. hostilis**

toroensis Bak. f. = **D. lactea**

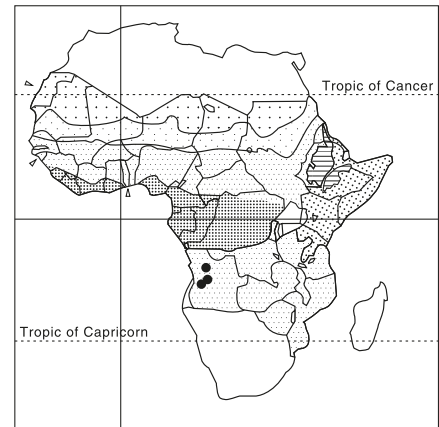
ugandensis Bak. f. = **D. lactea**



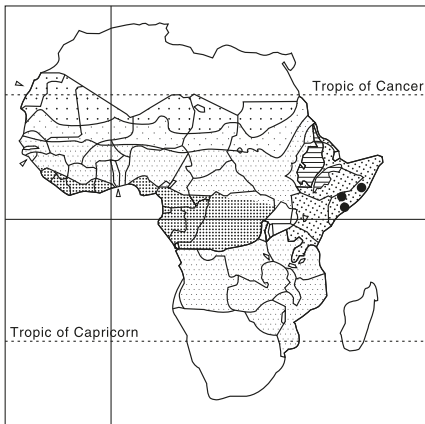
Dalbergia saxatilis



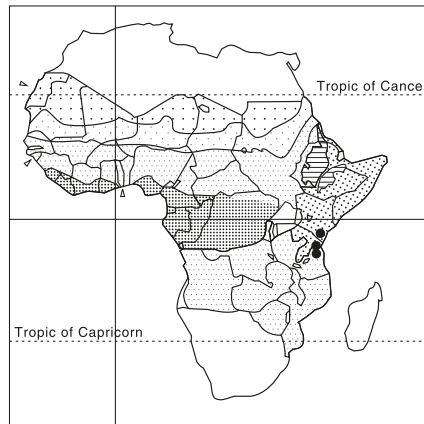
Dalbergia setifera



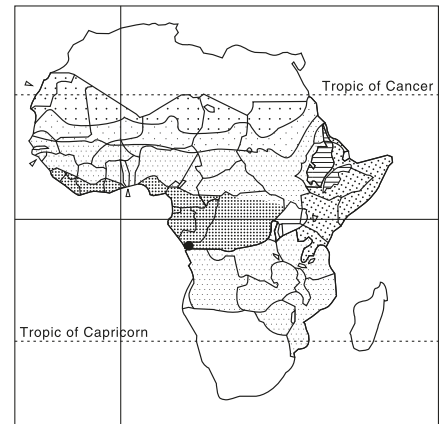
Dalbergia teixeirae



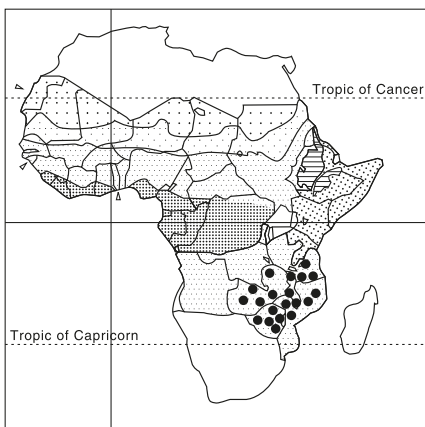
Dalbergia uarandensis



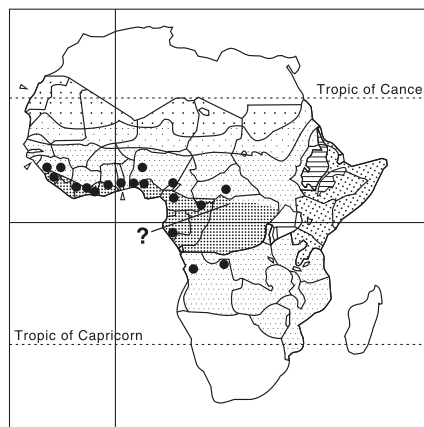
Dalbergia vacciniifolia



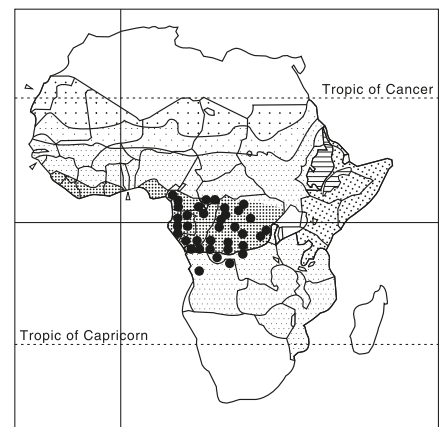
Dalbergiella gossweileri



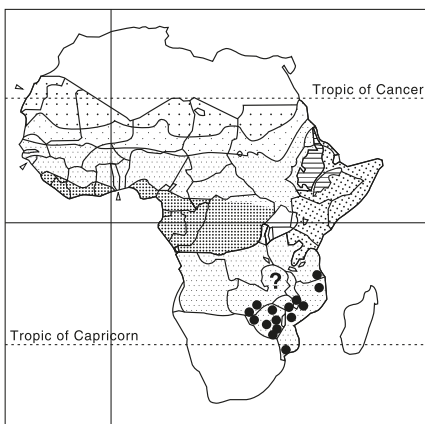
Dalbergiella nyasae



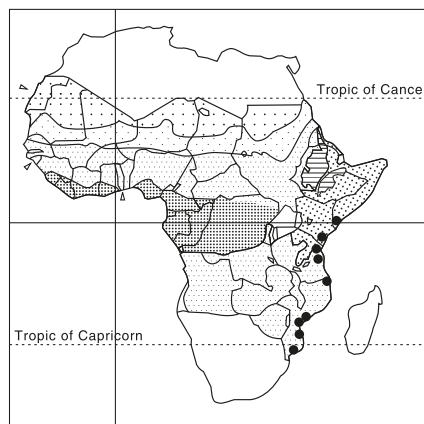
Dalbergiella welwitschii



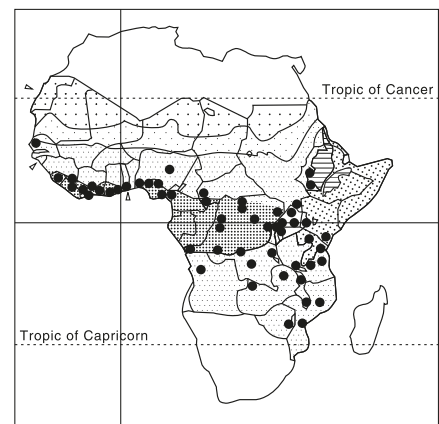
Dalhousiea africana



Decorsea schlechteri



Derris trifoliata



Desmodium adscendens

DALBERGIELLA / 3

It is uncertain whether *D. gossweileri* is known only from the type and the fruit unknown.

Dalbergiella gossweileri Bak. f.

Scandent shrub to 20 m long; branches sparsely pubescent; fruit unknown?

River banks.

? Only known from the type collected ante 1928.

D. nyasae Bak. f. – Icon.: Hook. Ic. Pl. 32: tab. 3169, 1932.

Deciduous tree 4-10 m, with dense irregular crown; bark rough, grey to dark brown, longitudinally fissured; branches diffuse; branchlets furrowed, thinly to densely spreading pubescent; fruit pubescent with a denser marginal fringe of plumose hairs 3 mm long most developed along the upper edge.

Often in poor woodland on stony soil; dry woodland with *Vellozia*, *Diplorrhynchus*, *Brachystegia allenii*; edge of *Commiphora-Albizia* thicket on red Upper Valley Soil (Zambia); *Acacia* grassland; 350-1250 m alt.

Ecology not well recorded in Tanzania in 1971.

D. welwitschii (Bak.) Bak. f. – Icon.: J. Bot. 66, Suppl. 129, 1928 (but seed in fruit inadvertently shown as attached to the dorsal suture).

bas.: *Ostryocarpus* ? *welwitschii* Bak.

syn.: *O. racemosus* A. Chev.

Deciduous climbing shrub 5-8(-17) m long; trunk slender, arborescent 1,2-2 cm Ø, when old rather flattened with stellately arranged spines in the middle; branches erect-spreading, as well as the branchlets at length pendulous; some of the branchlets reduced by abortion to short blunt spines.

Riverine forest; dense primitive thickets; ±700 m alt.

Not in Zaire.

DALHOUSIEA / 1

Genus with disjunct distribution: one species in central Africa and one (possibly two) in NE India and Bangladesh (vide Wageningen Agric. Univ. Papers 94-4: 8-9, 36-37, 1994).

Dalhousiea africana S. Moore, incl. var. *griseo-pilosa* De Wild. and var. *sapinii* De Wild.

Scandent shrub 2,5-3 m (in savanna) or liane to 40 m long (in forest); stem 18 cm Ø; branches pubescent, pale reddish-brown to ferruginous-brown, becoming glabrescent.

Disturbed savanna; forest on firm ground; here and there in open grass-grown rocky hills; dense forests; in hot situations; not frequent or not uncommon (Angola); margins of rain-forests along river banks; secondary thickets; with *Combretum platyptera*.

DECORSEA / 1

Decorsea schlechteri (Harms) Verdc.

syn.: *Dolichos schlechteri* Harms ex Burt Davy

Stems rather slender, somewhat ridged, mostly glabrous ±3 m long; flowering shoots often leafless.

Kalahari sand grasslands and scrub; stony slopes and hillsides; various woodlands: mopane, *Isoberlinia-Brachystegia boehmii-Combretum*, *Acacia* -mopane, pure *Combretum*; various thickets and scrubs; 0-1200 m alt.

Botswana, S. Africa, Namibia, Swaziland.

DENDROLOBIUM = DESMODIUM

DERRIS / 1

Derris trifoliata Lour. – Icon.: Fl. Somalia 1: 392, 1993.

syn.: *Robinia uliginosa* Roxb. ex Willd.; *Derris uliginosa* (Roxb. ex Willd.) Benth., incl. var. *loureiroi* Benth. p.p. excl. syn. *D. affinis*, nom. illegit.; *Deguelia uliginosa* (Willd.) Baill. *Deguetia trifoliata* (Lour.) Taub.; *Pongamia madagascariensis* Bojer ex Bak., nom. nud.

Woody liane with twining branches to 3-15 m or more tall; branchlets sub-glabrous, brown with conspicuous paler raised lenticles.

Mangrove swamps; coastal bushland and thicket particularly along rivers near tidal limits or along shore; 0-30 m alt.

S. Africa, Swaziland; Madagascar, Mascarene Is.; widespread in tropical and subtropical areas of Asia and Australia.

SYNONYMS:

Derris achtenii De Wild. = **Leptoderris nobilis**

brachyptera (Benth.) Bak. = **L. brachyptera**

congolensis De Wild. = **L. congolensis**

coriacea De Wild. = **L. coriacea**

cylindrica De Wild. = **L. cylindrica**

dewevrei De Wild. = **L. dewevrei**

giorgii De Wild. = **L. hypargyrea**

glabrata Bak. = **L. glabrata**

goetzei Harms = **L. goetzei**

harmsiana Dunn = **L. harmsiana**

hypargyrea Harms ex Dunn = **L. hypargyrea**

laurentii De Wild. = **L. laurentii**

leptorhachis Harms = **Millettia griffoniana**

leucobotrya (Dunn) Roberty = **Aganope**

lucida Welw. ex Bak. = **Aganope**

nobilis Welw. ex Bak. = **Leptoderris nobilis**

pynaertii De Wild. = **L. nobilis**

reyaertii De Wild. = **L. reyaertii**

scheffleri Harms, nom. = **Philenoptera ericalyx**

stuhlmannii (Taub.) Harms = **Xeroderris**

uliginosa (Roxb. ex Willd.) Benth. = **Derris trifoliata**

violacea (Klotzsch) Harms = **Philenoptera**

INDEX TO FAMILIES AND GENERA

Volume 3

This Index only gives reference to current names of families and genera used in the text (not on the maps which are in turn placed as closely as possible to the matching descriptions). Synonyms are not cited.

However, many synonyms, but perhaps not all, families and genera figure in the Cumulative Index "Énumération des plantes à fleurs d'Afrique tropicale" present at the end of the forth volume (1997: pp. 678-712). Readers are invited to consult that index.

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