

A Revision of the Genus *Baphia*, DC. (Leguminosæ).

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THE following paper is the result of a study of the rich material contained in the Herbaria of the British Museum and the Royal Gardens, Kew, and I am much indebted to the authorities of both those institutions for much kind help which has facilitated the work. A very large proportion of the species were represented in one or other, or both, of those collections, and Professor Diels of Berlin and Professor De Wildeman of Brussels have very kindly lent or presented types of those which we did not already possess in this country, for which I tender them my grateful acknowledgments. I have thus been enabled to see authentic types of all the species except two, but the material in one or two cases was rather scanty, as was inevitable.

The number of species has increased greatly in recent years, as has been the case with many other tropical African genera. In the 'Genera Plantarum' the number of species is given as 6. In Oliver's 'Flora of Tropical Africa' (1871) 10 species are described. In Dalla Torre and Harms' 'Genera Siphonogamarum' the number has risen to 30, and in Thonner's 'Flowering Plants of Africa' to 50. In the present paper 58 species are enumerated, excluding synonyms and varieties. Three species (*B. Mildbraedii* Harms, *B. ovata* T. R. Sim, and *B. Pynaertii* De Wild.) have been reduced, and it is possible that if more materials were available, one or two others would have to share the same fate, but at present it seems best to leave them. On the other hand, there are three new species and one new variety.

In the case of the older and better-known species it seemed unnecessary to quote more than one or two collectors' names and numbers for each district, but in the case of the more recently described or doubtful species the quotations have been made as full as possible.

The genus *Baphia*, commonly ascribed to Afzelius, really dates from De Candolle, Prodr. ii. p. 424 (1825), where it appears to have been first diagnosed. In 1819 Loddiges (Bot. Cab., Plate 367) had described a species, *B. nitida*, founded on a plant originally brought by Dr. Afzelius from Sierra Leone, which Loddiges had had in cultivation for ten years, but he gave no diagnosis of the genus. In 1826, Desvaux (Ann. Sci. Nat. ser. 1, ix. p. 406) established the genus *Delaria*, which included two species—*D. ovalifolia* from Brazil, which was not a *Baphia*, and *D. pyrifolia* from Upper Guinea, which was simply another form of *B. nitida*, though wrongly identified with *B. polygalacea* Baker in the Flora of Trop. Africa, and also by Baillon in Bull. Soc. Linn. de Paris, i. p. 445 (1884), and by Harms in

Pflanzenfam. Nachtr. i. 1897, p. 200. This is a surprising mistake, for *B. polygalacea* is not a *Delaria* at all, but a *Bracteolaria*. In 1841, Hochstetter (Flora, xxiv. p. 658) published his genus *Bracteolaria*, founded on *B. racemosa* from Natal. *Bracteolaria* seems to have been first reduced to a section of *Baphia* in Walp. Ann. vii. p. 801 (1868). The arrangement now generally accepted by which *Bracteolaria* and *Delaria* are ranked as the two component sections of the genus *Baphia*, dates from Bentham and Hooker, Gen. Plant. i. p. 553 (1875). It may be remarked, however, that *B. nitida* is there erroneously referred to the section *Bracteolaria*, and that the sectional distinction drawn from the colour of the flowers (white in *Bracteolaria*, yellow in *Delaria*) does not hold for all the species now known.

The primary division of the genus is based upon the different methods of rupture of the calyx, which before the flowers open forms a sort of calyptra completely enclosing the petals. In *Bracteolaria* it becomes 2-cleft, almost bilabiate, and no subdivision is necessary as the section only includes 12 species. In *Delaria*, to which the bulk of the species belong, the calyx splits up one side and forms a sort of spathe. Here it becomes necessary to subdivide. Harms (Pflanzenfam. Nachtr. i. p. 200) took the inflorescence as his test, and established two subdivisions—(a) *Genuine*, with flowers 1 to 5 in the axils of the leaves, which he further subdivided according to the shape and size of the bracteoles; and (b) *Racemifera*, with flowers in axillary racemes or panicles. This is not altogether satisfactory, owing to the confused character of the inflorescence in some species; and I have substituted an arrangement based on the bracteoles, which has the advantage of giving prominence to a small but very distinct group of species, the *Striatae*, and seems to me to be on the whole more workable and to throw the species into more natural groups. For further subdivision I have relied a good deal upon the character of the indumentum of the petioles and inflorescence.

A third section of the genus, *Macrobaphia*, was suggested by Harms in Engl. Jahrb. xl. p. 35 (1908) for his new species, *B. macrocalyx*—"calyx apice distincte 5-dentatus, dentibus majusculis, sub anthesi spathaceo-fissus." But this character is obviously of very inferior importance to those used to differentiate the two older sections. Moreover, the division of the calyx-teeth is often clearly observable in some other species—indeed, it is a conspicuous feature in Desvaux's original plate of *Delaria pyrifolia*.

Baphia is mainly a tropical African genus. The extreme limits of its distribution are from Lat. 9° N. (*B. Heudelotiana* in Southern Senegambia) to Lat. 30° S. (*B. racemosa* in Natal), and from Long. 13° W. (Senegambia) to Long. 115° E. (*B. borneensis* in North Borneo). The species which lie outside the main area are *B. racemosa* in Natal (the only species outside the tropics), *B. capparioidifolia* in Northern Madagascar, and *B. borneensis* in Borneo. The occurrence of the last at so great a distance from the continent

of Africa is a remarkable fact of distribution ; and it is noteworthy that this isolated species is not an exceptional or aberrant type, but closely related to the West African *B. spathacea*, from which it is separated by the whole width of Africa and at least sixty degrees of longitude of ocean.

Descriptive Key to the Species.

Section 1. BRACTEOLARIA. Calyx 2-fid.

Indumentum of petioles and inflorescence rather thin and greyish.

Leaves narrowing gradually to the point, comparatively short-petioled.

Leaves lanceolate, membranous, more or less cuneate at the base, crowded, 4 to 7 cm.

1. *B. racemosa*.

Leaves lanceolate, sub-coriaceous, rounded at the base, 5 to 7 cm. Indumentum rather thick

2. *B. cappariidifolia*.

Leaves oblong-lanceolate to ovate-oblong, more or less cuneate, membranous, 7 to 15 cm. Racemes very short, pedicels capillary

3. *B. Radcliffei*.

Leaves variable, broadly lanceolate to ovate, always more or less cuspidate, rounded or sub-cordate at the base, long-petioled

4. *B. polygalacea*.

Leaves with rather conspicuous parallel nerves (8-10) and short petioles. Racemes short (2.5 cm.). Pods linear, velvety

5. *B. Laurentii*.

Indumentum dense and harsh ; leaves shortly petioled, hardly cuspidate ; inflorescence ample

6. *B. multiflora*.

Indumentum dense and velvety.

Petals twice as long as calyx ; leaves ovate-lanceolate up to 10 cm., membranous. Racemes 10 cm.

7. *B. Heudelotiana*.

Petals not twice as long as calyx.

Leaves oval, with a cordate base, rounded or with a short point, 4 to 8 cm. by 3 to 5. Racemes 1.5 to 3 cm. ...

8. *B. bangweolensis*.

Leaves oblong, 3 to 4 cm. Racemes 2 to 5 cm. Inflorescence and leaves with dense, yellow, villous hairs

9. *B. aurivellerea*.

Leaves lanceolate, rounded or sub-cordate at the base, long-petioled, sub-coriaceous, 4 to 7 cm. Racemes 3 cm. ...

10. *B. Zenkeri*.

As *B. Zenkeri*, but racemes longer and petioles shorter

11. *B. Lescrauwaetii*.

Section 2. DELARIA. Calyx spathaceous.

A. MICROBRACTEOLAE. Bracteoles very small, often minute, reniform, sub-orbicular or broadly ovate ; velvety or glabrous. (Oblong or linear oblong in some forms of *B. leptobotrys* and in *B. silvatica*.)

1. Glabrous or glabrescent trees or shrubs.

i. Flowers 1-5 in the axils of the leaves.

(a) Ovary glabrous.

(a) Petals twice as long as the calyx. Pedicels slender, shorter than the petioles, up to 10 mm. Leaves variable, 6 to 15 cm. Flowers solitary or in pairs

12. *B. nitida*.

- (*β*) Petals not twice as long as the calyx. Leaves mostly smaller, 6-9 cm.
 Pedicels capillary, up to 2.5 cm., 4 to 6 times as long as the petioles. Leaves broadest at the base, gradually cuspidate. 13. *B. angolensis*.
 Pedicels as above, leaves broadest at or above the middle, abruptly cuspidate with short points.
 Buds small 14. *B. gracilipes*.
 As *B. gracilipes*, but leaf-points up to 2.5 cm. . . . 15. *B. Couraui*.
 Near *B. gracilipes*, but pedicels shorter and leaves oblong-lanceolate 16. *B. Preussii*.
 Pedicels thicker and shorter (1-1.3 cm.), pubescent at the top. Flowers up to 2 cm.
 Leaves dark green, sub-coriaceous 17. *B. Wollastoni*.
 (*b*) Ovary shortly but densely pubescent. Pedicels long and slender. Leaves sub-coriaceous. 18. *B. bipindensis*.
- ii. Flowers in more or less elongated axillary racemes.
 (*a*) Racemes slender, 3-13 cm. The whole plant glabrous with the exception of the ovary.
 Racemes 5-7 cm. Leaves long-petioled (2-3 cm.), long-pointed, membranous (sub-coriaceous in var. *nigrica*). Ovary densely hirsute. Bracteoles oblong 19. *B. leptobotrys*.
 Racemes 3-5 cm. Leaves short-petioled (5-8 mm.), with shorter cusps, papyraceous. Ovary with short adpressed hairs. Bracteoles almost reniform. 20. *B. hylophila*.
 Racemes 7-13 cm. or longer. Petioles 1-2.5 cm. Bracteoles rather large (3-4 mm.), oblong or narrowly oblong, glabrous, striated. Flowers larger . . . 21. *B. silvatica*.
 (*b*) Flowers in lax, fasciculate racemes from the old stems. Leaves much as in *hylophila*. Ovary glabrous 22. *B. obanensis*.
 (*c*) Racemes only 1-2 cm. Petioles 4-6 mm. Bracteoles minute, squamiform, sub-orbicular.
 Ovary glabrous, as are the pedicels and calyx. Axis of the inflorescence densely hairy 23. *B. brachybotrys*.
 Ovary hirsute; axis glabrous or glabrescent 24. *B. Buettneri*.
2. Inflorescence, or part of it, densely velvety. The petioles and young twigs are often hairy as well.
 i. Flowers solitary or sub-solitary. Leaves narrow, glabrous, sub-coriaceous.
 Ovary glabrous 25. *B. Nannani*.
 Ovary hairy 26. *B. acuminata*.
 ii. Flowers 2-5 in the axils of the leaves.
 (*a*) Calyx glabrous, except at the tip. Ovary glabrous. Leaves soft in texture. Pedicels, young branches, petioles, and nerves of leaves all more or less hairy. . 27. *B. barombiensis*.
 (*b*) Calyx glabrous or glabrescent. Ovary brown-velvety. Calyx glabrous or nearly so. Bracteoles squamiform, sub-orbicular. Pedicels velvety. Leaves coriaceous, glabrous, with thick, short petioles (5-10 mm.) 28. *B. crassifolia*.

- Calyx glabrescent below, \pm hairy in the upper part.
 Bracteoles larger. Pedicels velvety or pilose.
 Leaves sub-coriaceous 29. *B. densiflora*.
- Calyx as in *densiflora*. Pedicels long, slender, strict,
 densely pubescent when young, becoming glabrate
 later. Leaves glistening above, brown-punctulate
 below 30. *B. myrtifolia*.
- (c) Calyx, ovary, and pedicels all velvety or pilose.
1. Calyx and pedicels with dense whitish indumentum.
 Ovary densely hirsute. Leaves very short-petioled,
 oblanceolate-oblong, rather abruptly cuspidate. 31. *B. eriocalyx*.
2. Calyx and pedicels ferrugineous-pubescent. Ovary
 pubescent. Bracteoles very small.
 Young branches and under surface of young leaves
 densely silky. Ovary pubescent. Pedicels
 7-10 mm. Calyx 6-9 mm. 32. *B. pubescens*.
- Young branches glabrous or puberulous. Ovary
 pilose. Pedicels only 3-5 mm. Calyx 1.2-
 1.5 cm. 33. *B. Dinklugei*.
3. Pedicels and bracteoles with harsh ferruginous
 indumentum. Ovary with dense, harsh hairs.
 Bracteoles larger and oblong 34. *B. batangensis*.
- Species requiring further examination 35. *B. punctulata*.
- iii. Flowers in axillary racemes.
- Bracteoles squamiform, ovate-suborbicular, deciduous,
 remote from the calyx (finally half-way down the
 petioles or lower). Inflorescence and ovary both
 hairy. Branches and coriaceous leaves glabrous.
 Raceme narrow, 6-12 cm. 36. *B. polyantha*.
- B. STRIATÆ. Bracteoles large (5-8 mm.), oblong to linear-oblong, conspicuously striated,
 with scattered hairs, often greenish. A pair of lanceolate, striated, stipular bracts,
 which are persistent, at the base of the pedicels. Ovary densely hirsute.
 Leaves lanceolate, papyraceous, more or less softly hairy.
 Dense indumentum of yellow, villous hairs. Bracteoles
 linear-oblong, pilose. Hairs of the calyx spreading 37. *B. pilosa*.
- Leaves oval to broadly oblong, long-petioled, sub-coriaceous,
 practically glabrous. Indumentum of rather short, dark
 brown hairs. Bracteoles oblong, obtuse, thinly hairy.
 Calyx hairs brown, adpressed. 38. *B. calophylla*.
- Leaves oblong-lanceolate to lanceolate, sub-coriaceous, glabre-
 scent above, finely pubescent below, short-petioled. Indu-
 mentum formed of a dense brownish pubescence. Calyx-
 hairs yellow, adpressed 39. *B. elegans*.
- C. LONGIBRACTEOLATÆ. Bracteoles longer than broad, oblong, lanceolate or linear (ovate
 or sub-orbicular in *macrocalyx* and *Henriquesiana*), often larger than in Sub-section A
 (small in *cuspidata*, *obovata*, and *cornifolia*), densely brown velvety.
1. Bracteoles ovate, ovate-oblong, or ovate-lanceolate. Ovary
 villous.
 Bracteoles almost sub-orbicular. Inflorescence covered with
 dense, short, dark hairs. Calyx long (15 mm.). Leaves
 coriaceous, obtuse, conspicuously reticulate-veined 40. *B. macrocalyx*.

- Bracteoles ovate-oblong, circa 5 mm. Inflorescence and stem with dense, short, yellow pubescence. Petioles up to 10 cm.; leaves broadly elliptic-oblong, up to 18 × 12 cm. 41. *B. maxima*.
- Bracteoles ovate-lanceolate. Indumentum as in *B. maxima*. Leaves ovate to sub-orbicular. Petioles 4 cm.; blades 12 × 8 cm. 42. *B. orbiculata*.
2. Bracteoles oblong to oblong-lanceolate (sometimes ovate-oblong in *B. spathacea*). Ovary densely covered with short yellow hairs.
- Bracteoles oblong to lanceolate-oblong, 6 mm. Flowers very large, up to 2.7 cm. Leaves lanceolate-oblong to obovate-oblong, with short cusps. Petioles 1 to 1.5 cm. 43. *B. Schweinfurthii*
- Bracteoles oblong-lanceolate, 5 mm. Flowers up to 1.5 cm. Petioles 5 to 10 cm. Blades 8 to 16 by 4 to 8 cm. 44. *B. longipetiolata*.
- Bracteoles variable, ovate-oblong to ovate-lanceolate, 4-8 mm. The whole inflorescence with dense ferruginous pubescence. Ovary densely yellow pubescent. Leaves elliptic-oblong, narrowed to a blunt point, rather short-petioled 45. *B. spathacea*.
- Bracteoles oblong, small, only 2-3 mm. Flowers resembling those of *B. spathacea*, but on a smaller scale and more numerous. Leaves much like those of *spathacea* 46. *B. borneensis*.
- Species allied to *B. spathacea*, but available material insufficient for satisfactory discrimination. } 47. *B. Vermeuleni*.
 } 48. *B. compacta*.
3. Bracteoles lanceolate or linear.
- (a) Ovary glabrous. Leaves glabrous or glabrescent on the upper surface.
- (i.) Leaves ovate to sub-orbicular. Flowers in panicles. Leaves deeply cordate. Bracteoles small. Inflorescence thinly hairy. Calyx villous, acute in bud 49. *B. cordifolia*.
- Leaves slightly narrowed or rounded at the base. Inflorescence more hairy. Calyx obtuse in bud. Panicles long and lax 50. *B. Kirkii*.
- (ii.) Leaves ovate, with very long cuspidate points. Flowers 1 to 4 in the axils. Bracteoles subulate, only 2 mm. 51. *B. cuspidata*.
- (b) Ovary hairy.
- (i.) Leaves glabrous or glabrescent above.
- Bracteoles lanceolate, 2.5 mm. Flowers to 4 together or in very short, few-flowered axillary racemes. Pedicels and calyx villous. Leaves shining above, oval, obtuse, or shortly acuminate. 52. *B. Busseana*.
- Bracteoles linear, inserted on the pedicel. Leaves broadly obovate, with hardly any point and conspicuous nerves 53. *B. massaiensis*.

- Bracteoles linear, at the base of the calyx. Leaves narrower, covered when young on their under-side with dense, golden, silky hairs, as are the young shoots and inflorescence 54. *B. chrysophylla*.
- (ii.) Leaves covered with short, grey pubescence, dense on the under surface; obtuse or emarginate.
 Pedicels, calyx, and ovary ferruginous-villous 55. *B. Henriquesiana*.
 Pedicels and calyx grey-pubescent; ovary with whitish hairs 56. *B. obovata*.
 Pedicels and calyx minutely puberulous; ovary with scanty adpressed hairs 57. *B. cornifolia*.
- (iii.) Leaves, inflorescence, and shoots (at all events when young) covered with dense brownish villous hairs; leaves long-petioled, broadly elliptic-oblong 58. *B. Bequaertii*.

BAPHIA, DC. Prodr. ii. 424 (1825). Spreng. Syst. iv. pars 2, 158 (1827).

Benth. & Hook. Gen. Plant. i. 553. Torre & Harms, Gen. Siphon.

No. 3612. Engler & Prantl, Pflanzenfam. iii. 2. 198.

Delaria, Desv. Ann. Sci. Nat. ser. 1, ix. 406 (1826), excl. *D. ovalifolia*.

Carpolobia, G. Don, Gen. Syst. i. 370 (1831), quoad *C. dubia* et *C. versicolor*.

Bracteolaria, Hochst. Flora, xxiv. 658 (1841).

Sect. 1. BRACTEOLARIA, Benth. in Gen. Plant. i. 553 (1865).

Bracteolaria, Hochst. Flora, xxiv. 658 (1841), pro genere.

Calyx in anthesi bifidus vel bilabiatus.

1. *B. RACEMOSA*, Walp. Ann. vii. 801 (1868), non Baker, Fl. Trop. Afr. 248. *Bracteolaria racemosa*, Hochst. Flora, xxiv. 658 (1841); Walp. Rep. v. 565 (1846); Harvey, Thes. Cap. t. xx. (1859); Harvey & Sond. Fl. Cap. ii. 268 (1861); Wood, Natal Plants, t. 19; Sim, Forest Fl. Cape Col. t. 137. f. 8.

NATAL.

Macowan & *Bolus*, Herb. Norm. Austro-Afr. No. 69! *Rudatis*, Fl. Afr. Austr. Nos. 532! 792! *Krauss* No. 360! *J. Medley* Wood 568!

A shrub or small tree with fragrant flowers, locally known as the "Tree Violet."

B. racemosa, Baker in Oliver, Fl. Trop. Afr. ii. 248 (excluding synonymy) refers to a plant collected by Kirk in 1860 "in the highlands of the Batoka country" in Rhodesia. The specimens in Herb. Kew., named by Baker, are certainly not the *Bracteolaria racemosa* of Hochstetter, which does not seem to have been found outside Natal. What they are it is difficult to determine from the single sheet of indifferent material.

2. *B. CAPPARIDIFOLIA*, Baker, Journ. Linn. Soc. Bot. xxv. (1890) 311.

North-west Madagascar. *Baron* 5358! 6455! 6862! *Hildebrandt* 3098!

The plants recorded as *B. polygalacea* from Madagascar (*Hildebrandt* 3098 and *Baron* 6455) appear to me to belong to *B. capparidifolia*. They have sub-coriaceous leaves; the leaves narrow gradually to the apex, and the cuspidate point so characteristic of *polygalacea* is absent; and the inflorescence is much more hairy (densely so in *Hildebrandt*'s plant, which appears to be a starved form). Moreover, true *polygalacea* has not been found outside the area of Guinea and Kamerun.

3. *B. RADOLIFFEI*, Baker f. in Journ. Linn. Soc. Bot. xxxviii. (1905) 147.

UGANDA. *Bagshawe* 74! 755! 1072! *Dummer* 3901! (alt. 1450 m.). *Ussher* 93! *Fyffe* 68! *Dawe* 972! (alt. 1300 m.).

Easily distinguished by the very small and delicate axillary racemes in clusters, generally shorter than the petioles, with capillary pedicels. The following description of the fruit may be added to Mr. Baker's account:—

Legumen monospermum, oblique-oblongum, 3-4 cm. \times 1.5-2 cm., apice cornutum, superficie glabra, nigra, reticulata. Semen rufum, 2.5-3 cm. longum.

4. *B. POLYGALACEA*, Baker in Oliver, Fl. Trop. Afr. ii. 248 (1871). *B. Pynaertii*, De Wild. in Ann. Mus. Cong. ii. 143 (1907). *Bracteolaria polygalacea*, Hooker f. Niger Fl. 322 (1849). *Carpolobia dubia*, G. Don, Gen. Syst. i. 370 (1831).

UPPER GUINEA. Sierra Leone! Liberia! Nigeria!

KAMERUN. Virgin forest near Yaunde. *Zenker* 681! Fernando Po. *Mann*! *Barter*!

BELGIAN CONGO. Near Eala. *Pynaert* 239!

A note appended to a specimen gathered by A. E. Kitson in South Nigeria states that "the twigs are barked, smashed and used as torches, and that the plant is used as a cure for diarrhœa."

De Wildeman says of *B. Pynaertii*: "Cette plante nous a paru voisine de *B. polygalacea*, Baker, que nous ne connaissons, il est vrai, que par description." To me it seems indistinguishable.

This is a well-known and rather variable species. The plants recorded as *B. polygalacea* from Madagascar, as has been already said, are here referred to *B. capparidifolia*. There has been some confusion about the synonyms. Baker (*l. c.*) identified his *polygalacea* with *Delaria pyrifolia*, Desv., and Baillon in Bull. Soc. Linn. de Paris, i. 445 (1884) accepted the identification, but changed the name to *B. pyrifolia*. Harms, in Pflanzenfam. Nachtr. i. 200 (1897), accepted both the identification and Baillon's name, and specimens from Kamerun (*Preuss* 1257!) were issued from Berlin which are labelled *B. pyrifolia*. But the identification is manifestly erroneous. *B. polygalacea* is a *Bracteolaria*, not a *Delaria*, and a mere glance at Desvaux's plate and

description is enough to show that they have nothing to do with one another. *Delaria pyrifolia*, Desv. is a form of *Baphia nitida*.

5. *B. LAURENTII*, De Wild. in Miss. Laur. i. 105 (1905).

BELGIAN CONGO. Ikenge. No. 40.

Distinguished from *polygalacea*, as far as can be judged from the scanty material available, by the short inflorescences, and the conspicuous, rather numerous, parallel nerves on the under side of the leaves, as well as by the shorter petioles.

6. *B. MULTIFLORA*, Harms in Deutsch. Zentr.-Afr. Exped. ii. 243 (1910).

BENI. Bushy places and water-courses in hilly elephant-grass steppe. A liane with white flowers. No. 2442!

Harms distinguishes it from *polygalacea* and *racemosa* by the much harsher and longer indumentum of the inflorescence, from *Heudelotiana* by the smaller flowers, from *Zenkeri* and *Laurentii* by the much longer inflorescence.

7. *B. HEUDELOTIANA*, Baill. in Adans. vi. 216 (1866).

SENEGAMBIA. Dry, stony places at Rio Pongos. *Heudelot* 898!

There is a single specimen in Herb. Kew collected by Heudelot in 1838. Apparently it has never been re-found.

8. *B. BANGWEOLENSIS*, R. E. Fries in Fedde, Rep. Nov. Spec. xii. 51 (1913).

NORTH-EAST RHODESIA. In thick, dry, liana-covered forests near Lake Bangweolo. *Fries* 826.

No specimen seen. Characterised by the oval leaves with cordate base, rounded or occasionally shortly cuspidate at the top.

9. *B. AURIVELLEREA*, Taub. in Engl. Jahrb. xxiii. 174 (1897).

UPPER CONGO. Between Kimbundo and the Quango. *Pogge* 535!

Characterised by the villous, golden indumentum. The flowers are described as axillary, one or two together. No other species of the section *Bracteolaria* has anything but a racemose or paniculate inflorescence. The only specimen I have seen is too fragmentary to give any idea of the plant as a whole.

10. *B. ZENKERI*, Taub. in Engl. Jahrb. xxiii. 174 (1897).

KAMERUN. In apricis inter lapides ad Massa prope Yaunde Station circa 900 m. alt. *Zenker & Staudt* 492!

Distinguishable from *Heudelotiana* by the short racemes and the smaller, sub-coriaceous leaves, as well as the smaller flowers. From *cappariidifolia*, which it resembles, it may be distinguished by the heavier indumentum and the rather broader leaves.

11. *B. LESCRAUWAETHII*, De Wild. in Ann. Mus. Cong. ii. 143 (1907).

BELGIAN CONGO. Pania-Mutombo. *Lescrauwaet* 386!

Apparently only distinguishable from *B. Zenkeri* by the longer racemes and the shorter petioles.

Sect. 2. *DELARIA*, Benth. in Gen. Plant. i. 553 (1865).

Delaria, Desv. in Ann. Sci. Nat. ser. 1, ix. 406 (1826).

Calyx spathaceous, in anthesi lateraliter fissus.

A. MICROBRACTEOLATÆ. Bracteoles very small, often minute, reniform, sub-orbicular or broadly ovate.

12. *B. NITIDA*, Lodd. Bot. Cab. t. 367 (1819). Spreng. Syst. iv. pars 2, 175 (1827). *Delaria pyrifolia*, Desv. Ann. Sci. Nat. ix. 406 (1826) & t. 53. Linnæa, ii. 510 (1827). *Baphia hematoxylon*, Hooker f. Niger Fl. 321 (1849). *Carpolobia versicolor*, G. Don, Gen. Syst. i. 370 (1831). *Podalyria hematoxylon*, Schum. & Thonn. Pl. Guin. 222 (1828). *Baphia leptostemma*, Baill. Adans. vi. 214 (1866).

UPPER GUINEA. Sierra Leone! Gold Coast! Nigeria!

KAMERUN. Batanga. Bates! Fernando Po. Mann!

Furnishes the "Cam-wood" or "Barr-wood" of commerce—a red dye. "As it grows old, red wood is produced inside the heart-wood and sold as Barr-wood." Native name "Irosun."

Loddiges's description leaves a good deal to be desired, and the accompanying plate is unsatisfactory and confused. Both were apparently taken from specimens which had originally been sent by Afzelius from Sierra Leone, and which Loddiges had long had in cultivation. This fact may explain the unusual shape of the leaves, which are represented as long and narrow with long cuspidate points, very different from the broad leaves with very short points which are commonly found in the species, and which are well portrayed in Desvaux's clear and good (if rather diagrammatic) plate of *Delaria pyrifolia*. The leaves in this species are very variable both in shape and in size, and different as the plates are, there can be little doubt that they both represent two different forms of one variable plant, and that a series could be arranged to illustrate the passage from one to the other. The narrow-leaved form is the less common, but there are specimens somewhat resembling Loddiges's plate in Herb. Brit. Mus. from Sherbro Island, Sierra Leone (*Mrs. C. B. Hunter* 32 & 88), and in Herb. Kew. from Angianna in Nigeria (*Barter* 200). In a specimen from Oban in South Nigeria in Herb. Brit. Mus. (*P. A. Talbot* 1765) the leaves are at least 20 cm. in length.

13. *B. ANGOLENSIS* Welw. ex Baker in Oliver, Fl. Trop. Afr. ii. 249 (1871); Hiern, Cat. Welw. Afr. Pl. i. 285 (1896).

LIBERIA. Banks of a stream, Mt. Barclay. *R. H. Bunting* 28! A variety with longer petioles.

KAMERUN. Abonando. *Rudatis* 48!

ANGOLA. • Highlands of Golungo Alto. *Welwitsch, Iter Angolense* 601!
Landana. *Gossweiler* 6075! A broad-leaved form. Monte Bello. *Gossweiler* 5414!

N.W. RHODESIA. Mumbenje River. *Gossweiler* 5182! 5295!

This and the next species are characterised by the very long and slender pedicels, and rather small leaves. A description of the fruit may be added to the account in the Fl. Trop. Afr. :—

Legumen lineare, 6–8 cm. \times 1.0–1.25 cm., sæpius recurvatum, in cornu longum tenue rectum sensim desinens.

14. *B. GRACILIPES*, Harms in Engl. Jahrb. xxvi. 280 (1899).

KAMERUN. Lolodorf. Virgin forest. *Staudt* 209!

Closely related to *B. angolensis*, but differing in the shape of the leaves, which are broader and generally broadest above the middle, rounded at the top and abruptly cuspidate, with short points.

15. *B. CONRAUI*, Harms in Engl. Jahrb. xxxiii. 167 (1902).

KAMERUN. Bangwe. *Conrau* 152!

Very close to *B. gracilipes*. Harms distinguishes it by the larger points to the leaves—1.5 cm. in *gracilipes* and 1.5 to 2.5 in *Conraui*. The obovate form also seems to be less marked.

16. *B. PREUSSII*, Harms in Engl. Jahrb. xxxiii. 195 (1902).

KAMERUN. Kriby, in bushy forest on the southern border of the tobacco farm. *Preuss* 257!

Harms simply distinguishes it from *angolensis* by the thicker petioles and from *crassifolia* by the thinner texture of the leaves and the glabrous ovary. The last three species are very close together, perhaps too close to be kept specifically distinct, but the available material is very scanty in the case of the last two.

17. *B. WOLLASTONI*, Baker f. in Journ. Linn. Soc. xxxviii. 247 (1908).
B. Mildbraedii, Harms in Deutsch. Zentr.-Afr. Exped. 1907–1908, ii. 242 (1914).

UGANDA. Ruwenzori W., alt. 1350 m. *Dr. A. F. R. Wollaston*! Forest near mouth of the Mpanga River, Toro. *Bagshawe* 1140! 1185! (“Common by streams”). Lake Albert Edward. *Bagshawe* 1314! *Kassner* 3271! Semliki Forest. *Dawe* 682!

BELGIAN CONGO. Semliki River. *Kassner* 3084! Semliki Ebene: steep water-courses on the grass steppe. *Mildbraed* 1995. Mawambi, banks of the Ituri River. *Mildbraed* 3078! The last two localities are both close to the Uganda border.

The specimen from Berlin makes it clear that *Mildbraedii* is identical with *Wollastoni*, and the latter name has six years' precedence.

A handsome, distinct shrub with large flowers and dark green, sub-coriaceous, rather close-set leaves. The following description of the pod may be added to Mr. Baker's description of the plant:—

Legumen lineare, 6 to 8 cm. \times 1.5 cm., apice leviter recurvatum, in cornu rectum mediocriter desinens, superficie glabra, nitida, laevi, statu juniore viridescens mox olivaceum.

18. *B. BIPINDENSIS*, Harms in Engl. Jahrb. xxxiii. 165 (1902).

KAMERUN. Bipinde. Virgin forest. *Zenker* 1735! 2347! 4588!

FRENCH CONGO. Gaboon. *Klaine* 1264! (Herb. L. Pierre).

The pedicels resemble those of *angolensis*, but the leaves are of a very different texture, sub-coriaceous, and the ovary is not glabrous but covered with a dense, short pubescence.

19. *B. LEPTOBOTRYS*, Harms in Engl. Jahrb. xxvi. 282 (1898).

KAMERUN. Bipinde. *Zenker* 874! 3262! 2995! 2233! 4859! etc.

LIBERIA. Gola. *R. H. Bunting* 1910! 3422!

NIGERIA. Oban. *Talbot* 1554! 1761! 591!

Rather a variable plant as regards the size of the bracteoles and the shape and texture of the leaves. Harms originally described the bracteoles as ovate and minute, but in the copious series of specimens collected by *Zenker* they range from what may perhaps be called ovate to linear-oblong, and sometimes reach 3 mm. Indeed, the shape and size of the bracteoles in this species and *B. silvatica* might justify their inclusion in Sect. Longibracteolatae but for the fact that the bracteoles are glabrous and that the general character of the two plants seems to indicate that their real affinities are with the present section.

Var. *NIGERICA*, Baker f. in Cat. Talb. Nig. Pl. 26 (1913).

This variety was established upon *Talbot's* 1554 from Oban, and is diagnosed as being distinguished by the narrow leaves and small bracteoles.

20. *B. HYLOPHILA*, Harms in Engl. Jahrb. xxvi. 282 (1898).

KAMERUN. Near Samisol, Miabokeberg. *Zenker* 1323!

FRENCH CONGO. Gaboon, Sibange Farm, Munda. *H. Soyaux* 37! 67! sub nomine "*B. angolensis* Welw. var.?"

21. *B. SILVATICA*, Harms in Engl. Jahrb. xlix. 434 (1913).

KAMERUN. Southern forest region. *Bezzik* Molundu, Jukaduma. *Mildbraed* 4662! Near Modika. *Mildbraed* 4308.

SOUTH NIGERIA. Oban. *Talbot* 591! 1761!

Allied to *leptobotrys*, but distinguished by the longer racemes and larger

flowers, as well as by the thicker and longer persistent bracts and the larger, oblong bracteoles.

22. *B. OBANENSIS*, Baker f. in Cat. Talb. Nig. Pl. 25 (1913).

SOUTH NIGERIA. Oban. *Talbot* 1682!

The single specimen in Herb. Brit. Mus. is cauliflorous. The lax, small-flowered racemes, the length of which is difficult to estimate as they are broken off, spring in a cluster of four or five from the bark of an old, moss-covered branch. The leaves closely resemble those of *hylophila*. The flowers are rather small, and the ovary, as far as can be seen in its very young state, appears to be glabrous.

23. *B. BRACHYBOTRYS*, Harms in Engl. Jahrb. xxvi. 281 (1899).

FRENCH CONGO. Gaboon. Tschintsehotscho. *Soyaux* 148.

There is a sheet at Kew labelled "Afrikanische Gesellschaft. Loango Nsanga bei Choriachoseo. Legit H. Soyaux. 5.11.1874. No.148!" which appears to be the plant from which Harms described the species.

24. *B. BUETTNERI*, Harms in Engl. Jahrb. xxvi. 281 (1899).

FRENCH CONGO. Gaboon. Forest near Sibange. *Buettner* 491!

25. *B. NANNANI*, Baker f., sp. nova.

Arbor alta, ramis glabris, ramulis fusco-pubescentibus; foliis breviter petiolatis, oblongis vel oblongo-lanceolatis, longe acuminatis, apice ipso obtusis, basi rotundatis, glabris, nervis lateralibus utrinque 7-9 arcuatis, costa subtus prominente; floribus albis, sæpissime solitariis, axillaribus, pedicellis brevibus ferrugineo-pubescentibus; bracteolis parvis, semi-orbicularibus; calyce spathaceo, glabro; carina naviculariformi; ovario lineari, glabro; leguminibus juvenilibus glabris.

Leaves 8-11 cm. long by 3-4 broad; petiole 7-8 mm. Pedicels 7-9 mm. Calyx 12-14 mm. Carina \pm 13 mm.

BELGIAN CONGO. Near Boyeka. *Nannan* 128! "In the forest and in marshy places; a large tree. Native name Lomangga."

Related to *B. pubescens* and *B. crassifolia*, but distinguished from both by the glabrous ovary, the shorter pedicels, and the longer points to the leaves.

26. *B. ACUMINATA*, De Wild. in Miss. Laur. i. 104 (1905).

UPPER CONGO. Basoko. Wanie Rukula!

Closely related to *B. Nannani*, which it resembles in the shape and size of the leaves and the solitary flowers, but distinguished from it by the hairy ovary.

27. *B. BAROMBIENSIS*, Taub. in Engl. Jahrb. xxiii. 177 (1897).

KAMERUN. Barombi. *Preuss* 115! 512! Johann-Albrechtshöhe. *Staudt* 635! Bipinde. *Zenker* 2249! 2986!

SOUTH NIGERIA. *A. E. Kitson* 1909! "Forest tree. Sandy." Oban. *Talbot* 1764!

The whole plant is rather softly hairy when the leaves and branches are young.

28. *B. CRASSIFOLIA*, Harms in Engl. Jahrb. xxvi. 280 (1899).

KAMERUN. Lolodorf. *Staudt* 160! Bipinde. *Zenker* 4987! 4670! 4401! 1216! 2519! 1304!

SOUTH NIGERIA. Oban. *Talbot*!

BELGIAN CONGO. "Vallée de la Djuma. *Gentil*. Loanga. *Gentil* 28." Ann. Mus. Cong. ser. 5, vol. i. 131.

This species is best recognised by the combination of a glabrous or glabrescent calyx with a velvety pedicel and by the thick-petioled coriaceous leaves. But it appears to be rather variable.

Var. *DUSENII*, Harms, *l.c.* "Typo similis, differt non nisi foliis latioribus (ovatis vel ovato-oblongis vel oblongis)."

KAMERUN. *Dusén*.

The leaves of many species of *Baphia* are very variable. I doubt the wisdom of naming a variety on the ground of a mere difference in breadth.

29. *B. DENSIFLORA*, Harms in Engl. Jahrb. xxvi. 280 (1899).

CONGO. Near Mukenge. *Pogge* 819!

NIGERIA. Oban. *Talbot* 1719! Eket district. *Talbot* (unnumbered)!

GABUN. *Mann*! (the same form as *Talbot's* 1719).

Harms notes that the leaves often fall off and leave long, bare panicles of flowers. This feature is well shown in *Mann's* plant and in *Talbot's* 1719. Near *crassifolia*, but the indumentum is more dense and the young branches are covered with a dense pubescence.

30. *B. MYRTIFOLIA*, Lester-Garland, sp. nova.

Arbor vel frutex stricta, ramulis glabrescentibus. Folia petiolata (petiolo 5-6 mm. longo, statu juniore parce adpresse-piloso), anguste oblongo-lanceolata, basi rotundata, apice breviter acuminata, glabra et nitida supra, nervis subter \pm pilosis, minute punctulata, brunneo-viridia, chartacea. Flores ad axillos foliorum fasciculatim (2-5) dispositi; pedicelli primum dense ferrugineo-pubescentes, serius glabrescentes, tenues sed stricti, apicem versus incrassati, usque ad 17 mm. longi, patentes. Braeteolæ minimæ, squamiformes; calyx spathaceus, 10 mm. longus, statu juniore apice dense pubescens, cæterum glaber vel glabrescens, denique minute puberulus; vexillum circa 12 mm. longum; ovarium adpresse pubescens; stylo glabro.

SOUTH NIGERIA. *Talbot* (unnumbered) 1912-13!

This plant is intermediate between *B. bipindensis* and *B. crassifolia*. The long, slender pedicels suggest the former, but they are stiff instead of flexible,

and when young they are covered with exactly the same sort of pubescence as those of *crassifolia*, whereas in *bipindensis* they are glabrous from the beginning. The general character of the inflorescence also indicates that the plant belongs to the *crassifolia* type.

31. *B. ERIOCALYX*, Harms in Engl. Jahrb. xxxiii. 165 (1902).

KAMERUN. Bipinde, in the virgin forest. *Zenker* 2380! 4869! 3159! 4141!

Easily recognisable by the dense whitish indumentum of the pedicels and calyx and the very short petioles. The bracteoles are inserted upon the pedicel, not upon the calyx itself, from which they often stand at an appreciable distance; but this feature is not so pronounced as in *B. polyantha*.

32. *B. PUBESCENS*, Hook. f. Niger Fl. 320 (1849). *B. laurifolia*, Baill. Adans. vi. 213 (*fide* Baker, Fl. Trop. Afr.).

GOLD COAST. *Farmer* 539! *Chipp* 452!

NIGERIA. *Barter* 1617! *Baumann* 15! *Elliott* 177! *Foster* 219!

BELGIAN CONGO. De Wildeman, Ann. Mus. Cong. ser. 5, vol. i. 255, vol. ii. 143, and vol. iii. 197, gives ten different localities. In Deutsch. Zentral-Afr. Exped. 243 it is also recorded from Aruwimi.

KAMERUN. Yaunde. *Zenker* 1411!

A shrub or small tree with rather small, crowded leaves and flowers in clusters of 1 to 4 in the axils on the main branches. Very variable in the indumentum. In the typical plant the young branches, floral axis, pedicels, calyx, and ovary are all covered with a dense, short pubescence, and the under surface of the young leaves and the petioles are densely silky, but the young branches and petioles sometimes have only scattered hairs, the pedicels may be glabrate, and the calyx minutely puberulous, while the hairs on the young leaves are sometimes confined to the nerves.

33. *B. DINKLAGEI*, Harms in Engl. Jahrb. xxvi. 279 (1899).

LIBERIA. Grand Bassa, Fishtown. Thickets on the sandy foreshore. *Dinklage* 1664! "In fruticetis solo subhumido persæpe." *Dinklage* 1975!

The flowers are larger and the petioles shorter than in *pubescens*. The ovary also is covered with longer hairs. In the herbarium specimens the flowers appear to be in terminal racemes, probably owing to the falling-off of the leaves.

34. *B. BATANGENSIS*, Harms in Engl. Jahrb. xxxiii. 166 (1902).

KAMERUN. Batange. *Dinklage* 926!

Described as a shrub with villous young branches, petioles, pedicels, calyx, and ovary. Distinguished from *pubescens* by the larger bracteoles (3 mm.) and calyx (11 mm.), and by the harsh character of the indumentum.

35. *B. PUNCTULATA*, Harms in Engl. Jahrb. xl. 32 (1908).

EAST AFRICA. Hills near Lake Tandangongoro; c. 250 m. in thick bushy forest. *Busse* 2486!

From the scanty material available it has been found impossible to deal satisfactorily with this species. It is clearly closely related to some forms of *crassifolia*, e. g. *Zenker* 2982 A & 2519, but the petioles are not so thick and the venation of the leaves on the under side is more delicate. It is also rather like a glabrescent form of *pubescens*; but the probability is that it is distinct from both, as it comes from the opposite side of Africa. The bracteoles are described as very broad and short, sub-orbicular or reniform; the flowers one to three together in the axils; the pedicels rather long and brown-velvety; the calyx pubescent; the ovary "marginate hirsute."

36. *B. POLYANTHA*, Harms in Engl. Jahrb. xl. 32 (1908).

KAMERUN. Bipinde. *Zenker* 2685! 2988 A! 4114!

Harms lays great stress upon the position of the bracteoles, which "are not placed immediately or almost immediately at the base of the calyx, but nearly in the middle of the pedicel or a little above its base." The bracteoles stand at a distance from the calyx in some of the other species (e. g. *obovata*, *cornifolia*, and *eriocalyx*), but never so far as *polyantha*. When this is the case they are often deciduous. This very distinct plant has several other easily recognisable features—the rather long and very narrow axillary racemes and the large, dark-coloured, deciduous bracts among others.

B. STRIATÆ. Bracteoles large, oblong to linear-oblong, conspicuously striated, with scattered hairs. A pair of lanceolate, striated, persistent stipular bracts at the base of the pedicels.

37. *B. PILOSA*, Baill. in Adans. vi. 216 (1866); Baker in Oliver, Fl. Trop. Afr. ii. 249 (1871).

GABUN. *Duparquet* 29 (Baillon). *Klaine* 2156! 859! (ex herb. L. Pierre).

ANGOLA. Woods at Pango Munga. *Gossweiler* 6483!

A woody climber. Easily recognised by the long, soft, fawn-coloured hairs of the inflorescence and petioles. In the species of this section the pedicels spring from the axil of a bract which is usually very small and disappears early, and which bears at its base a pair of stipules. When the bract falls off, the stipules remain and look like a pair of bracts at the base of the pedicels. Sometimes no flower develops in the axil, and then the bract itself is generally persistent and grows larger, and the true nature of the stipules becomes apparent.

38. *B. CALOPHYLLA*, Harms in Engl. Jahrb. xlix. 433 (1913).

KAMERUN. Bipinde. Virgin forest. *Zenker* 4602!

Easily distinguished from *pilosa* by the broad, shining, coriaceous leaves, the short dark brown indumentum of the inflorescence, and the greenish, thinly pilose bracteoles.

39. *B. ELEGANS*, Lester-Garland, sp. nova.

Frutex scandens vel decumbens, ramulis junioribus dense pubescentibus, adultis glabrescentibus. Folia petiolata (petiolo piloso circa 1 cm. longo), lanceolata vel oblongo-lanceolata, basi rotundata, apice sensim acuminata, chartacea, supra atro-viridia (ut videtur) et glabra nisi in nervis depressis, subtus plus minus obsita pilis brevibus sparsis adpressis, nervis dense pilosis. Flores in racemos axillares (c. 3 cm.) dispositi; rhachis et pedicelli dense pubescentes; pedicelli stipulis bracteiformibus duobus persistentibus suffulti, bractea ipsa minuta et mature decidua seu rarius per abortionem floris crescente et persistente; bracteoli 4-5 mm. longi, ovato-oblongi, virides, striata, extus adpresse pilosis, intus glabris. Calyx spathaceus, circa 9 mm. longus, pilis fulvis adpressis obsitus; vexillum ad 1.7 cm. latum, margine eleganter minute undulato; ovarium pilis longis dense obsitum.

KAMERUN. Batanga. *G. L. Bates* 154!

There are two sheets of this plant at Kew, on one of which it is described as "climbing high over trees. Thick bush: not uncommon"; on the other, as a "trailing or climbing vine" with white flowers. It is clearly distinct from the other two species of the section. From *pilosa* it is distinguished by the short close indumentum and the stiffer, almost sub-coriaceous leaves; from *calophylla* by the smaller and much narrower leaves and the absence of the dark brown indumentum which characterises that species.

Var. *VESTITA*. Tota inflorescentia pilis fulvis sed multo brevioribus quam in *B. pilosa* vestita. Flores permulti, racemis in panniculos plus minus densos congestis.

GABUN. *Klaine* 2457!

This is the plant referred to by Harms in his account of *B. calophylla* as a form of *B. pilosa* with shorter indumentum. But the leaves are quite different from those of *pilosa* and exactly resemble those of *elegans*, and the general look of the inflorescence suggests what the latter species would be if covered with longer hairs.

C. LONGIBRACTEOLATÆ. Bracteoles longer than they are broad, generally oblong, lanceolate or linear, and larger than in the Sub-section A.

40. *B. MACROCALYX*, Harms in Engl. Jahrb. xl. 33 (1908), with Plate.

EAST AFRICA. Eastern slope of the Rondo plateau; sunny thickets. *Busse* 2557! Lindi. *Busse* 2980. Nondoro. *Braun* 1203.

The bracteoles in this species are almost sub-orbicular, but too large for Sub-section A and covered with a brown-velvety indumentum. It is easily

recognisable by the long calyx, the short dark brown hairs of the inflorescence, and the coriaceous, net-veined leaves. As has been already said, Harms' proposed section *Macrobaphia* can hardly be maintained as of equal value with *Bracteolaria* and *Delaria*, and the character upon which it is formed—the size and distinctness of the calyx-teeth—is not confined to this species, but is often observable in others to a greater or less degree.

41. *B. MAXIMA*, Baker in Oliver, Fl. Trop. Afr. ii. 250 (1871).

KAMERUN. Banks of the Cameroon River. *Mann* 2224! (1863).

There are three sheets at Kew of Mann's gathering of this fine species, which does not seem to have been found since his time.

42. *B. ORBICULATA*, Baker f. in Cat. Talb. Nig. Pl. 25 (1913).

SOUTHERN NIGERIA. Oban. *Talbot* 1557! 23 bis!

Near *B. maxima*, but on a smaller scale. The bracteoles are of different shape, pointed instead of obtuse, and the leaves are smaller and proportionately broader.

43. *B. SCHWEINFURTHII*, Taub. in Engl. Jahrb. xxiii. 175 (1897).

BAHR-EL-GHAZAL. *Schweinfurth* 3317! (Monbutto) 3551! (Kibali).

NORTH-EAST CONGO. Uele district (*fide* De Wild. Plant. Thonn. Cong. ii. 146).

This is another fine species—"ob florum magnitudinem et filamentorum indumentum insignis, ex affinitate *B. longipetiolata*" according to Taubert. The filaments are described as "cinereo-pilosa" (!), but nothing is said about the filaments in the description of *longipetiolata*. Schweinfurth's numbers are both at Kew. The size of the flowers is certainly remarkable.

Var. *HARMSII*, H. Winkl. in Engl. Jahrb. xli. 277 (1908).

KAMERUN. Lokundje-Mündung. *Winkler* 837.

"A typo foliis latioribus brevioribus manifeste distincta."

44. *B. LONGIPETIOLATA*, Taub. in Engl. Jahrb. xxiii. 176 (1897).

KAMERUN. Abo. *Buchholz*.

SOUTH NIGERIA. Main road from Oron to Eket. *Talbot* 1912-1913, without a number. Herb. Brit. Mus. (ex descriptione).

There is no authentic specimen at Kew or the Brit. Mus., but Talbot's plant seems to answer well to the description, and the relation to *Schweinfurthii* is clear. The chief differences are the smaller size of the flowers and the much longer petioles. In both species the flowers are arranged in a narrow terminal panicle, owing to the falling-off of the leaves from the axils of which they arise.

45. *B. SPATHACEA*, Hook. f. Niger Fl. 220 (1849).

LIBERIA. Bassa Cove. *Ansell*!

KAMERUN. *Mann* 2219! Fernando Po. *Barter* 1613!

SOUTH NIGERIA. Oban. *Talbot* 1331! 1555! 1209! *Thomas* 2336! *Unwin* 82!

NORTH-WEST CONGO. Recorded by De Wildeman (Ann. Mus. Cong. ser. 5, i. 144) from Irebu, Bombimba, Brazzaville, and Lukolela; also from Uele (Pl. Thonn. Cong. 146).

The leaves of this species are very variable in size. Those of Ansell's type-specimens in Hooker's Herbarium at Kew measure about 9 cm. by 4; in *Talbot's* 1555 they run up to 20 cm. by 8, and there are all sorts of intermediates. The bracteoles also vary both in size and shape. The whole of this group is characterised by the dense brown velvet of the inflorescence in combination with dense yellow hairs or pubescence on the ovary.

Var. SCANDENS, De Wild. Ann. Mus. Cong. ser. 5, ii. 144.

UPPER CONGO. Yambruga. *Pynaert* 58! *Talbot* 1331!

Described as a climber, and differentiated by the hairy petioles and under surface of the leaves. But the petioles are normally hairy in the type, and only become glabrous when they are old, though described in the Niger Flora as glabrous because the original type-specimens were old.

46. *B. BORNEENSIS*, Oliver in Hooker, Ic. Plant. t. 2456 (1826).

BORNEO. Limbang River. *Haviland* 57! Sandekan. *Creagh*! Tenom. *Miss L. S. Gibbs* 3120! Baram district, Sarawak. *Hose* 82! Mnara, Brunei. *Hose* 15!

All these localities are in the north of the island, Sarawak, and British North Borneo. Nearly related to the West African *B. spathacea*, but distinguished by the smaller bracteoles and flowers, the longer pedicels, and the more delicate character of the whole inflorescence.

47. *B. VERMEULENI*, De Wild. in Ann. Mus. Cong. i. 255, t. li. (1906).

LOWER CONGO. Sanda. *Gillet* 3409! 3432!

So far as can be judged from the material available, this species is related to *B. spathacea*, but has smaller flowers and smaller bracteoles, in both which respects it resembles *B. borneensis*. The leaves, however, are thin and glabrous, and rounded at the top, somewhat resembling those of *B. massaiensis*.

48. *B. COMPACTA*, De Wild. in Ann. Mus. Cong. ii. 142 (1907).

LOWER CONGO. Lukolela. *Pynaert* 187!

Distinguished from *B. spathacea* by De Wildeman "par le port," but the scanty material gives no help in this respect. The flowers are said to be borne in compact fascicles close together along the branches (which is sometimes the case with *spathacea*), with differently shaped leaves and much longer petioles (up to 8 cm.). The last feature, however, is not confirmed by the specimen received. Is it really distinct?

49. *B. CORDIFOLIA*, Harms in Engl. Jahrb. xxxiii. 167 (1904).

EAST AFRICA. Usagara district. Ugogo, bushy forest between Hindi and Nsali. *Busse* 240!

Clearly related to *B. Kirkii*, but recognisable at once by the deeply cordate leaves, which are unlike any others in the genus.

50. *B. KIRKII*, Baker in Oliver, Fl. Trop. Afr. ii. 250 (1871). *Millettia piriifolia*, Vatke in Oesterr. Bot. Zeit. 1878, p. 215. *Baphia ovata*, Sim, For. Fl. Port. East Afr. 42, t. 49 (1909).

ZANZIBAR. Dar Salam. *Kirk* 136! *Busse* 17! "Küste. Dar-es-Salam: im Djungel. Arbor 4 m. alt." *Hildebrandt* 1213! sub nomine *Millettia piriifolia*, Vatke.

PORTUGUESE EAST AFRICA. "Juxta aquam: Quisica et McChopes passim." T. R. Sim, l. c. *Sim* 5279. "Timber valuable."

Vatke's plant is identified with *B. Kirkii* in Engl. Das Pflanzenw. Ost-Afr. Part C, p. 203. I had reached the same conclusion independently. His specimens are in fruit, and match the fruiting specimens at Kew. The specimen from which Sim's plate is taken was also in fruit (he had not seen the flower), and there can be little doubt that his plate also is *B. Kirkii*. The pods are unmistakable.

Legumen maximum, 9-13 cm. \times 3-4 cm., lignosum, oblique oblanceolatum, apice cornutum. Semina nigra, compressa, sub-orbicularia, læviuscula, circa 1.5 cm. \times 1.7 cm.

51. *B. CUSPIDATA*, Taub. in Engl. Jahrb. xxiii. 176 (1897).

GABUN. Woods on the eastern slope of the Gabun-Munda watershed. Sibange Farm. *Soyaux* 324! "Scandens."

The points of the leaves are much longer than those of any other species of *Baphia*. Very unlike any other of the *Longibracteolata*, but the shape of the bracteoles, which are subulate though very small, is decisive as to its true position.

52. *B. BUSSEANA*, Harms in Engl. Jahrb. xxxiii. 166 (1904).

EAST AFRICA. Between Libunga River and Matanda, in open bush. *Busse* 1001! Near Milonji River, Myombo. *Busse* 993.

53. *B. MASSAIENSIS*, Taub. in Engl. Pflanzenw. Ost-Afr. C. 203 (1895).

EAST AFRICA. Salanda. *Fischer* 195!

Distinguished from *Busseana* by the rounded leaves, which are broadest above the centre and have very short, blunt points.

54. *B. CHRYSOPHYLLA*, Taub. in Engl. Jahrb. xxiii. 175 (1897).

UPPER CONGO. *Pogge* 793, 802, 852! 896, 898.

"Species ex affinitate *B. spathacea* et *B. pubescentis*, ab utraque foliis

subtus aureo-sericeis facile distinguenda." But the bracteoles are linear and caducous, which is very unlike those two species, and the general aspect of the type specimen is very different. It is apparently an elegant species, with thin, flexible twigs.

55. *B. HENRIQUESIANA*, Taub. in Engl. Jahrb. xxiii. 176 (1897).

ANGOLA. Huilla. *Antunes* 177, A. 10! Chihinde; sandy places, 1270 m. No. 60 (Kunene-Zambesi Exped. p. 253). Kassuango Kuiriri. *Gossweiler* 4048! River Cuanha, Kubango. *Gossweiler* 2113!

56. *B. OBOVATA*, Schinz in Bull. Herb. Boiss. iv. 815 (1896).

KUNENE DISTRICT. Ambo Land. *Wulphurst* 22. *Rautenen* 321! 604!

RHODESIA. Victoria Falls, "common shrub on high veldt." *Allen* 141! *Rogers* 5586! Malindi, "common shrub." *Allen* 158! On the Wankie line, 80 miles north of Bulawayo. *Eyles* 1128!

This and the next species are very closely related. They may be recognised at once by the whitish look of the leaves, which is more conspicuous than in *Henriquesiana*, and is caused by a minute pubescence, and also by the very conspicuous primary nerves. In both, the small linear bracteoles are deciduous, and are inserted on the pedicel below the calyx. The leaves often fall off, leaving a more or less naked panicle, as is the case with some other species of *Baphia*.

57. *B. CORNIFOLIA*, Harms in Baum, Kunene-Zambesi Exped. 252 (1903).

KUNENE DISTRICT. River Chitanda, 1100 m. *Baum* 121!

Harms describes his plant as "a shrub up to two metres, with white flowers with a scent like those of *Robinia Pseudacacia*." It is perhaps doubtful whether this species is really distinct from *obovata*, from which it only seems to differ in the much shorter indumentum of the inflorescence and the scantier, adpressed hairs of the ovary. *Rautenen's* No. 321 is more or less intermediate between them.

58. *B. BEQUAERTII*, De Wild. in Fedde, Rep. xiii. 116 (1914).

SOUTH CONGO. Elizabethville (Katanga district). *Bequaert* 340.

NORTH-WEST RHODESIA. Bwana Mkubwa. "Universal, up to five or six metres: a much-branched shrub in open dry forest." *R. E. Fries* 334, 337. *Rogers* 10086! 10378! (1500 to 1600 metres). Kului-Kubango *Gossweiler* 2105! Between Broken Hill zinc mine and Bwana McCuba copper mine. *Allen* 378!

There is no specimen of *Bequaert's* No. 340 at Kew or in the Brit. Mus., but *Fries* (Schwed. Rhodes.-Kongo Exped. 73 (1913)), who was evidently familiar with the species, determined *Rogers's* 10086 and 10378 and *Gossweiler's* 2105 as belonging to this species.

A striking form, unlike anything else in the genus, recognisable by the very dense indumentum and the shape of the adult leaves, which are sometimes almost rectangular in outline with the angles rounded off.

De Wildeman, *l. c.*, described two closely-related species, *B. Bequaertii* and *B. Ringoeti*, the latter based on Ringoet No. 1 from the Niewdorp in the Katanga district. I am not convinced that these are more than two forms of the same plant. He relies for distinctive marks upon the leaves, which are said to be crowded together at the ends of the branches and glabrous above and only sparsely hairy beneath in *Bequaertii*, but scattered and densely hairy both above and beneath in *Ringoeti*. Rogers's 10378, which Fries named *Bequaertii*, corresponds to this description of *Ringoeti*. The other specimens at Kew and at the Brit. Mus. answer more nearly to *Bequaertii*, but the congestion of the leaves and flowers suggests an accidental shortening of the young shoot rather than a normal development, and it is easy to trace a progressive loss of hairs on the two surfaces of the leaves as they grow older.

EXCLUDED NAMES.

"*B. africana*, Afz." Baill. in Laness. Pl. Ut. Col. Fr. 341 (1886). Nomen solum.

"*B. congolensis*, Welw. ex Baker in Fl. Trop. Afr." This name appears in De Wild. Miss. Laur. i. 105. "*Congolensis*" is obviously a clerical error for *angolensis*, but the mistake is repeated in the index.

"*B. laurifolia*, Baill. ex Laness. Pl. Ut. Col. Fr. 340. Nomen" has found its way into the 'Index Kewensis' Suppl. 1. This also appears to be a clerical error. The plant there mentioned is *B. laurifolia*, Baill., and there is a description. There is no description of *B. africana*, Afzel. which follows it, and which is not included in the 'Index Kewensis' at all.

[NOTE.—Since this paper has been in type it has become evident that *Baphia Radcliffii*, Bak. f. is identical with *Baphiopsis Stuhlmannii*, Taub. in Engl. Pflanzenw. Ost.-Afr. C. 203 (1895). This was kindly pointed out by Prof. Harms, to whom a specimen of the *Baphia* had been sent and who sent a specimen of the *Baphiopsis* in return.—15th April, 1921.]

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