

CONVOLVULACEAE

NEW RECORDS, NAME CHANGES AND A NEW COMBINATION IN SOUTHERN AFRICA

INTRODUCTION

During the preparation of the Convolvulaceae for the *Flora of southern Africa (FSA)*, Vol. 28, part 1, it became clear that several changes and additions are necessary to the list compiled by Welman: 588–595 (1993). As publication of this part of the *FSA* is not expected in the near future, it will be useful to publish them here.

NEW RECORDS

The following species have recently been recorded as new to southern Africa.

6979000–00200 **Bonamia velutina** Verdc. in Kirkia 1: 27, t. III (1961).

Very rare perennial in the Northern Province and in the Ingwavuma area of KwaZulu-Natal; also reported from southeastern Botswana, Zimbabwe and Mozambique.

B. velutina can be confused with *Seddera capensis* (E.Mey. ex Choisy) Hallier f. and *S. suffruticosa* (Schinz) Hallier f., but can be recognized by the greyish velvety pubescence on the upper side of the leaves and the golden brown pubescence on the underside as well as on the calyx lobes.

7003000–01450 **Ipomoea consimilis** Schulze-Menz in Notizblatt des Botanischen Gartens und Museums zu Berlin 14: 112 (1938).

Recorded from Tanzania (Lindi District), Mozambique (Sofala) and Maputaland in northern KwaZulu-Natal. The

South African specimens of this species were previously listed under *I. urbaniana* (Dammer) Hallier f., which does not occur south of the Lindi District in Tanzania (Ross 1972: 296). Distinguished by its climbing, shrubby habit, its yellow villous young parts, its large ovate leaves and its mauve to purple flowers.

7003000–01950 **Ipomoea fanshawei** Verdc. in Kirkia 6: 119 (1967).

Fairly rare perennial, endemic to southern Zambia and northeastern Botswana. Distinguished by its rhomboid-lanceolate leaves with entire to lobed margins and its 60 mm long, pale purple or mauve corollas.

7003000–02150 **Ipomoea fulvicaulis** (Hochst. ex Choisy) Boiss. ex Hallier f. in Botanische Jahrbücher 18: 128 (1893).

Perennial from Ethiopia, Kenya, Tanzania, Malawi, Zaïre, Zambia and Zimbabwe to Mozambique; also in northern Botswana. Distinguished by its yellow-brown pubescent stems, flowers in small heads and 25–50 mm long purplish corollas. Only var. *fulvicaulis* has been recorded from the *FSA* region; var. *heterocalyx* (Schulze-Menz) Verdc. and var. *asperifolia* (Hallier f.) Verdc. do not reach southern Africa.

7003000–03350 **Ipomoea ochracea** (Lindl.) G.Don, A general system of gardening and botany 4: 270 (1837).

Found throughout tropical Africa down to Ngamiland in Botswana, where it is very rare. Only the typical var. is known from the *FSA* region. Var. *curtissii* (House) Stearn,

a much stouter plant, comes from Uganda. The typical variety is distinguished by being a perennial herb with bright yellow flowers with a dark throat, arranged in cymes.

NAME CHANGES

The following name changes have become necessary.

Turbina sensu Meeuse (1957) is sunk into *Ipomoea*, *sens. lat.* at least as far as six of the southern African species are concerned. The only constant difference from *Ipomoea sens. strict.* is the indehiscence of the capsules which is almost certainly attributable to an adaptation associated with seed dispersal. A dehiscent capsule, such as that of *Ipomoea sens. strict.*, releases several diaspores (normally 4), whereas in the African species of *Turbina*, the fruit usually contains only one or two seeds and dehiscence would therefore not add much to the number of diaspores. If there was a tendency towards fleshiness of the fruit wall and endozoochory, dehiscence would not serve a useful purpose. The southern African species formerly placed in *Turbina* form a very heterogeneous assemblage and some of them resemble certain species or species groups of *Ipomoea* much more than the others.

7003000–02450 ***Ipomoea holubii* Baker** in Kew Bulletin: 72 (1894).

Turbina holubii (Baker) A.Meeuse: 780 (1957).

7003000–03150 ***Ipomoea oblongata* E.Mey. ex Choisy** in A.P. de Candolle, Prodrum systematis naturalis regni vegetabilis etc.: 368 (1845).

Turbina oblongata (E.Mey. ex Choisy) A.Meeuse: 778 (1957).

I. atherstonei Baker in Baker & C.H.Wright: 53 (1904); A.Meeuse: 741 (1957).

A very common and very variable species. There are no important morphological differences between *I. oblongata* and *I. atherstonei*; there is no geographical or ecological separation either.

7003000–03450 ***Ipomoea oenotheroides* (L.f.) Raf. ex Hallier f.** in Botanische Jahrbücher 18: 156 (1893) in syn.

Turbina oenotheroides (L.f.) A.Meeuse: 775 (1957).

7003000–04350 ***Ipomoea robertsiana* Rendle** in Journal of Botany, British and Foreign, London 39: 18 (1901).

Turbina robertsiana (Rendle) A.Meeuse: 777 (1957).

7003000–04850 ***Ipomoea stenosphon* Hallier f.** in Sitzungsberichte der Akademie der Wissenschaften in Wien 107,1: 50 (1898b).

Turbina stenosphon (Hallier f.) A.Meeuse: 783 (1957).

7003000–04875 ***Ipomoea suffruticosa* Burch.**, Travels in the interior of southern Africa, Vol. 2: 226 (1824).

Turbina suffruticosa (Burch.) A.Meeuse: 776 (1957).

7003020–00100 ***Paralepistemon shirensis* (Oliv.) Lejoly & Lisowski**, in Bulletin du Jardin botanique national de Belgique, Brussels 56: 197 (1986).

Turbina shirensis (Oliv.) A.Meeuse: 782 (1957).

This monotypic genus differs from *Ipomoea* as follows: *Stamens* inserted on triangular, large ($\pm 2 \times 2$ mm) glandular pilose scales situated near base of corolla tube. *Ovary* with very short beak persistent in fruit. *Style* articulated at base, caducous. *Fruit* indehiscent, more or less woody.

6978000–00150 ***Seddera schizantha* Hallier f.** in Bulletin de l'Herbier Boissier 6: 532 (1898a).

Bonamia schizantha (Hallier f.) A.Meeuse: 665 (1957).

Metaporana angolensis N.E.Br.: 169 (1914).

When N.E. Brown described *Metaporana*, he included two species, *M. angolensis* and *M. densiflora* (Hallier f.) N.E.Br. These two species are not congeneric and this confused Meeuse (1957) into accepting *Metaporana* for *S. schizantha*, which name Brown had overlooked. The species which Brown re-described as *M. angolensis* is not quite erect but tends to climb, so that Meeuse thought it was a *Bonamia* rather than something else. However, Myint & Ward: 234 (1968) in their monograph of *Bonamia* exclude *B. schizantha* from *Bonamia* and list it as a synonym of *S. schizantha*.

6993000–00250 ***Convolvulus aschersonii* Engl.**, Über die Hochgebirgsflora des tropischen Afrika: 349 (1892).

C. sagittatus Thunb. var. *aschersonii* (Engl.) Verdc.: 345 (1957).

C. aschersonii can be distinguished from *C. sagittatus* by its usually few-flowered inflorescences (flowers usually solitary in the latter), small flowers (8–10 mm long) and different leaf shape (middle lobe up to 60×12 mm, often crenate or sinuate, occasionally dissected; basal lobes often toothed or multifid). These characters do not occur together in *C. sagittatus*.

6993000–00600 ***Convolvulus capensis* Burm.f.**, Prodrum florum capensis: 5 (1768).

C. capensis Burm.f. var. *boweanus* (Rendle) A.Meeuse: 693 (1957).

C. capensis Burm.f. var. *plicatus* (Desr.) Baker in Baker & C.H.Wright: 78 (1904) as to new combination only, excl. descr., synonyms and specimens cited.

In view of the appreciable variation of the leaf morphology on a single plant the varieties distinguished by Meeuse (1957: 693) are presumably only growth forms. Young shoots may have undissected leaves (before more dissected ones have developed) and depauperate and drought forms may have narrow leaves.

6993000–01300 ***Convolvulus natalensis* Bernh.** in Flora 27: 829 (1844).

C. natalensis Bernh. var. *transvaalensis* (Schltr.) A.Meeuse: 689 (1957).

There are intermediates between the two varieties distinguished in Meeuse (1957) and their distribution ranges overlap. The differences in leaves and sepals do not warrant the retention of two varieties (which may conceivably belong to a single population).

6993000–01500 ***Convolvulus ocellatus* Hook.f.** in Curtis's Botanical Magazine 70: t. 4065 (1844).

C. ocellatus Hook.f. var. *ornatus* (Engl.) A.Meeuse: 673 (1957).

This taxon is very variable and the extreme forms have been described as varieties; but there are many transitional specimens, those from the drier areas tending to form more dissected leaves and a denser tomentum.

6993000–02050 ***Convolvulus sagittatus* Thunb.**, Prodrum plantarum capensium 1: 35 (1794).

C. sagittatus Thunb. subsp. *grandiflorus* (Hallier f.) A.Meeuse var. *graminifolius* (Hallier f.) Baker & C.H.Wright ex A.Meeuse: 683 (1957).

C. sagittatus Thunb. subsp. *grandiflorus* (Hallier f.) A.Meeuse var. *grandiflorus*: 683 (1957).

C. sagittatus Thunb. subsp. *grandiflorus* (Hallier f.) A.Meeuse var. *linearifolius* (Hallier f.) Baker & C.H.Wright ex A.Meeuse: 683 (1957).

C. sagittatus Thunb. subsp. *sagittatus* var. *hirtellus* (Hallier f.) A.Meeuse: 682 (1957).

C. sagittatus Thunb. subsp. *sagittatus* var. *namaquensis* A.Meeuse: 682 (1957).

C. sagittatus Thunb. subsp. *sagittatus* var. *phyllosepalus* (Hallier f.) A.Meeuse: 681 (1957).

C. sagittatus Thunb. var. *ulosepalus* (Hallier f.) Verdc.: 346 (1957).

The great range in inflorescences and leaf size and shape has led to the description of numerous subspecies and varieties, but examination of a larger number of specimens shows that these form a continuous range rather than discrete entities.

It is noteworthy that most of the varieties previously described, are not geographically restricted to small areas, but have a wide range. Without extensive field and experimental studies, it is impossible to delimit varieties in this entangled assembly.

7003000–00800 ***Ipomoea bathycolpos* Hallier f.** in Botanische Jahrbücher 18: 144 (1893).

I. bathycolpos Hallier f. var. *sinuatodentata* Hallier f.: 53 (1899).

Specimens with larger leaves with coarse irregular teeth, a narrow basal sinus and usually larger flowers, were described as the var. *sinuatodentata* Hallier f., but this variety is not worth maintaining, because these specimens which seem to be restricted to the Lydenburg area (with a milder winter climate) may simply represent a more luxuriant form.

7003000–01100 ***Ipomoea bolusiana* Schinz** in Verhandlungen des Botanischen Vereins der Provinz Brandenburg 30: 271 (1888).

I. bolusiana Schinz var. *pinnatipartita* Verdc.: 118 (1967).

The above variety represents an extreme form of the range of variation of the leaf morphology and does not deserve separate rank.

7003000–02900 ***Ipomoea magnusiana* Schinz** in Verhandlungen des Botanischen Vereins der Provinz Brandenburg 30: 272 (1888).

I. magnusiana Schinz var. *eenii* (Rendle) A.Meeuse: t. 1201 (1956a).

Two varieties were distinguished in Meeuse: (1957: 742, 743), based mainly on the size of the corolla. It now appears that the var. *eenii* cannot be upheld; the dimensions of the corolla overlap one another and all other features just about agree. The large-flowered specimens are presumably only luxuriant individuals that grew in favourable sites or after heavy rains.

7003000–03300 ***Ipomoea obscura* (L.) Ker Gawl.** in Botanical Register 3: t. 239 (1817).

I. obscura (L.) Ker Gawl. var. *fragilis* (Choisy) A.Meeuse: t. 1222 (1956b); 747 (1957).

The plants separated as var. *fragilis* differ only in the absence of a dark centre in the throat of the corolla. Such colour variations are caused by a difference in a few genes (or only a single one) and there is no reason to recognize the individuals with a concolorous corolla as more than a forma.

All the specimens from southern Africa belong to the var. *obscura* with corolla concolorous or with a dark centre. The var. *sagittifolia* Verdc. occurs from Zimbabwe to Tanzania.

7003000–01850 ***Ipomoea dichroa* Choisy** in A.P. de Candolle, Prodrum systematis naturalis regni vegetabilis etc. 9: 364 (1845); Verdc.: 165 (1978).

I. arachnosperma Welw.: 588 (1859); A.Meeuse: 736 (1957).

Verdcourt (1978: 165) states: 'Since there is no bar to the use of the epithet *dichroa* in *Ipomoea* and Choisy provides an adequate description, the correct name for this species would appear to be *Ipomoea dichroa* treating it as a new name dating from Choisy.'

7003000–02475 ***Ipomoea indica* (Burm.f.) Merr.**, An interpretation of Rumphius's Herbarium amboinense: 445 (1917); Austin: 357 (1986).

Convolvulus indicus Burm.f.: 6 (1755).

I. congesta R.Br.: 425 (1810); A.Meeuse: 735 (1957).

Austin (1986: 357) gives the full synonymy of this highly polymorphic species which had been described several times in different genera, from specimens collected in both the western and eastern hemispheres.

6995000–00050 ***Hewittia malabarica* (L.) Suresh** in Nicolson, Suresh & Manilal, An interpretation of Van Rheede's Hortus malabaricus: 88 (1988).

Convolvulus malabaricus L.: 155 (1753).

Convolvulus sublobatus L.f.: 135 (1781).

H. sublobata (L.f.) Kuntze: 441 (1891); A.Meeuse: 698 (1957).

This rather variable species is widespread in the Old World and had been described several times from different localities (Gonçalves 1987: 31).

7010000–00050 **Stictocardia laxiflora** (Baker) Hallier f. in Bulletin de l'Herbier Boissier 6: 548 (1898a).

Ipomoea woodii N.E.Br.: 101 (1894).

S. woodii (N.E.Br.) Hallier f.: 548 (1898a); A.Meeuse: 773 (1957).

S. laxiflora (Baker) Hallier f. var. *woodii* (N.E.Br.) Verdc.: 173 (1963b).

In the past, features like the lengths of the peduncles and the pedicels were used to distinguish *S. laxiflora* (Baker) Hallier f. var. *woodii* (N.E.Br.) Verdc. However, the description made by Meeuse (1957: 773) was based on a whole series of herbarium specimens, all from a single plant grown in the Durban Botanical Garden. The range of variation is so broad that such distinctions cannot be made.

NEW COMBINATION

6997010–00100 **Xenostegia tridentata** (L.) Austin & Staples in Brittonia 32: 533 (1980).

subsp. **angustifolia** (Jacq.) A.Meeuse, comb. nov.

Ipomoea angustifolia Jacq.: 367 (1789).

Merremia tridentata (L.) Hallier f. subsp. *angustifolia* (Jacq.) Ooststr. var. *angustifolia* Verdc.: 51 (1963a).

Iconotype: Jacq., Icones plantarum rariorum 2: 10, t. 317 (1786–1793).

The segregation of *Xenostegia* from *Merremia* is based on two characters, namely, the straight anthers at anthesis (in contrast to the always at least somewhat twisted anthers typical of *Merremia*) and the pantoporate pollen grains rather unique in the family. The two genera also have a different 'look'.

EXCLUDED SPECIES

Ipomoea shupangensis Baker

Welman (1993: 594) lists this species for KwaZulu-Natal. However, no authoritatively identified material is known from southern Africa. *I. shupangensis* occurs in tropical Africa as far south as Zimbabwe (Hwange) and Mozambique (Gaza).

I. batatas (L.) Lam. (the 'Sweet Potato' from tropical America), *I. coccinea* L. (annual scarlet-flowered twiner from North America) and *I. fistulosa* Choisy (purple-flowered shrub from tropical America) are also listed in Welman (1993), but occur only as garden escapes or culture relics.

REFERENCES

- AUSTIN, D.F. 1986. Nomenclature of the *Ipomoea nil* complex (Convolvulaceae). *Taxon* 35: 355–358.
- AUSTIN, D.F. & STAPLES, G.W. 1980. *Xenostegia*, a new genus of Convolvulaceae. *Brittonia* 32: 533–536.
- BAKER, J.G. 1894. Diagnoses Africanæ II. Convolvulaceae. *Kew Bulletin*: 67–74.
- BAKER, J.G. & WRIGHT, C.H. 1904. Convolvulaceae. In W.T. Thiselton-Dyer, *Flora capensis*, Vol. 4,2. Reeve, London.
- BERNHARDI, J.J. 1844. In F. Krauss, Pflanzen des Cap und Natal-Landes. *Flora* 27: 819–835. Regensburg.
- BROWN, N.E. 1894. Decades Kewensis, *Ipomoea woodii*. *Kew Bulletin*: 101.
- BROWN, N.E. 1914. Diagnoses Africanæ LIX. *Kew Bulletin*: 168, 169.
- BROWN, R. 1810. *Prodromus florae novae hollandiae*, 1st edn. Richard Taylor, London.
- BURCHELL, W.J. 1824. *Travels in the interior of southern Africa*. Vol. 2. Longman, London.
- BURMAN, N.L. 1755. In G.E. Rumphius, *Herbarium amboinense, index universalis* 7: 6. Meinard Uytwerf, Amsterdam.
- BURMAN, N.L. 1768. *Flora indica: cui accedit series zoophytorum indorum nec non prodromus florae capensis*. Amsterdam/Leiden.
- DE CANDOLLE, A.P. 1845. *Prodromus systematis naturalis regni vegetabilis* 9: 323–465. Treuttel & Würtz, Paris.
- DON, G. 1837. *A general system of gardening and botany containing a complete enumeration and description of all plants hitherto known*. Vol. 4. London.
- ENGLER, H.G.A. 1892. *Über die Hochgebirgsflora des tropischen Afrika*. Berlin.
- GONÇALVES, M.L. 1987. 117–118. Convolvulaceae–Cuscutaceae. In E. Launert, *Flora zambesiaca*, Vol. 8,1. Flora Zambesiaca Managing Committee, London.
- HALLIER, H. 1893. Convolvulaceae africanæ. *Botanische Jahrbücher* 18: 81–160.
- HALLIER, H. 1898a. Beiträge zur Kenntnis der Afrikanischen Flora. Convolvulaceae. *Bulletin de l'Herbier Boissier* 6: 529–548.
- HALLIER, H. 1898b. *Sitzungsberichte der Akademie der Wissenschaften in Wien*. Vol. 107,1: 50.
- HALLIER, H. 1899. Beiträge zur Kenntnis der Afrikanischen Flora. Convolvulaceae IV. *Bulletin de l'Herbier Boissier* 7: 41–55.
- HOOKE, W.J. 1844. *Convolvulus ocellatus*. Purple-eyed bind-weed. *Curtis's Botanical Magazine* 70: t. 4065.
- KER GAWLER, J.B. 1817. *Ipomoea obscura*, Hairy-stemmed East Indian *Ipomoea*. *Botanical Register* 3: t. 239.
- KUNTZE, C.E.O. 1891. *Revisio generum plantarum*, Part 2. Arthur Felix, Leipzig.
- LEJOLY, J. & LISOWSKI, S. 1986. *Paralepistemon*, nouveau genre de Convolvulaceae d'Afrique tropicale. *Bulletin du Jardin botanique national de Belgique* 56: 195–197.
- LINNAEUS, C. 1753. *Species plantarum exhibentes plantas rite cognitatas, ad genera relatas*, 1st edn. Salvii, Stockholm.
- LINNAEUS, C. (fil.) 1781. *Supplementum plantarum*. Impensis Orphanotrophei, Brunswick.
- MEEUSE, A.D.J. 1956a. *Ipomoea magnusiana* var. *eenii*. *The Flowering Plants of Africa* 31: t. 1201.
- MEEUSE, A.D.J. 1956b. *Ipomoea obscura* var. *fragilis*. *The Flowering Plants of Africa* 31: t. 1222.
- MEEUSE, A.D.J. 1957. The South African Convolvulaceae. *Bothalia* 6: 641–792.
- MERRILL, E.D. 1917. *An interpretation of Rumphius's Herbarium amboinense*. Manila.
- MYINT, T. & WARD, D.B. 1968. A taxonomic revision of the genus *Bonania* (Convolvulaceae). *Phytologia* 17: 121–239.
- NICOLSON, D.H., SURESH, C.R. & MANILAL, K.S. 1988. An interpretation of Van Rheede's Hortus malabaricus. *Regnum Vegetabile* 119.
- RENDLE, A.B. 1901. Notes on African Convolvulaceae. *Journal of Botany, British and Foreign* 39: 12–22.
- ROSS, J.H. 1972. The flora of Natal. *Memoirs of the Botanical Survey of South Africa* No. 39.
- SCHINZ, H. 1888. *Ipomoea magnusiana*. *Verhandlungen des botanischen Vereins der Provinz Brandenburg* 30. Berlin.
- SCHULZE-MENZ, G.K. 1938. Convolvulaceae in Neue und seltene Arten aus Ostafrika leg. H.J. Schlieben XIII. *Notizblatt des Botanischen Gartens und Museums zu Berlin-Dahlem* 14: 109–112.
- THUNBERG, C.P. 1794. *Prodromus plantarum capensium* 1. Edman, Uppsala.
- VERDCOURT, B. 1957. Notes from the east African herbarium: V. *Kew Bulletin* 2: 333–355.
- VERDCOURT, B. 1961. New Convolvulaceae from the *Flora zambesiaca* area. *Kirkia* 1: 26–31.

- VERDCOURT, B. 1963a. Convolvulaceae. In C.E. Hubbard & E. Milne-Redhead, *Flora of tropical east Africa*. Crown Agents, London.
- VERDCOURT, B. 1963b. Tropical African plants: XXVII. Convolvulaceae. *Kew Bulletin* 17: 173.
- VERDCOURT, B. 1967. New Convolvulaceae from the *Flora zambesiaca* area. II. *Kirkia* 6: 117–122.
- VERDCOURT, B. 1978. Corrections and additions to the *Flora of tropical east Africa*: Convolvulaceae: IV. *Kew Bulletin* 33: 159–168.
- VON JACQUIN, N.J. 1786–1793. *Icones plantarum rariorum* 2. Vienna.
- VON JACQUIN, N.J. 1789. *Collectanea austriaca ad botanicum* 2. Vienna.

- WELMAN, W.G. 1993. Convolvulaceae. In T.H. Arnold & B.C. de Wet, *Plants of southern Africa: names and distribution. Memoirs of the Botanical Survey of South Africa* No. 62.
- WELWITSCH, F.M.J. 1859. *Apontamentos phytogeographicos sobre a flora da provincia de Angola*. Imprensa nacional, Lisbon.

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