

## A new species of *Euphorbia* from the Namib, South West Africa

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*Euphorbia giessii* Leach, sp. nov.

*Euphorbia* sp. cf. *E. mundii* sensu W. Giess in Cimbebasia 2: 28 (1962).

*Euphorbia?* *decussata* sensu P. G. Meyer in Merxm., Prodr. Flora S.W.Afr. 67: 23 (1967).

*E. negromontanae* N.E. Br. ut videtur arcte affinis sed articulis minus fragilibus; bracteis carnosis, grandioribus usque ad 2-plo longioribus, late petiolatis saepe fere panduriformibus; cyathiis masculis longioribus fere cylindricis; perianthio obtuse triangulari, in fructa 3-lobato; capsula grandiore pilosiore; involucri lobis dissimillimis, glandulisque nectare copioso globuloso praedito manifeste differens; etiam ad *E. spartariam* N.E. Br. accedens sed statura minore, habitu divaricate ramificanti, succulentiore, atque capsula pilosa cum seminibus rugosis atropupureis sigillatim differt.

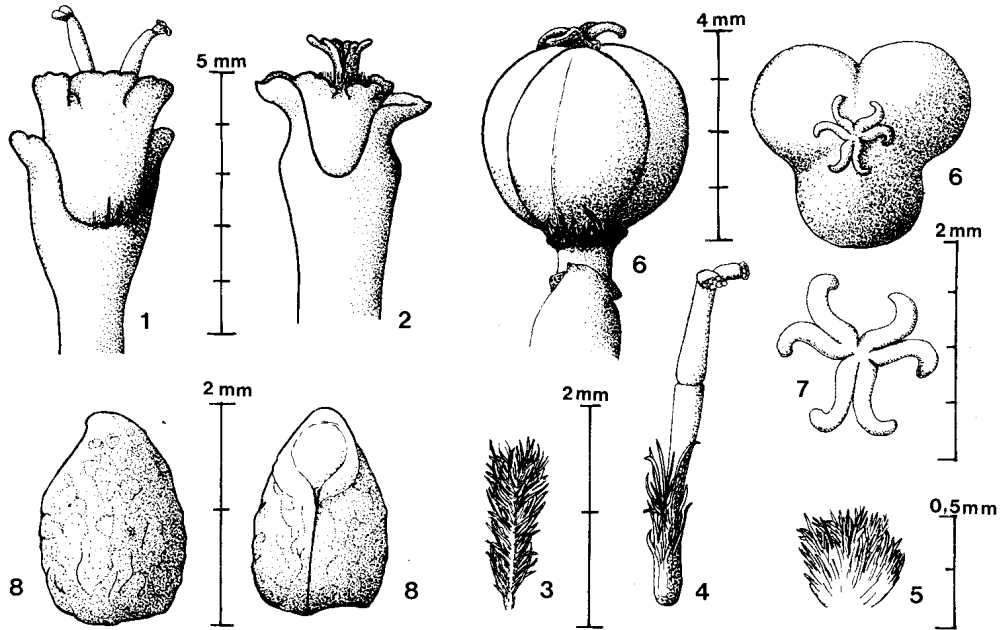
Typus: *Giess 14809* sub *Leach 15940* ♀ (PRE, holo.; WIND)

Fruticulus inermis, succulentus, dioecius, basiramifer, plerumque c. 0,5 m, usque ad 0,8 m altus, radice subtuberosa lignosa. *Rami ramulique* decussati vel temere solitarii, late patuli, teretes, basi articulati, glauci, minute albi-punctulati. *Folia* caduca, carnosae, ovata, acuta, brevissime latissime petiolata, recurva, viridia, glabra, margine dissiti-denticulato, leviter crenulato, cicatrice prominenti, brunnea. *Inflorescentia* cymosa, terminalis, interdum aliquoties furcata, cyathio initio plerumque caduco; cymarum ramis articulatis, amplitudine gradatim decrescendi; bracteis foliis similibus sed grandioribus aliquanto panduriformibus, supra pellucido-hirsutis. *Involucrum* pallide viride, basin versus sparsim minute albi-pubescentis, intus dense villosum, in plantis masculis c. 3 mm longum, 2,5 mm diam., ovario abortivo; in femineis c. 1,5 mm longe lateque, antheris carentibus; *glandulis* 5, plus minusve contiguas, subcircularibus vel transverse ellipticis, nectare brunnescenti copiosissimo globulos formanti; *lobis* 5, plus minusve quadratis, dense albi-villosis, c. 0,5 mm longis latisque. *Flores masculi* glabri, c. 20, bracteolis plumosis, c. 1,5 mm longis, pedicelli

pallide virides, c. 2 mm longi; filamenta c. 1 mm longa et cum antheris pallide viridibus; polline pallide luteo. *Capsula* obtuse 3-lobata, c. 3 mm alta, 4 mm diam., erecta; pedicello brevi, crasso, ex involucre breviter exserta; perianthio obtuse triangulari vel 3-lobato. Styli c. 0,75 mm longi, libri fere ad basin, late patuli, breviter bifidi apicibus divergentibus recurvis. *Semen* plus minusve ovoideum, c. 2 mm longum, 1,3–1,5 mm latum, apice subacutum, basi truncatum, irregulariter obtuse rugulosum, atro-brunneum.

An unarmed, succulent, dioecious shrublet, branching from the base, generally  $\pm$  0,5 m high, up to 0,8 m, with a subtuberous woody root. *Branches* and *branchlets* decussately arranged or often randomly solitary, widely spreading, terete, articulated at the base and rarely indistinctly above at varying intervals, glaucous, minutely white dotted. *Leaves* caducous, leaving a prominent brown scar, fleshy, ovate-acute, very shortly and broadly petiolate, recurved, green with a sparingly denticulate, lightly crenulate, pellucid whitish margin. *Inflorescence* a terminal dichasial cyme, sometimes several times forked, the initial central cyathium usually caducous, cyme branches jointed, decreasing in size as forking develops. *Bracts* similar to the leaves but larger, somewhat panduriform, especially in the male plants, slightly hairy on the upper surface, with short pellucid hairs. *Involucre* pale green, sparsely white pubescent, mainly towards the base, densely silky white hairy inside with the partitions marked by similar but longer hairs and with a particularly dense tuft at the apex just below the gland; in the male plants  $\pm$  3 mm long, 2,5 mm diam., with an aborted ovary; smaller in female plants, then only  $\pm$  1,5 mm long and broad, without any trace of anthers; *glands* 5, more or less contiguous, spreading, subcircular or transversely elliptic, yellow, often becoming purplish when dry, with very copious brownish nectar forming large globules on the gland surface; *lobes* 5, more or less quadrate,  $\pm$  0,5 mm long, so densely white hairy as to appear to be comprised entirely of hairs. *Male flowers* glabrous,  $\pm$  20, with plumose white bracteoles  $\pm$  1,5 mm long; *pedicels* pale green,  $\pm$  2 mm long; *filaments*  $\pm$  1 mm long, and with the anthers, pale green; *pollen* pale yellow. *Capsule* obtusely 3-lobed, hairy, with slightly crisped, weak hairs, erect, shortly exserted from the involucre on a short stout pedicel; perianth obtusely triangular, becoming 3-lobed in fruit; *styles*  $\pm$  0,75 mm long, free almost to the base, shortly bifid, with widely divergent, spreading, recurved apices. *Seed* more or less ovoid,  $\pm$  2 mm long, 1,3–1,5 mm broad, sub-acute at the apex, more or less truncate at the base, obscurely 4-angled, irregularly obtusely rugose, blackish brown.

Distributed in costal areas between the Kuiseb and Unjab rivers, usually not far from the sea, *E. giessii* appears to be most closely related to *E. negromontana* N.E. Br. from southern Angola. The two taxa occupy similar Namib habitats, usually in rocky or boulder strewn localities. The new species is distinguished by its far less fragile joints, its broadly petiolate, almost panduriform, fleshy bracts which are twice as long as those of its relative, its longer, almost cylindrical male cyathia, differently shaped glands with exceptionally copious nectar, entirely different involucre lobes, a distinct, obtusely triangular (3-lobed in fruit) perianth, and a larger more hairy capsule. There is also a relationship with *E. spartaria* N.E. Br., of the high altitude grassland and shrub savanna but the Namib species is immediately distinguished by its smaller



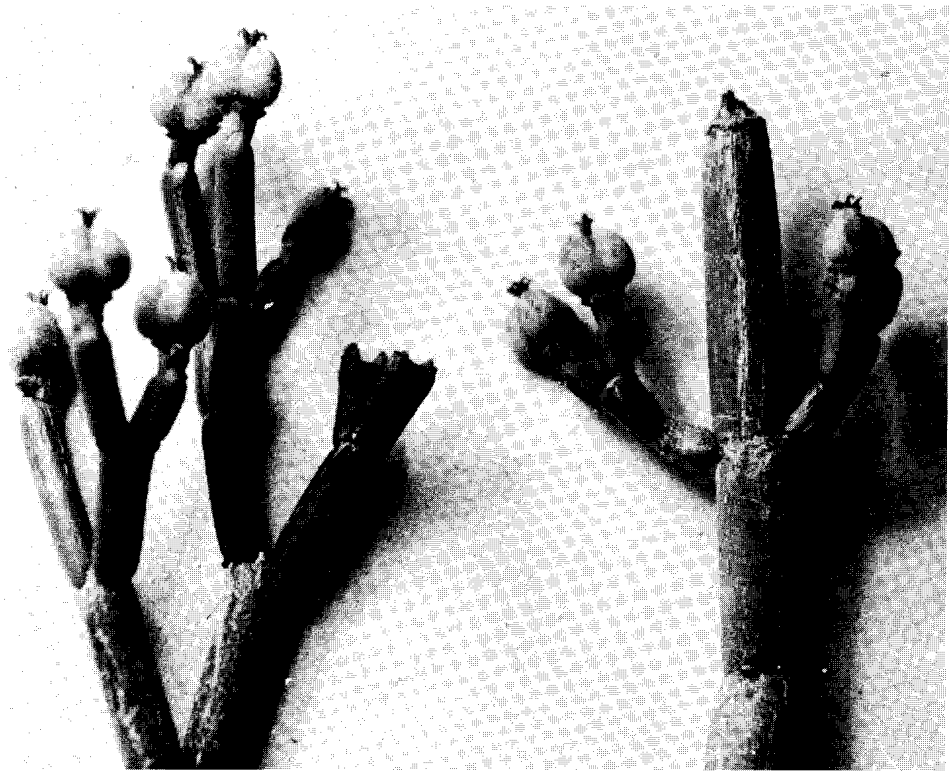
EUPHORBIA GIESSII

1. ♂ cyathium - 2. ♀ cyathium - 3. bracteole - 4. ♂ flower - 5. lobe - 6. capsule - 7. style - 8. seed

stature, divaricately branched and more succulent habit and, most significantly in its hairy capsule with blackish purple rugose seeds (those of *E. spartaria* are grey and minutely tuberculate).

These three species form part of a closely related group which extends from southern Angola, throughout South West Africa and Cape Province to Natal, as well as Botswana, the Transvaal and Orange Free State. The complex includes such species as the widespread *E. burmannii* Thunberg, *E. caterviflora* N.E. Br. and *E. mundii* N.E. Br. *E. giessii* has sometimes been confused with the latter but this has reddish leaves, a somewhat racemose inflorescence with very short (almost bead-like) jointed cyme branches and a glabrous capsule.

There was a suspicion that the new species might represent the incompletely known *E. engleriana* Dinter, which was originally observed from a railway carriage between Ababis and Habis stations on the old railway line from Swakopmund, of which many traces still exist. However, searches of the area revealed no succulent euphorbias, nor is the locality in any way ecologically similar to any of the known habitats of *E. giessii*. In view of this, and that it was a mass of yellow flowers (scarcely an attribute of *E. giessii*) which attracted attention to *E. engleriana*, it is concluded that it must have represented some taxon other than that now newly described.



Capsules of *Euphorbia giessii*; Swartbank Mountains. 22. 9. 1976. Leach & W. Giess 15931, cult. SRGH.

It is with great pleasure that this endemic Namib species is named for my friend Willy Giess who has contributed so much to our knowledge of the plants of South West Africa.

Material examined:

South West Africa

- 2013 (Unjab Mouth): 27 km E of Torra Bay (-AA), 2. IV. 1963, *De Winter & Hardy 8191* (PRE); 22 km E of Torry Bay (-AA), 2. IV. 1963, *Giess, Volk & Bleissner 6189* (WIND).
- 2114 (Uis); Lagunenberg (-AC), 15. VI. 1961, *Giess 3562* (WIND); 22. IX 1976, cult. SRGH, 1977-78, *Leach, W. & B. Giess 15914* (BM; BOL; K; LISC; PRE; SRGH).
- 2214 (Swakopmund); 16 km E of Henties Bay (-AB), 26. III. 1963, *De Winter & Hardy 8034* (PRE; WIND); 18 km E of Henties Bay (-AB), 4. XII. 1976, *Giess 14809* cult. SRGH, 1977-78 sub *Leach 15940*, ♀ (PRE, holo.; WIND) ♂ (M; MO; PRE; WIND); 2 km S of Wlotzka's Baken (-AD), 4. XII. 1976, *Giess 14810* (SRGH); 56 km E of Henties Bay (-BA), 20. II. 1958, *Merxmüller & Giess 1723* (M; WIND); 20 km N of Swakopmund (-CB), 10. IV. 1977, *R. Correia 7382* (LISC; PRE); Rosenquarz

Kuppe, Rössing (-DB), 21. IX. 1976, cult. SRGH, 1977–78, *Leach, W. & B. Giess* 15928 (BOL; K; LISC; M; MO; PRE; S; WIND; ZSS), 15. II. 1974, *J. S. Watt* 66 (PRE; WIND).

2314 (Sandwich Harbour); Swartbank (-BD), 22. IX. 1976, cult. SRGH, 1977–78, *Leach & W. Giess* 15931 ♀ (K; M), ♂ (BM; BR; NBG; PRE; SRGH; Z).

#### ACKNOWLEDGEMENTS

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18 km E of Henties Bay 4. 12. 1976 (Giess 14809)  
(Photo W. Giess)



2 km S. of Wlotzkas Baken 4. 12. 1976 (Giess 14810)  
(Photo W. Giess)



Rössing Mountains, Rosenquarzkuppe 21. 9. 1976. In association with *Kleinia longiflora* and *Sarcostemma viminalae*

Rössing Mountains, Rosenquarzkuppe, 21. 9. 1976 (*Leach, W. & B. Giess* 15928)

(Photo W. Giess)

