

THE STATUS AND TYPIIFICATION OF DESMIDORCHIS EHRENB. AND D. RETROSPICIENS (ASCLEPIADACEÆ)

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ABSTRACT: History and reinstatement of the genus *Desmidorchis*; consequently, *D. acutangula* Decne., for which a neotype is selected, replaces the widely known *Caralluma retrospiciens* N.E. Br.

RÉSUMÉ : Histoire et réhabilitation du genre *Desmidorchis*; *D. acutangula* Decne., dont un néotype est désigné, remplace en conséquence l'espèce largement connue sous le nom de *Caralluma retrospiciens* N. E. Br.

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The genus *Desmidorchis* was proposed in 1829 in a published letter from EHRENBURG to SCHLECHTENDAL dealing mainly with anther and pollinia structure in the Asclepiadaceæ. Subsequent authors, most notably DECAISNE (1844) and most recently CUFODONTIS (1961) have regarded *Desmidorchis* as a *nomen nudum* and have thus rejected it in favour of *Boucerosia* (WIGHT & ARNOTT, 1834) and used this fact to also reject the binomial *Desmidorchis retrospiciens* upon which the very widespread and well known *Caralluma retrospiciens* was based.

Desmidorchis has only been taken up once by DECAISNE (1838). The same author reversed this treatment 6 years later in his account of the Asclepiadaceæ for DE CANDOLLE's Prodrômus and since then no author appears to have regarded *Desmidorchis* as a valid genus, nor has the name been used at any other rank. In contrast, *Boucerosia*, with the exception noted above, was used consistently from its inception in 1834 till 1892 when N.E. BROWN (1892) extended *Caralluma* to include *Boucerosia* and a number of S. Africa stapeliads that had hitherto hovered between various other genera, along with a wealth of new species. Major works that accepted *Boucerosia* in this period include BENTHAM & HOOKER's 'Genera Plantarum' and the 'Flora of British India'. A few authors have kept up *Boucerosia* since then, e.g. DEFLERS (1896) and SEDGEWICK (1921), but most have bowed to the massive authority of N.E. BROWN combined with the difficulties of generic delimitation around *Caralluma* and *Stapelia*. The name *Boucerosia*, however, as applied to a section within *Caralluma* remains well known in contrast to the disappearance of *Desmidorchis*.

Current studies of *Caralluma* strongly suggest that this genus should be divided up and the first segregate genera have already been erected by LEACH (1978) for certain of the southern species. The northern species are clearly heterogeneous and one of the groups most worthy of segregation is that including the types of *Boucerosia* and *Desmidorchis*. The familiarity of *Boucerosia* is such that, when it was realised that *Desmidorchis* was in fact valid, the first reaction was to consider conserving *Boucerosia* against *Desmidorchis*. However, in view of the long disuse of *Boucerosia* as a genus, it seems very unlikely that such a proposal would be accepted and *Desmidorchis* will have to be revived.

In his letter, EHRENBURG states that he has some living plants from 'Dahlac Island' in the Red Sea (most likely Dahlac Kedir the main island in the Dahlac Archipelago) which were similar to *Stapelia quadrangula* Forsk. and together with which formed a genus distinct from *Caralluma* of BROWN which he named *Desmidorchis* and for which he gave a diagnosis. The meaning of the diagnosis is obscure and it is difficult to see how it actually distinguished his plants from *Caralluma* and other genera of stapeliads. This must be the reason for DECAISNE (1838) stating that *Desmidorchis* was a *nomen nudum*. The relevant words are « Malheureusement M. EHRENBURG n'assigna pas de caractère à ces plantes ». However the I.C.B.N. clearly states 'A diagnosis of a taxon is a statement of that which in the opinion of its author distinguishes the taxon from others'. On this criterion DECAISNE's rejection of EHRENBURG's name cannot now be sustained and *Desmidorchis* must be regarded as validly described.

The next step is to investigate the status of *Desmidorchis retrospiciens* as it is now clear that CUFODONTIS's (1961) grounds for rejecting this binomial no longer apply. He rejected it as a "*binomen nudum*" on the basis that *Desmidorchis* was a *nomen nudum*, taking up *Boucerosia russelliana* as the next available name, though noting that the relationship to *Desmidorchis acutangula* should be investigated. The binomial, the first in *Desmidorchis*, was published in a later amplification (EHRENBURG, 1831) of the 1829 letter. One can use two lines of evidence to establish the identity of what EHRENBURG intended to call *D. retrospiciens*, one circumstantial which leads to the current popular interpretation, the other based on what was actually published.

Circumstantially, the case depends primarily on the fact that EHRENBURG was dealing with plants from Dahlac Island and N.E. BROWN (1904) cites a specimen "Red Sea: Dahlac Island, Ehrenberg!". This suggests that he saw something that could be interpreted as a type specimen and thus his concept of the application of the name is correct. Another pointer to support such a view is the epithet used, "*retrospiciens*", which is commonly supposed to apply to the more or less hooked tubercles of the young stems.

When one comes to look at EHRENBURG's 1829 and 1832 publications one gets a very different impression. He writes that he has some living plants that resemble very closely—" *simillimam* "—*Stapelia quadrangula*. There is no mention of *D. retrospiciens* in 1829 whilst in 1832 the only link between this binomial and any actual plant is a drawing of a translator and it's associated pollinia. At no point is any attempt made to differentiate between the Dahlac plants, *S. quadrangula* or any other stapeliad. Whilst a good drawing of the translator and pollinia is often diagnostic to species group, that of EHRENBURG is poor, barely differing from that of a *Stapelia* on the same plate. Moreover *Caralluma retrospiciens sensu* N.E. BROWN and *Stapelia quadrangula* are both such very distinctive species that the fact that EHRENBURG makes no mention of any of the very striking differences, in fact describing his plant as very similar to the latter, is suspicious and one must question whether the live plant, mentioned in his letter is the same as the dried specimen taken by N.E. BROWN to represent *Desmidorchis retrospiciens*. Thus *D. retrospiciens* Ehrenb. must still be regarded as a *nomen nudum* and the epithet attributed to N.E. BROWN who effectively validated it in 1904. With the non-acceptance of EHRENBURG's species name, typification of the genus becomes simple as there is only one legitimate contender, *Stapelia quadrangula*. The fact that EHRENBURG did not make any new combination is not relevant as he clearly indicates that it belonged to his new genus and failed to differentiate any other possible contender within his genus. It is interesting to note that thanks to the nomenclatural irregularities of DECAISNE and the (unjustified) rejection of *Desmidorchis*, the combination of the type species in that genus has still not been made.

With the non acceptance of *D. retrospiciens* Ehrenb. one must reexamine the choice of name of the plants placed by N.E. BROWN in *C. retrospiciens*. CUFODONTIS took up *Boucerosia russeliana* in preference to *Desmidorchis acutangula*, presumably because it was based on a type from the Red Sea area and he was preparing an enumeration of Ethiopian and Somalian plants whilst *D. acutangula* was based on a West African plant that might have been specifically distinct. However study of descriptions and specimens shows that WHITE & SLOANE (1937, 236-242) were correct in regarding *Caralluma retrospiciens* as a single species extending from Senegal to the Red Sea Islands and thus *D. acutangula* (1838) must be taken up in preference to *B. russeliana* (1860). The infraspecific names available within this species are rather numerous but it seems clear that none belong to taxa worthy of specific status. Plants from the extreme east of the range have rather longer pedicels and therefore larger umbels than plants from West Africa through to S. Sudan, S.E. Ethiopia and most of Kenya but the variation appears more or less continuous. Other varieties are based on variations in corolla size and indumentum but these probably represent nothing more than local forms. *D. acutangula* was originally likened to *Cactus triangularis* and later separated from other taxa by having 3-angled stems. This would be quite unique amongst stapeliads as, except for the

highly modified inflorescences of *Caralluma* sect. *Caralluma*, all others have stems with 4 or more angles. In view of this one is inclined to suggest that the original comparison with *Cactus triangularis* was on the basis of them both having prominently winged stems and the recording of 3-angled stems in the *Desmidorchis* was the result of a later mistaken transposition of ideas. Unfortunately the only cited specimen was a PERROTTET specimen conserved in spirit. This cannot be located in P and G and one must presume that it no longer exists. For this reason a neotype, *de Wailly 4872*, is designated.

The taxonomic consequences of the above considerations can be summarised as follows:

DESMIDORCHIS Ehrenberg

- *Linnæa* 4 : 94 (1829).
- *Boucerosia* WIGHT & ARNOTT, Contrib. Bot. Ind. 34 (1834); type : *Caralluma umbellata* Haw.
- *Hutchinia* WIGHT & ARNOTT, *l.c.* (1834); type : *H. indica* Wight & Arnott.
- *Apteranthes* MIKAN, Nov. Act. Nat. Cur. 17 : 594 (1835); type : *A. guessoneana* Mikan (= *Stapelia europea* Guss.).
- *Frerea* DALZELL, J. Linn. Soc. 8 : 10 (1878); type : *F. indica* Dalz.
- *Sarcocodon* N. E. Br., J. Linn. Soc. 17 : 170 (1878); type : *S. speciosa* N. E. Br.

TYPE SPECIES : *Desmidorchis quadrangula* (Forsk.) M. Gilbert & J. Raynal.

Desmidorchis quadrangula* (Forsk.) M. Gilbert & J. Raynal, *comb. nov.

- *Stapelia quadrangula* FORSK., Flora Æg.-Arab., descr. : 52 (1775).
- *Desmidorchis forskalii* DECNE., Ann. Sci. Nat. 9 : 265 (1838), *nom. superfl.*
- *Boucerosia forskalii* DECNE., in DC., Prodr. 8 : 648 (1844), *nom. superfl.*
- *Boucerosia quadrangula* (FORSK.) DECNE., *l.c.* : 664 (1844).
- *Caralluma quadrangula* (FORSK.) N. E. Br., Gard. Chron. 12 : 370 (1892).
- *Echidnopsis quadrangula* (FORSK.) DEFLERS, Bull. Soc. Bot. Fr. 43 : 113 (1896).

TYPE : *Forskål s.n.*, Arabia, Surdûd.

***Desmidorchis acutangula* Decaisne**

- Ann. Sc. Nat. 9 : 265 (1838).
- ? *Desmidorchis retrospiciens* EHRENB., Abhandl. Königl. Wiss. Berlin 15 : 31, *tab. 2, fig. 8* (1832), *nom. nud.*
- *Boucerosia acutangula* (DECNE.) DECNE., in DC., Prodr. 8 : 648 (1844).
- *Boucerosia russelliana* COURE, ex BRONGN., Bull. Soc. Bot. Fr. 7 : 900 (1860).
- *Caralluma acutangula* (DECNE.) N. E. Br., Gard. Chron., ser. 3, 12 : 369 (1892).

- *Caralluma hirtiflora* N. E. Br., Kew Bull. 1895 : 264 (1895).
- *Boucerosia tombuctuensis* A. CHEV., Cong. Int. Bot. Paris : 271 (1900).
- *Caralluma retrospiciens* N. E. Br., Fl. Trop. Afr. 4 (1) : 480 (1904); [N. E. Br., Gard. Chron., ser. 3, 12 : 370 (1892), *nom. nud.*].
- *Caralluma retrospiciens* var. *glabra* N. E. Br., l.c. : 481 (1904).
- *Caralluma tombuctuensis* (A. CHEV.) N. E. Br., l.c. : 622 (1904).
- *Caralluma retrospiciens* var. *hirtiflora* (N. E. Br.) BERGER, Stapelieen und Kleinieen : 71 (1910).
- *Caralluma retrospiciens* subsp. *tombuctuensis* (A. CHEV.) A. CHEV., Rev. Bot. Appl. 14 (152) : 266 (1934).
- *Caralluma retrospiciens* subsp. *tombuctuensis* var. *acutangula* (DECNE.) A. CHEV., l.c. : 270 (1934).
- *Caralluma retrospiciens* var. *tombuctuensis* (A. CHEV.) WHITE & SLOANE, Stapelieae 1 : 240 (1937).
- *Caralluma retrospiciens* var. *acutangula* (DECNE.) WHITE & SLOANE, l.c. : 242 (1937).
- *Caralluma russelliana* (COURB. ex BRONGN.) CUF., Bull. Jard. Bot. Stat. Brux. 31 (4), Suppl. : 718 (1961).

TYPE : *Perrottet s.n.*, Senegambia, *in spiritu conserv.* (holo-, P, *delet.*).

NEOTYPE : *de Wailly* 4872, Mali, brousse au bord du Niger, Gao vers Berra, 14.4.1937, P!

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