Oscillatoria bicudoi Senna, nom. nov.


Acknowledgments

I thank Dr. Carlos Eduardo de Mattos Bicudo for reviewing the manuscript and for suggestions and also Dr. Joseph Harold Kirkbride, Jr., for invaluable assistance and reviewing the manuscript. I am grateful to the Instituto de Botânica de São Paulo for permission to conduct my studies there, and to the Fundação Universidade de Brasília for support during their completion.

Literature Cited


AN ILLEGITIMATE PERGULARIA AND THE TRIBAL NAMES CEROPEGIEAE, MARSDENIEAE AND STAPELIEAE (ASCLEPIADACEAE)

K. Swarupanandan

Summary

Apparently unaware of Pergularia R. Br. (1811a), a later homonym of Pergularia L. (1767a, and b), Sundell (1980) retained the names for the tribes typified by the genera Ceropogia L., Marsdenia R. Br. and Stapelia L. respectively as Ceropegieae Benth. (1876), Marsdenieae N. E. Br. (1907) and Stapelieae Benth. (1868). However all the available suprageneric names based on Pergularia are truly based on Pergularia R. Br. non L. and are illegitimate. Accordingly Ceropogieae Decne. (1842), Marsdenieae Bentham (1868) and Stapelieae Dcne. (1844) are the correct names for the tribes.

Introduction

Following Darwin’s (1979) discussions on the correct name of the tribe Stapelieae, Sundell (1980) made an elaborate survey of the suprageneric infrafamilial names in Asclepiadaceae. In his paper, Sundell attempted to bring the nomenclature in line with the existing rules. A careful study of the long array of invalid names listed in the roster and the reasons given therein for considering them invalid has brought to light a few anomalous cases by being unaware that Pergularia R. Br. (1811a) is an illegitimate generic name. Thus, the tribal names Ceropogieae Decne (1842), Marsdenieae Bentham (1868) and Stapelieae Decne (1844) were rejected because, these names were superfluous in including Pergularia, the type of Pergulariae Endlicher (1838). The whole problem revolves round the typification of Pergularia and needs explanation.

1 Kerala Forest Research Institute, Peechi 680653, India.
Typification of the Genus Pergularia

Aware of the confusion involved with *Pergularia*, N. E. Brown (1907) attempted typifying the name. The genus was established by Linnaeus in his *Systema Naturae* (1767a) and simultaneously described two species, *P. glabra* L. and *P. tomentosa* L., in his *Mantissa Plantarum* (1767b). According to New Art. 10.1 and 10.2, it is explicit that the type of the genus has to be selected from the types of any of the above mentioned two species (McNeill, 1981).

The protologue of *Pergularia glabra* L. reads: “*Flos pergulanus* Rumph. amb. 5. p. 51, t. 29, f. 2. Habitat in India.” The ‘type’ of this species preserved in the Linnaean Herbarium (LINN), as well as *Flos pergulanus* Rumph., have been identified as a member of the Apocynacean genus *Vallaris* Burm. f. (1768), typified by *V. pergulanus* Burm. f. (1768). Merrill (1917) has concluded that the correct name of this species is *Vallaris glabra* (L.) O. Ktze. This species does not belong to Asclepiadaceae and is therefore excluded from consideration for lectotypification. The residual species, *P. tomentosa* L., has been designated as the lectotype of the genus (N. E. Brown, 1907).

The typification of the latter species, *Pergularia tomentosa* L. is also problematic. The ablative polynomial diagnosis of the species (Linnaeus’ *nomen specificum legitimum*) reads, “...foliis cordatis tomentosis” and is referred by “Habitat in Arabia. Forskahl.” However, the accompanying nominative description, “Folia ... glabra” and the cited source, “H[ortus]. U[psalensis],” shows discrepancies. These discrepancies are because Linnaeus confused different elements under the species.

In addition, there exists a discrepancy between the protologue and the presumed ‘type’ of *Pergularia tomentosa* L. preserved in the Linnaean herbarium (LINN), indicating that Linnaeus confused a third element also under this species. This element is a vegetative specimen marked ‘Chin,’ indicating its origin from China (perhaps collected by Osbeck (1751–1752) from Macao), while the protologue mentions it to be from Africa. N. E. Brown (1907) has identified it as *Pergularia odoratissima* J. E. Smith (1789 t. 16), now considered to be a synonym of *Telosma cordata* (Burm. f.) Merrill (1921), based on *Asclepias cordata* Burm. f. (1768), non Forsk. (1775). This species, which is totally discordant with the Linnaeus’ description of the genus *Pergularia* (1767a), has also been excluded from consideration for lectotypification.

The Linnaean material of *Pergularia tomentosa* having been found deceptive, the only indication of the type of the species is the protologue which mentions an Arabian material of Forskål and another material derived from a plant grown in the Uppsala garden (perhaps raised from seeds sent by Forskål). Unfortunately these materials are not represented in the Linnaean herbarium. Thus N. E. Brown (1907) speculated two species viz. *Doemia cordata* R. Br. ex Schult. (1820) based on *Asclepias cordata* Forskål (1775), an illegitimate later homonym of *A. cordata* Burm. f. (1768), and *Doemia extensa* R. Br. (1811b), based on *Cynanchum extensum* Jacq. (1781), the latter two both being superfluous renamings of *Asclepias daemia* Forsk. (1775) = *Pergularia daemia* (Forsk.) Chiovenda (1916). The above two species grow together in Arabia. The floral characters agree with the Linnaean generic description of *Pergularia*, differing mostly in pubescence. *Doemia cordata* R. Br. has tomentose leaves and *D. extensa* R. Br. has glabrescent leaves. N. E. Brown, deducing that these two species are involved in *P. tomentosa* L. (causing the discrepancy in the diagnosis and description) suggested restriction of the Linnaean generic and specific names on the type of *Asclepias cordata* Forsk. (1775), non Burm. f. (1768).

[Nom. Ed. note: If I follow this argument correctly, it appears that N. E. Brown (1907) neotypified *Pergularia tomentosa* L. on the type of *Asclepias cordata* Forsk. (1775), non Burm. f. (1768), retroactively causing both *A. cordata* Forsk. and *Doemia cordata* R. Br. to become superfluous renamings of *Pergularia tomentosa* L.]

Consequently, *Doemia* R. Br. (1811a) has the same circumscription as that of *Pergularia* L. and is, therefore, superfluous, both being based on the same type. Thus, N. E. Brown reestablished *Pergularia* in the sense of *Doemia* R. Br., i.e., in the Arabian sense, the currently accepted position.

*Pergularia* R. Br., a Later Homonym of *Pergularia* L.

Unfortunately, misidentification of the Chinese element in the Linnaean Herbarium as *Pergularia tomentosa* L. resulted in the misapplication of *Pergularia* in the sense of the Chinese element for more than a century (between Lamarck, 1791, and Coville, 1905). The error was initiated by J. E. Smith (1789) who, unaware of the discordance between the protologue and the Linnaean specimen called *P. tomentosa*, identified the latter with his *P. odoratissima* Sm. Following Smith, R. Brown (1811a) retained *Pergularia* for the Chinese element and established *Doemia* R. Br. (1811a) for the true
Linnaean *Pergularia* in the Arabian sense. Thus *Pergularia* of R. Brown (1811a) and later authors, e.g., Schultes (1820), Dumortier (1829), Wight and Arnott (1834), Endlicher (1838), Decaisne (1842 and 1844), Mueller (1859), Bentham (1868 and 1876), Hooker (1883), Baillon (1890), Schumann (1895) and many others who followed R. Brown, is a later homonym of *Pergularia* L., and illegitimate, having circumscribed the taxon in such a way as to exclude its type. This can be easily seen because *Pergularia* R. Br. (= *Telosma* Cov.) belongs to tr. Asclepiadeae while *Pergularia* L. belongs to a different tribe. The first to recognize this error was Coville (1905) who applied *Pergularia* in its correct sense and established *Telosma* Cov. for the Chinese element misidentified as *Pergularia tomentosa* L. *Telosma* is the correct name for *Pergularia* R. Br. (1811a), non L., being typified by *Telosma odoratissima* (Sm.) Cov. (1905) based on *Pergularia odoratissima* Sm. (1789).

**Stapelieae Reichenbach—an Invalid Name**

Darwin (1979) and Sundell (1980) considered *Stapelieae* Reichenbach (1837, p. 208) as invalid, the latter having not indicated the rank. With the Rapporteurs’ (1981) comment on Prop. 35.2, that terminations do indicate the rank, brings *Stapelieae* Reich. in terms with the rules. However, Art. 35.4 (Stafleu, 1978) instructs that in questions of indication of rank, the different parts of the same work in which the name appeared has to be taken into consideration. Thus although Reichenbach (1837) did not indicate any rank for his *Stapelieae*, he indicated his *Periploceae* (1837, p. 208) merely as “Gruppen” (group), an unsatisfactory indication of rank. In this context, it is also desirable to make a search into the indication of ranks of his suprageneric names in his other works. In his *Conspectus Regni Vegetabilis* (1828) Reichenbach recognizes an array of hierarchial ranks. Within the family ‘Asclepiadaceae’ he recognized three suprageneric ranks; the first is represented by Asclepieae, Periploceae and Passifloreae, the second level of ranking is represented by Stapelieae, Cynanchaeae and Astephaneae all under Asclepieae and the tertiary rank is represented by Pergulariaeae, Gonolobeaeae and Cynanchaeae. Genuine, all under Cynanchaeae. These names pertaining to three different levels of ranking, irrespective of their rank, appear with an -eae ending. Later, in his *Handbuch des natürlichen Pflanzensystems* (1837), all these names appear merely as “Gruppen” (groups) so that it is nearly impossible to say what rank was indicated by them. Based on these observations *Stapelieae* Reichenbach (1837), although with an -eae ending, should not be considered valid at the tribal rank.

*Pergularia* R. Br. and the tribal names *Ceropegieae, Marsdenieae* and *Stapelieae*

Sundell (1980) assumed the names *Ceropegieae* Decaisne (1842, p. 211), *Marsdenieae* Bentham (1868, pp. 325 and 333), and *Stapelieae* Decaisne (1844, p. 606) to be superfluous in including *Pergularia*, thus competing with *Pergularieae* Endlicher (1838). Therefore, he retained *Ceropegieae* Bentham (1876, p. 738), *Marsdenieae* N. E. Brown (1907, p. 523) and *Stapelieae* Bentham (1868, p. 106 and 109) as the correct names for the tribes typified by *Ceropegia* L., *Marsdenia* R. Br. and *Stapelia* L. respectively. But the fact that all the available suprageneric names based on *Pergularia* (incl. *Pergularieae* of Dumortier, 1829, p. 26 and Endlicher, 1838, p. 595) are not in compliance with Art. 19.1 and 19.2 and should be treated invalid, being based on an illegitimate generic name *Pergularia* R. Br. Thus it appears that *Ceropegieae* Decaisne (1842, p. 211), *Marsdenieae* Bentham (1868, pp. 325 and 333) and *Stapelieae* Decaisne (1844, p. 606) are the earliest legitimate names available for the tribes and should be accepted as the correct ones.

[Nom. Ed. note: Even if *Pergularieae* was earlier validly published (i.e., was based on a legitimate generic name) and was included in later *Ceropegieae*, *Marsdenieae*, and *Stapelieae*, all the latter would be legitimate. Art. 63.3 (Sydney Code) provides that “A name that was nomenclaturally superfluous when published is not illegitimate . . . if it is based on the stem of a legitimate generic name.”

The thrust of this paper is that *Pergulariaeae* is illegitimate, being based on an illegitimate generic name, *Pergularia* R. Br. (1811) [sensu Chinese *Telosma*], non L. (1767) [sensu Arabian *Doemia*]. The author, Darwin, and Sundell all reached the same conclusion, that the correct tribal names are *Ceropegieae*, *Marsdenieae* and *Stapelieae*, but their reasoning was completely different.]


Burman, N. L. 1768. Flora indica p. 72, t. 27, fig. 2 [non vidi].


Jacquin, N. J. 1781. Icones plantarum rariorum 1: t. 54.


Linnæus, C. 1767a. Systema naturae, ed. 12, p. 191 (Pergularia).

——. 1767b. Mantissa plantarum 8: 53 (Pergularia).


Rumphius, G. E. 1747. Herbarium amboinense 5: 51, t. 29, fig. 2 [non vidi].


Smith, J. E. 1789. Icones pictae plantarum rariorum: t. 16.


SUBGENERIC CLASSIFICATION OF CHLORIS SW. (POACEAE)

G. S. Varadarajan and A. J. Gilmartin

Summary

World wide distribution of Chloris Sw. (Poaceae) consists of 56 species that are classified into two subgenera, viz., Phacelaria (43 species) and Chloris (13 species).