

NOTES ON ASIATIC ACANTHACEAE

A. B. M. ENAYET HOSSAIN*

ABSTRACT. Sixteen new combinations are proposed, including two in the genus *Pararuellia*. The limits of this genus are discussed and it is shown that *Ruellia* sect. *Schizothecium* Baill. is a synonym of it.

***Asystasiella chinensis* (S. Moore) E. Hossain, comb. nov.**

Type: China, Kiukiang, *Shearer*.

Syn.: *Asystasia chinensis* S. Moore in Journ. Bot. 13: 228 (1875); Forbes & Hemsley in Journ. Linn. Soc. Bot. 26: 243 (1890); Handel-Mazzetti in Symbolae Sinicae 7, 2: 897 (1936).

Asystasiella neesiana auctt.; Benoist in Lecomte, Fl. Gén. Indo-Chine 4: 715 pro parte, fig. 78 (1926).

This species is widespread in southern China and reaches into Upper Burma and Vietnam (Tonkin). Benoist (in Lecomte, Fl. Gén. Indo-Chine 4: 715, 1926) reduced it to synonymy under *A. neesiana* (Wall.) Lindau. However that species may be distinguished by its much broader leaves with entire margins, and by having stalked glandular hairs on the main inflorescence axis as well as on the pedicel.

***Championella coreana* (Lévl.) E. Hossain, comb. nov.**

Syn.: *Strobilanthes coreana* Lévl. in Fedde, Rep. Sp. Nov. 12: 19 (1913); Brem. in Verh. Ned. Akad. Wet., Afd. Nat. 2 sect. 41, 1: 272 (1944)—*sphalm. corcana*.

Lectotype: Korea, in herbis Quelpaert, x 1906, *Faurie* 917 (E).

The syntypes are *Taquet* 1246, 1247, 3105, 4385 (E), all from Quelpaert.

***Championella labordei* (Lévl.) E. Hossain, comb. nov.**

Syn.: *Strobilanthes labordei* Lévl. in Fedde, Rep. Sp. Nov. 12: 20 (1913); Brem. in Verh. Ned. Akad. Wet., Afd. Nat. 2 sect. 41, 1: 278 (1944). *Acanthopale labordei* (Lévl.) Hand. Mazz. in Sinensia 5: 20 (1934).

Lectotype: China, Kweichow, Mont de Kao-Po (Tsin Gay), 11 ix 1899, *Laborde* (in herb. Bodinier 2693, E).

The syntype is *Cavalerie* 323 (E) from Pin-fa.

***Chroësthes silvicola* (W.W. Sm.) E. Hossain, comb. nov.**

Syn.: *Asystasia silvicola* W.W.Sm. in Notes R.B.G. Edinb. 10: 170 (1918). Lectotype: China, Yunnan, Szemao, forests to south at 1200 m, *Henry* 12934 (E). The syntype, *Henry* 11600A (E), also from mountains near Szemao, is a fruiting specimen.

* Present address: Department of Botany, Government College, Sylhet, Bangladesh.

The spotted corolla, narrowly tubular at the base expanded in the upper portion, and the estipitate capsules, containing thin flattened and winged seeds, distinguish this plant from all species of *Asystasia*.

Chroësthes (Benoist in Bull. Mus. Hist. Nat. Paris 33: 107, 1927) remained monotypic until Bremekamp (in Dansk Bot. Arkiv 20: 73, 1961) added a new species, *C. racemiflora*, from Thailand; the status of this as a species distinct from *C. silvicola* will need re-examination when more material becomes available. Bremekamp also referred to two species which he wished to transfer from *Lepidagathis*, "*L. longiflora* Wight" and *L. macrantha* C.B.Cl. His transfers to *Chroësthes* were, however, invalid as he gave no bibliographic references as required since 1953 by Art. 33 of the International Code. "*L. longiflora* Wight" does not exist and was presumably an error for *L. longifolia* Wight.

***Diflugossa shweliensis* (W.W.Sm.) E. Hossain, comb. nov.**

Syn.: *Strobilanthes shweliensis* W.W.Sm. in Notes R.B.G. Edinb. 12: 224 (1920); Brem. in Verh. Ned. Akad. Wet., Afd. Nat. 2 sect. 41, 1: 285 (1944).

Type: China, Yunnan, Shweli-Salween divide, 3000 m, lat. 25° 20' N, ix 1917, Forrest 16107 (E).

Bremekamp left this, and indeed, most of the Chinese species of *Strobilanthes*, unplaced in his new classification: he merely remarked that the generic position was uncertain, probably because he had seen no material. This plant has the characteristic "*Goldfussia*" arrangement of stamens, subglobose anthers with the thecae widely separated by the thickened connective, and seeds with strongly hygrometric, undulating hairs.

This combination of characters is found only in the group of closely allied genera: *Goldfussia* Nees, *Diflugossa* Brem., *Semnothyrsus* Brem. and *Dossifluga* Brem. If these four genera are kept distinct, then it is clear that *Strobilanthes shweliensis* must be placed in *Dossifluga*, with which it agrees in its lax inflorescences, small deciduous bracts and bracteoles and non-resupinate corolla.

***Goldfussia chaffanjonii* (Lévl.) E. Hossain, comb. nov.**

Syn.: *Strobilanthes chaffanjonii* Lévl. in Fedde, Rep. Sp. Nov. 12: 20 (1913), et Fl. Kouy-Tcheou 21 (1914) p.p.; Brem. in Verh. Ned. Akad. Wet., Nat. Afd. 2 sect. 41, 1: 272 (1944).

Lectotype: China, Kweichow, environs de Kouy-Yong, mont de Collège, gorges de Yang-pa, 20 viii 1898, *Chaffanjon* 1797D in herb. Bodinier (E).

The other syntypes of *Strobilanthes chaffanjonii* are different and belong to *Goldfussia penstemonoides* Nees.

***Goldfussia equitans* (Lévl.) E. Hossain, comb. nov.**

Syn.: *Strobilanthes? equitans* Lévl. in Fedde, Rep. Sp. Nov. 12: 20 (1913); Brem. in Verh. Ned. Akad. Wet., Afd. Nat. 2 sect. 41, 1: 274 (1944).

Type: China, Kweichow, Ma-jo, 5 ix 1907, *Cavalerie* 3211 (E).

Léveillé was not sure whether this species actually belonged to *Strobilanthes* Bl. (s.s.). In a later publication (Fl. Kouy-Tcheou 21: 1914)

he placed it as a synonym of *S. chaffanjonii* (= *Goldfussia chaffanjonii*). As most of the species in *Goldfussia* are closely allied to one another, *G. equitans* might in course of time, be regarded as conspecific with a widely variable species—if more materials are examined. But at the present moment, it seems worthwhile to keep this species as separate. *G. equitans* is distinctive in its external facies, very slender peduncles, lanceolate-acute bracts, and in the presence of a tuft of long hairs on the upper lip of the corolla.

***Goldfussia feddei* (Lévl.) E. Hossain, comb. nov.**

Syn.: *Strobilanthes feddei* Lévl. in Fedde, Rep. Sp. Nov. 12: 20 (1913) & Cat. Pl. Yunnan 6 (1915); Hand.-Mazz., Symb. Sin. 7: 892 (1936); Brem. in Verh. Ned. Akad. Wet., Afd. Nat. 2 sect. 41, 1: 275 (1944).

Type: China, Yunnan: Route de Mong-Tse à Yunnan-Sen, pied des rochers au bord de la route, au col de Koan-Yu-Chan, 27 x 1896, *Bodinier* (E).

***Goldfussia mahongensis* (Lévl.) E. Hossain, comb. nov.**

Syn.: *Strobilanthes "makongensis"* Lévl., Cat. Pl. Yunnan 6 (1915); Brem. in Verh. Ned. Akad. Wet., Afd. Nat. 2, sect. 41, 1: 280 (1944), as *S. mahongensis*.

Type: China, Yunnan, pâturages des montagnes à Ma-hong, 2800 m, Scrofulariée vivace en touffes dressées, haut 0 m 80, fl. roses, viii 1912, *Maire* (E).

***Gutzlaffia lyi* (Lévl.) E. Hossain, comb. nov.**

Syn.: *Ruellia lyi* Lévl. in Fedde, Rep. Sp. Nov. 12: 21 (1913) & Fl. Kouy-Tcheou 20 (1914).

Type: China, Kouy-Tcheou, rochers sous bois, à Tin-Fan, fl. blanches, xi 1904, *Cavalerie* 1888 (E).

There are many specimens (not cited by Léveillé) at Kew and Edinburgh collected from Szechuan which also belong to this species.

G. lyi is closely allied to *G. henryi* (Hemsl.) C.B. Cl. ex S. Moore from which it differs in having a taller, shrubby, perennial habit, a characteristic inflorescence (one flower at each node of the spike remaining undeveloped alternately), and an eglandular pubescence of bracts, bracteoles and calyx lobes.

***Justicia kouytcheensis* (Lévl.) E. Hossain, comb. nov.**

Syn.: *Ruellia repens* L. var. *kouytcheensis* Lévl. in Fedde, Rep. Sp. Nov. 13: 175 (1914) & Fl. Kouy-Tcheou 20 (1914).

Type: China, Kouy-Tcheou, Gan Chouen, 1912, *Cavalerie* 3979 (E).

Justicia L. is the biggest and by far the most difficult (both taxonomically and nomenclaturally) genus in Acanthaceae. No recent monograph or revision on a world basis is available. Until this is achieved, it is best to follow a broad circumscription of the genus. Species relationships and their status are also difficult to determine precisely. *J. kouytcheensis*, *J. yunnanensis* W. W. Smith, *J. xantholeuca* W. W. Smith, and *J. championii* T. And. are all very closely allied species in this part of the world. Some authors favour keeping them under a segregate genus *Calophanoides* Ridley.

Leptosiphonium venustum (Hance) E. Hossain, **comb. nov.**

Syn.: *Ruellia venusta* Hance in Journ. Bot. 6: 92 (1868).

Type: China, Canton, in silvis circa coenobium Fi-liu-tsz, 18 ix 1866, Hance 13767 (BM).

Leptosiphonium F. Muell. is a small genus allied to *Ruellia* L. These genera agree in having 4 fertile stamens with elongated parallel anther-thecae, honey-combed (heterobrochate) spherical pollen grains and in the shape of the capsule. However the species of *Leptosiphonium* differ from *Ruellia* in having a long narrow corolla-tube, sessile flowers, and smaller thinly aristate bracts, bracteoles and calyx lobes.

Bremekamp & Nannenga-Bremekamp (in Verh. Ned. Akad. Wet., Afd. Nat. 2 sect. 45, 1: 32, 1948) have recognized ten species in *Leptosiphonium*; all of these are from New Guinea or neighbouring islands. The addition of *L. venustum* therefore represents a considerable extension of the range of the genus.

Pararuellia Bremekamp in Verh. Ned. Akad. Wet., Afd. Nat. 2 sect. 45, 1: 25 (1948).

Syn.: *Ruellia* sect. *Schizothecium* Baillon in Bull. Mens. Soc. Linn. Paris, No. 107: 852 (1890) et Hist. Pl. 10: 408 (1891).

Aporuella C.B. Cl. in Journ. As. Soc. Bengal 74 (2), Extra No. (649), 859 (1907), pro parte excl. lect.

C. B. Clarke established the genus *Aporuella* for those species of *Ruellia* (s.l.) which possessed "minute prickles, papillae or granules (not a honey-combed pattern)" on their pollen grains. These were placed under *Aporuella* with a comment "otherwise as *Ruellia*" and no characters other than those of the pollen were given.

In dealing with Clarke's genus *Aporuella*, Bremekamp and Nannenga-Bremekamp took the view that the lectotype must be one of the two new species described by Clarke. Actually Clarke followed his brief generic diagnosis (based entirely on the pollen characters) by the statement that *Ruellia flagelliformis* Roxb., *R. trichotoma* Nees, *R. acaulis* R. Brown, *R. spiciflora* Benth., *R. australis* R. Brown, and *R. guppyi* Hemsley belonged to this genus. He then added *A. sumatrensis* and *A. axillaris* which were described as new to science. There was no reason to exclude the other species mentioned by Clarke from the range of possible lectotypes. Had *R. flagelliformis* been chosen, Bremekamp's new name *Pararuellia* would have been unnecessary. However, this course was not followed: *Pararuellia* is in existence with several specific combinations. There is insufficient reason for proposing a reversal of Bremekamp's action and therefore, *Pararuellia* is here maintained. Bremekamp's lectotype of *Aporuella* (*A. axillaris* C.B.Cl.) proved to be a species of *Dipteracanthus* Nees and thus carries its generic name into synonymy there.

Designating *A. sumatrensis* as the type species of *Pararuellia*, Bremekamp transferred five other species of *Ruellia* (*R. flagelliformis*, *R. lowei* S. Moore, *R. napifera* Zoll., *R. ? nudispica* C.B.Cl. and *R. poilanei* R. Ben.) to this new genus.

Four other names have now been found to be referable to *Pararuellia*: *Ruellia delavayana* Baill., *R. drymophila* (Diels) Hand.-Mazz., *R. esquirolei*

Lévl. and *R. cavaleriei* Lévl. However, only two species are involved as the first three names prove to be conspecific. These plants have a rosulate or subrosulate habit, sessile flowers, characteristic globose or subglobose anthers, with thecae widely separated by a broad, thickened connective, homobrochate and granular triporate pollen grains, and elongate, fusiform, \pm estipitate capsules, seed-bearing from the base: they are certainly allied to *P. flagelliformis* (Roxb.) Brem. and *P. sumatrensis* (C.B.Cl.) Brem. The necessary transfers of *R. delavayana* and *R. cavaleriei* to *Pararuellia* are made below.

P. delavayana, which was the type species of Baillon's section *Schizothecium*, is a well-marked species with large elliptic-lanceolate basal leaves, and rather large flowers often accompanied by noticeably large cauline leaves. The inflorescences are condensed in the axils of these cauline leaves.

P. cavaleriei differs from *P. flagelliformis* mainly in the shape of lower leaves (lanceolate-spathulate), much smaller cauline leaves on the rhachis (4–7 mm \times 2–4 mm) which simulate the bracts of *P. sumatrensis*, and much longer, sometimes branched inflorescences.

P. nudispica (type: Bermejos, K!) and *P. lowei* (type: Lowe, BM!) do not strictly conform to the generic description given by Bremekamp. Their pollen grains are honey-combed (reticulate) and homobrochate. Their anthers are also not 'papilioniform': the thecae elongate and parallel, not widely separated by a thickened connective.

The type specimen of *P. napifera* was not available for this study, but a sheet at Kew (Mt. Batu, Kostermans 1887) bearing the same name has been investigated. Its anther and pollen grain characters do not agree with *Pararuellia* but fully conform with *P. nudispica* and *P. lowei*. *P. poilanei* might be proved conspecific with *P. lowei* as its description does not provide an appreciable difference of any taxonomic importance. This has already been pointed out by Bremekamp.

The exact position and affinities of all these species cannot be fully ascertained until other genera are thoroughly studied. Comparison with *Leptosiphonium* F. v. Muell. is necessary.

***Pararuellia cavaleriei* (Lévl.) E. Hossain, comb. nov.**

Type: China, Kouy-Tcheou, I-Long-Ho (rivière sud de Lo-Fou), iv 1907, *Cavalerie* 3293 (E).

Syn.: *Ruellia cavaleriei* Lévl. in Fedde, Rep. Sp. Nov. 12: 21 (1913).

For discussion see above.

***Pararuellia delavayana* (Baill.) E. Hossain, comb. nov.**

Type: China, Yunnan, *Delavay* 174.

Syn.: *Ruellia* (sect. *Schizothecium*) sp., Baill. in Bull. Mens. Soc. Linn. Paris, no. 107: 852 (1890).

R. delavayana Baill., Hist. Pl. 10: 408 (1891).

Hemigraphis drymophila Diels in Notes R.B.G. Edinb. 5: 161 (1912).

Type: China, Yunnan, Lichiang Range, *Forrest* 2774 (E).

Ruellia esquirolii Lévl. in Fedde, Rep. Sp. Nov. 12: 21 (1913). Type:

China, Kouy-Tcheou, Ouang-Mou, vi 1904, *Esquirol* 101 (E).

R. drymophila (Diels) Hand.-Mazz. in Anz. Akad. Wiss. Wien, Math.-Nat. Kl. 1924, 61: 169 (1925).

For discussion see above.

Tarphochlamys darrisii (Lévl.) E. Hossain, **comb. nov.**

Syn.: *Strobilanthes darrisii* Lévl. in Fedde, Rep. Sp. Nov. 12: 18 (1913); Lévl. Fl. Kouy-Tcheou 22 (1944) p.p.; Brem. in Verh. Ned. Akad. Wet., Afd. Nat. sect. 2, 41, 1: 273 (1944).

Type: China, Kouy-Tcheou, Hin-Gyn-Hien, pelouses, fleur bleue-violet, xi 1906, *Esquirol* 1056 (E).

Tetragoga esquirolii (Lévl.) E. Hossain, **comb. nov.**

Syn.: *Strobilanthes esquirolii* Lévl. in Fedde, Rep. Sp. Nov. 12: 18 (1913) & Fl. Kouy-Tcheou 22 (1914); Brem. in Verh. Ned. Akad. Wet., Afd. Nat. sect. 2, 41, 1: 274 (1944).

Type: China, Kouy-Tcheou, de Pa-Bonn à Ting-Chan, 16 xii 1904, *Esquirol* 322 (E).

The involucrate capituliform spikes and large, ellipsoidal, strongly costate pollen grains give evidence that the species belongs to *Tetragoga* Brem. Previously this genus has been recorded from Assam and Sumatra.