

Nomenclatural Notes on the Morinaceae and Valerianaceae in China

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ABSTRACT. Two new combinations in the Morinaceae are proposed for the *Flora of China*: *Acanthocalyx nepalensis* (D. Don) M. J. Cannon subsp. *delavayi* (Franch.) D. Y. Hong and *Morina ludlowii* (M. J. Cannon) D. Y. Hong. Lectotypes are designated for three names in the Valerianaceae, *Valeriana daphniflora* Hand.-Mazz., *V. stenoptera* Diels, and *V. stenoptera* var. *cardaminea* Hand.-Mazz.

Key words: China, Morinaceae, Valerianaceae.

Nomenclatural actions are needed for the forthcoming treatment of two families, the Morinaceae and Valerianaceae, for volume 19 in the *Flora of China*. The Morinaceae are represented by two genera (*Acanthocalyx* (DC.) Tiegh., *Morina* L.) and 10 species, all in western China. The Valerianaceae are represented by three genera (*Nardostachys* DC., *Patrinia* Juss., *Valeriana* L.) and 33 species throughout China, mostly in southwestern provinces or regions.

MORINACEAE

In the most recent taxonomic account for the Morinaceae in China (Hsing, 1986), only the one genus *Morina* with four species is treated. Based on examination of a large number of specimens including those in BM, E, and K, two genera and 10 species will be recognized in the forthcoming *Flora of China*, Volume 19, with four new species records for China from Tibet and Xinjiang, and the proposal for two new combinations is made here.

ACANTHOCALYX

1. *Acanthocalyx nepalensis* (D. Don) M. J. Cannon, Bull. Brit. Mus. (Nat. Hist.), Bot. 12(1): 12. 1984. Basionym: *Morina nepalensis* D. Don, Prodr. Fl. Nepal. 161. 1825. TYPE: Nepal. s.d., *N. Wallich 424* (holotype, K; isotypes, BM, E).

1a. *Acanthocalyx nepalensis* subsp. *nepalensis*.

1b. *Acanthocalyx nepalensis* subsp. *delavayi* (Franch.) D. Y. Hong, comb. et stat. nov. Basionym: *Morina delavayi* Franch., Bull. Soc. Bot. France 32: 8. 1885. *Acanthocalyx delavayi*

(Franch.) M. J. Cannon, Bull. Brit. Mus. (Nat. Hist.), Bot. 12(1): 12. 1984. *Morina nepalensis* D. Don var. *delavayi* (Franch.) C. H. Hsing, Fl. Reipubl. Popularis Sin. 73(1): 51. 1986. *Morina nepalensis* D. Don subsp. *delavayi* (Franch.) D. Y. Hong & L. M. Ma, Vasc. Pl. Hengduan Mount. 2: 1931. 1994. TYPE: China. Yunnan: "In monte Hee-chan-men, prope Lan-kong," 2 June 1884, *Delavay 52* (holotype, P not seen).

According to Cannon and Cannon (1984: 11), the morphological differences between *Acanthocalyx delavayi* (Franch.) M. J. Cannon [= *A. nepalensis* subsp. *delavayi* (Franch.) D. Y. Hong] and *A. nepalensis* were the "corolla tube nearly glabrous beneath, straight" versus "hairy beneath, often somewhat curved," respectively, and the "ovary glabrous" versus "pubescent," respectively. However, based on examination of a large quantity of herbarium specimens, we found that discrete differences between them are a wider corolla (10–15 mm diam.) and a usually puberulous ovary in *A. delavayi* versus corollas 7–10 mm diam. and a usually glabrous ovary in *A. nepalensis*. These morphological differences are associated with geography, i.e., the above character states for *A. delavayi* are usually found in western Sichuan and northwestern Yunnan, while those for *A. nepalensis* are usually seen in material from southern Tibet, Bhutan, Nepal, and northern India. Therefore, given the evident geographic differences, the two taxa are better treated as two subspecies.

MORINA

1. *Morina ludlowii* (M. J. Cannon) D. Y. Hong, comb. nov. Basionym: *Cryptothladia ludlowii* M. J. Cannon, Bull. Brit. Mus. (Nat. Hist.), Bot. 12(1): 22. 1984. TYPE: Bhutan. Ju La, Mangbe Chu, 4250 m, *Ludlow, Sherriff & Hicks 16903* (holotype, BM; isotype, E).

Cannon and Cannon (1984) raised *Morina* sect. *Cryptothladia* Blume to generic rank, *Cryptothladia* (Blume) M. J. Cannon. Morphological differences between *Cryptothladia* and *Morina*, as indicated by Cannon and Cannon, were: (1) the corolla equal to or shorter than the calyx in *Cryptothladia* versus much

exceeding the calyx in *Morina*; (2) the corolla 2- to 4-lobed (rarely 5-lobed) in *Cryptothladia* versus 5-lobed in *Morina*; (3) the sterile stamens two and as large as the fertile pair, inserted at or near the base of the corolla tube in *Cryptothladia* versus the sterile stamens two, but much smaller than the fertile pair, and inserted just below the fertile two in *Morina*; and (4) the flowers probably cleistogamous in *Cryptothladia* versus not obviously cleistogamous in *Morina*. This last distinction for the flowers as cleistogamous or not may occur as a natural variation within a species. Comparison of the relative lengths of the perianth may or may not be useful for demarcation between species, and differences in the corolla lobing may occur among even closely related species as in the Campanulaceae, e.g., *Cyananthus lichiangensis* W. W. Sm. (5-lobed) and *C. hookeri* C. B. Clarke (mostly 4-lobed). The relative comparison of sterile and fertile stamen pairs may well apply for infrageneric groups. Furthermore, the Morinaceae can be divided into two (and only two) major groups, according to palynological (Blackmore & Cannon, 1983) and morphological evidence. Therefore, it seems appropriate to recognize two genera, *Morina* and *Acanthocalyx*, in the Morinaceae, and to merge *Cryptothladia* into *Morina*.

VALERIANACEAE

Three genera and about 33 species are recognized for the Valerianaceae in China in the forthcoming *Flora of China*, Volume 19: *Nardostachys* (one species, southwestern China), *Patrinia* (11 species throughout China, with six endemic taxa), and *Valeriana* (21 species, throughout China except in Guangdong and Hainan, with 13 endemic taxa).

VALERIANA

1. *Valeriana daphniflora* Hand.-Mazz., Acta Horti Gothob. 9: 179. 1934. TYPE: China. Sichuan: "Sze-ch'uan austro-occid." [southwest Sichuan], "Yenyüen" [Yanyuan], 2600 m, 2 Oct. 1914, *H. Handel-Mazzetti 5439*, p.p. (lectotype, designated here, WU).

Handel-Mazzetti 5439 is a mixed collection and consists of two sheets belonging to two different species in *Valeriana*. The specimen at WU has a long-

tubular corolla and is thus in accordance with Handel-Mazzetti's 1934 protologue of *V. daphniflora*. However, the second sheet at E features a short and infundibular corolla and is in accordance with *V. stenoptera* Diels. Because Handel-Mazzetti did not designate either sheet as type, we here designate the sheet at WU as lectotype.

2. *Valeriana stenoptera* Diels, Notes Roy. Bot. Gard. Edinburgh 5: 295. 1912. TYPE: China. Yunnan: "Lichiang Range" [Lijiang], 27°25'N, 3050 m, Aug. 1906, *G. Forrest 2758* (lectotype, designated here, E; isotype, E).

Valeriana stenoptera Diels var. *cardaminea* Hand.-Mazz., Acta Horti Gothob. 9: 180. 1934, syn. nov. TYPE: China. Yunnan: [northwest Yunnan], "Chungtien" [Xianggelila], 3000–3100 m, 14 Aug. 1915, *H. Handel-Mazzetti 7648*, p.p. (lectotype, designated here, WU).

The collection *Handel-Mazzetti 7648*, cited by Handel-Mazzetti in 1934 as the type of *Valeriana stenoptera* var. *cardaminea*, consists of two sheets. The sheet at WU has an infundibular corolla with a short corolla tube (ca. 1.5 mm), which is in accordance with the protologue. The second sheet at E has an elongate corolla (ca. 6.5 mm) with a longer corolla tube (ca. 5.5 mm), which better corresponds to *V. daphniflora*. The E sheet, syntypic to the sheet at WU, is excluded from *V. stenoptera* var. *cardaminea*. Handel-Mazzetti (1934) did designate *Handel-Mazzetti 7648* as the type for his new variety. Because the WU sheet for *Handel-Mazzetti 7648* matches very well with the protologue, it is designated here as the lectotype for *V. stenoptera* var. *cardaminea*.

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