

Taxonomic notes on *Meeboldia* H. Wolff (Umbelliferae)

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Abstract *Meeboldia* (Umbelliferae) is treated as a genus including only two species, i.e. *M. yunnanensis* and *M. achilleifolia*.

Key words *Meeboldia*, *Sinodielsia*, *Peucedanum*, *Vicatia*, Umbelliferae, taxonomic note.

Meeboldia H. Wolff (Umbelliferae) was established based on *M. selinoides* H. Wolff, a Himalayan species. Since the type material of this species had been possibly lost, Mukherjee & Constance (1991) designated *M. achilleifolia* (DC.) Murkh. & Constance, also a Himalayan species, as the neotype of the genus, and pointed out that *M. selinoides* is conspecific with *M. achilleifolia*.

Sinodielsia H. Wolff was described based on *S. yunnanensis* H. Wolff, a species from Kunming, Yunnan, China. As *Meeboldia* and *Sinodielsia* appear to share some major generic characters, such as strongly developed calyx-teeth, conical stylopodium, oblong-ovoid fruit, both lateral and dorsal ribs prominent and filiform, and flat, slightly concave to sulcate commissural surface, Mukherjee & Constance (1991) considered that *Sinodielsia* H. Wolff is not clearly distinguished from *Meeboldia* and thus merged *Sinodielsia* to *Meeboldia*.

It is noteworthy that Pimenov & Kljuykov (2000) transferred *Peucedanum delavayi* Franch. to *Sinodielsia*, making the combination *S. delavayi* (Franch.) Pimenov & Kljuykov. *P. delavayi*, however, has fruit compressed dorsally in transection, lateral ribs narrowly winged, and dorsal and median ribs filiform. Therefore, we think it is not acceptable to transfer *P. delavayi* to *Sinodielsia* Kljuykov & Mukherjee, and Pimenov et al. (1991) transferred also *Vicatia thibetica* H. de Boissieu and *V. bipinnata* Shan & Pu respectively to *Sinodielsia*. But these two species have obsolete calyx-teeth, depressed stylopodium, and deeply concave to deeply grooved commissural surface. Furthermore, the pollen morphology of *V. thibetica* and *V. bipinnata* is also different from that of the species in *Sinodielsia* (Shu & Sheh, 2001). Thus the two species had better be retained in the genus *Vicatia*.

Taxonomic treatments

Meeboldia H. Wolff in Feddes Repert. 19: 313. 1924; Mukherjee & Constance in Edinb. J. Bot. 48: 44. 1991 et Umbell. India 1: 116. 1993; Pimenov & Leonov, Gen. Umbell 1: 74. 1993; S. L. Liou in C. Y. Wu, Fl. Yunnan. 7: 405. 1997. — *Sinodielsia* H. Wolff in Notizbl. Bot. Gart. Berlin-Dahlem 9: 278. 1925; S. L. Liou in Fl. Reip. Pop. Sin. 55 (1): 108. 1979; Pimenov et al. in Feddes Repert. 102: 383. 1991, p.p.; F. T. Pu in W. T. Wang, Vasc. Pl. Hengduan Mts. 1: 1286. 1993; Pimenov & Leonov, Gen. Umbell. 1: 105. 1993; Pimenov et al. in Acta Phytotax. Sin. 34: 8. 1996; et in Feddes Repert. 111: 539. 2000, p.p.; P. Shu & M. L. Sheh, Pollen Photo. Fl. Umbell. China 1: 23. 2001.

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Perennial herbs; taproot stout, conical to cylindroid, 1–2-branched. Stem slender, erect, branched. Basal leaves ternate-3-pinnate or 3–4-pinnate, primary pinnae 4–9 pairs, ultimate segments linear-subulate or antler-shaped; cauline leaves few, similar to the basal ones, gradually reduced upward, with narrow sheaths. Peduncles elongate, apex slightly scabrous;

bract 1 or several, linear-lanceolate; rays 6–15, unequal; bracteoles 5–9, similar to the bracts; calyx-teeth evident, subulate, persistent; petals white, obovate, apex slightly notched with a narrowly incurved lobule; stylopodium conic; styles recurved. Fruit oblong-ovoid, glabrous, compressed laterally, base rounded, ribs filiform; mericarps pentagonal in transection, slightly constricted at the commissure; vittae 2–4 in intervals, 2–5 on commissure; carpophore bipartite to middle or base. Commisural surface flat or slightly concave to sulcate.

Type: *Ptychotis achilleifolia* DC. (= *Meeboldia achilleifolia* (DC.) Mukherjee & Constance).

A small genus with only two species.

Key to species

1. Taproot epidermis cyclically striate; basal leaves ternate-3-pinnate, primary pinnae 4–5 pairs, ultimate segments antler-shaped; rays 5–10; commissural surface slightly concave 1. *M. yunnanensis*
1. Taproot epidermis without cyclic striae; basal leaves 3–4-pinnate, primary pinnae 6–9 pairs, ultimate segments linear-subulate; rays 6–15; commissural surface flat, concave to sulcate.....2. *M. achilleifolia*

1. *Meeboldia yunnanensis* (H. Wolff) S. L. Liou in C. Y. Wu, Fl. Yunnan. 7: 405. 1997; Constance & Pu in Novon 8 : 70. 1998. — *Sinodielsia yunnanensis* H. Wolff in Notizbl. Bot. Gart. Berlin-Dahlem 9: 278. 1925; S. L. Liou in Fl. Reip. Pop. Sin. 55 (1): 108. 1979; Pimenov et al. in Feddes Repert. 102: 383. 1991; F. T. Pu in W. T. Wang, Vasc. Pl. Hengduan Mts. 1: 1286. 1993; Pimenov & Leonov, Gen. Umbell. 1: 105. 1993; S. L. Liou in L. K. Fu et al., High. Pl. China 8: 559. 2001. Type: China. Yunnan (云南): Yunnan-fu (Kunming, 昆明), Cavalerie 422 (holotype, P).

Physospermopsis cruciata H. Wolff in Feddes Repert. 27: 127. 1929. — *Pleurospermum cruciatum* (H. Wolff) M. Hiroe, Umbell. World, 1: 747. 1979. Type: China. Yunnan (云南): Lijiang (丽江), Rock 10499 (holotype, E!).

Sinodielsia microloba Kljuykov in Feddes Repert. 97: 757. 1986. Type: China. SE Xizang (西藏): Gongbo'gyamda (工布江达), Ludlow et al. 6201 (holotype, BM; isotype, E!).

Physospermopsis forrestii auct. non Norman: Fedde ex H. Wolff in Feddes Repert. 27: 179. 1929.

Sinodielsia yunnanensis auct. non H. Wolff: Farille in Candollea 40: 520. 1985.

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Additional specimens examined:

China. Yunnan (云南): Kunming (昆明), P. Y. Chiu (邱炳云) 77684, 77836 (KUN); T. H. Pan & X. T. Liou (潘泽惠,刘心恬) 8602 (JSBI); T. N. Liou (刘慎谔) 3514 (KUN); G. S. Shing et al. (辛景三等) 50966, 54944 (KUN); Songming (嵩明), P. I. Mao (毛品一) 1586 (KUN); Xiangyun (祥云), F. T. Pu & X. T. Liou (溥发鼎,刘心恬) 876 (CDBI, JSBI); Heqing (鹤庆), F. T. Pu & X. T. Liou (溥发鼎,刘心恬) 955 (CDBI, JSBI); H. L. Zhao (赵会礼) 200207 (CDBI); Zhongdian (中甸), T. T. Yu (俞德俊) 13596 (PE); Yongping (永平), Forrest 11423 (E). **Sichuan** (四川): Muli (木里), F. T. Pu et al (溥发鼎等) 556 (CDBI); Q. S. Zhao et al. (赵清盛等) 6088 (CDBI, SZ); T. T. Yu (俞德俊) 14027 (PE, KUN); Daocheng (稻城), Sichuan Veg. Exped. (四川植被队) 2577 (CDBI). **Xizang** (西藏): Nyingchi (林芝), K. Y. Lang (郎楷永) 1079, 1298 (PE).

Distribution: C and NW Yunnan, SW Sichuan and E Xizang, China.

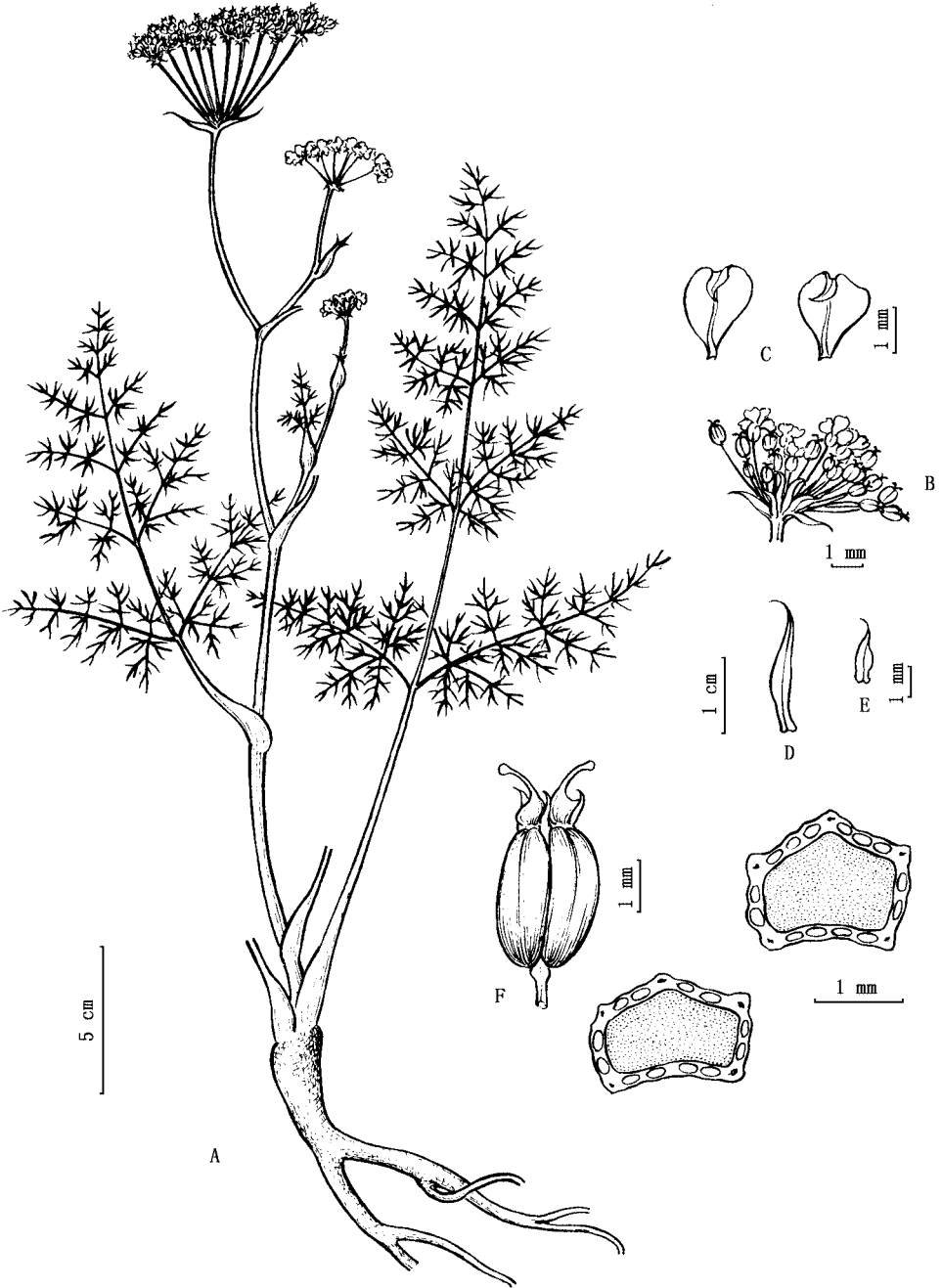


Fig. 1 . *Meeboldia achilleifolia* (DC.) Mukherjee & Constance. A, outer habit; B, umbellule; C, petals; D, bract; E, bracteole; F, fruit; G, transverse section of mericarps showing the vallicular oil duct and endosperm. Drawn by J. Gu from the type gathering, Wallich 568 (K, E).

Habitat: bushes, grassy slope, sparse *Quercus-Pinus* forests, forest edge; 1900–3500 m.

2. *Meeboldia achilleifolia* (DC.) Mukherjee & Constance in Edinb. J. Bot. 48: 44. 1991; et Umbell. India. 1: 116. 1993.—*Athamanta achilleifolia* Wall. cat. 18. n. 568. 1829, nom. nud.—*Ptychotis achilleifolia* DC., Prodr. 4: 109. 1830.—*Pimpinella achilleifolia* (Wall ex DC.) C. B. Clarke in Hook. f., Fl. Brit. Ind. 2: 684. 1879; H. Wolff in Engl., Pflanzenr. 90 (IV. 228): 286. 1927; Norman in J. Bot. (London.) 67: 245. 1929; Cannon in Hara & Williams, Enum. Flow. Pl. Nepal. 2 (135. Umbell.): 187. 1979.—*Vicatia achilleifolia* (Wall. ex DC.) Mukherjee in Candollea 37: 560. 1982; et in Bull. Bot. Surv. India 24: 43. 1983.—*Tongoloa achilleifoila* (Wall. ex DC.) Pimenov & Kljuykov in Feddes Repert. 102: 383. 1991. Type: From Nepal to India (Kumaon), Wallich 568 (holotype, K!; isotype, E!)

Meeboldia selinoides H. Wolff in Feddes Repert. 19: 313. 1924. Type: Himalaya. In Valle Naini, 6500 supra mare, Meebold 3402.

Sinodielsia digitata Kljuykov in Feddes Repert. 97: 756. 1986. Type: Chungar, 6500 supra mare, 1938-11-13, Ludlow et al. 7263 (BM!).

Pimpinella achilleifolia (Wall. ex DC.) auct. non C. B. Clarke: F. T. Pu in Fl. Reip. Pop. Sin. 55 (3): 242. 1992.

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Additional specimens examined: **Nepal.** Without precise locality, Wallich 568 A (CAL, E!); Dhunche, Mukherjee 237 (UC); Gurjackani et al. 3618, 4462 (BM).

Bhutan. Chungar, Ludlow et al. 7263 (BM).

India. Uttar Pradesh, Kumaon (北方邦), Wallich 568B (CAL); Naini Tal, Gillett et al. 2614 (UC).

Distribution: Himalayas from Nepal and Bhutan to India. Alt. 2000–4500 m.

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藏香芹属的修订

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摘要 认为伞形科藏香芹属 *Meeboldia* H. Wolff 只包含2种,即滇芹 *Meeboldia yunnanensis* (H. Wolff) Constance & F. T. Pu 和蒼叶藏香芹 *M. achilleifolia* (Wall. ex DC.) Mukherjee & Constance。

关键词 藏香芹属; 滇芹属; 前胡属; 凹乳芹属; 伞形科; 分类修订