

中国橐吾属(菊科-千里光族)的分类学研究(二): 植夫橐吾的名实订正

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摘要: 通过文献和标本考证, 发现《中国植物志》第77卷第2分册和《Flora of China》第20~21卷中均误将黑穗橐吾(*Ligularia melanothyrsa* Hand.-Mazz.)鉴定为植夫橐吾(*L. fangiana* Hand.-Mazz.), 而真正的植夫橐吾应处理为川鄂橐吾[*L. wilsoniana* (Hemsl.) Greenm.]的异名。

关键词: 菊科; 橐吾属; 千里光族; 分类学

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Taxonomic Studies on the Genus *Ligularia* Cass. (Asteraceae, Senecioneae) from China (II): The Identity of *L. fangiana*

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Abstract: Through literature and herbarium surveys, it was found that *Ligularia melanothyrsa* Hand.-Mazz. had been misidentified as *L. fangiana* Hand.-Mazz. in the Flora Reipublicae Popularis Sinicae 77(2) and in the Flora of China 20 – 21, and that *L. fangiana* should be placed in synonymy under *L. wilsoniana* (Hemsl.) Greenm.

Key words: Asteraceae; *Ligularia* Cass.; Senecioneae; Taxonomy

Ligularia fangiana Hand.-Mazz. was described on the basis of a specimen from Jinpo Shan, Nanchuan, Chongqing, China, i.e. W. P. Fang 582^[1]. In the protologue, Handel-Mazzetti stated that the specimen includes no leaves, but only a long terminal racemose inflorescence, and that his description of the leaf shape (“lanceolate”) was totally based on the field record. Handel-Mazzetti found the inflorescence of his new species to be the same as that of *L. wilsoniana* (Hemsl.) Greenm., a species also distributed in Chongqing (including Nanchuan,

the type locality of *L. fangiana*) and western Hubei, China, but he thought that there was no reason to suspect the authenticity of the field record on the leaf shape (owing to the fact, we guess, that the collector, W. P. Fang (1899 – 1983), was a well-trained plant taxonomist, studying at the University of Edinburgh from 1934 to 1937 and gaining his doctorate). Because the character combination of “lanceolate” leaves and a long terminal racemose inflorescence is, as emphasized by Handel-Mazzetti in the protologue, very special in the genus *Ligularia*, he regarded *L.*

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fangiana as a rather isolated species of the genus.

In the Flora Reipublicae Popularis Sinicae 77(2), Liu^[2] recognized *Ligularia fangiana* as an independent species, but his description and the accompanying illustration are in conflict with the protologue of the name in, among other characters, the pubescence and the leaf shape. According to the protologue of *L. fangiana*, the stem, the inflorescence axis, the peduncle, and the involucres are all brownish puberulent, and the leaves are “lanceolate”, but in the description by Liu^[2], these parts are all white arachnoid-puberulent, and the leaves are oblong or ovate-oblong. The leaf shape of *L. fangiana* given in the accompanying illustration has been far from “lanceolate”, but typically oblong. In the Flora of China 20 – 21 recently published, Liu and Illarionova^[3] have totally accepted the concept of *L. fangiana* as construed by Liu^[2].

We were informed by a curator of the Botanic Garden and Botanic Museum Berlin-Dahlem (B), where the holotype of *Ligularia fangiana* had been kept, that the holotype had been destroyed in World War II. Fortunately, we have been able to trace a duplicate (Fig. 1) from the Herbarium of Sichuan University (SZ). This sheet also includes no leaves, but only a long terminal racemose inflorescence, and this inflorescence fits perfectly the original description of *L. fangiana*. From SZ and the Herbarium of the Chengdu Institute of Biology, Chinese Academy of Sciences (CDBI) we found a gathering made from Muli, southwestern Sichuan, China, i.e. Q. S. Zhao 8429 (Fig. 2), which was identified as *L. fangiana* by S. W. Liu, the author of the account for the genus *Ligularia* in the Flora Reipublicae Popularis Sinicae 77(2) and a co-author for the genus in the Flora of China 20 – 21. The gathering includes four well-pressed sheets, two at SZ and two at CDBI, and they all agree perfectly with the descriptions and the illustrations of *L. fangiana* given in the Flora Reipublicae Popularis Sinicae 77(2) and Flora of China 20 – 21. Obviously the descriptions and the illustrations of *L. fangiana* in these two floristic works have been based on this gathering.

Examination of the above-mentioned Zhao's

gathering against *Ligularia melanothyrsa* Hand.-Mazz. (Fig. 3), a plant hitherto known only from Muli, Sichuan, China, has shown that the four sheets are clearly referable to the species. When describing *L. melanothyrsa*, Handel-Mazzetti^[1] pointed out that this species, like *L. vellerea* (Franch.) Hand.-Mazz., is characterized by the stem densely long lanate at the base, but they are very different in other characters and thus may not be closely related. He also noted that *L. melanothyrsa* and *L. wilsoniana* are very similar in the inflorescence, but otherwise they may have nothing to do with each other. He regarded *L. melanothyrsa* as a rather isolated species in the genus *Ligularia*.

We also have examined the isotype of *L. fangiana* (Fig. 1) against *L. wilsoniana* (Fig. 4) and found no difference between them in the inflorescence characters. Judging from the fact that *L. wilsoniana* occurs also on Jinfo Shan, Nanchuan, Chongqing, the type locality of *L. fangiana*, it can be safely assumed that the field record on the leaf shape of *L. fangiana* should be wrong, and that the character combination of “lanceolate” leaves and a long terminal racemose inflorescence like that in *L. fangiana* should not exist in nature for the genus *Ligularia*. We therefore have no choice but to reduce *L. fangiana* to the synonymy under *L. wilsoniana*.

Ligularia wilsoniana (Hemsl.) Greenm. in Bailey, Stand. Cycl. Hort. **6**: 3153. 1917; Hand.-Mazz. in Bot. Jahrb. Syst. **69**: 138. 1938; S. W. Liu in Fl. Reipubl. Popularis Sin. **77**(2): 58. 1989; S. W. Liu & I. D. Illar. in Fl. China **20 – 21**: 408. 2011. Type: China. Hubei, Patung (= Badong), A. Henry 2457 (lectotype, here designated, K!).

L. fangiana Hand.-Mazz. in Bot. Jahrb. Syst. **69**: 124. 1938; S. W. Liu in Fl. Reipubl. Popularis Sin. **77**(2): 84. 1989, quoad typum solum; S. W. Liu & I. D. Illar. in Fl. China **20 – 21**: 401. 2011, quoad typum solum. syn. nov. Type: China. Chongqing: Nanchuan, Jinfo Shan, grassy slope, 22 Sept., 1927, W. P. Fang 582 (holotype, B; isotype, SZ!).

Notes. For a fuller citation of literature and



Fig. 1 *Ligularia wilsoniana* (Hemsl.) Greenm. W. P. Fang 582 (SZ, isotype of *L. fangiana* Hand.-Mazz.), Chin-fu Shan (= Jinfo Shan), Nanchuan County, Chongqing, China. Note that the leaves were recorded to be lanceolate, but actually are reniform as shown in Figure 4.

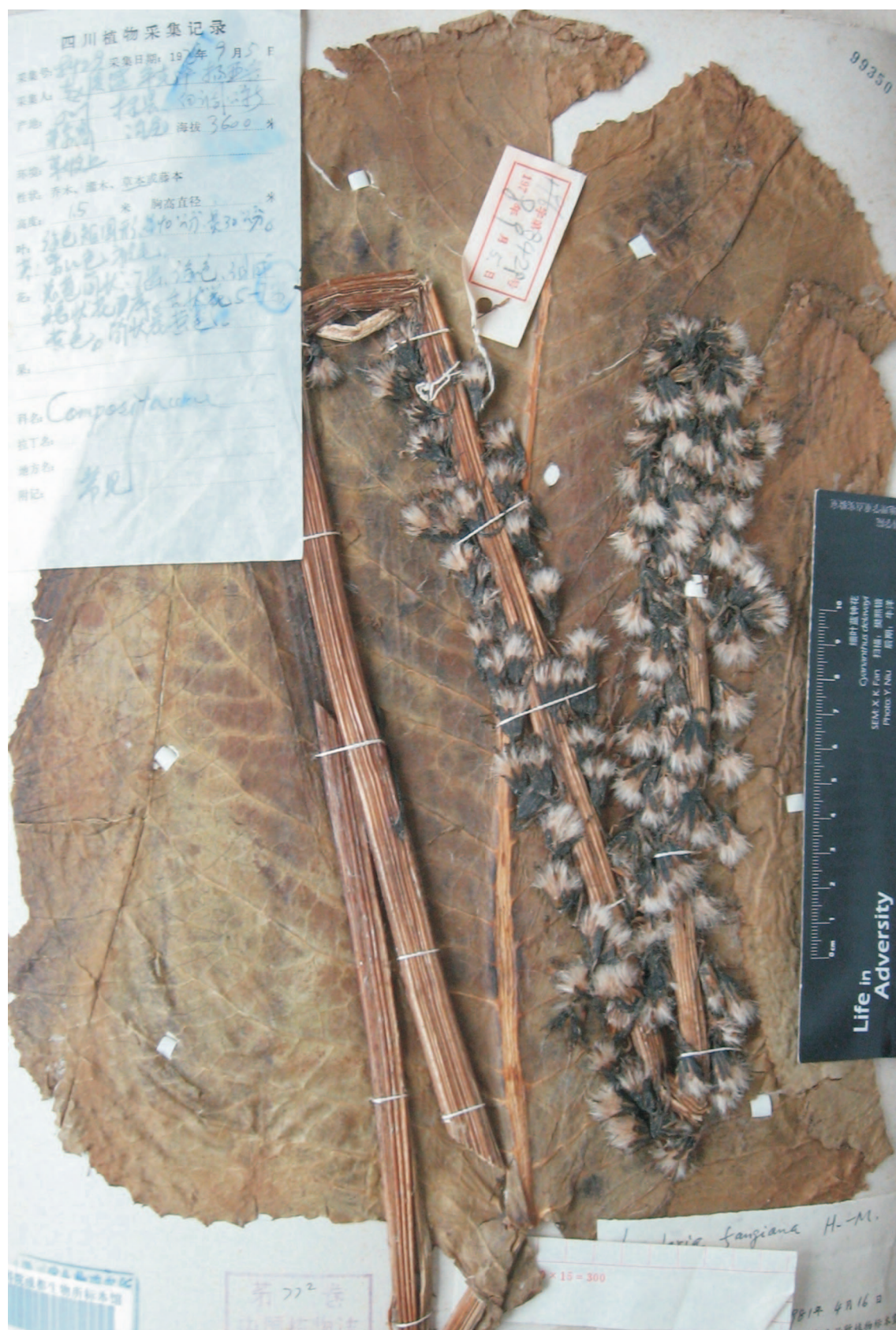


Fig. 2 *Ligularia melanothyrsa* Hand.-Mazz. Q. S. Zhao 8429 (CDBI), Baidiao Xiang, Muli County, Sichuan, China. This specimen was previously misidentified as *L. fangiana* Hand.-Mazz. The line drawing of *L. fangiana* in the Flora Reipublicae Popularis Sinicae 77(2) was very likely based on this specimen.



Fig. 3 *Ligularia melanothyrsa* Hand.-Mazz. J. F. Rock 16724 (isotype, US), the mountains between the Litang and Yalong Rivers, between Muli Gomba and Baurong and Wa-Erh-Dje, Muli, Sichuan, China.



Fig. 4 *Ligularia wilsoniana* (Hemsl.) Greenm. J. H. Xiong & Z. L. Zhou 92597 (PE), Jinfo Shan, Nanchuan County, Chongqing, China.



Fig. 5 E. E. Maire s.n. (E, syntype of *Senecio iochanensis* H. Lév.), Io-chan (= Yao Shan), Qiaojia County, Yunnan, China. The identity of this specimen has as yet not been determined with certainty.

synonyms of *Ligularia wilsoniana*, see Liu^[2] and Liu and Illarionova^[3]. It should be noted that Liu^[2] has correctly cited the name *Senecio iochanensis* H. Lév. in synonymy under *L. lankongensis* (Franch.) Hand.-Mazz., but wrongly cited it again in synonymy under *L. wilsoniana*.

Lauener^[4] referred to *Ligularia wilsoniana* two unnumbered specimens (Maire s.n., P; both belonging to the syntypes of *Senecio iochanensis*) collected from Io-chan (= Yao Shan), Qiaojia County, northwestern Yunnan (not Guizhou as given in the collection information by Lauener^[4]), China. We have checked the two specimens. One of them (Fig. 5) was identified by C. C. Chang as *L. stenocephala* (Maxim.) Matsum. & Koidz., but annotated by Handel-Mazzetti as representing a new species similar to *L. sibirica* (L.) Cass. The two specimens, as noted by Lauener^[4], have a denser inflorescence with shorter pedicels and slightly coarser leaf-teeth. Although Liu^[2] placed *Senecio iochanensis*, as mentioned above, in synonymy under *L. wilsoniana*, he did not mention the occurrence of *L. wilsoniana* in Yunnan. Liu and Illarionova^[3] have also recorded only western Hubei and eastern Sichuan (now belonging to Chongqing) as the distribution range of the species. Further studies are needed to determine the identity of the Yunnan specimens in question and the occurrence of *L. wilsoniana* in northeastern Yunnan.

The identity of *Ligularia tenuipes* (Franch.) Diels, a plant described based on a single gathering, Farges s.n. from Chengkou, Chongqing, China, and hitherto actually known only from the type material, also needs to further verify. From the major Chinese herbaria we have not been able to find any authentic material of this species, although Chengkou has been very well

botanized, and we also have not as yet been able to trace its type specimen from the National Natural History Museum, Paris (P). Handel-Mazzetti^[1] pointed out that *L. tenuipes* may be related to *L. wilsoniana*. We suspect *L. tenuipes* to be very likely conspecific with *L. wilsoniana*.

Additional specimens examined. China.

Chongqing: Chengkou, T. L. Dai 101775 (IBK, PE), 102100 (PE), 107509 (IBK, PE); Nanchuan, J. H. Xiong & Z. L. Zhou 92597 (IBSC, PE), 93451 (KUN, PE), G. F. Li 63874 (HIB, KUN, PE), C. Ren & L. Y. Wang 75 (IBSC); Wulong, J. D. Li 02; Wuxi, G. H. Yang 58916 (CDBI), 59527 (CDBI, PE). **Hubei:** Lichuan, W. C. Cheng & C. T. Hwo 1245 (PE); Zigui, T. P. Wang 11753 (PE, WUK).

Distribution and habitat. *Ligularia wilsoniana* is distributed in eastern and southeastern Chongqing, western Hubei, China. Its distribution in northeastern Yunnan, China, needs to verify. The species grows on grassy slopes and in forests at altitudes of 1600–2100 m.

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