

# 中国橐吾属(菊科-千里光族)的分类学研究(一): 狭舌橐吾的名实订正

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**摘要:** 由于对模式标本考证有误, 狭舌橐吾(*Ligularia angustiligulata* C. C. Chang) 长期以来被处理为沼生橐吾 [*L. lamarum* (Diels) C. C. Chang] 的异名。经我们考证, 狭舌橐吾的主模式应为藏于 PE 的蔡希陶 58004 号标本(为唯一有狭舌橐吾的作者张肇騫先生所写定名签的标本), LBG 藏有 1 份同号模式标本, 它们与狭舌橐吾的原白完全吻合, 而藏于 KUN (2 份) 和 SZ (1 份) 的同号标本与狭舌橐吾的原白在一些重要性状上相冲突, 均非狭舌橐吾的模式标本; 进而发现狭舌橐吾与叶状鞘橐吾 (*L. phyllocolea* Hand.-Mazz.) 在形态上没有本质区别, 故应处理为后者的异名, 而藏于 KUN 和 SZ 的 3 份标本均属于沼生橐吾。同时还指出长柄橐吾 (*L. longipes* C. C. Chang) 的名实有待进一步研究, 其模式与叶状鞘橐吾有较大区别, 似不宜将其处理为叶状鞘橐吾的异名。

**关键词:** 菊科; 千里光族; 橐吾属; 分类学

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

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**Abstract:** Through herbarium and literature surveys, we found that when Liu (in Fl. Reipubl. Popularis Sin. 77(2): 72. 1989) reduced *Ligularia angustiligulata* C. C. Chang to the synonymy under *L. lamarum* (Diels) C. C. Chang, he did not check any authentic type material of the former name, i.e. H. T. Tsai 58004 (LBG, PE). The specimens he checked, including two sheets at KUN and one sheet at SZ, albeit also numbered H. T. Tsai 58004 and with the exactly same collection information as the two Tsai specimens at LBG and PE, are in conflict with the protologue in some important characters and thus do not belong to the type collection of *L. angustiligulata*. These three sheets are clearly referable to *L. lamarum*. The sheet at PE agrees perfectly with the protologue of *L. angustiligulata* and is the only specimen bearing the name "*L. angustiligulata*" in C. C. Chang's hand, and undoubtedly is the holotype of this name. The sheet at LBG also fits perfectly the protologue of *L. angustiligulata* and is thus an isotype of the name. We determined that *L. angustiligulata* is not essentially different from *L. phyllocolea* Hand.-Mazz. and should be placed in synonymy under the latter. In addition, we found the type material of *L. longipes* C. C. Chang to be different from *L. phyllocolea* in some important characters. Further studies are thus needed to determine the

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identity of *L. longipes*, which is currently placed in synonymy under *L. phyllocolea*.

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

*Ligularia angustiligulata* C. C. Chang<sup>[1]</sup> was described based on a collection from Pi-lo Shan (= Biluo Xue Shan), Che-tse-lo, Fugong County, northwestern Yunnan, China, i.e. H. T. Tsai 58004 (PE) (Fig. 1). In the *Flora Reipublicae Popularis Sinicae* 77(1), Liu<sup>[2]</sup> reduced it to the synonymy under *L. lamarum* (Diels) C. C. Chang, a species distributed in southwestern Gansu, western Sichuan, southeastern Xizang (Tibet), and northwestern Yunnan. In doing so, Liu<sup>[2]</sup> stated that he had checked three sheets of the type collection of *L. angustiligulata*, but he did not specify the herbaria in which these specimens were kept. He found that these specimens are in conflict with the protologue of *L. angustiligulata* in two characters: the leaves of these specimens are reniform, rather than triangular-sagittate as given in the original description, and the bracts are linear, rather than ovate or obovate. The reniform leaves and the linear bracts are, among other characters, two important features of *L. lamarum* while the triangular-sagittate leaves and the ovate or obovate bracts are two important features of *L. phyllocolea* Hand.-Mazz., a species occurring in northwestern Yunnan, China, and northeastern Myanmar. As such, Liu<sup>[2]</sup> concluded that the type collection of *L. angustiligulata* must be a mixed gathering containing some other material which should agree with the protologue and very likely belongs to *L. phyllocolea*. The treatment of synonymizing *L. angustiligulata* with *L. lamarum* made by Liu has been accepted by Min<sup>[3]</sup>, and Liu and Illarionova<sup>[4]</sup> as well.

In the course of surveying specimens of the genus *Ligularia* kept in the major Chinese herbaria, we found five sheets (one each at LBG, PE, and SZ, and two at KUN) which were all numbered H. T. Tsai 58004 and all collected by the same collector on the same day from the same locality. In fact, the collection information of these specimens is exactly the same. Of these five sheets, the one at PE (Fig. 1) is undoubtedly the holotype of *L. angustiligulata*, as it is the only

sheet bearing the name *L. angustiligulata* in C. C. Chang's hand, and it fits perfectly the protologue of *L. angustiligulata*. Moreover, Chang<sup>[1]</sup> explicitly stated that all the specimens cited in the paper are kept at PE. The sheet at LBG also agrees perfectly with the protologue, so this sheet is an isotype of *L. angustiligulata*. The remaining three sheets at KUN and SZ (one of them is shown in Fig. 2) match perfectly with each other and should belong to an independent gathering of their own, which is clearly referable to *L. lamarum*. Obviously, Liu<sup>[2]</sup> has by mistake regarded this gathering as belonging to the type material of *L. angustiligulata*, and it is certain that he has never examined any authentic type material of this name, which has resulted in his erroneous placement of the name in synonymy under *L. lamarum*. After examining carefully the type material of *L. angustiligulata*, we have determined that it is not essentially different from *L. phyllocolea*.

*Ligularia phyllocolea* Hand.-Mazz. in Bot. Jahrb. Syst. **69**: 138. 1938; S. W. Liu in Fl. Reipubl. Popularis Sin. **77(2)**: 72. 1989, p.p., excl. syn.; T. L. Min in Fl. Yunnan. **13**: 498. 2004, p.p.; Liu & I. D. Illar. in Fl. China **20–21**: 409. 2011, p.p., excl. syn. TYPE: Myanmar: northeastern Myanmar, Fengshuiling, alt. 2300 m, Sept. 9, 1919, Farrer 1294 (holotype, E!).

*L. angustiligulata* C. C. Chang in Acta Phytotax. Sin. **1**: 321. 1951. TYPE: China. Yunnan: Fugong, Che-tse-lo, Pi-lo Shan (= Bilo Xue Shan), alt. 4000 m, Aug. 18, 1934, H. T. Tsai 58004 (holotype, PE!; isotype, LBG!).

**Notes.** Liu<sup>[2]</sup> reduced *Ligularia longipes* C. C. Chang to the synonymy under *L. phyllocolea*. The former was described based on a single gathering with only one sheet from Gongshan, northwestern Yunnan, China, i.e. C. W. Wang 67355 (PE) (Fig. 3). From this specimen it can be seen that *L. longipes* has wider involucre, more florets per capitulum, and much smaller bracts at base of peduncles than *L. phyllocolea*, and thus may not belong to the latter. Further studies



Fig. 1 *Ligularia phyllocolea* Hand.-Mazz. H. T. Tsai 58004 (PE) (holotype of *L. angustiligulata* C. C. Chang), Pi-lo Shan (= Biluo Xue Shan), Che-tse-lo, Fugong County, northwestern Yunnan, China.

are needed to determine the identity of *L. longipes*.

**Additional specimens examined. China. Yunnan:** Fugong, S. K. Wu 8884 (KUN); Lanping, S. K. Wu 8974 (KUN), H. T. Tsai 54036 (KUN, PE); Tongchong, Howell 135 (E); Weixi, H. T. Tsai 59694 (KUN, PE),

63112 (PE), Yunnan Inst. Drug Contr. 610125 (KUN).

**Distribution and habitat.** *Ligularia phyllocolea* is distributed in western and northwestern Yunnan, China, and northeastern Myanmar. It grows in alpine meadows or along stream banks in forests at altitudes of 2100–4000 m.



Fig. 2 *Ligularia lamarum* (Diels) C. C. Chang. H. T. Tsai 58004 (KUN), Pi-lo Shan (= Biluo Xue Shan), Che-tse-lo, Fugong County, northwestern Yunnan, China.



Fig. 3 C. W. Wang 67355 (PE) (holotype of *Ligularia longipes* C. C. Chang), Chi-na-tung, Cham-pu-tung, Gongshan County, northwestern Yunnan, China.

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