



## The identity of *Senecio lancifer* (Asteraceae, Senecioneae)

LONG WANG<sup>1,2</sup>, TIAN-JING TONG<sup>1,2</sup>, CHEN REN<sup>1</sup> & QIN-ER YANG<sup>1,\*</sup>

<sup>1</sup>Key Laboratory of Plant Resources Conservation and Sustainable Utilization, South China Botanical Garden, Chinese Academy of Sciences, Guangzhou 510650, Guangdong, China

<sup>2</sup>University of Chinese Academy of Sciences, Beijing 100049, China

\*Author for correspondence: e-mail: [qeyang@scib.ac.cn](mailto:qeyang@scib.ac.cn)

We clear up a taxonomic and nomenclatural confusion, in which *Senecio lancifer* (Asteraceae, Senecioneae) has been involved. This name is determined to belong to a *Ligularia* species, which is identical with *L. leesicotal*. The correct name of the species is *L. lancifera* (Drummond) Srivastava & Jeffrey.

Key words: Compositae, taxonomy, Xizang

### Introduction

The purpose of this note is to clear up a taxonomic and nomenclatural confusion, in which *Senecio lancifer* Drummond (1911: 270) (Asteraceae, Senecioneae) has been involved. It will be convenient to review the question chronologically.

Drummond (1911) described *Senecio lancifer* on the basis of five collections from Xizang (Tibet), China. Hu (1968a, 1968b) did not include this species in her enumeration of the Chinese *Senecio* Linnaeus (1753: 866). Jeffrey & Chen (1984) referred the species to *Ligularia* Cassini (1816: 198) but failed to further determine its identity in the genus. Liu (1985, 1989) did not mention the species in his account of *Ligularia* in both *Flora Xizangica* and *Flora Reipublicae Popularis Sinicae*. Mathur (1995) considered that *S. lancifer* was intermediate between *Senecio* and *Ligularia*, probably representing a new genus. Srivastava & Jeffrey (1996) formally treated *S. lancifer* as a species of *Ligularia* and proposed a new combination, *L. lancifera* (Drummond) Srivastava & Jeffrey. Later, obviously unaware of this combination, Grierson in Grierson & Springate (2000) published it again as *L. lancifera* (Drummond) Grierson and designated *H.M. Stewart s.n.* (K) as the lectotype. The latter combination was adopted by Grierson & Springate (2001) in *Flora of Bhutan*. In a note on *Senecio* in *Flora of China*, it was stated that Jeffrey, one of the co-authors of the Asteraceae, treated *S. lancifer* as a *Ligularia* species, i.e. *L. lancifera* (Drummond) Srivastava & Jeffrey, while another of the co-authors of the family, Illarionova, did not know to which genus it belonged, as she had not seen any material of this species and, according to the description, *S. lancifer* was unlike any species of *Ligularia* distributed in Xizang (Chen *et al.* 2011). Indeed, some statements in the protologue of *S. lancifer* are wrong and rather misleading. For instance, the species was described to be a suffruticose herb, and to have phyllaries often connate at the base. In fact, the species is a purely herbaceous plant, and the phyllaries are totally free from each other. In the genus *Ligularia*, none of the species are suffruticose, and in only two species, *L. schmidti* (Maximowicz 1871: 222) Makino (1903: 191) from northeastern China (Heilongjiang), Far East of Russia and Korea, and *L. biceps* Kitamura (1941: 239) endemic to Liaoning, northeastern China, the phyllaries are connate entirely or below the middle.

Recently we reinstated the independent specific status of *Ligularia leesicotal* Kitamura (1953: 74), a plant which is fairly common in Xizang (Wang *et al.* 2016). It was regrettable that in doing so we had been unable to check any material of *Senecio lancifer*. Thanks to the rapid progress in the digitalization of type specimens at BM and K, we have just had an opportunity to see high-resolution images of three syntype specimens of *S. lancifer*, namely *King's Collector s.n.* (BM), *H.J. Walton 70* (BM), and *H.M. Stewart s.n.* (K; Fig. 1A).

A careful comparison of the type specimens of *Senecio lancifer* with the holotype (Fig. 1B) and other ample material of *Ligularia leesicotal* convinced us that the former species is identical with the latter, and thus the two names encompass only one species. As it is illustrated in Fig. 1 and Fig. 2, the species in question belongs undoubtedly to the genus *Ligularia*. Its correct name should be *L. lancifera* (Drummond) Srivastava & Jeffrey, with *L. leesicotal* being a synonym and *L. lancifera* (Drummond) Grierson an isonym.



**FIGURE 1.** Specimens of *Ligularia lancifera*. **A.** China, Xizang, Saogong, *H.M. Stewart s.n.* (K, lectotype). **B.** China, Xizang, Nagarzê, *E. Kawaguchi SM 96920* (= *E. Kawaguchi 132*) (TNS, holotype of *L. leesicotal*).

### Taxonomic treatment

*Ligularia lancifera* (Drummond) Srivastava & Jeffrey (1996: 318); Grierson (2000: 402), isonym. *Senecio lancifer* Drummond (1911: 270).

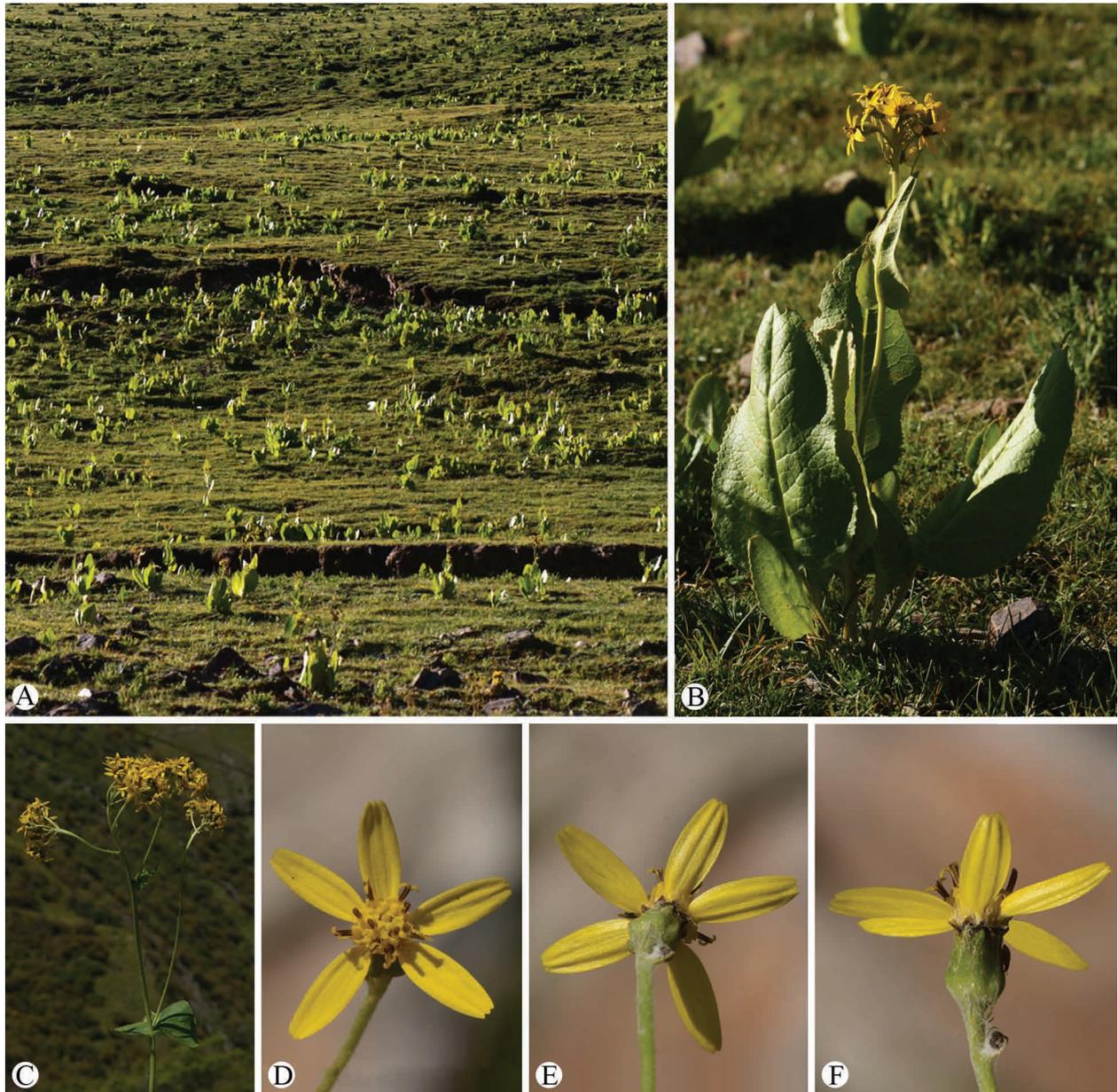
Type:—CHINA. Xizang: Saogong, 20 July 1907, *H.M. Stewart s.n.* (lectotype K!), designated by Grierson & Springate 2000: 402). Fig. 1A.

*Ligularia leesicotal* Kitamura (1953: 74), **syn. nov.**

Type:—CHINA. Xizang: Nagarzê, Pali Shan, 23 August 1914, *E. Kawaguchi SM 96920* (= *E. Kawaguchi 132*) (holotype TNS!). Fig. 1B.

Note:—For other information on this species, including a full description, additional specimens examined, habitat, distribution, phenology, and putative affinities, see Wang *et al.* (2016).

Although Drummond (1911) cited one of original localities of this species (*King's Collector s.n.*) as situated in Sikkim, this gathering, as noted by Mathur (1995), was actually made in Xizang according to the label attached to the specimen sheet. So far, no specimens of this species collected from Sikkim have been seen. Its occurrence in Bhutan is also doubtful (Grierson & Springate 2001).



**FIGURE 2.** *Ligularia lancifera* in the wild (Lhünzê, Xizang, China). **A.** Habitat. **B.** Habit. **C.** Synflorescence. **D.** Capitulum (top view). **E.** Capitulum (back view). **F.** Capitulum (side view). Photographed by L. Wang (A, B) and T.J. Tong (C–F).

### Acknowledgements

We are grateful to Dr. Alexander Sennikov, subject editor of *Phytotaxa*, for his valuable comments on the manuscript. We thank the curators of K and TNS for the permission to use their scanned images. This work was supported by the National Natural Science Foundation of China (grant no. 31370232).

### References

- Cassini, H. (1816) Aperçu des genres nouveaux formés par M. Henri Cassini, dans la famille des Synanthérées (1). *Bulletin des Sciences par la Société Philomathique de Paris* 1816: 198–200.
- Chen, Y.L., Nordenstam, B., Jeffrey, C. & Vincent, L. (2011) *Senecio* L. In: Wu, Z.Y. & Raven, P.H. (Eds.) *Flora of China*, vols. 20–21. Science Press, Beijing & Missouri Botanical Garden Press, St. Louis, pp. 508–536.

- Drummond, J.R. (1911) Plantarum novarum in herbario horti regii conservatarum. *Bulletin of Miscellaneous Information, Royal Botanical Gardens, Kew* 1911: 269–275.
- Grierson, A.J.C. & Springate, L.S. (2000) Notes relating to the Flora of Bhutan: XLI. Compositae (Asteraceae). *Edinburgh Journal of Botany* 57: 397–412.  
<http://dx.doi.org/10.1017/S096042860000038X>
- Grierson, A.J.C. & Springate, L.S. (2001) Compositae. In: Grierson, A.J.C. & Long, D.G. (Eds.) *Flora of Bhutan*, vol. 2 (3). Royal Botanic Garden Edinburgh, Edinburgh & Royal Government of Bhutan, Thimphu, pp. 1397–1632.
- Hu, S.Y. (1968a) The Compositae of China (VII). *Quarterly Journal of the Taiwan Museum* 21: 3–52.
- Hu, S.Y. (1968b) The Compositae of China (VIII). *Quarterly Journal of the Taiwan Museum* 21: 127–179.
- Jeffery, C. & Chen, Y.L. (1984) Taxonomic studies on the tribe Senecioneae (Compositae) of Eastern Asia. *Kew Bulletin* 39: 205–446.  
<http://dx.doi.org/10.2307/4110124>
- Kitamura, S. (1941) Plantae novae ex Manshuria nec non China boreale. *The Journal of Japanese Botany* 17: 234–241.
- Kitamura, S. (1953) Tibetan plants collected by E. Kawaguchi II. *Acta Phytotaxonomica Geobotanica* 15: 70–77.
- Linnaeus, C. (1753) *Species Plantarum*, vol. 1. Laurentius Salvius, Stockholm, 1200 pp.
- Liu, S.W. (1985) *Ligularia* Cass. In: Wu, Z.Y. (Ed.) *Flora Xizangica*, vol. 4. Science Press, Beijing, pp. 827–836. [In Chinese]
- Liu, S.W. (1989) *Ligularia* Cass. In: Ling, Y. & Liu, S.W. (Eds.) *Flora Reipublicae Popularis Sinicae*, vol. 77 (2). Science Press, Beijing, pp. 4–115. [In Chinese]
- Makino, T. (1903) Observations on the flora of Japan. *The Botanical Magazine (Tokyo)* 17: 179–192.  
[http://dx.doi.org/10.15281/jplantres1887.17.201\\_179](http://dx.doi.org/10.15281/jplantres1887.17.201_179)
- Mathur, R. (1995) Senecioneae Cass. (Asteraceae) In: Hajra, P.K., Rao, R.R., Singh, D.K. & Uniyal, B.P. (Eds.) *Flora of India*, vol. 13. Botanical Survey of India, Calcutta, pp. 186–323.
- Maximowicz, C.J. (1871) Diagnoses breves plantarum novarum Japoniae et Mandshuriae. Decas nona. *Bulletin de l'Academie Imperiale des Sciences de St.-Petersbourg* 16: 212–226.
- Srivastava, R.C. & Jeffrey, C. (1996) Some new combinations in Asteraceae. *Journal of the Bombay Natural History Society* 93: 318.
- Wang, L., Luo, H.Y., Ren, C. & Yang, Q.E. (2016) Taxonomic and nomenclatural notes on *Ligularia ghatsukupa*, *L. leescotal* and *L. rumicifolia* (Asteraceae, Senecioneae). *Phytotaxa* 243 (3): 260–270.  
<http://dx.doi.org/10.11646/phytotaxa.243.3.4>