

## Studies on some Asian species of the genus *Leptodontium* (Müll. Hal.) Hampe (Musci, Pottiaceae)

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**Abstract.** *Leptodontium taiwanense* Nog. is synonymous with *Leptodontium aggregatum* (Müll. Hal.) Kindb.; *Leptodontium scaberrimum* Broth. is synonymous with *Leptodontium viticulosoides* (P. Beauv.) Wijk & Margad. *Bryoerythrophyllum yichunense* C.H. Gao is the same as *Leptodontium flexifolium* (With.) Hampe in Lindb. A note on *Leptodontium handelii* Thér. is given. This taxon is identical with *Leptodontium flexifolium* (With.) Hampe.

For identification work on unnamed Himalayan and Asian material (Pottiales) present in herbarium Edinburgh (U.K.), I studied also the types of the taxa below.

### ***Leptodontium aggregatum* (Müll. Hal.) Kindb.**

*Leptodontium taiwanense* Nog., Journ. Jap. Bot. 20: 144 + fig. 23. 1944. *syn. nov.*

Type: (Taiwan), Formosa, Chiayi Co., Mt. Ari, Takaka, non-fruiting, with gemmae, coll. H. Ozaki, ex hb. A. Noguchi no. 8498, NICH!, holo, L!, iso.

The types of *Leptodontium taiwanense* and *Leptodontium aggregatum* (Zollinger no. 2130, BM!) were carefully compared.

The types of both taxa share the fluted stem sections. The leaf apex is often rather short and blunt. The lamina cells are thick walled. Along the upper leaf margins the dentation is irregular. The leaf base has thick walled, more or less sinuose, elongate cells; the extreme leaf base

cells, especially in older leaves, show a redbrown colouring. There is no central strand present in the stem. Most of the leaves are keeled, not easy to flatten. The leaf stance, when wet, is mostly recurved-squarrose. Stem tomentum is absent.

Although Fleischer (1902: 368) describes simple, axillary gemmae for *Leptodontium aggregatum*, other authors (Eddy 1990: 203; Norris & Koponen 1989: 106) do not mention them.

In Zollinger no. 2130, which has fruiting plants, simple, brownish rounded-ellipsoidal, axillary gemmae are present, although very scarce. They measure 50-60 µm long, 30-40 µm broad.

In the non-fruiting type material of *Leptodontium taiwanense*, simple, axillary, mostly greenish gemmae occur frequently. The gemmae of both collections match very well.

### ***Leptodontium viticulosoides* (P. Beauv.) Wijk & Margad.**

*Leptodontium scaberrimum* Broth., Symb. Sin. IV, Musci, p. 36. 1929. *syn. nov.*

Type: (China, Prov. Yunnan), in Bambusbestanden der tp. St. im birm. Mons. unter dem Doker-la an der tibetischen Grenze, 28° 15', Granitboden, 3600 m., non-fruiting, 18.IX.1915, Handel-Mazzetti no. 8174, H!, holo.

In cross sections the stem is not fluted, there is no central strand present. No gemmae were found. Whitish tomentum along the stem is present. The lamina papillae are bifid (forked). These characters and some others, lead me to the conclusion that this taxon is *Leptodontium viticulosoides*. The latter taxon is rather variable (Zander 1972: 248; Zander 1993: 132).

Although Fleischer (1902: 367) illustrates "Brutknollen" for *Leptodontium viticulosoides* (as *L. subdenticulatum*), I have never found them; compare also Zander (1972: 248). The last author treats this section of *Leptodontium* as, among other things, lacking simple propagulae (Zander 1972: 243).

***Leptodontium flexifolium* (With.) Hampe in Lindb.**, Oefv. K. Vet. Ak. Foerh. 21:227, 1864. *Bryoerythrophyllum yichunense* C.H. Gao, Fl. Musc. Chinae Bor.-Oc. 379 + fig. 80, 1977 *syn. nov.* Type: (China), Prov. Heilungkiang, Xiaochingan-ling Yichun, in truncis arborum silvaticarum (*Betula dahurica* Pall.), alt. 750 m., non-fruiting, with gemmae, 4 Aug. 1957, P.C. Chen and C.H. Gao no. 346, hb. IFSBH!; L!, iso.

Recently, it was possible to study the original material of *Bryoerythrophyllum yichunense* C.H. Gao. The general tinge of the plants is pale yellowish. Simple axillary gemmae are present. Sections through the stem show no central strand; the leaf margins are irregular dentate in the upper half and slightly recurved below. The leaf stance when wet is erect-spreading. The leaf base is simple, hyaline, without colouring. The lamina cells are pluri-papillose. Sections through the costa point to the genus *Leptodontium* (C. Muell.) Hampe and not to the genus *Bryoerythrophyllum* P.C. Chen, nor *Zygodon* Hook. & Tayl. All other characters lead me to the conclusion that the type belongs to *Leptodontium flexifolium*.

Note on *Leptodontium handelii* Thér.

Although Gao (1996: 258) and Zander (1993: 310) treat this taxon as distinct, Redfearn et al. (1996: 248) reduced this name to *Leptodontium flexifolium* (With.) Hampe.

However, Thériot (1932: 171) replaced *Leptodontium subfilesdens* Broth., which is a *hom. illeg.*, and gave the new name *Leptodontium handelii* Thér.

Zander (1972: 231) treated *Leptodontium subfilesdens* Broth. as identical with *Leptodontium flexifolium* (With.) Hampe, not citing *Leptodontium handelii* Thér.

Judging only from the figure in Chen (1941: 316, Abb. 79: 4-8), which is not the lectotype selected by Zander (1972: 231), the reduction by Redfearn et al. (1996: 248) is quite correct.

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