

Nomenclatural rectifications in the moss genus *Lembophyllum* (Lembophyllaceae)

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Abstract – Author citation of four species names in *Lembophyllum* Lindb. is rectified. Their authorship was incorrectly ascribed to S.O. Lindberg because of the misinterpretation of citations using “ex” and “in”. The following names should correctly be ascribed to E.G. Paris who published them in 1896 in *Index bryologicus*: *Lembophyllum clandestinum* (Hook.f. et Wilson) Lindb. ex Paris, *L. cochlearifolium* (Schwägr.) Lindb. ex Paris, *L. divulgum* (Hook.f. et Wilson) Lindb. ex Paris and *L. vagum* (Hornsch. ex Müll.Hal.) Lindb. ex Paris. *Lembophyllum* sect. *Rigodiella* (E.B.Bartram) Ochyra et Bednarek-Ochyra, *comb. nov.* is the correct name for the superfluous sectional name *L. sect. Looseria* (Thér.) Tangney.

Bryophyta / citations using “ex” / citations using “in” / effective publication / *Index bryologicus* / nomenclature / priority / taxonomy

INTRODUCTION

Lembophyllum Lindb. is an oligotypic amphi-Pacific genus of pleurocarpous mosses occurring in the temperate regions in Australasia (New Zealand, Tasmania and Australia) and southern South America. It is a generitype of the Lembophyllaceae which is universally accepted as a distinct family, although its generic composition is subject to serious controversies. Depending on various studies, the number of genera placed in the *Lembophyllaceae* ranges from two to 13 (Brotherus, 1909, 1925; Buck & Vitt, 1986; Crum, 1991; Tangney, 1997a; Quandt *et al.*, 2009) and consequently the circumscription of this family is nondescript.

In contrast, the genus *Lembophyllum* is a sound and unanimously accepted genus which is diagnosed by a sympodial, dendroid-stipitate and weft-forming growth form; julaceous branches; very wide, suborbicular and cochleariform leaves with obtuse and cucullate apices; a variable costa, being either weak, double and ceasing below mid-leaf, sometimes absent or single and strong and extending to the upper lamina where it is broad and becoming faint, or occasionally missing; laminal cells with incrassate walls and opaque lumina, rhombic to short-linear in mid-leaf; and alar cells forming a distinct, inflated group. If the circumscription of this genus does not pose any problems, there are some nomenclatural issues associated with the correct author citation for names of *Lembophyllum* species.

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BRIEF NOMENCLATURAL HISTORY OF *LEMBOPHYLLUM*

Lembophyllum was described by Lindberg (1872) in his well known paper on bryophytes of northeastern Asia which was effectively published in mid-January 1873 (Stafleu & Cowan, 1981). The genus was designated by its author as “antarcticum” because he placed in it four antipodal species known from Australia, Tasmania and New Zealand, which were then considered by Europeans as Antarctic regions. However, none of these species was given a name in *Lembophyllum* and they were listed under their original names in the then all-encompassing genus *Hypnum* Hedw. in which they had been described. In the original spelling these species were listed as follows: “*Hypnum vagum* Hornsch., *divulsum* H.-f. W., *clandestinum* H.-f. W., *cochlearifolium* Schwaegr.” In the current nomenclature they are known as *Hypnum vagum* Hornsch. ex Müll.Hal., *H. divulsum* Hook.f. et Wilson, *H. clandestinum* Hook.f. et Wilson and *H. cochlearifolium* Schwägr. Lindberg (1872) also suggested other species which should be placed in his newly established genus (“et aff[ines].”) but he failed to list them.

Initially, *Lembophyllum* was not widely accepted as a separate genus and, for example, Mitten (1882) placed all its species in *Porotrichum* (Brid.) Hampe. Later, species originally positioned in *Lembophyllum* by Lindberg (1872) were transferred by Paris (1894a, b) to the genus *Coelidium* Reichardt. However, Paris (1896a, b) soon found that this name is a “nomen jam abusus” [= the name incorrectly used] because it is a later and illegitimate homonym of *Coelidium* Vogel ex Walp. of 1840 (Fabaceae). Therefore he moved all the species he had previously positioned in *Coelidium* to *Lembophyllum*. Since then this generic name has gained wide acceptance, which was consolidated by Brotherus (1909, 1925) who used it in the two editions of the treatment of the Musci in the “Die Natürlichen Pflanzenfamilien” series. A taxonomic history of *Lembophyllum* was presented in greater detail by Tangney (1997a) who accepted it as a genus consisting of three species, including two from Australasia and one from southern South America.

VALID PUBLICATION OF THE *LEMBOPHYLLUM* BINOMIALS

Paris (1896a, b) ascribed four species names which had originally been placed in the protologue of *Lembophyllum* to S.O. Lindberg and this usage has generally been accepted in muscology (e.g. Brotherus, 1909, 1925; Dixon, 1927; Wijk *et al.*, 1964; Streimann & Curnow, 1989; Fife, 1995; Tangney, 1997a; Streimann & Klanzenga, 2002). Only occasionally E.G. Paris is indicated as the author of the *Lembophyllum* binomials (e.g. Scott & Stone, 1976; Beever *et al.*, 1992). However, in this case Lindberg should be considered merely as an “honorary” author of these new combinations (Turland, 2013) having nothing in common with the authorship of *Index bryologicus*. Paris (1896a, b) simply felt that some credit was due to Lindberg for the placement of these species in *Lembophyllum*, even though he failed to formally make the relevant new combinations. Therefore, Lindberg as the “honorary” author must be separated from Paris, i.e. the actual author of the new combinations with “ex”. Accordingly, the following names in *Lembophyllum* should be ascribed to “Lindb. ex Paris” or simply to “Paris”.

The first edition of *Index bryologicus* is a compilation of 17 articles which were originally published separately in *Actes de la Société Linnéenne de Bordeaux* from May 1894 to May 1898, each with a separate journal pagination. The compilation was published in five parts with consecutive pagination, usually several months after the original publication (Stafleu & Cowan, 1983). It is generally accepted that numerous nomenclatural novelties proposed in this opus are ascribed to the compilation which is available as a single massive book. However, it may happen that considering only the compilation can be misleading (Lücking *et al.*, 2007). Therefore, the effective date and place of publication is given here (Paris, 1896a), along with the alternative bibliographic data from the compilation (Paris, 1896b). Names in bold face in the following list indicate the current taxonomic status of the species concerned.

Lembophyllum clandestinum (Hook.f. *et* Wilson) Lindb. *ex* Paris, *Actes Soc. Linn. Bordeaux* 50: 10. 1896 (May) and *Index Bryol.*: 718. 1896 (December)

Lembophyllum cochlearifolium (Schwägr.) Lindb. *ex* Paris, *Actes Soc. Linn. Bordeaux* 50: 10. 1896 (May) and *Index Bryol.*: 718. 1896 (December) ≡ ***Weymouthia cochlearifolia*** (Schwägr.) Dixon

Lembophyllum divulgum (Hook.f. *et* Wilson) Lindb. *ex* Paris, *Actes Soc. Linn. Bordeaux* 50: 10. 1896 (May) and *Index Bryol.*: 718. 1896 (December)

Lembophyllum vagum (Hornsch. *ex* Müll.Hal.) Lindb. *ex* Paris, *Actes Soc. Linn. Bordeaux* 50: 10. 1896 (May) and *Index Bryol.*: 718. 1896 (December) ≡ *Camptochaete vaga* (Hornsch. *ex* Müll. Hal.) Broth. [= ***C. excavata*** (Taylor) A.Jaeger, *vide* Tangney, 1997b: p. 102]

CORRECT NAME FOR A SECTION OF LEMBOPHYLLUM

Lembophyllum was recently re-circumscribed by Tangney (1997a) who selected *L. clandestinum* as its generic type. He expanded the concept of the genus and, apart from two Australasian species, he also included *L. orbiculatum* (Thér.) Tangney from southern South America in the genus. This species was originally described as *Weymouthia orbiculata* Thér., which was placed in a separate subgenus, *Weymouthia* Broth. subg. *Looseria* Thér. (Thériot, 1934). Tangney (1997a) recognised a separate section for this species within *Lembophyllum*, *L. sect. Looseria* (Thér.) Tangney, reducing its subgeneric rank to a sectional one. Alas, it was redundant because a sectional name already existed for this taxon, having priority under the provision of Article 11.2 of the Mebourne Code (McNeill *et al.*, 2012). It is *Camptochaete* Reichardt sect. *Rigodiella* E.B.Bartram in which Bartram (1946) placed *C. arbusculans* Broth. *ex* E.B.Bartram, a newly described species from Tierra del Fuego. This species was considered conspecific with *C. orbiculata* (Thér.) H.Rob. (Robinson, 1970) which was subsequently excluded from *Camptochaete* and transferred to *Lembophyllum* (Tangney, 1997a, b). Accordingly, the following nomenclatural change is necessary.

Lembophyllum Lindb. sect. ***Rigodiella*** (E.B.Bartram) Ochyra *et* Bednarek-Ochyra, *comb. nov.*

Basionym: *Camptochaete* Reichardt sect. *Rigodiella* E.B.Bartram, *Farlowia* 2: 316. 1946. Type species: *Lembophyllum arbusculans* Broth. *ex* E.B.Bartram [= *Lembophyllum orbiculatum* (Thér.) Tangney (≡ *Weymouthia orbiculata* Thér.)].

Weymouthia Broth. subg. *Looseria* Thér., *Rev. Bryol. Lichénol.* 7: 181. 1935 ≡ *Lembophyllum* Lindb. sect. *Looseria* (Thér.) Tangney, *J. Hattori Bot. Lab.* 81: 147. 1997 ≡ *Looseria* (Thér.) Quandt, Huttunen, Tangney & Stech, *Syst. Bot.* 34: 451. 2009, *syn. nov.* Type species: *Weymouthia orbiculata* Thér. [= *Lembophyllum orbiculatum* (Thér.) Tangney].

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