



## Notes on Early Land Plants Today. 20. New synonyms in *Gymnocoleopsis* (Cephaloziellaceae, Marchantiophyta)

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*Gymnocoleopsis multiflora* was shown, based on molecular analysis by de Roo *et al.* (2007) not to belong to Lophoziaceae, but rather to Cephaloziellaceae and was transferred there by Crandall-Stotler *et al.* (2009). This transfer is also supported by some morphological characteristics like the cross section of the seta which is similar to that of other species of Cephaloziellaceae.

*Gymnocoleopsis multiflora* is here reduced to the synonymy of *Gymnocoleopsis cylindrifformis*. The species are reputedly separated (according to Schuster 1995, 2002) on the basis of obscure and variable characters of the perianth (smooth and eplicate vs. obscurely plicate near mouth, perianth mouth cells short, 1-2.4:1 vs. strongly elongated) and the size of the cells in the seta (inner and epidermal cells virtually equal in diam. vs. inner cells clearly smaller than outer). However, in the type specimen of *Lophozia multiflora* the perianth is “smooth and almost eplicate” (cf. Schuster 1995: 132), the same as in African plants from Zaire. The length of the perianth mouth cells depends on the degree of maturity of the perianth. The size of the seta cells depends on the developmental stage of the seta and is not significant (cf. also Schuster 1995, fig. 1: 11, fig. 2: 3 and fig. 3: 11–12; Schuster 2002, fig. 320: 11 and fig. 321: 11–12).

Two additional new synonyms of *Gymnocoleopsis cylindrifformis* are *Gymnocolea andina* and *Lophozia brunnea*.

### Formal treatment

The format of this note follows what is outlined in Söderström *et al.* (2012).

***Gymnocoleopsis cylindrifformis* (Mitt.) R.M.Schust., J. Hattori Bot. Lab. 78: 126, 1995 (Schuster 1995).**

Basionym:—*Jungermannia cylindrifformis* Mitt., *J. Linn. Soc. Proc.* 15: 196, 1876 [1877] (Mitten 1877).

Type:—KERGUELEN IS. Royal Sound, *Eaton* (holotype NY, isotype BM!)

≡ *Lophozia cylindrifformis* (Mitt.) Steph., *Bull. Herb. Boissier ser. 2*, 1: 1145 (*Spec. Hepat. [Stephani]* 2: 143), 1901 (Stephani 1901)

≡ *Gymnocolea cylindrifformis* (Mitt.) Steere, *U. S. Nat. Acad. Sc. Publ.* 839: 45, 1961 (Steere 1961) *nom. inval.*, (Art. 33.4; basionym not cited); R.M.Schust., *Bryologist* 70: 112, 1967 (Schuster 1967).

= *Lophozia multiflora* Steph., *Biblioth. Bot.* 87: 187, 1916 (Herzog 1916), **syn. nov.** Type:—BOLIVIA. Lacus Tunari, 4400 m, May 1911, *Herzog 3432* (holotype G-67197! [=G-11058!]<sup>1</sup>, isotype JE!)

≡ *Gymnocolea multiflora* (Steph.) R.M.Schust., *Bryologist* 70: 111, 1967 (Schuster 1967)

1. Citation of specimens in G should preferably use the barcode (M. Price, pers. comm.) but for comparability the numbers printed on the specimen, which have often been cited by previous authors, are also given here in square brackets.

- ≡ *Gymnocoleopsis multiflora* (Steph.) R.M.Schust., *Phytologia* 39: 243, 1978 (Schuster 1978) “*multiflorus*”.
- = *Gymnocolea andina* Buchloh, *Nova Hedwigia* 3: 515, 1961 (Buchloh 1961), **syn. nov.** Type:—PERU. Ausangate, *Distichia*-Moor zwischen *Distichia muscoides*, bei 4600 m, *Rauh* (holotype KR, isotype JE!).
- = *Lophozia brunnea* R.M.Schust., *Beih. Nova Hedwigia* 119: 282, 2002 (Schuster 2002) *nom. inval.* (Art. 36.1; no Latin description), **syn. nov.** Original material:—VENEZUELA. Dist. Rangel: Sierra de Sto. Domingo, Páramo de Mucubaji. 3600 m, *R.M. Schuster* 76-836c. Note:—Although we have not been able to study authentic material, we are convinced from Schuster’s (2002) description and illustration that this belongs to *Gymnocoleopsis cylindriformis*.

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