



Notes on Early Land Plants Today. 41. New combinations and synonyms in Cephaloziaceae (Marchantiophyta)

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Vilnet *et al.* (2012) and Feldberg *et al.* (2013) demonstrated that *Cephalozia* in the sense it has been treated in recent years is polyphyletic (e.g. Váňa 1988). The genus as usually circumscribed falls into two clades. The clade with the type of *Cephalozia* also includes *Metahygrobiella* as demonstrated by Feldberg *et al.* (2013) without making any nomenclatural changes. The other clade was shown by both studies to include *Pleurocladula* and Vilnet *et al.* (2013) therefore transferred many of the taxa included in their study to *Pleurocladula*. As they also demonstrated that *Schofieldia* belongs to this clade, they should have used this name for the genus as it is two years older. A number of taxa not included in their phylogeny are morphologically related to their taxa and should also be transferred. Feldberg *et al.* (2013) showed that *Fuscocephaloziopsis* also belongs here. As this name predates both *Pleurocladula* and *Schofieldia*, we transfer *Pleurocladula* and some *Cephalozia* species to *Fuscocephaloziopsis*. It should be noted, however, that there still are some taxa in *Cephalozia* that have been insufficiently studied to place them in any of the two genera.

Vilnet *et al.* (2012) also demonstrated that *Cladopodiella* is nested within *Odontoschisma*, but they did not transfer any species. The two species are nested in different clades within the genus and a transfer is necessary unless *Odontoschisma* is split into several genera. In addition, *Iwatsukia jishibae* is nested within the genus. As the type of *Iwatsukia* Kitagawa (1964: 178) has not been included in any molecular study, a transfer of the genus cannot be done here.

In the checklist of Southern South America, Hässel de Menéndez & Rubies (2009) cited “*Cephaloziella magellanica* Gola”. However, Gola (1923) described the species under *Cephalozia* (Dumortier 1831: 60) Dumortier (1835: 18) and it has never been validly transferred to *Cephaloziella* (Spruce 1882: 23) Schiffner (1893: 98). Because of the existence of *Cephaloziella magellanica* Arnell (1955: 230), a transfer is not possible without changing name.

All Gola's types are in FI, but no specimen labelled *Cephalozia magellanica* can be found (C. Nepi, pers. comm.). However, there exists a specimen named *Cephalozia* sp. by Gola that corresponds well with the description (Fig. 1). We assume that Gola failed to properly annotate the specimen after describing *Cephalozia magellanica*. The study of this specimen (JV) shows that it belongs to *Cephalozia tubulata* (= *Metahygrobiella tubulata*), which M. Fulford already annotated on the specimen in 1975. She never published the synonymy, however, as she probably did not recognize that it was Gola's type specimen for *Cephalozia magellanica*.

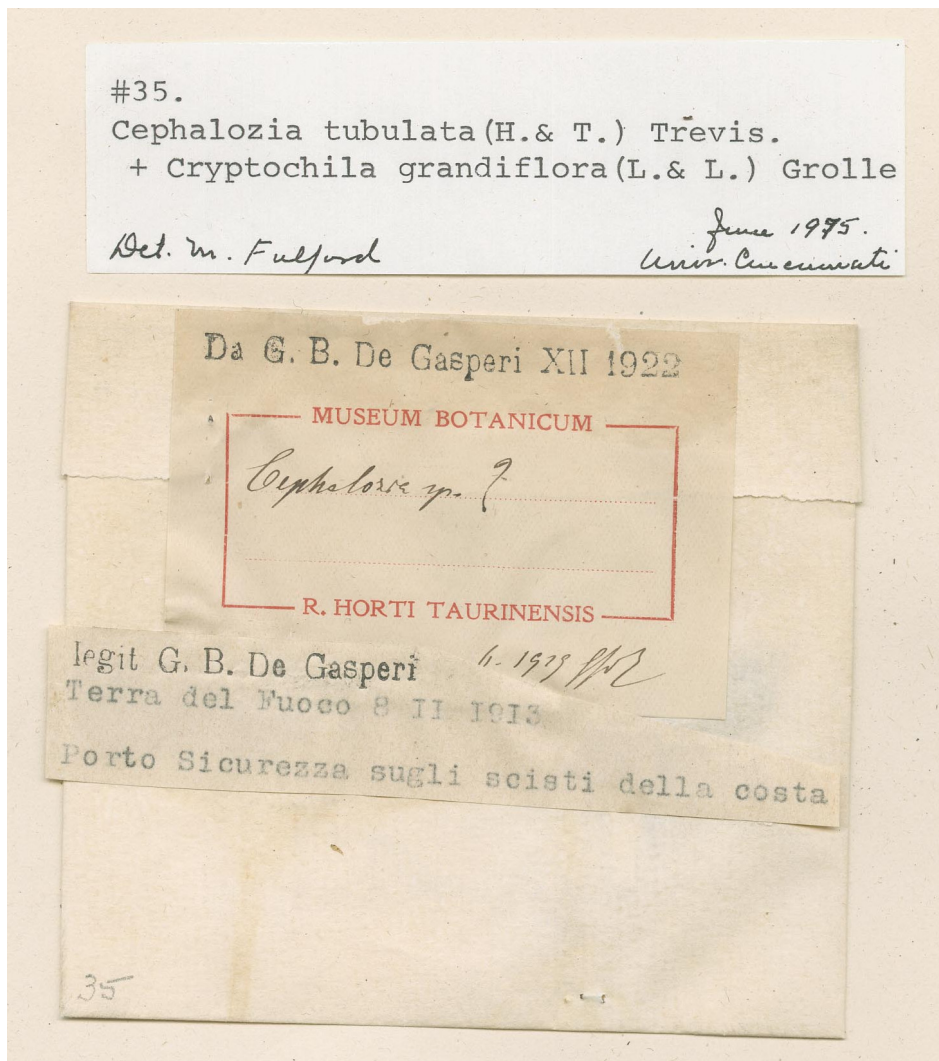


FIGURE 1. Label of the type of *Cephalozia tubulata* in FI.

Formal treatment

The format of this note follows what is outlined in Söderström *et al.* (2012) except that we use the Melbourne code of nomenclature (ICN; McNeill *et al.* 2012) instead of the Vienna code (ICBN; McNeill *et al.* 2006)

Fuscocephaloziopsis Fulford, *Mem. New York Bot. Gard.* 11: 353, 1968 (Fulford 1968).

Type:—*Fuscocephaloziopsis pulvinata* (Steph.) Fulford.

= *Schofieldia* J.D.Godfrey, *Bryologist* 79: 314, 1976 (Godfrey 1976), *syn. nov.* Type:—*Schofieldia monticola* J.D.Godfrey.

= *Pleurocladula* Grolle, *J. Bryol.* 10: 269, 1979 (Grolle 1979), *syn. nov.* Type:—*Pleurocladula albescens* (Hook.) Grolle. ≡ *Pleuroclada* Spruce, *Cephalozia*: 77, 1882 (Spruce 1882), nom illeg. (ICN Art. 53.1; non *Pleurocladia* A.Braun 1856 [Phaeophyta]).

= *Cephalozia* subg. *Macrocephalozia* R.M.Schust., *Hepat. Anthocerotae N. Amer.* 3: 698, 1974), *syn. nov.* Type:—*Cephalozia pulvinata* (Steph.) R.M.Schust.

= *Cephalozia* sect. *Pachycaulis* R.M.Schust., *Bryologist* 96: 623, 1993 (Schuster 1993), *syn. nov.* Type:—*Cephalozia pachycaulis* R.M.Schust.

= *Cephalozia* sect. *Catenulatae* R.M.Schust., *Hepat. Anthocerotae N. Amer.* 3: 736, 1974 (Schuster 1974), *syn. nov.* Type:—*Cephalozia catenulata* (Huebener) Lindb.

= *Cephalozia* sect. *Lunulifoliae* R.M.Schust., *Hepat. Anthocerotae N. Amer.* 3: 768, 1974 (Schuster 1974), *syn. nov.* Type:—*Cephalozia lunulifolia* (Dumort.) Dumort.

= *Cephalozia* sect. *Haplocephalozia* R.M.Schust., *Hepat. Anthocerotae N. Amer.* 3: 700, 1974 (Schuster 1974), **syn. nov.**
Type:—*Cephalozia uniloba* N.Kitag. (= *Fuscocephalozia leucantha* (Spruce) Váňa et L.Söderstr.).

Fuscocephalozia affinis (Lindb. ex Steph.) Váňa et L.Söderstr., *comb. nov.*

Basionym:—*Cephalozia affinis* Lindb. ex Steph., *Bull. Herb. Boissier ser. 2*, 8: 277 (*Spec. Hep.* 3: 291), 1908 (Stephani 1908a).

Type:—FINLAND. Nyland: in trunco putrido, 2 July 1877, *S. O. Lindberg* (lectotype [here designated] G-00282732!, isotype H-SOL!).

≡ *Pleurocladula affinis* (Lindb. ex Steph.) Konstant., Vilnet et A.V.Troitsky, *Arctoa* 21: 125, 2012 (Vilnet *et al.* 2012).

Fuscocephalozia africana (Váňa) Váňa et L.Söderstr., *comb. nov.*

Basionym:—*Cephalozia africana* Váňa, *Beih. Nova Hedwigia* 90: 187, 1988 (Váňa 1988).

Type:—RWANDA. Préfecture de Gikongoro: près de la commune Rugera, 2300 m, marais de la vallée de la Birara, dans un fourré d'*Erica rugegensis*, sur le sol, 7 September 1974, *J.-L. De Sloover 19.161* (holotype PRC!, isotype NAM!).

Fuscocephalozia albescens (Hook.) Váňa et L.Söderstr., *comb. nov.*

Basionym:—*Jungermannia albescens* Hook., *Brit. Jungerm.*: pl. 72, 1815 (Hooker 1815).

Type:—UNITED KINGDOM. Scotland: summit of Ben Nevis (BM, S).

≡ *Pleurocladula albescens* (Hook) Grolle, *J. Bryol.* 10: 269, 1979 (Grolle 1979).

Fuscocephalozia albescens* var. *islandica (Nees) Váňa et L.Söderstr., *comb. nov.*

Basionym:—*Jungermannia islandica* Nees, *Naturgesch. Eur. Leberm.* 2: 29, 1836 (Nees 1836).

Type:—ICELAND. *Hornschuch* (lectotype [Grolle 1976] STR).

≡ *Pleurocladula albescens* var. *islandica* (Nees) L.Söderstr. et Váňa, *Lindbergia* 27: 43, 2002 (Söderström *et al.* 2002).

Note:—The combination also creates the autonym.

Fuscocephalozia baldwinii (C.M.Cooke) Váňa et L.Söderstr., *comb. nov.*

Basionym:—*Cephalozia baldwinii* C.M.Cooke, *Trans. Connecticut Acad. Arts* 12: 35, 1904 (Cooke 1904).

Type:—HAWAII. West Maui, *Baldwin* (lectotype [here designated] BISH!).

Fuscocephalozia catenulata (Huebener) Váňa et L.Söderstr., *comb. nov.*

Basionym:—*Jungermannia catenulata* Huebener, *Hepaticol. Germ.*: 169, 1834 (Hübener 1834).

Type:—FRANCE. Alsace: Vogesen bei Hambach (lectotype [Schiffner 1914] STR [Hb. Nees], isolectotype BP).

≡ *Pleurocladula catenulata* (Huebener) Konstant., Vilnet et A.V.Troitsky, *Arctoa* 21: 125, 2012 (Vilnet *et al.* 2012).

Fuscocephalozia catenulata* subsp. *nipponica (S.Hatt.) Váňa et L.Söderstr., *comb. nov.*

Basionym:—*Cephalozia nipponica* S.Hatt., *Bull. Tokyo Sci. Mus.* 11: 74, 1944 (Hattori 1944).

Type:—JAPAN. Kyushu: Hyuga Pref., Minaminaka-gun, Sakatani-mura, April 1941, *Hattori* 8828 (holotype TNS-174368!).

Note:—The combination also creates the autonym.

Fuscocephalozia connivens (Dicks.) Váňa et L.Söderstr., *comb. nov.*

Basionym:—*Jungermannia connivens* Dicks., *Fasc. Pl. Crypt. Brit.* 4: 19, 1801 (Dickson 1801).

Type:—UNITED KINGDOM. in umbrosis humidis (BM).

≡ *Pleurocladula connivens* (Dicks.) Konstant., Vilnet et A.V.Troitsky, *Arctoa* 21: 125, 2012 (Vilnet *et al.* 2012).

Fuscocephalozia connivens* subsp. *fissa (Steph.) Váňa et L.Söderstr., *comb. nov.*

Basionym:—*Cephalozia fissa* Steph., *Hedwigia* 30: 204, 1891 (Stephani 1891).

Type:—CAMEROON. Ekundu Ndiae, 22 August 1890, *P. Dusén 68*, Herb. Stephani no. 18515 (lectotype [Bonner 1963] G-00045138!, isolectotype S!).

Fuscocephalozia connivens* subsp. *sandwicensis (Mont.) Váňa et L.Söderstr., *comb. nov.*

Basionym:—*Jungermannia sandwicensis* Mont., *Ann. Sci. Nat. Bot. (ser. 2)* 19: 249, 1843 (Montagne 1843).

Type:—HAWAII. s. loc. spec., *C. Gaudichaud* (syntypes PC, G-00114856! [=Herb. Stephani no. 18516])
≡ *Cephalozia connivens* subsp. *sandwicensis* (Mont.) Váňa, *Beih. Nova Hedwigia* 90: 195, 1988 (Váňa 1988).
Note:—The two subspecies above also create the autonym.

Fuscocephaloziopsis crassifolia (Lindenb. et Gottsche) Váňa et L.Söderstr., *comb. nov.*

Basionym:—*Jungermannia crassifolia* Lindenb. et Gottsche, *Syn. Hepat.* 5: 685, 1847 (Gottsche *et al.* 1847).
Type:—MEXICO. Oaxaca: Tepinapa, 2000-2500 ft., *F. M. Liebmann* (isotypes BM!, G, S!).
≡ *Cephalozia crassifolia* (Lindenb. et Gottsche) Fulford, *Mem. New York Bot. Gard.* 11: 312, 1968 (Fulford 1968).

Fuscocephaloziopsis gollanii (Steph.) Váňa et L.Söderstr., *comb. nov.*

Basionym:—*Cephalozia gollanii* Steph., *Bull. Herb. Boissier ser. 2*, 8: 428 (*Spec. Hep.* 3: 304), 1908 (Stephani 1908b).
Type:—INDIA. West Bengal: Darjeeling, Senchal Range, 8000 ft., 29 October 1900 A. C. Hartless, ex herb. Levier 3258
(lectotype [Kitagawa 1969: 291] G-00061122! [=Stephani herb. no. 13501], isotype FI!).

Fuscocephaloziopsis leucantha (Spruce) Váňa et L.Söderstr., *comb. nov.*

Basionym:—*Cephalozia leucantha* Spruce, *Cephalozia*: 68, 1882 (Spruce 1882).
Type:—CZECH REPUBLIC. Riesengebirge, bei St. Peter [= Krkonoše Mts., near Sv. Petr], August 1871 K. G. Limpricht
(lectotype [here designated] BP!, isoelectotype MANCH).
≡ *Pleurocladula leucantha* (Spruce) Konstant., Vilnet et A.V.Troitsky, *Arctoa* 21: 125, 2012 (Vilnet *et al.* 2012).

Fuscocephaloziopsis loitlesbergeri (Schiffn.) Váňa et L.Söderstr., *comb. nov.*

Basionym:—*Cephalozia loitlesbergeri* Schiffn., *Österr. Bot. Z.* 62: 10, 1912 (Schiffner 1912).
Type:—AUSTRIA. Oberösterreich: bei Gmunden, 900 m, August 1895, *Loitlesberger* (Schiffn. *Hep. Europ. Exs. no.*
543. Wien. 1913) (lectotype [here designated] FH!, isoelectotype BP!, BRNU!, C!, JE!, PR!).
≡ *Pleurocladula loitlesbergeri* (Schiffn.) Konstant., Vilnet et A.V.Troitsky, *Arctoa* 21: 125, 2012 (Vilnet *et al.* 2012).

Fuscocephaloziopsis lunulifolia (Dumort.) Váňa et L.Söderstr., *comb. nov.*

Basionym:—*Jungermannia lunulifolia* Dumort., *Syll. Jungerm. Europ.*: 61, 1831 (Dumortier 1831).
Type:—FRANCE. Dép. Vosges [Lorraine]: Bruyères, *Mougeot, Nestler & Schimper, Stirpes Crypt. Vogeso-Rhen. no 432*
(Lectotype [Grolle 1967] BR [no 432/e], isoelectotype GL, HAL, JE, W).
≡ *Pleurocladula lunulifolia* (Dumort.) Konstant., Vilnet et A.V.Troitsky, *Arctoa* 21: 125, 2012 (Vilnet *et al.* 2012).

Fuscocephaloziopsis macrostachya (Kaal.) Váňa et L.Söderstr., *comb. nov.*

Basionym:—*Cephalozia macrostachya* Kaal., *Rev. Bryol.* 29: 8, 1902 (Kaalaas 1902).
Type:—NORWAY. Ramholmen, Glemminge, April 1901, *Ryan* (Schiffn. *Hep. Europ. Exs. no 545. Wien. 1913*)
(lectotype [here designated] FH!, isoelectotypes BP!, BRNU!, C!, JE!, PR!, PRC!, O).
≡ *Pleurocladula macrostachya* (Kaal.) Konstant., Vilnet et A.V.Troitsky, *Arctoa* 21: 125, 2012 (Vilnet *et al.* 2012).

Fuscocephaloziopsis macrostachya* subsp. *australis (R.M.Schust.) Váňa et L.Söderstr., *comb. nov.*

Basionym:—*Cephalozia macrostachya* subsp. *australis* R.M.Schust., *Hepat. Anthocerotae N. Amer.* 3: 754, 1974
(Schuster 1974).
Type:—USA. North Carolina: Macoun Co., cliff faces at the mouth of the "Narrows" of Chattooga R., just west of Bull
Pen Mt., ca. 2-2.2 miles north of the Georgia state line, at 2500 feet, *R.M. Schuster & V. Bryan 39400* (holotype F-
2142345).
Note:—This subspecies also creates the autonym.

Fuscocephaloziopsis macrostachya* var. *spiniflora (Schiffn.) Váňa et L.Söderstr., *comb. nov.*

Basionym:—*Cephalozia spiniflora* Schiffn., *Hedwigia* 34: 323, 1914 (Schiffner 1914).
Type:—GERMANY. Pomerania, Koppelsberg, 90 m., 15 September 1912, *F. Hintze*, (Schiffn., *Hep. Europ. Exs. no.*
568) (lectotype [here designated] FH!, many isoelectotypes, cf. G, PR!, S!).
Note:—This variety also creates the autonym. Damsholt (2011) argues that the variety may be a sterile hybrid between
Fuscocephaloziopsis lunulifolia and *Fuscocephaloziopsis macrostachya* but this remains to be tested.

Fuscocephaloziopsis monticola (J.D.Godfrey) Váňa et L.Söderstr., *comb. nov.*

Basionym:—*Schofieldia monticola* J.D.Godfrey, *Bryologist* 79: 315, 1976 (Godfrey 1976).

Type:—USA. Washington: Whatcom Co., Mt. Baker Nat. Forest, heather meadows of Austin Pass, *Godfrey 3330* (holotype UBC).

≡ *Pleurocladula monticola* (J.D.Godfrey) Konstant., Vilnet et A.V.Troitsky, *Arctoa* 21: 125, 2012 (Vilnet *et al.* 2012).

Fuscocephaloziopsis pachycaulis (R.M.Schust.) Váňa et L.Söderstr., *comb. nov.*

Basionym:—*Cephalozia pachycaulis* R.M.Schust., *Bryologist* 96: 623, 1993 (Schuster 1993).

Type:—USA. Alaska: Archangel Valley, near Archer Pass, N W of Palmer, *R.M. Schuster & N. Konstantinova 92-336* (holotype F).

≡ *Pleurocladula pachycaulis* (R.M.Schust.) Konstant., Vilnet et A.V.Troitsky, *Arctoa* 21: 125, 2012 (Vilnet *et al.* 2012).

Fuscocephaloziopsis pleniceps (Austin) Váňa et L.Söderstr., *comb. nov.*

Basionym:—*Jungermannia pleniceps* Austin, *Proc. Acad. Nat. Sci. Philadelphia* 21: 222 1869 [1870] (Austin 1870).

Type:—USA. New Hampshire: White Mountains, *Oakes*.

≡ *Pleurocladula pleniceps* (Austin) Konstant., Vilnet et A.V.Troitsky, *Arctoa* 21: 125, 2012 (Vilnet *et al.* 2012).

Fuscocephaloziopsis pleniceps var. caroliniana (R.M.Schust.) Váňa et L.Söderstr., *comb. nov.*

Basionym:—*Cephalozia pleniceps var. caroliniana* R.M.Schust., *Hepat. Anthocerotae N. Amer.* 3: 780, 1974 (Schuster 1974).

Type:—USA. North Carolina: along Davidson R., in gorge just above Looking Glass Falls, north of Brevard, *R.M. Schuster 61245* (holotype F-1825694).

Note:—This variety also creates the autonym.

Fuscocephaloziopsis zoopsioides (Horik.) Váňa et L.Söderstr., *comb. nov.*

Basionym:—*Cephalozia zoopsioides* Horik., *J. Sci. Hiroshima Univ., Ser. B., Div. 2, Bot.* 2: 178, 1934 (Horikawa 1934).

Type:—JAPAN. Kagoshima Pref.: Ins. Yakushima, Kosugidani-Wilsonkabu, July 1933, *Y. Horikawa 11815* (holotype HIRO!)

Cephalozia (Dumort.) Dumort., *Recueil Observ. Jungerm.*: 18, 1835 (Dumortier 1835).

Basionym:—*Jungermannia* sect. *Cephalozia* Dumort., *Syll. Jungerm. Europ.*: 60, 1831 (Dumortier 1831).

Type:—*Jungermannia bicuspidata* L. (≡ *Cephalozia bicuspidata* (L.) Dumort.)

= *Cephalozia* (Dumort.) Dumort. subg. *Eocephalozia* R.M.Schust. ex J.J.Engel, *Novon* 17: 312, 2007 (Engel 2007), *syn. nov.* Type:—*Cephalozia badia* (Gottsche) Steph.

= *Metahygrobiella* R.M.Schust., *Bryologist* 64: 205, 1961 (Schuster 1961), *syn. nov.* Type:—*Metahygrobiella acuminata* (Herzog.) R.M.Schust.

= *Metahygrobiella* subg. *Apothygrobiella* R.M.Schust. ex Váňa, *Phytotaxa* 76: 34, 2013 (Váňa *et al.* 2013), *syn. nov.* Type:—*Metahygrobiella macgregorii* (Steph.) R.M.Schust.

= *Metahygrobiella* subg. *Pterocephalozia* (N.Kitag.) Grolle, *J. Hattori Bot. Lab.* 55: 508, 1984 (Grolle 1984).

Basionym:—*Hygrobiella* subg. *Pterocephalozia* N.Kitag., *Misc. Bryol. Lichenol.* 9: 72, 1982 (Kitagawa 1982).

Type:—*Hygrobiella nishimurae* N.Kitag.

Cephalozia acuminata (Herzog) Váňa, *comb. nov.*

Basionym:—*Hygrobiella acuminata* Herzog, *Trans. Brit. Bryol. Soc.* 1:292, 1950 (Herzog 1950).

Type:—MALAYSIA. Sarawak: Dulit Ridge, c. 1230 m, *Richards 2056 pp.* (lectotype [**here designated**] JE!)

≡ *Metahygrobiella acuminata* (Herzog) R.M.Schust., *Bryologist* 64: 205, 1961 (Schuster 1961).

Cephalozia acutiloba (Inoue) Váňa, *comb. nov.*

Basionym:—*Metahygrobiella acutiloba* Inoue, *Bull. Natl. Sci. Mus. Tokyo, n.s.* 10: 155, 1967 (Inoue 1967).

Type:—MALAYSIA. Pahang: Gunung Brinchang, Cameron Highlands, ca.6600 ft., *Inoue 11213* (holotype TNS!)

Cephalozia drucei (R.M.Schust.) Váňa, *comb. nov.*

Basionym:—*Metahygrobiella drucei* R.M.Schust., *J. Hattori Bot. Lab.* 26: 273, 1963 (Schuster 1963).

Type:—NEW ZEALAND. North Island: West Peak, Mt. Hector, 4500 ft., *R.M. Schuster 60444* (holotype F).

***Cephalozia fuegiensis* Váňa, nom. nov.**

≡ *Hygrobrella dusenii* Steph., *Spec. Hepat. (Stephani)* 6: 444, 1924 (Stephani 1924).

Type:—CHILE. Tierra del Fuego: Rio Azopardo, 29 February 1896, *Dusén 44*, Herb. Stephani no. 753 (lectotype [Schuster 1964] G-00069519).

≡ *Metahygrobrella dusenii* (Steph.) R.M.Schust., *Nova Hedwigia* 8: 219, 1964 (Schuster 1964).

Blocking name:—*Cephalozia dusenii* (Steph.) Steph., *Bull. Herb. Boissier ser. 2*, 8: 504 (*Sp. Hepat. [Stephani]* 3: 334), 1908 (Stephani 1908c).

***Cephalozia macgregorii* (Steph.) Váňa, comb. nov.**

Basionym:—*Hygrobrella macgregorii* Steph., *Hedwigia* 34: 45, 1895 (Stephani 1895).

Type:—PAPUA NEW GUINEA. Northern Distr.: Mt. Suckling, *Macgregor*, Herb. Stephani no. 3712 (lectotype [Piippo 1984] G-00069518).

≡ *Metahygrobrella macgregorii* (Steph.) R.M.Schust., *Bryologist* 64: 206, 1961 (Schuster 1961).

***Cephalozia mollusca* (De Not.) Váňa, comb. nov.**

Basionym:—*Jungermannia mollusca* De Not., *Epat. Borneo*: 16, 1874 (De Notaris 1894).

Type:—MALAYSIA. Sarawak: Mt. Linga, 1867, *O. Beccari 55* (lectotype FI-2799!, isotypes JE, PC-103103).

≡ *Metahygrobrella mollusca* (De Not.) R.M.Schust., *Bryologist* 64: 206, 1961 (Schuster 1961).

***Cephalozia nishimurae* (N.Kitag.) Váňa, comb. nov.**

Basionym:—*Hygrobrella nishimurae* N.Kitag., *Misc. Bryol. Lichenol.* 9: 69, 1982 (Kitagawa 1982).

Type:—JAPAN. Kyushu: Oita, Sasano, Kamituemura, Hita-gun, 600 m, *Nishimura 8459* (holotype KYO, isotypes HIRO, NICH, TNS).

≡ *Metahygrobrella nishimurae* (N.Kitag.) Grolle, *J. Hattori Bot. Lab.* 55: 508, 1984 (Grolle 1984).

***Cephalozia stolonacea* (Herzog) Váňa, comb. nov.**

Basionym:—*Hygrobrella stolonacea* Herzog, *Trans. Brit. Bryol. Soc.* 1: 293, 1950 (Herzog 1950).

Type:—MALAYSIA. Sarawak: Dulit Ridge, c. 1320 m, *Richards 1947* (holotype JE!).

≡ *Metahygrobrella stolonacea* (Herzog) R.M.Schust., *Bryologist* 64: 206, 1961 (Schuster 1961).

***Cephalozia tubulata* (Hook.f. et Taylor) Trevis., *Mem. Reale Ist. Lombardo Sci., Ser. 3, C. Sci. Mat.* 4: 417, 1877 (Trevisan 1877).**

Basionym:—*Jungermannia tubulata* Hook.f. et Taylor, *London. J. Bot.* 3: 463, 1844 (Hooker & Taylor 1844).

≡ *Metahygrobrella tubulata* (Hook.f. et Taylor) R.M.Schust. ex J.J.Engel, *Bryologist* 79: 514, 1976 (Engel 1976).

= *Cephalozia magellanica* Gola, *Nuovo Giorn. Bot. Ital.* 29: 168, 1922 [1923] (Gola 1923), **syn. nov.** Type:—CHILE. Tierra del Fuego: Porto Sicurezza sugli scisti della costa, *De Gasperi* (lectotype [here designated] FI!; Fig. 1).

***Odontoschisma* (Dumort.) Dumort., *Recueil Observ. Jungerm.*: 19, 1835 (Dumortier 1835).**

Basionym:—*Pleuroschisma* sect. *Odontoschisma* Dumort., *Syll. Jungerm. Europ.*: 68 (Dumortier 1831).

= *Cladopodiella* H.Buch, *Memoranda Soc. Fauna Fl. Fenn.* 1: 89, 1927 (Buch 1927), **syn. nov.**

***Odontoschisma fluitans* (Nees) L.Söderstr. et Váňa, comb. nov.**

Basionym:—*Jungermannia fluitans* Nees, *Krypt. Gew. Fichtelgebirgs*: 593, 1823 (Funck 1823).

Type:—CZECH REPUBLIC, Riesengebirge, Schneekoppe, *Funck* (lectotype [Grolle 1976] STR! [sub *Jung. inflata*], isotypes JE, S, TO, BUC!, PRC!).

≡ *Cladopodiella fluitans* (Nees) Jørg., *Bergens Mus. Skr. n.s.* 16: 276, 1934 (Jørgensen 1934).

***Odontoschisma francisci* (Hook.) L.Söderstr. et Váňa, comb. nov.**

Basionym:—*Jungermannia francisci* Hook., *Brit. Jungerm.*: pl. 49, 1816 (Hooker 1816).

Type:—UNITED KINGDOM. New Forest, 1812, *Lyell* (lectotype [here designated] BM-001146107!).

≡ *Cladopodiella francisci* (Hook.) Jørg., *Bergens Mus. Skr. n.s.* 16: 274, 1934 (Jørgensen 1934).

Odontoschisma jishibae (Steph.) L.Söderstr. et Váňa, *comb. nov.*

Basionym:—*Cephalozia jishibae* Steph., *Sp. Hepat. (Stephani)* 6: 437, 1924 (Stephani 1924).

Type:—JAPAN. Mont Yaku, Shinano, 26 July 1908, *Jishiba*, Herb. Stephani no. 10725 (lectotype [Grolle 1965] G-00061127!).

≡ *Iwatsukia jishibae* (Steph.) N.Kitag., *Acta Phytotax. Geobot.* 21: 114, 1965 (Kitagawa 1965).

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References

- Arnell, S. (1955) Hepaticae of Chile and Argentina collected by R. Santesson. *Svensk Botanisk Tidskrift* 49: 229–237.
- Austin, C.F. (1870 “1869”) Characters of some new Hepaticae (mostly North American) together with notes on a few imperfectly described species. *Proceedings of the Academy of Natural Sciences of Philadelphia* 21: 218–234.
<http://dx.doi.org/10.5962/bhl.title.40659>
- Buch, H. (1927) *Cladopodiella* statt *Cladopus*. *Memoranda societatis pro fauna et flora fennica* 1: 89–90.
- Cooke, C.M. (1904) The Hawaiian Hepaticae of the tribe Trigonantheae. *Transactions of the Connecticut Academy of Arts and Sciences* 12: 1–45.
- Damsholt, K. (2011) *Cephalozia spiniflora* Schifffn. – en steril bastard? *Myrinia* 21: 55–59.
- De Notaris, G. (1874) *Epatiche di Borneo raccolte dal Dre O. Beccari nel Ragiato di Sarawak durante gli anni 1865-66-67*. Stamperia reale di G. B. Paravia E. C., Torino, 42 pp.
- Dickson, J. (1801) *Fasciculus quartus Plantarum Cryptogamicarum Britanniae*. G. Nichol, London, 28 pp.
<http://dx.doi.org/10.3366/jsbnh.1957.3.4.230>
- Dumortier, B.C. (1831) *Sylloge Jungermannidearum Europae indigenarum, earum genera et species systematice complectens*. J. Casterman, Tournay, 100 pp.
<http://dx.doi.org/10.5962/bhl.title.22343>
- Dumortier, B.C. (1835) *Recueil d'Observations sur les Jungermanniacées. I. Révision des genres*. J.-A. Blanquart, Tournay, 27 pp.
- Engel, J.J. (1976) Austral Hepaticae VI. Some new combinations of taxa from southern Chile. *The Bryologist* 79: 514–515.
- Engel, J.J. (2007): Studies of New Zealand Hepaticae. 20-38. A miscellanea of new taxa and combinations. *Novon* 17: 310-314.
[http://dx.doi.org/10.3417/1055-3177\(2007\)17\[310:sonzha\]2.0.co;2](http://dx.doi.org/10.3417/1055-3177(2007)17[310:sonzha]2.0.co;2)
- Feldberg, K., Heinrichs, J., Schmidt, A.R., Váňa, J. & Schneider, H. (2013) Exploring the impact of fossil constraints on the divergence time estimates of derived liverworts. *Plant Systematics and Evolution* 299: 585-601.
<http://dx.doi.org/10.1007/s00606-012-0745-y>
- Fulford, M. (1968) Manual of the leafy Hepaticae of Latin America III. *Memoirs of the New York Botanical Garden* 11: 277–392.
- Funck, H.C. (1823) *Kryptogamische Gewächse des Fichtelgebirgs, Fascicle 29, no. 586-605*. Leipzig, pp. 1–6.
- Godfrey, J.D. (1976) *Schofieldia*, a new Hepaticae from the Pacific Northwest. *Bryologist* 79: 314–320.
- Gola, G. (1923 “1922”) Le epatiche raccolte dal Dott. G.B. de Gasperi nella Terra del Fuoco sud-occidentale. *Nuovo Giornale Botanico Italiano* 29: 162–173.
- Gottsche, C.M., Lindenbergh, J.B.G. & Nees von Esenbeck, S.G. (1847) *Synopsis Hepaticarum, fasc. 5*. Meissner, Hamburg, pp. 625–834.
<http://dx.doi.org/10.5962/bhl.title.15221>
- Grolle, R. (1965) Miscellanea Hepaticologica 31-40. *Journal of the Hattori Botanical Laboratory* 28: 101–106.
- Grolle, R. (1967) Miscellanea hepaticologica 71-80. *Transactions of the British Bryological Society* 5: 271–282.
<http://dx.doi.org/10.1179/006813867804804179>

- Grolle, R. (1976) Verzeichnis der Lebermoose Europas und benachbarter Gebiete. *Feddes Repertorium* 87: 171–279.
<http://dx.doi.org/10.1002/fedr.4910870303>
- Grolle, R. (1979) Miscellanea Hepaticologica 171–180. *Journal of Bryology* 10: 263–272.
- Grolle, R. (1984) Miscellanea Hepaticologica 221–230. *Journal of the Hattori Botanical Laboratory* 55: 501–511.
- Hässel de Menéndez, G.G. & Rubies, M.F. (2009) Catalogue of Marchantiophyta and Anthocerotophyta of southern South America. *Beihefte zur Nova Hedwigia* 134: 1–672.
- Hattori, S. (1944) Contributio as Floram Hepaticarum Austro-Kiushiensem. *Bulletin of the Tokyo science museum* 11: 1–203.
- Herzog, T. (1950) Hepaticae borneenses (Oxford University expeditions to Sarawak, 1932). *Transactions of the British Bryological Society* 1: 275–326.
<http://dx.doi.org/10.1179/006813850804878680>
- Hooker, J.D. & Taylor, T. (1844) Hepaticae Antarcticae; being characters and brief descriptions of the Hepaticae discovered in the southern circumpolar regions during the voyage of H.M. Discovery ships Erebus and Terror. I. Species of Lord Auckland's and Campbell's Islands. *London Journal of Botany* 3: 366–400.
- Hooker, W.J. (1815) *British Jungermanniae: being a history and description, with figures, of each species of the genus, and microscopical analysis of the parts, vol. 18–19*. Longmans, London, pp. 69–76.
- Hooker, W.J. (1816) *British Jungermanniae: being a history and description, with figures, of each species of the genus, and microscopical analysis of the parts, vol. 20–22*. Longmans, London, pp. 77–84.
- Horikawa, Y. (1934) Monographia Hepaticarum Australi-Japonicarum. *Journal of Science of the Hiroshima University: Series B, Division 2 (Botany)* 2: 101–325.
- Hübener, J.W.P. (1834) *Hepaticologia Germanica oder Beschreibung der deutschen Lebermoose*. Schwann and Götz, Mannheim, 314 pp.
- Inoue, H. (1967) Three new hepatics from Malaya Peninsula. *Bulletin of the National Science Museum, n.s.* 10: 155–162.
- Jørgensen, E. (1934) Norges Levermossor. *Bergens Museums Skrifter, n.s.* 16: 1–343.
- Kaalaas, B. (1902) Cephaloziae species duae novae. *Revue Bryologique* 29: 8–10.
- Kitagawa, N. (1964) A new genus of Hepaticae from Borneo. *Journal of the Hattori Botanical Laboratory* 27: 178–182.
- Kitagawa, N. (1965) Cephalozioellaceae of Japan. *Acta Phytotaxonomica et Geobotanica* 21: 107–116.
- Kitagawa, N. (1969) Studies on the Hepaticae of Thailand. II. *Cephalozia* and *Cephalozioella*. *Journal of the Hattori Botanical Laboratory* 32: 290–306.
- Kitagawa, N. (1982) A remarkable new species of *Hygrobiella* from Japan. *Miscellanea Bryologica et Lichenologica* 9: 69–72.
- McNeill, J., Barrie, F.R., Buck, W.R., Demoulin, V., Greuter, W., Hawksworth, D.L., Herendeen, P.S., Knapp, S., Marhold, K., Prado, J., Prud'homme van Reine, W.F., Smith, G.F., Wiersema, J.H. & Turland, N.J. (2012) International Code of Nomenclature for algae, fungi and plants (Melbourne Code) adopted by the Eighteenth International Botanical Congress Melbourne, Australia, July 2011. *Regnum Vegetabile* 154: 1–240.
- McNeill, J., Barrie, F.R., Burdet, H.M., Demoulin, V., Hawksworth, D.L., Marhold, K., Nicolson, D.H., Prado, J., Silva, P.C., Skog, J.E., Wiersema, J.H. & Turland, N.J. (2006) International Code of Botanical Nomenclature (Vienna Code) adopted by the Seventeenth International Botanical Congress Vienna, Austria, July 2005. *Regnum Vegetabile* 146: 1–260.
- Montagne, J.F.C. (1843) Quatrième centurie de plantes cellulaires exotiques nouvelles, décades I–VI. *Annales des Sciences Naturelles, Botanique, ser. 2* 19: 238–266.
- Nees von Esenbeck, C.G. (1836) *Naturgeschichte der Europäischen Lebermoose mit besonderer Beziehung auf Schlesien und die Oertlichkeiten des Riesengebirgs, vol. 2*. Grass, Barth & Co., Berlin, 500 pp.
- Piippo, S. (1984) Bryophyte flora of the Huon Peninsula, Papua New Guinea. VI. Lepidoziaceae subfam. Lepidozioideae, Calypogeiaceae, Adelanthaceae, Cephalozioaceae subfam. Cephalozioideae and subfam. Odontoschismatoideae and Jubulaceae (Hepaticae). *Annales Botanici Fennici* 21: 309–335.
- Schiffner, V. (1893) Hepaticae (Lebermoose). In: Engler, A. & Prantl, K. (Ed), *Die Natürlichen Pflanzenfamilien, Teil. I, Abt. 3*. Engelmann, Leipzig, pp. 1–144.
- Schiffner, V. (1912) Bryologische Fragmente LXVI–LXXI. *Österreichische Botanische Zeitschrift* 62: 8–15.
<http://dx.doi.org/10.1007/bf01644055>
- Schiffner, V. (1914) *Cephalozia*-Studien. *Hedwigia* 54: 311–327.
- Schuster, R.M. (1961) Studies on Hepaticae. III.–VI. *Bryologist* 64: 198–208.
- Schuster, R.M. (1963) Studies on antipodal Hepaticae I. Annotated key to the genera of antipodal Hepaticae with special reference to New Zealand and Tasmania. *Journal of the Hattori Botanical Laboratory* 26: 185–309.
- Schuster, R.M. (1964) Studies on antipodal Hepaticae. XXI. Cephalozioaceae with particular reference to *Metahygrobiella* Schust. and *Cephalozia* Dumort. *Nova Hedwigia* 8: 211–223.
- Schuster, R.M. (1974) *The Hepaticae and Anthocerotae of North America. vol. III*. Columbia University Press, New York, 880 pp.
- Schuster, R.M. (1993) On *Cephalozia pachycaulis* sp. nov. and the perimeters of *Cephalozia*. *Bryologist* 96: 619–625.

- Söderström, L., Hagborg, A. & von Konrat, M. (2012) Notes on Early Land Plants Today. *Phytotaxa* 65: 41–42.
- Söderström, L., Urmí, E. & Váňa, J. (2002) Distribution of Hepaticae and Anthocerotae in Europe and Macaronesia. *Lindbergia* 27: 3–47.
- Spruce, R. (1882) *On Cephalozia, its subgenera and some allied genera*. Slater, Malton, 99 pp.
<http://dx.doi.org/10.5962/bhl.title.46289>
- Stephani, F. (1891) Hepaticae africanae. *Hedwigia* 30: 265–272.
- Stephani, F. (1895) Hepaticarum species novae VII. *Hedwigia* 34: 43–65.
- Stephani, F. (1908a) Species Hepaticarum 3. *Bulletin de l'Herbier Boissier, série 2* 8(4): 267–282.
- Stephani, F. (1908b) Species Hepaticarum 3. *Bulletin de l'Herbier Boissier, série 2* 8(6): 426–436.
- Stephani, F. (1908c) Species Hepaticarum 3. *Bulletin de l'Herbier Boissier, série 2* 8(7): 483–514.
- Stephani, F. (1924) *Species Hepaticarum* 6. George & Cie, Genève & Bale, pp. 433–622.
- Trevisan de Saint-Léon, V.B.A. (1877) Schema di una nuova classificazione della Epatiche. *Memorie del Reale Istituto Lombardo di Scienze e Lettere, Serie 3, Classe de Scienze Matematiche e Naturali* 4: 383–451.
- Váňa, J. (1988) *Cephalozia* (Dum.) Dum. in Africa, with notes on the genus (Notes on some African hepatic genera 10). *Beihefte zur Nova Hedwigia* 90: 179–198.
- Váňa, J., Söderström, L., Hagborg, A. & von Konrat, M. (2013) Notes on Early Land Plants Today. 16. Validation of *Metahygrobiella* subgen. *Apothygrobiella* (Cephaloziaceae, Marchantiophyta). *Phytotaxa* 76(3): 34.
<http://dx.doi.org/10.11646/phytotaxa.76.3.4>
- Vilnet, A.A., Konstantinova, N.A. & Troitsky, A.V. (2012) Molecular phylogeny and systematics of the suborder Cephaloziineae with special attention to the family Cephaloziaceae s.l. (Jungermanniales, Marchantiophyta). *Arctoa* 21: 113–132.