



Notes on Early Land Plants Today. 61. New synonyms and new combinations in Cephaloziaceae and Cephaloziellaceae (Marchantiophyta)

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Váňa *et al.* (2013) published some new combinations and synonyms of Cephaloziaceae and Cephaloziellaceae. In the present note some additional synonyms and combinations based on newly studied material, are presented.

Formal treatment

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

Cephalozia crossii Spruce, *Cephalozia*: 46, 1882 (Spruce 1882). Type:—COLOMBIA. Popayan, Andinum Bogotensium, 1877, *R. Cross* (holotype). Neotype (**designated here**):—ECUADOR. Napo province: Páramo Guamani along Quito-Baeza road, east side of Laguna Papallacta, 3500 m, on soil in disturbed mossy forest on steep slope, 12 October 1988, *S.R. Gradstein & J.-P. Frahm 6931* (U!, neotype; COL, GOET [<http://www.uni-goettingen.de/de/herbarium-goet/157034.html>], PRC!, isoneotypes). The original specimen probably does not exist (missing in BM, MANCH, NY). Based on this, a neotype is designated here. The proposed neotype (c. per.) agrees well with the short original description (Spruce 1882: 46).

= *Cephalozia venezuelana* R.M.Schust., *Phytologia* 39: 425, 1978 (Schuster 1978) **syn. nov.** Type:—VENEZUELA. Merida: Sierra Nevada de Merida, *R. M. Schuster & L. Ruiz-Terán 76-1472a*. (F!, holotype).

Cephalozia hamatiloba Steph., *Bull. Herb. Boissier ser. 2, 8 (Sp. Hepat. 3)*: 427 (303), 1908 (Stephani 1908a). Type:—JAPAN. Yakushima, *U. Faurie 878* (G! holotype).

= *Cephalozia udarii* D.Kumar, *J. Indian Bot. Soc.* 66: 170, 1987 (Kumar 1987), **syn. nov.** (based on description and drawings). Type:—INDIA. Uttaranchal: Garwhal Himalayas, Valley of Flowers, 21 May 1980, *S.C.Srivastava, D.Kumar; D.K.Singh* (LWU 4157, holotype).

Cephaloziella pygmaea (Spruce) Váňa, **comb. nov.** Basionym:—*Cephalozia pygmaea* Spruce, *Cephalozia*: 69, 1882 (Spruce 1882). Type:—PERU. Mt. Campana, November 1855, *Spruce* (holotype). Note:—The type specimen probably does not exist (missing in BM, MANCH, NY). The original description is relatively short and according to this is very difficult to select the neotype in such complicated genus as *Cephaloziella*. Possibly the specimen may be identical with *C. granatensis* (Stephani 1908b: 500) Fulford (1976:411). Spruce also describe var. *spinuliflora* Spruce (1882: 70) but the information on this variety is so brief that we do not want to transfer it before it has been further studied.

Cephaloziella crispata N.Kitag., *J. Hattori Bot. Lab.* 32: 301, 1969 (Kitagawa 1969). Type:—THAILAND. Chiangrai: Mt. Doi Tung, *N. Kitagawa T12361* (NICH-297680!, lectotype **designated here**; TNS-179248!, isolectotype).

= *Cephaloziella indica* Udar et Ad.Kumar, *Misc. Bryol. Lichenol.* 8: 137, 1980 (Udar & Kumar 1980) **syn. nov.** (based on description and drawings). Type:—INDIA. Darjeeling: Kalimpong, *Kumar 3204/77* (LWU, holotype).

Cephaloziella umtaliensis S.W.Arnell, *Bot. Not.* 110: 20, 1957 (Arnell 1957). Type:—ZIMBABWE. Umtali District: Penhalonga Border Post, *Schelte n. 5355* (BOL! holotype).

= *Cephaloziella vaginans* Steph. var. *camerunensis* S.W.Arnell, *Svensk Bot. Tidskr.* 52: 65, 1958 (Arnell 1958) **syn. nov.** Type:—CAMEROON. Cameroon Mountain, summit region, *Byström no. 34g* (UPS!, holotype).

Cephaloziella verrucosa Steph., *Hedwigia* 32: 318, 1893 (Stephani 1893). Type:—FRETUM MAGELLANICUM. *cum Husnot no. 9, Stephani herb. no. 12748* (G-00061139, lectotype [Engel 1978: 224]; BR, isolectotype).

= *Cephaloziella serrata* Steph., *Bih. Kongl. Svenska Vetensk.-Akad. Handl.* 26 (III,6): 49, 1900 (Stephani 1900), **syn. nov.** Type:—CHILE. Patagonia occidentalis, valle fluminis Aysén, 22 February 1897, *P. Dusén* (G-00069824!, lectotype **designated here** [<http://www>]).

ville-ge.ch/musinfo/bd/cjb/chg/adetail.php?id=125354&lang=en]).

- = *Cephaloziella gemmata* J.J.Engel, *Bryologist* 76: 531, 1973 (Engel 1973), **syn. nov.** Type:—CHILE. Magellanes: Cabo Leon, 17 February 1962, *Hatcher* 25-8 (F-C0000063F!, holotype; UWM, isotype).
- = *Cephaloziella hispidissima* R.M.Schust., *Nova Hedwigia* 22: 208, 1971 (Schuster 1971), **syn. nov.** Type:—ARGENTINA. Tierra del Fuego, Cerro Garibaldi, SE of Lago Escondido, *R.M.Schuster* 58304 (F-C0171805F!, holotype).
- Fuscocephaloziopsis schusteri* (Sushil K.Singh et D.K.Singh) Váña, comb. nov.** Basionym:—*Cephalozia schusteri* Sushil K.Singh et D.K.Singh, *Lindbergia* 32: 1, 2007 (Singh & Singh 2007). Type:—INDIA. Himachal Pradesh: Sainj valley, Shanger, 19 September 2003, *S.K. Singh* 104343 (CAL, holotype; BSD, isotype). Note:—This species belongs to the *Fuscocephaloziopsis lunulifolia* (Dumortier 1831: 61) Váña *et al.* (2013: 10) complex (Váña & Long 2011).
- Lophocolea magna* (Udar et V.Nath) Váña, comb. nov.** Basionym:—*Cephaloziella magna* Udar et V.Nath, *Geophytology* 6: 105, 1976 (Udar & Nath 1976). Type:—INDIA. Almora, Skeetlakhet, 2 May 1971, *Udar* (LWU, holotype). The illustrations in Udar & Nath (1976) show a plant with succubous leaves (fig. 1), well developed underleaves (fig. 8) with marginal teeth and a cell texture similar to that of other *Lophocolea*. Filiform shoots occur on under-developed specimens in other *Lophocolea* taxa which then also develop copious gemmae at the shoot apex as described for this taxon.
- Marsupella sprucei* (Limpr.) Bernet, Cat. hép. Suisse: 33, 1888 (Bernet 1888).** Basionym:—*Sarcocyphos sprucei* Limpr., *Flora* 64 (5): 72, 1881 (Limpricht 1881). Type:—GERMANY. Bavaria: Fichtelgebirge, *Funck* (BP, holotype).
- = *Cephaloziella rufobrunnea* R.M.Schust., *Beih. Nova Hedwigia* 119: 144, 2002 (Schuster 2002), **syn. nov.** Type:—NEW ZEALAND. Fiordland: below Gertrud tunnel, *Schuster* 90-2050a (F-C0171814F!, holotype). Schuster (2002) indicated that the type was intermixed with *Marsupella sprucei*. However, careful examination of the type shows only the latter species.
- Schiffneria hyalina* Steph., Österr. Bot. Z. 44: 1, 1894 (Stephani 1894).** Type:—INDONESIA. Moluccas: Batjan Is., Mount Sibella, 1883, *Warburg* (G, holotype).
- = *Schiffneria yunnanensis* C.Gao et W.Li, *Bull. Bot. Res., Harbin* 26: 390, 2006 (Li *et al.* 2006) *nom. inval.* (ICN Art. 40.7; more than one herbarium specified) **syn. nov.** (based on description and drawings). Original material:—CHINA. Yunnan: Dulongjiang, *M. Zang* 4082 (HKAS, IFSBH).

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References

- Arnell, S. (1957) Notes on South African Hepaticae. IV. *Botaniska Notiser* 110: 17–27.
- Arnell, S. (1958) New Hepaticae from Cameroon Mountain. *Svensk Botanisk Tidskrift* 52: 63–67.
- Bernet, H. (1888) *Catalogue des hépatiques du Sud-Ouest de la Suisse et de la Haute-Savoie*. H. Georg, Geneve, Bale et Lyon, 135 pp.
- Dumortier, B.C.J. (1831) *Sylloge Jungermannidearum Europae Indigenarum*. J. Casterman, Tournay, 100 pp.
<http://dx.doi.org/10.5962/bhl.title.22343>
- Engel, J.J. (1973) The Raymond E. Hatcher collection of Hepaticae and Anthocerotae from southern South America, with new taxa and notes on range extensions. *Bryologist* 76: 528–535.
<http://dx.doi.org/10.2307/3241412>
- Engel, J.J. (1978) A taxonomic and phytogeographic study of Brunswick Peninsula (Strait of Magellan) Hepaticae and Anthocerotae. *Fieldiana: Botany* 41: 1–319.
<http://dx.doi.org/10.5962/bhl.title.2426>
- Fulford, M. (1976) Manual of the leafy Hepaticae of Latin America IV. *Memoirs of the New York Botanical Garden* 11: 395–535.
- Kitagawa, N. (1969) Studies on the Hepaticae of Thailand. II. {Cephalozia} and *Cephaloziella*. *Journal of the Hattori Botanical Laboratory* 32: 290–306.
- Kumar, D. (1987) A new species of *Cephalozia* from the Valley of flowers. *Journal of the Indian Botanical Society* 66: 170–172.

- Li, W., Gao, C. & Wu, Y.-H. (2006) Studies on the genus *Schiffneria* Steph. (Hepaticae). *Bulletin of Botanical Research, Harbin* 26: 389–391.
- Limpricht, K.G. (1881) Ueber *Gymnomitrium adustum* N. v. E.. *Flora* 64: 71–76.
- Schuster, R.M. (1971) Studies on Cephaloziellaceae. *Nova Hedwigia* 22: 121–265.
- Schuster, R.M. (1978) Studies on Venezuelan Hepaticae. I. *Phytologia* 39: 239–251.
- Schuster, R.M. (2002) Austral Hepaticae. Part II. *Beihefte zur Nova Hedwigia* 119: 1–606.
- Singh, S.K. & Singh, D.K. (2007) *Cephalozia schusteri* (Cephaloziaceae, Hepaticae) – a new species from India, with note on the Indian species of the genus. *Lindbergia* 32: 1–4.
- Söderström, L., Hagborg, A. & von Konrat, M. (2012) Notes on Early Land Plants Today. *Phytotaxa* 65: 41–42.
- Spruce, R. (1882) On Cephalozia (a genus of Hepaticae) its subgenera and some allied genera. Slater, Malton, 99 pp.
<http://dx.doi.org/10.5962/bhl.title.46289>
- Stephani, F. (1893) Hepaticarum species novae IV. *Hedwigia* 32: 315–327.
- Stephani, F. (1894) Eine neue Lebermoos-Gattung. *Österreichische Botanische Zeitschrift* 44: 1–5.
<http://dx.doi.org/10.1007/bf01789755>
- Stephani, F. (1900) Beiträge zur Lebermoosflora Westpatagoniens und des südlichen Chiles. *Bihang till Kongliga Svenska Vetenskaps-Akademiens Handlingar* 26: 1–69.
- Stephani, F. (1908a) Species Hepaticarum 3. *Bulletin de l'Herbier Boissier (sér. 2)* 8: 426–436.
- Stephani, F. (1908b) Species Hepaticarum 3. *Bulletin de l'Herbier Boissier (sér. 2)* 8: 483–514.
- Udar, R. & Kumar, A. (1980) A new *Cephaloziella* from India. *Miscellanea Bryologica et Lichenologica* 8: 137–139.
- Udar, R. & Nath, V. (1976) A new species of *Cephaloziella* Spruce, *C. magna* Udar et Nath. sp. nov. from Sheetlakhhet, Almora (western Himalayas) India. *Geophytology* 6: 105–107.
- Váňa, J. & Long, D.G. (2011) Cephaloziaceae (Marchantiophyta) of the Sino-Himalayan region. *Nova Hedwigia* 93: 153–164.
<http://dx.doi.org/10.1127/0029-5035/2011/0093-0153>
- Váňa, J., Söderström, L., Hagborg, A. & von Konrat, M.J. (2013) Notes on Early Land Plants Today. 41. New combinations and new synonyms in Cephaloziaceae (Marchantiophyta). *Phytotaxa* 112: 7–15.
<http://dx.doi.org/10.11646/phytotaxa.112.1.2>