



Notes on Early Land Plants Today. 71. New synonyms, new names and new combinations in Lejeuneaceae (Marchantiophyta)

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For the coming checklist of hornworts and liverworts (Söderström *et al.*, *in press*) a few validations, transfers and synonymizations in the family Lejeuneaceae are still required.

Papillolejeunea Pócs (1997: 2) was described to include four species and Pócs & Eggers (1999) added another two species all endemic to New Guinea. Schuster (1998) reduced the genus to a subgenus under *Lejeunea* Libert (1820: 373), transferred the four known species and described a new species, *Lejeunea pocsii* Schuster (1998: 84) from New Zealand. The latter species was synonymized with *Lejeunea helmsiana* (Stephani 1896: 89) Stephani (1915: 796) in subg. *Lejeunea* by Renner *et al.* (2009). The two species described by Pócs & Eggers (1999) remain to be transferred to *Lejeunea*.

Prionocolea (Schuster 1978: 430) Schuster (1992: 277) is a not validly published name as the “basionym” is invalid. When Schuster (1978) described *Cyclolejeunea* subg. *Prionocolea* R.M.Schust. he did so by a “subgeneric-specific” description. Combined descriptions are only allowed as generic-specific descriptions (ICN Art. 38.5) and *Cyclolejeunea* subg. *Prionocolea* and all names based on this are invalid. Grolle (1984) transferred *Prionocolea* to *Lejeunea* subg. *Prionocolea* (Grolle 1984: 763) without noticing that the “basionym” was not validly published. Grolle (1984) did not transfer any of the species described in the genus, but neither species is validly published as the genus is invalid. Furthermore, both species need new names in *Lejeunea* as the specific epithets already are used in the genus.

A few illegitimate homonyms are also given new names and a few new synonyms are proposed.

Formal treatment

The format of this note follows Söderström *et al.* (2012) except that we are following McNeill *et al.* (2012) for nomenclatural problems.

Cheilolejeunea rigidula (Nees ex Mont.) R.M.Schust., *Castanea* 36: 105, 1971 (Schuster 1971). Basionym:—*Lejeunea rigidula* Nees ex Mont., *Ann. Sci. Nat. Bot. (sér. 2)* 14: 336, 1840 (Montagne 1840). Type:—FRENCH GUIANA. Mont Serpent. *Leprieur* 257 (PC-Mont. No. 3655 lectotype; NY, isolectotype).

= *Cheilolejeunea breuteliana* Steph., *Hedwigia* 34 (5): 240, 1895 (Stephani 1895b), **syn. nov.** Type:—ST. KITTS. *Breutel* (JE-04001062, lectotype **here designated** [or possibly holotype, cf. McNeill (2014)]; G-00069748, isolectotype). Note:—The lectotype was annotated as synonymous with *Cheilolejeunea rigidula* by R. Grolle in 1977 but we have not found this synonymy published anywhere.

Cheilolejeunea trifaria (Reinw., Blume et Nees) Mizut., *J. Hattori Bot. Lab.* 27: 132, 1964 (Mizutani 1964). Basionym:—*Jungermannia trifaria* Reinw. et al., *Nova Acta Phys.-Med. Acad. Caes. Leop. - Carol. Nat. Cur.* 12: 226, 1825 (Reinwardt *et al.* 1825). Type:—INDONESIA. Java: Specific locality unknown, *Blume s.n. & s.d.* (L,

holotype; STR!, isotype) ≡ *Lejeunea trifaria* (Reinw. et al.) Nees, *Syn. Hepat.*: 361, 1845 (Gottsche *et al.* 1845) ≡ *Euosmolejeunea trifaria* (Reinw. et al.) Steph., *Hedwigia* 27: 292. 1888 (Stephani 1888).

= *Euosmolejeunea viridula* Herzog, *Memoranda Soc. Fauna Fl. Fenn.* 26: 61, 1950 [1951] (Herzog 1950), **syn. nov.** Type:—INDONESIA. Sumatra: Gouv. S.O.K., Dollok Baroes prope Brastagi 1750–1950 m, April 1930, *F. Verdoorn 1930 (75)* (JE!, holotype).

Cololejeunea jamesii (Austin) M.E.Reiner et Pócs, **comb. nov.** Basionym:—*Lejeunea jamesii* Austin, *Bull. Torrey Bot. Club* 6 (30): 158, 1877 (Austin 1877). Type:—MEXICO. “On leaves of *Neckera glabella*”, *James s.n.* (MANCH CC19373! [= MANCH000489], isotype, few shoots, sterile). Note:—For description, illustrations and further synonyms, see Reiner-Drehwald (1995) as *Aphanolejeunea clavatopapillata* (Steph.) Reiner-Drehwald (1995: 35).

= *Cololejeunea clavatopapillata* Steph., *Hedwigia* 34(5): 246, 1895 “*clavato-papillata*” (Stephani 1895b), **syn. nov.** Type:—BRAZIL. s.loc., *Ule 371* (G-00046874!), lectotype **here designated** [or possibly holotype].

Drepanolejeunea fulfordiae L.Söderstr., **nom. nov. pro** *Drepanolejeunea papillosa* Fulford, *Mem. New York Bot. Gard.* 23: 843, 1972 (Fulford 1972), **nom. illeg.** (ICN Art. 53.1; **hom. illeg.** [non S.W.Arnell 1953]). Type:—VENEZUELA. *Julian A. Steyermark 98065* (CINC, holotype). Blocking name:—*Drepanolejeunea papillosa* S.W.Arnell, *Bot. Not.* 106: 170, 1953 (Arnell 1953).

Drepanolejeunea madagascariensis (Steph.) Grolle, *Lindbergia* 2: 232, 1974 (Grolle & Onraedt 1974). Basionym:—*Leptolejeunea madagascariensis* Steph., *Sp. Hepat. (Stephani)* 5: 363, 1913 (Stephani 1913). Type:—MADAGASCAR. Betsileo, *Villaume 126 [Stephani herb. no. G-15070]* (G-00068903 lectotype designated by Grolle (1976a: 203).

= *Drepanolejeunea mauritiana* Tixier, *Proc. Roy. Soc. Arts Sci. Mauritius* 5: 47, 1993 (Tixier 1993), **syn. nov.** Type:—MAURITIUS. Bassin Blanc, 300 m., *Bosser s.n.* (PC, holotype).

Drepanolejeunea submuricata R.M.Schust. ex L.Söderstr. et A.Hagborg, **sp. nov.** Based on:—*Drepanolejeunea submuricata* R.M.Schust., *Nova Hedwigia* 62 (1/2): 34, 1996 (Schuster 1996), **nom. inval.** (ICN Art. 40.7; no herbarium indicated). Type:—DOMINICA. W. slope of Morne Diablotins, upper montane rain forest, in the *Podocarpus* zone, 3200–3300 ft. March 24, 1966, *R.M. Schuster 67-777a* (F!, holotype). Note:—The species is recognized and reported from several places in Central America and Northern South America. We base the new species on the description in Schuster (1996: 34) together with the current type citation.

Lejeunea abyssinica (Gola) Cufod., *Phyton (Horn)* 4: 75, 1952 (Cufodontis 1952). Basionym:—*Eulejeunea abyssinica* Gola, *Ann. Bot. (Rome)* 13: 70, 1914 (Gola 1914). Type:—ETHIOPIA. Amhara-Dembiä, Gondar, 6 November 1909, *Chiovenda n. 2758* (FT, holotype!). Note:—Jones (1985) could not find any type material. However, the type specimen of *Cephaloziella abyssinica* Gola (1914: 68) contains the holotype of this species (information by the kindness of J. Váňa).

= *Microlejeunea jungneri* Steph., *Sp. Hepat. (Stephani)* 5: 812, 1915 (Stephani 1915), **syn. nov.** Type:—CAMEROON. *Jungner n. 64 [Stephani herb. no. 1653]* (G-00045410, lectotype by Jones 1972: 26). ≡ *Lejeunea confusa* E.W.Jones, *J. Bryol.* 7: 24, 1972 (Jones 1972). Blocking name:—*Lejeunea jungneri* (Stephani 1896: 90) Stephani (1901: 318).

= *Eulejeunea compressistipula* Pearson, *Natuurw. Tijdschr.* 4: 130, 1922 (Pearson 1922b), **syn. nov.** Type:—D. R. CONGO. Mayumbe, between Kisala and Lundu, *Poma* (MANCH, holotype) ≡ *Lejeunea compressistipula* (Pearson) Demaret, *Bull. Jard. Bot. État Bruxelles* 16: 301, 1942 (Demaret 1942). Note:—“Probably synonym” with *Lejeunea confusa* in Jones (1972).

Lejeunea duncaniae (Sim) M.E.Reiner, **comb. nov.** Basionym:—*Stylolejeunea duncaniae* Sim, *Trans. Roy. Soc. South Africa* 15(1): 68, 1926 (Sim 1926), “*Duncanii*”. Type:—SOUTH AFRICA. Eastern Cape: Hells’ Gate, Uitenhage, 1922, *Mrs Duncan* (BOL). Neotype (Arnell 1961): Natal, Alfred, Impetyne Forest, *Almborn no. 10241* (LD). ≡ *Lejeunea duncaniae* (Sim) S.W.Arnell, *Bot. Not.* 114: 402, 1961 (Arnell 1961), **nom. inval.** (ICN Art. 41.5; basionym not cited). Note:—As the type cited by Sim (1926) contained no plants agreeing with Sim’s description and illustration, Arnell (1961) selected a neotype.

Lejeunea edentata L.Söderstr., **nom. nov. pro** *Cyclolejeunea marginata* R.M.Schust., *Phytologia* 39 (6): 430, (Schuster

1978). Type:—VENEZUELA. Estado Tachira: Bosque Valencia below Páramo de Tama, Villa Paez, *R.M. Schuster & L. Ruiz-Teran* 76-2279 (F, holotype) ≡ *Prionocolea marginata* (R.M.Schust.) R.M.Schust., *J. Hattori Bot. Lab.* 72: 277, 1992 (Schuster 1992), *nom. inval.* (ICN Art. 35.1; genus not valid). Blocking name:—*Lejeunea marginata* (Lehm.) Gottsche, Lindenb. et Nees, *Syn. Hepat.* 2: 393, 1845 (Gottsche *et al.* 1845) ≡ *Cololejeunea marginata* (Lehm.) Spruce ex Pearson, *Forh. Vidensk.-Selsk. Kristiania* 1892 (8): 9 (Pearson 1892).

Lejeunea falcata (Pócs et J.Eggers) Pócs, **comb. nov.** Basionym:—*Papillolejeunea falcata* Pócs et J.Eggers, *Bryobrothera* 5:163, 1999 (Pócs & Eggers 1999). Type:—PAPUA NEW GUINEA. Southern Highlands Prov.: Tari, between Tari Gap and Ambua Lodge, 14–18 May 1997, *J. Eggers, No. PNG 3/203* (herb. J. Eggers, Schenefeld, holotype!).

Lejeunea flava (Sw.) Nees, *Naturgesch. Eur. Leberm.* 3: 277, 1838 (Nees 1838). Basionym:—*Jungermannia flava* Sw., *Nova Gen. Spec. Pl. Prodr.*: 144, 1788 (Swartz 1788). Type:—JAMAICA. *Swartz s.n.* (UPS [Hb. Thunb. 25916, c.per., not seen], lectotype by Grolle 1976b; S! [scanty, 2 shoots], BM! [c.per.], isolectotypes).

= *Lejeunea leucophaea* Spruce, *Trans. & Proc. Bot. Soc. Edinburgh* 15: 267, 1884 (Spruce 1884), **syn. nov.** Type:—ECUADOR. “ad Rio Verde, fl. Pastasa affluentem, alt. 1500 m.”, “ad pedem Montis Tunguragua”, *Spruce s.n.* (MANCH CC 18697! [= MANCH000274], lectotype **here designated** [or possibly holotype] autoicous, c.per.).

= *Lejeunea consimilis* Gottsche ex Steph., *Sp. Hepat.* 5: 729, 1915 (Stephani 1915), **syn. nov.** Type:—BRAZIL. Rio de Janeiro, *Glaziou 7226* [*Stephani herb. No. 26027*] (G-00282345!, lectotype **here designated** [or possibly holotype] autoicous, c.per.).

= *Eulejeunea subsymphoreta* Steph., *Sp. Hepat.* 6: 418, 1923 (Stephani 1923), **syn. nov.** Type:—BOLIVIA. Cochabamba, prov. Chapare, Tablas, 1800 m, *Herzog 4614* (G-00121988!, lectotype **here designated**, autoicous, c.per.; M, isolectotype). Ibidem, *Herzog 4604* (G-00121997!, paralectotype, c.per.). Note:—*Herzog 4614* was chosen as lectotype as the collection is larger than in *Herzog 4604*.

Lejeunea koponenii (Pócs et J.Eggers) Pócs, **comb. nov.** Basionym:—*Papillolejeunea koponenii* Pócs et J.Eggers, *Bryobrothera* 5:159, 1999 (Pócs et Eggers 1999). Type:—PAPUA NEW GUINEA. Southern Highlands Prov.: Tari, between Tari Gap and Ambua Lodge, 14–18 May 1997, *J. Eggers, No. PNG 3/200* (herb. J. Eggers, Schenefeld, holotype!).

Lejeunea herminieri (Steph.) R.L.Zhu, **comb. nov.** Basionym:—*Archilejeunea herminieri* Steph., *Sp. Hepat.* 4: 714, 1911 (Stephani 1911). TYPE:—GUADELOUPE. s.loc., *l’Herminier s.n.* (G-00060727). NOTE:—The earliest name is *Archilejeunea saccatiloba* but this is unavailable in *Lejeunea* which Ye *et al.* (2013) overlooked. Stephani (1911) described *Archilejeunea subinermis* twice (p. 703 and 720) and *Archilejeunea herminieri*. *Archilejeunea subinermis* Stephani (1911: 720) is synonymous with this species (cf. Gradstein & Buskes 1985) but this name is also not available in *Lejeunea*. Thus, the earliest available name is *Lejeunea herminieri*, which we adopt here.

= *Archilejeunea subinermis* Steph., *Sp. Hepat.* 4: 720, 1911 (Stephani 1911), **syn. fide** Gradstein & Buskes (1985). TYPE:—MEXICO. Inter Frullaniam (G-00060840). Blocking name:—*Lejeunea subinermis* (Stephani 1895c: 318) Stephani (1901: 318).

= *Archilejeunea saccatiloba* Steph., *Hedwigia* 34: 61, 1895 (Stephani 1895a), **syn. fide** Gradstein (2013). TYPE:—BRAZIL, s.loc., *Beyrich s.n.* [*Stephani herb. no. G-20795*] (G-00060842!, lectotype **here designated** [or possibly holotype]). = *Lejeunea saccatiloba* (Steph.) R.L.Zhu et W.Ye, *J. Syst. Evol.* 51 (4): 472, 2013 (Ye *et al.* 2013), *nom. illeg.* (ICN Art. 53.1; *hom. illeg.*). Blocking name:—*Lejeunea saccatiloba* (Stephani 1891: 207) Anonymous (1891: IX).

= *Cyrtolejeunea antillana* R.M.Schust., *Bull. Torrey Bot. Club* 97: 336, 1970 (Schuster 1970). TYPE:—DOMINICA. Freshwater lake near Morne Micotrin, ca. 790 m, *R.M. Schuster 66619a* (F, holotype), **syn. fide** Grolle in Dauphin *et al.* (1998).

Lejeunea trinitensis Lindenb., *Syn. Hep.* 3: 381, 1845 (Gottsche *et al.* 1843). Type:—TRINIDAD, *Crüger s.n.* (W-Lindenb. Hep. 6668!, lectotype **here designated** [or possibly holotype]). Note:—For more information about the type, see Grolle (1981).

= *Lejeunea prorepens* Spruce, *Trans. & Proc. Bot. Soc. Edinburgh* 15: 277, 1884 (Spruce 1884), **syn. nov.** Type:—PERU. ad fluvii Huallaga cataractas, supra filices, *Spruce s.n.* (MANCH-CC16938! [=MANCH000357] (autoica, c.per.), lectotype **here designated**; MANCH-CC16937! [=MANCH000356] (autoica, c. per.), isolectotype).

Lejeunea viridis R.M.Schust. ex L.Söderstr. et A.Hagborg, **sp. nov.** Based on:—*Prionocolea viridissima* R.M.Schust., *J. Hattori Bot. Lab.* 75: 215, 1994 (Schuster 1994), *nom. inval.* (ICN Art. 35.1; genus not valid). Type:—COLOMBIA. Isla Gorgona. *R.M. Schuster 88-1621b* (F, holotype). Blocking name:—*Lejeunea viridissima* Lindenb., *Sp. Hepat.*

(*Lindenb.*) 5: 320, 1843 (Lindenberg 1843). Note:—We base the current species on the description in Schuster (1994: 215) together with the current type citation.

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