



Early Land Plants Today: Index of Liverworts & Hornworts 2013–2014

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Abstract

A widely accessible list of known plant species is a fundamental requirement for plant conservation and has vast applications. An index of published names of liverworts and hornworts between 2013 and 2014 is provided as part of a continued effort in working toward producing a world checklist of this group. The list includes 50 higher taxa, 361 species, 82 infraspecific taxa, and 50 infraspecific autonyms for 2013 and 2014. Three of them are fossils. Five older names not included in the earlier indices are included. Three illegitimate and 13 invalid names are also included. New to science are 105 species and 22 infraspecific taxa.

Key words: Liverworts, hornworts, index, nomenclature

Introduction

Under the auspices of the Early Land Plants Today project, there has been a strong community-driven effort to address the critical need to synthesize the vast nomenclatural, taxonomic and global distributional data for liverworts (Marchantiophyta) and hornworts (Anthocerotophyta) (von Konrat *et al.* 2010a). These endeavours are critical in providing the foundation to continue to build upon existing efforts such as the recently published worldwide liverwort and hornwort checklist (Söderström *et al.* 2016). This effort is fundamental toward the development of a working list of all known plant species under the auspices of the *Convention on Biological Diversity* (CBD) and the *Global Strategy for Plant Conservation* (GSPC). The significance of this target was underscored again by the Conference of the Parties to the *Convention on Biological Diversity* who have further developed the GSPC into its second phase (2011–2020), taking into account current and emerging environmental challenges on plant diversity (Blackmore *et al.* 2011). The critical need for a worldwide checklist and the implications for conservation, taxonomy, and botanical science were outlined by Paton *et al.* (2008). Progresses towards reaching the goals of the GSPC have been reviewed by Paton & Lughadha (2011).

This index follows on from the resourceful indices of recent years: Index of Hepatics (Crosby & Engel 2006), the series Index of Bryophytes 2001–2004 (Crosby & Magill 2005) and Index of Bryophytes 2005 (Crosby & Magill 2006), as well as the most recently published Index of Liverworts and Hornworts 2006–2008, 2009–2010 and 2011–2012 (von Konrat *et al.* 2010b, Söderström *et al.* 2012d, Söderström *et al.* 2014). In the current index we list citations for names published for liverworts and hornworts during the period January 1, 2013 through December 31, 2014. Valid, illegitimate and invalid names that were overlooked by earlier indices (2000–2012) are also included. A bibliography contains complete citations for the places of publication of the names, their basionyms and blocking names. The format generally follows that of previous indices, especially Söderström *et al.* (2014). For fossils we state the geological period. The type taxon is also provided for new higher taxa. All names are arranged alphabetically. Although names that we judge to be invalid or illegitimate are included in the list, nomenclaturally they are not accepted by the authors of this index, and therefore not validly or legitimately published under the Melbourne Code of Nomenclature (McNeill *et al.* 2012). As in previous indices, no disposition is provided to an accepted name or to the taxonomy. The list includes 50 higher taxa, 361 species, 82 infraspecific taxa, and 50 infraspecific autonyms for 2013 and 2014. Three of them are fossils. Five older names not included in the earlier indices are included. Three illegitimate and 13 invalid names are also included. New to science are 105 species and 22 infraspecific taxa.

Format

Authorities and citation abbreviations follow the on-line version of Authors of Plant Names at the Royal Botanic Gardens, Kew, Website (www.ipni.org), which is an updated version of Brummitt & Powell (1992). For nomenclatural elements we follow the Melbourne Code of Nomenclature (McNeill *et al.* 2012).

The following outlines the format for the different categories of names published during the period. Common reasons for the note are superfluous combinations, blocking names, etc., and era for fossils.

The name of a *new taxon* published during the period takes the form:

Acanthocoleus elgonensis Gyarmati et Pócs, *Cryptog. Bryol.* 35 (2): 120, 2014 (see Sass-Gyarmati & Pócs 2014). TYPE: “UGANDA, Mbale District, Mount Elgon, along Sasa Trail, 3750 meters, below Jackson Pool. 1°9.6 N, 34°30.7'E. On half shady, dripping volcanic cliffs surrounded by *Senecio elgonensis* moorland and *Helichrysum*—*Pentastichis* tussock. Coll. T. Pócs 97145/AA, 23 Sept. 1997 (Holotype: EGR; isotypes: GOET, MHU, MLH)”.

Its article from the Bibliography:

Sass-Gyarmati, A. & Pócs, T. (2014) *Acanthocoleus elgonensis* Gyarmati et Pócs, sp. nov. from Mount Elgon (Uganda). *Cryptogamie, Bryologie* 35 (2): 119–125. DOI: 10.7872/cryb.v35.iss2.2014.119

A *new combination* published during the period takes the form:

Acrolejeunea crassicaulis (Steph.) Jian Wang bis et Gradst., *Bryophyte Diversity Evol.* 36 (1): 38, 2014 (see Wang *et al.* 2014c). BASIONYM: *Hygrolejeunea crassicaulis* Steph., *Sp. Hepat. (Stephani)* 5: 550, 1914 (see Stephani 1914).

Its articles from the Bibliography:

Wang, J., Gradstein, S.R., Shi, X.-Q. & Zhu, R.-L. (2014c) Phylogenetic position of *Trocholejeunea* and a new infrageneric classification of *Acrolejeunea* (Lejeuneaceae, Marchantiophyta). *Bryophyte Diversity and Evolution* 36 (1): 31–44. DOI: 10.11646/bde.36.1.3

Stephani, F. (1914) *Species Hepaticarum* 5. George & Cie, Genève & Bale, pp. 449–704. DOI: 10.5962/bhl.title.95494

One or two asterisks preceding an entry indicates it to be the contrary to McNeill *et al.* (2012), we interpret the name as either illegitimate (a single asterisk) or invalid (two asterisks). We cite both the article that we base our interpretation on, and a short statement about what we think is wrong. For example:

***Aplozia crassula* (Nees et Mont.) S.W.Arnell ex Váňa et J.J.Engel, *Mem. New York Bot. Gard.* 105: 99, 2013, *nom. inval.* Art. 34.1.c; publ. in syn. [sub *Solenostoma crassulum*] (see Váňa & Engel 2013). BASIONYM: *Jungermannia crassula* Nees et Mont., *Ann. Sci. Nat. Bot. (sér. 2)* 5: 54, 1836 (see Nees & Montagne 1836).

A dagger, †, preceding an entry indicates a name for a fossil. For example:

†*Acrolejeunea ucrainica* Mamontov, Heinrichs et Schäf.-Verw., *Arctoa* 22: 95, 2013 (see Mamontov *et al.* 2013). TYPE: “HOLOTYPE: Klesov. Rovno amber. Late Eocene. SIZK-K-10052F (Figs 1–10). Specimen found in transparent, partly contaminated amber piece (#2-748, 18.5 g, 48×33×16 mm), syninclusion K-9651: male Theridiidae (Aranei)”.

The index

Acanthocoleus elgonensis Gyarmati et Pócs, *Cryptog. Bryol.* 35 (2): 120, 2014 (see Sass-Gyarmati & Pócs 2014). TYPE: “UGANDA, Mbale District, Mount Elgon, along Sasa Trail, 3750 meters, below Jackson Pool. 1°9.6 N, 34°30.7'E. On half shady, dripping volcanic cliffs surrounded by *Senecio elgonensis* moorland and *Helichrysum*—*Pentastichis* tussock. Coll. T. Pócs 97145/AA, 23 Sept. 1997 (Holotype: EGR; isotypes: GOET, MHU, MLH)”.

Acrolejeunea sect. *Minores* (Verd.) L.Söderstr. et A.Hagborg, *Bryophyte Diversity Evol.* 36 (1): 41, 2014 (see Wang *et al.* 2014c). BASIONYM: *Ptychocoleus* sect. *Minores* Verd., *Ann. Bryol., Suppl.* 4: 132, 1934 (see Verdoorn 1934).

Acrolejeunea sect. *Recurvatae* Jian Wang bis et Gradst., *Bryophyte Diversity Evol.* 36 (1): 39, 2014 (see Wang *et al.* 2014c). TYPE: *Acrolejeunea recurvata* Gradst.

Acrolejeunea sect. *Trocholejeunea* (Schiffn.) Jian Wang bis et Gradst., *Bryophyte Diversity Evol.* 36 (1): 38, 2014 (see Wang *et al.* 2014c). BASIONYM: *Trocholejeunea* Schiffn., *Ann. Bryol.* 5: 160, 1932 (see Dixon *et al.* 1932).

Acrolejeunea arcuata subsp. *gradsteinii* M.A.M.Renner, *Phytotaxa* 83 (1): 42, 2013 (see Renner 2013). TYPE: “Type:—AUSTRALIA. Queensland: Cook District, summit area of Mount Bellenden Ker, 17° 16' S 145° 52' E, 1580 m, 7 July 2005, M.A.M. Renner 1912 & E.A. Brown (holotype: NSW871961! isotypes: BRI! CANB! F!)”. NOTE: This name also creates the autonym.

Acrolejeunea crassicaulis (Steph.) Jian Wang bis et Gradst., *Bryophyte Diversity Evol.* 36 (1): 38, 2014 (see Wang *et al.* 2014c). BASIONYM: *Hygrolejeunea crassicaulis* Steph., *Sp. Hepat. (Stephani)* 5: 550, 1914 (see Stephani 1914).

Acrolejeunea infuscata (Mitt.) Jian Wang bis et Gradst., *Bryophyte Diversity Evol.* 36 (1): 38, 2014 (see Wang *et al.* 2014c). BASIONYM: *Lejeunea infuscata* Mitt., *J. Proc. Linn. Soc., Bot.* 5 (18): 111, 1860 [1861] (see Mitten 1860).

Acrolejeunea meghalayensis (Ajit P.Singh et V.Nath) Jian Wang bis et Gradst., *Bryophyte Diversity Evol.* 36 (1): 39, 2014 (see Wang *et al.* 2014c). BASIONYM: *Trocholejeunea meghalayensis* Ajit P.Singh et V.Nath, *J. Jap. Bot.* 83 (1): 2, 2008 (see Singh & Nath 2008).

Acrolejeunea sinensis (Jian Wang bis, R.L.Zhu et Gradst.) Jian Wang bis et Gradst., *Bryophyte Diversity Evol.* 36 (1): 39, 2014 (see Wang *et al.* 2014c). BASIONYM: *Trocholejeunea sinensis* Jian Wang bis, R.L.Zhu et Gradst., *Phytotaxa* 174 (5): 296, 2014 (see Wang *et al.* 2014b).

†*Acrolejeunea ucrainica* Mamontov, Heinrichs et Schäf.-Verw., *Arctoa* 22: 95, 2013 (see Mamontov *et al.* 2013). TYPE: “HOLOTYPE: Klesov. Rovno amber. Late Eocene. SIZK-K-10052F (Figs 1–10). Specimen found in transparent, partly contaminated amber piece (#2-748, 18.5 g, 48×33×16 mm), syninclusion K-9651: male Theridiidae (Aranei)”.

Acromastigum fumosum E.A.Br. et M.A.M.Renner, *Telopea* 17: 274, 2014 (see Brown & Renner 2014). TYPE: “Australia, Tasmania, South West: Deadmans Bay, 43°32'S 146°29'E, 15 m, 19 Jan 1987, A. Moscal 14127 (holotype: HO443755)”.

Acromastigum interstisiale E.A.Br. et M.A.M.Renner, *Telopea* 17: 268, 2014 (see Brown & Renner 2014). TYPE: “Australia: Tasmania: South West: near start of Pedder Track, lower slopes of Sentinel Range, near road to Strathgordon, near rocky outcrops c. halfway up, 42°52'15''S 146°12'22''E, 7 Feb 1995, E.A. Brown 95/04 & B.M. Weicek (holotype: NSW365295; isotypes: AK, CANB, HO)”.

Acromastigum prismaticale E.A.Br. et M.A.M.Renner, *Telopea* 17: 281, 2014 (see Brown & Renner 2014). TYPE: “Australia: Tasmania: Central Highlands: Mt Kate, 41°38'S 145°58'E, 920 m, 19 Jan 1997, A. Moscal 28912 (holotype: HO443756)”.

Adelanthoideae K.Feldberg, Heinrichs et Váňa (subfam.), *Phytotaxa* 173 (1): 83, 2014 (see Váňa *et al.* 2014b). TYPE: *Adelanthus* Mitt.

Adelanthus lingulatus J.J.Engel et Váňa, *Mem. New York Bot. Gard.* 105: 26, 2013 (see Váňa & Engel 2013). TYPE: “Tristan da Cunha: The Base above Burntwood, 9 Feb 1962, Dickson 60 (F! holotype; herb. Váňa! isotype)”.

Anastrophyllopsis (R.M.Schust.) Váňa et L.Söderstr., *Phytotaxa* 81 (1): 15, 2013 (see Váňa *et al.* 2013f). BASIONYM: *Anastrophyllum* sect. *Anastrophyllopsis* R.M.Schust., *Beih. Nova Hedwigia* 119: 310, 2002 (see Schuster 2002).

Anastrophyllopsis involutifolia (Mont. ex Gottsche, Lindenb. et Nees) Váňa et L.Söderstr., *Phytotaxa* 81 (1): 15, 2013 (see Váňa *et al.* 2013f). BASIONYM: *Jungermannia involutifolia* Mont. ex Gottsche, Lindenb. et Nees, *Syn. Hepat. I.*: 81, 1844 (see Gottsche *et al.* 1844).

- Anastrophylopsis revoluta* (Steph.) Váňa et L.Söderstr., *Phytotaxa* 81 (1): 16, 2013 (see Váňa *et al.* 2013f). BASIONYM: *Anastrophyllum revolutum* Steph., *Hedwigia* 32 (3): 139, 1893 (see Stephani 1893b).
- Anastrophylopsis subcomplicata* (Lehm. et Lindenb.) Váňa et L.Söderstr., *Phytotaxa* 81 (1): 16, 2013 (see Váňa *et al.* 2013f). BASIONYM: *Jungermannia subcomplicata* Lehm. et Lindenb., *Nov. Stirp. Pug.* 7: 4, 1838 (see Lehmann 1838).
- Anastrophyllum minutum* var. *himalayanum* S.Srivast., S.C.Srivast. et K.K.Rawat, *Nelumbo* 55: 126, 2013 (see Srivastava *et al.* 2013). TYPE: “India, Uttarakhand, Chamoli, Ghangharia, May 22, 1980, S.C. Srivastava, D. Kumar & D.K. Singh 4325/80 (Holo : LWU)”.
- Anthoceros patagonicus* subsp. *gremmenii* J.C.Villarreal, J.J.Engel et Váňa, *Mem. New York Bot. Gard.* 105: 32, 2013 (see Váňa & Engel 2013). TYPE: “Tristan da Cunha: Volcano, W top of new volcano, 1600 m, 22 Dec 2007, *Gremmen T07-1097* (herb. Váňa! holotype)”. NOTE: This name also creates the autonym.
- Anthoceros tristanianus* J.C.Villarreal, J.J.Engel et Váňa, *Mem. New York Bot. Gard.* 105: 33, 2013 (see Váňa & Engel 2013). TYPE: “Tristan da Cunha: Along small stream W of The Settlement of Edinburgh, in open grassland on vertical peatface alongside stream in pasture, 29 m, 22 Sep 2005, *Gremmen 2005-T028* (herb. Váňa! holotype)”.
- ***Aplozia crassula* (Nees et Mont.) S.W.Arnell ex Váňa et J.J.Engel, *Mem. New York Bot. Gard.* 105: 99, 2013, *nom. inval.* Art. 34.1.c; publ. in syn. [sub *Solenostoma crassulum*] (see Váňa & Engel 2013). BASIONYM: *Jungermannia crassula* Nees et Mont., *Ann. Sci. Nat. Bot. (sér. 2)* 5: 54, 1836 (see Nees & Montagne 1836).
- Apotreubia hortoniae* Konstant., *Phytotaxa* 76 (3): 33, 2013 (see Konstantinova *et al.* 2013b). BASED ON: *Apotreubia hortoniae* R.M.Schust. et Konstant., *J. Hattori Bot. Lab.* 78: 55, 1995, *nom. inval.* ICN Art. 40.7; no herbarium specified / ‘*hortonae*’ (see Schuster & Konstantinova 1995).
- Asterella sect. Wallichianae* D.G.Long, *Phytotaxa* 173 (1): 87, 2014 (see Long *et al.* 2014). TYPE: *Asterella wallichiana* (Lehm. et Lindenb.) Grolle.
- Aureolejeunea tonduzana* (Steph.) Gradst., *Phytotaxa* 76 (3): 46, 2013 (see Gradstein 2013b). BASIONYM: *Archilejeunea tonduzana* Steph., *Sp. Hepat. (Stephani)* 4: 721, 1911 (see Stephani 1911a).
- Austroriella* Cargill et J.Milne, *Polish Bot. J.* 58 (1): 72, 2013 (see Cargill & Milne 2013). TYPE: *Austroriella salta* J.Milne et Cargill.
- Austroriella salta* J.Milne et Cargill, *Polish Bot. J.* 58 (1): 72, 2013 (see Cargill & Milne 2013). TYPE: “AUSTRALIA. Western Australia: Salt lake c. 2 km S from Grigson Lookout. Between Green Head and Jurien Bay, just North of Coastal Road, 29th August 2009, *Jolley 175 & Milne, J* (holotype MEL; isotypes CANB, PERTH)”.
- Balantiopsidoideae** J.J.Engel et Váňa (subfam.), *Phytotaxa* 183 (4): 299, 2014 (see Engel *et al.* 2014). BASED ON: Balantiopsidaceae H.Buch (fam.), *Mitt. Thüring. Bot. Ges.* 1 (2/3): 23, 1955 (see Buch 1955).
- Bazzania arcuata* var. *mamillosa* Gradst. et A.R.Benitez, *Nova Hedwigia* 99 (1/2): 113, 2014 (see Gradstein & Benitez 2014). TYPE: “Ecuador, Zamora Chinchipe, Palanda, La Canela, northern slope of Cerro Plateado, ca. 2300 m, on moist soil and on bases of dwarf trees in rather low and open woody vegetation, 20 August 2012, A.Benitez 558 (holotype: PC; isotype: HUTPL)”. NOTE: This name also creates the autonym.
- Bazzania avia* Meagher, *Nova Hedwigia* 97 (3/4): 529, 2013 (see Meagher 2013). TYPE: “Holotype: [Tasmania] Moscal 14014D (HO-522710)”.
- Bazzania menzelii* E.D.Cooper, *Phytotaxa* 97 (2): 52, 2013 (see Cooper *et al.* 2013). NOM. NOV. PRO *Acromastigum emarginatum* Herzog, *Trans. Brit. Bryol. Soc.* 1 (4): 309, 1950 (see Herzog 1950).

**Bazzania obtusa* D.G.Long et Rubas., *Ceylon J. Sci., Biol. Sci.* 43 (1): 26, 2014, *nom. illeg.* Art. 52.1; earlier name included [*Bazzania obtusata* (Taylor) Kuntze 1891] (see Long & Rubasinghe 2014). NOM. NOV. PRO *Mastigobryum obtusatum* Mitt., *J. Proc. Linn. Soc., Bot.* 5 (18): 106, 1861 (see Mitten 1860).

Blepharostoma indicum G.Asthana, M.Saxena et Maurya, *J. Bryol.* 35 (4): 267, 2013 ‘*indica*’ (see Asthana *et al.* 2013). TYPE: “INDIA, & Western Himalaya: Uttarakhand, Mukteshwar, 2 km from forest check post in dense coniferous forest, alt. ca 2286 m, 29.5°N 79.7°E, 17 November 2007, Murti Saxena & Mridula Maurya 20216/07 (LWU, holotype)”.

Calypogeia udarii Sudipa Das et D.K.Singh, *Nelumbo* 53: 194, 2011 (see Das & Singh 2011). TYPE: “India: Eastern Himalaya, Arunachal Pradesh, Lower Dibang Valley district, Mehao Wildlife Sanctuary, Mayodia top, c. 2850 m, 18. 11. 2000, D.K.Singh 98225 (BSD)”.

Capillolejeunea geisslerae (Pócs) R.L.Zhu, Qiong He, Y.M.Wei et Pócs, *Phytotaxa* 175 (3): 167, 2014 (see He *et al.* 2014b). BASIONYM: *Drepanolejeunea geisslerae* Pócs, *Candollea* 56 (1): 70, 2001 (see Pócs 2001).

Cephalozia acuminata (Herzog) Váňa, *Phytotaxa* 112 (1): 11, 2013 (see Váňa *et al.* 2013j). BASIONYM: *Hygrobriella acuminata* Herzog, *Trans. Brit. Bryol. Soc.* 1 (4): 292, 1950 (see Herzog 1950).

Cephalozia acutiloba (Inoue) Váňa, *Phytotaxa* 112 (1): 11, 2013 (see Váňa *et al.* 2013j). BASIONYM: *Metahygrobriella acutiloba* Inoue, *Bull. Natl. Sci. Mus. Tokyo (n.ser.)* 10 (2): 155, 1967 (see Inoue 1967).

Cephalozia drucei (R.M.Schust.) Váňa, *Phytotaxa* 112 (1): 11, 2013 (see Váňa *et al.* 2013j). BASIONYM: *Metahygrobriella drucei* R.M.Schust., *J. Hattori Bot. Lab.* 26: 273, 1963 (see Schuster 1963).

Cephalozia fuegiensis Váňa, *Phytotaxa* 112 (1): 12, 2013 (see Váňa *et al.* 2013j). NOM. NOV. PRO *Hygrobriella dusenii* Steph., *Sp. Hepat. (Stephani)* 6: 444, 1924 (see Stephani 1924).

Cephalozia kodaikanalensis G.Asthana et Saumya Srivast., *Geophytology* 43 (1): 63, 2013 (see Asthana & Srivastava 2013). TYPE: “India - Tamil Nadu, Palni Hills: Kodaikanal (Coaker’s walk), altitude ca. 2133 m, Lat. 10°13.7372’N and Long. 77°29.5722’E, G. Asthana & Party, 14.02.2011, 21190/11 (LWU)”.

Cephalozia macgregorii (Steph.) Váňa, *Phytotaxa* 112 (1): 12, 2013 (see Váňa *et al.* 2013j). BASIONYM: *Hygrobriella macgregorii* Steph., *Hedwigia* 34 (2): 45, 1895 (see Stephani 1895).

Cephalozia mollusca (De Not.) Váňa, *Phytotaxa* 112 (1): 12, 2013 (see Váňa *et al.* 2013j). BASIONYM: *Jungermannia mollusca* De Not., *Epat. Borneo*: 16, 1874 (see De Notaris 1874).

Cephalozia monticola (J.D.Godfrey) Potemkin et Sofronova, *Arctoa* 22: 190, 2013 (see Potemkin & Sofronova 2013). BASIONYM: *Schofieldia monticola* J.D.Godfrey, *Bryologist* 79 (3): 315, 1976 (see Godfrey 1976).

Cephalozia nishimurae (N.Kitag.) Váňa, *Phytotaxa* 112 (1): 12, 2013 (see Váňa *et al.* 2013j). BASIONYM: *Hygrobriella nishimurae* N.Kitag., *Misc. Bryol. Lichenol.* 9 (4): 69, 1982 (see Kitagawa 1982).

Cephalozia stolonacea (Herzog) Váňa, *Phytotaxa* 112 (1): 12, 2013 (see Váňa *et al.* 2013j). BASIONYM: *Hygrobriella stolonacea* Herzog, *Trans. Brit. Bryol. Soc.* 1 (4): 293, 1950 (see Herzog 1950).

Cephaloziella pygmaea (Spruce) Váňa, *Phytotaxa* 183 (4): 290, 2014 (see Váňa *et al.* 2014c). BASIONYM: *Cephalozia pygmaea* Spruce, *Cephalozia*: 69, 1882 (see Spruce 1882).

***Cephaloziella uncinata* var. *mammillosa* Damsh., *Liverworts Greenland*: 487, 2013, *nom. inval.* ICN Art. 40.7; herbarium not specified (see Damsholt 2013). ORIGINAL MATERIAL: “S. Greenland, Kangikitsoq fj., mouth, 18: Tupaussat, delta juncture of Tupaussat valley and the valley to the west, near sea level, on damp, sheltered, S-facing recesses with, e.g. *Lophozia sudetica*, *L. hatcheri*, *Cephaloziella aspericaulis* (RMS & KD 82-1796)”.

Cephaloziella varians f. arctica (Bryhn et Douin) Damsh., *Liverworts Greenland*: 480, 2013 (see Damsholt 2013). BASIONYM: *Cephaloziella arctica* Bryhn et Douin, *Lebermoose 2 (18)*: 159, 1913 (see Müller 1913).

Cephaloziella villaumei (Steph.) Váňa, *Phytotaxa* 112 (1): 3, 2013 (see Váňa *et al.* 2013i). BASIONYM: *Cephalozia villaumei* Steph., *Sp. Hepat. (Stephani)* 6: 437, 1924 (see Stephani 1924).

Ceramanus E.D.Cooper, *Phytotaxa* 97 (2): 53, 2013 (see Cooper *et al.* 2013). TYPE: *Ceramanus centipes* (Lindenb. et Gottsche) E.D.Cooper.

Ceramanus centipes (Lindenb. et Gottsche) E.D.Cooper, *Phytotaxa* 97 (2): 54, 2013 (see Cooper *et al.* 2013). BASIONYM: *Lepidozia centipes* Lindenb. et Gottsche, *Syn. Hepat.* 2: 204, 1845 (see Gottsche *et al.* 1845a).

Ceramanus clatritexta (Steph.) E.D.Cooper, *Phytotaxa* 97 (2): 54, 2013 (see Cooper *et al.* 2013). BASIONYM: *Lepidozia clatritexta* Steph., *Sp. Hepat. (Stephani)* 3: 583, 1909 (see Stephani 1909).

Ceramanus elegans (Colenso) E.D.Cooper, *Phytotaxa* 97 (2): 54, 2013 (see Cooper *et al.* 2013). BASIONYM: *Lepidozia elegans* Colenso, *Trans. & Proc. New Zealand Inst.* 21: 65, 1889 (see Colenso 1889).

Ceramanus grossiseta (Steph.) E.D.Cooper, *Phytotaxa* 97 (2): 54, 2013 (see Cooper *et al.* 2013). BASIONYM: *Lepidozia grossiseta* Steph., *Sp. Hepat. (Stephani)* 3: 584, 1909 (see Stephani 1909).

Ceramanus perfragilis (J.J.Engel et G.L.Merr.) E.D.Cooper, *Phytotaxa* 97 (2): 54, 2013 (see Cooper *et al.* 2013). BASIONYM: *Telaranea perfragilis* J.J.Engel et G.L.Merr., *Fieldiana, Bot. (n.ser.)* 44: 72, 2004 (see Engel & Smith Merrill 2004).

Ceramanus pruinosa (Herzog) E.D.Cooper, *Phytotaxa* 97 (2): 54, 2013 (see Cooper *et al.* 2013). BASIONYM: *Lepidozia pruinosa* Herzog, *Memoranda Soc. Fauna Fl. Fennica* 27: 93, 1952 (see Herzog 1951a).

Ceramanus tuberifera (J.J.Engel et R.M.Schust.) E.D.Cooper, *Phytotaxa* 97 (2): 54, 2013 (see Cooper *et al.* 2013). BASIONYM: *Telaranea tuberifera* J.J.Engel et R.M.Schust., *Fieldiana, Bot. (n.ser.)* 14: 2, 1983 (see Engel & Schuster 1983).

Ceratolejeuneinae Gradst. (subtrib.), *Phytotaxa* 100(1): 14, 2013 (see Gradstein 2013d). BASED ON: Ceratolejeuneae R.M.Schust. (trib.), *J. Hattori Bot. Lab.* 91: 154, 2001 (see Schuster 2001). NOTE: Originally placed in subfam. Lejeunoideae trib. Lejeuneae.

†***Ceratolejeunea antiqua*** Heinrichs et Schäf.-Verw., *Bryologist* 117 (1): 11, 2014 (see Heinrichs *et al.* 2014c). TYPE: “MEXICO. CHIAPAS: Simojovel. Early to middle Miocene (15–20 Ma). Amber inclusion, now housed at Stuttgart State Museum of Natural History (holotype: SMNS Mx 284).”

Ceratolejeunea grandiloba* subsp. *inflata (Mizut.) Gradst., *Phytotaxa* 81 (1): 5, 2013 (see Gradstein 2013c). BASIONYM: *Ceratolejeunea inflata* Mizut., *J. Hattori Bot. Lab.* 49: 313, 1981 (see Mizutani 1981). NOTE: This name also creates the autonym.

Cheilolejeuneinae Gradst. (subtrib.), *Phytotaxa* 100(1): 11, 2013 (see Gradstein 2013d). BASED ON: Cheilolejeuneae R.M.Schust. (trib.), *J. Hattori Bot. Lab.* 91: 151, 2001 (see Schuster 2001). NOTE: Originally placed in subfam. Lejeunoideae trib. Lejeuneae.

Cheilolejeunea laciniata D.F.Peralta et M.E.Reiner, *Bryologist* 116 (1): 54, 2013 (see Peralta & Reiner-Drehwald 2013). TYPE: “BRAZIL. MINAS GERAIS STATE: município de Nova Lima, Parque Natural do Caraça, trilha após a piscina, campo rupestre com mata de galeria, sobre tronco vivo, 1380 meters, 20°06'10"S, 43°30'08"W, 28 July 2010, D.F. Peralta & M.P. Marcelli 11890 (holotype: SP, isotype: GOET); idem, município de Nova Lima, Santa Bárbara, picada para a Gruta de Lurdes, sobre tronco vivo de arbusto junto da gruta, 28 May 1983, O. Yano & J.R. Pirani 7391 (paratype: SP)”

Cheilolejeunea trapezia* var. *ceylanica (Gottsche) A.E.D.Daniels et Kariyappa, *Taiwania* 58 (2): 141, 2013 (see Daniels & Kariyappa 2013). BASIONYM: *Lejeunea ceylanica* Gottsche, *Syn. Hepat.* 3: 359, 1845 (see Gottsche *et al.* 1845b). NOTE: This name also creates the autonym.

Cheilolejeunea urubuensis (Zartman et I.L.Ackerman) R.L.Zhu et Y.M.Wei, *Phytotaxa* 152 (1): 50, 2013 (see Wei *et al.* 2013). BASIONYM: *Vitalianthus urubuensis* Zartman et I.L.Ackerman, *Bryologist* 105 (2): 267, 2002 (see Zartman & Ackerman 2002).

*****Chiloscyphus martianus* subsp. *bidentulus*** (Nees) D.P.Costa, *Forza, Cat. Plant. Fungos Brasil*: 458, 2010, *nom. inval.* ICN Art. 41.5; basionym not cited (see Costa 2010). BASIONYM: *Chiloscyphus bidentulus* Nees, *Syn. Hepat.* 2: 181, 1845 (see Gottsche *et al.* 1845a).

Chiloscyphus wacei S.W.Arnell ex J.J.Engel et Váňa, *Mem. New York Bot. Gard.* 105: 48, 2013 (see Váňa & Engel 2013). TYPE: “Gough I.: Crest of ridge to N. of Main Glen, alt. 600 ft., in assortment of bryophytes from trunks and ground-peat of *Blechnum tabulare*-*Acaena* scrub on dry peat ridge, 1 Jan 1956, *Wace 559b* (BM! holotype; UPS! isotype)”.

Clasmatocolea bisexualis Glenny et J.J.Engel, *New Zealand J. Bot.* 51 (1): 23, 2013 (see Glenny & Engel 2013). TYPE: “New Zealand, South Island, Marino Mts, valley south of Mt Bell, at alpine treeline, 1260 m, 19 Dec.2001, Glenny 9891b (HOLOTYPE F, ISOTYPE CHR 505243)”.

Clasmatocolea* subg. *Bisexuales J.J.Engel, *New Zealand J. Bot.* 51 (1): 29, 2013 (see Glenny & Engel 2013). TYPE: *Clasmatocolea bisexualis* Glenny et J.J.Engel.

Clevea nana (Shimizu et S.Hatt.) Borovich. et Bakalin, *Bot. Pacifica* 2 (1): 59, 2013 (see Borovichev & Bakalin 2013). BASIONYM: *Gollaniella nana* Shimizu et S.Hatt., *J. Hattori Bot. Lab.* 9: 34, 1953 (see Shimizu & Hattori 1953).

Cololejeuneinae Gradst. (subtrib.), *Phytotaxa* 100 (1): 14, 2013 (see Gradstein 2013d). BASED ON: Cololejeuneoideae Herzog ex Grolle (subfam.), *J. Bryol.* 7: 207, 1972 (see Grolle 1972). NOTE: Originally placed in subfam. Lejeunoideae trib. Lejeuneae

Cololejeunea gracilis* var. *linearifolia (R.M.Schust.) Pócs, *Acta Bot. Hung.* 56 (1/2): 189, 2014 (see Pócs *et al.* 2014). BASIONYM: *Aphanolejeunea gracilis* var. *linearifolia* R.M.Schust., *Phytologia* 45 (5): 434, 1980 (see Schuster 1980). NOTE: This name also creates the autonym.

Cololejeunea nanhutashanensis J.D.Yang et S.H.Lin, *Phytotaxa* 177 (1): 56, 2014 (see Yang & Lin 2014). TYPE: “TAIWAN. Taichung City, Heping District, between Jiliting and the trailhead to the Mt. Nanhutashan, on trunk and mixed with lichen in a pure forest of *Pinus taiwanensis* Hayata, 24°22’N, 121°21’E, ca. 2600 m in elevation, 17 Sep 1975, S.-H. Lin 7402 (holotype: TUNG!; isotype: TAIE!).”.

Cololejeunearamromensis Pócs, *Biodiv., biogeogr., nat. conserv. Wallacea N. Guinea II*: 113, 2014 (see Chantanaorrapint & Pócs 2014). TYPE: “holotype PSU, isotype EGR, *T. Pócs* and *G.E.Lee 1213/T*, Thailand: Nakhon Si Thammarat Prov.: Summit of Mt. Khao Ramrome 8 km NW of Ron Phibun town, on the N side of the sharp ridge around Khao Ramrome Resort at 930–940 m alt. 08°14.18’N, 99°48.182’E. Date: 29. Oct. 2012. Montane rainforest”.

Cololejeunea sublatistyla Jian Wang bis et R.L.Zhu, *Phytotaxa* 161 (2): 165, 2014 (see Wang *et al.* 2014a). TYPE: “CHINA. Hainan. Ledong Co., Jianfengling National Nature Reserve, epiphyllous, 812 m, 19 Jul. 2009, Ling-Yan Zhou 0323085 (holotype: HSNU!)”.

Cololejeunea subscariosa (Spruce) Pócs, *Acta Bot. Hung.* 56 (1/2): 197, 2014 (see Pócs *et al.* 2014). BASIONYM: *Lejeunea subscariosa* Spruce, *Trans. & Proc. Bot. Soc. Edinburgh* 15: 300, 1884 (see Spruce 1884).

Cololejeunea yelitzae Pócs et Bernecker, *Acta Bot. Hung.* 55 (3/4): 386, 2013 (see Pócs & Bernecker 2013). TYPE: “Venezuela: Mérida, Cordillera del Norte, Las Carreras de los González, 4 km ENE of Jají. Lat.: 8° 35’ N, long.: 71°

17.8° W, alt.: at 1730 m. Coll.: S. & T. Pócs and R. Rico (9732/CA), 15 March, 1997. Epiphyllous in wet montane rainforest of the limestone gorge, near waterfalls. Holotype: EGR; isotypes: G, MERC, Herb. Schäfer-Verwimp, ULM”.

Colura koponenii Pócs, *Chenia* 11: 29, 2013 (see Pócs 2013). TYPE: “PNG: Morobe Prov.: Between Mt. Sarawaket Southern Range and Iloko village 2 km SW of Iloko. Along stream in montane rainforest at 1800 m alt., epiphyllous, 6°06’S, 147°10’E (coll. site 6p), *T. Koponen 33095a p.p.*, 11 July 1981 (Holotype: H, microslide)”.

Colura medusa J.Eggers et Pócs, *Chenia* 11: 22, 2013 (see Pócs 2013). TYPE: “ PNG: Western Prov.: Tabubil, Dublin Creek, rain forest remnants and secondary forest, 600–700 m, *M. Lenz PNG 6/115 p.p.* 7. Aug. 1995 (Holotype: Herb. Eggers. Isotypes: EGR, JE)”.

Colura mizutanii Pócs, *Chenia* 11: 22, 2013 (see Pócs 2013). TYPE: “PNG: Morobe Prov., Mt. Sarawaket, Southern Range 4 km SE of Lake Gwam. Open grassland (kunai) with scattered treeferns at 3300 m. On moist, diffusely lit bark of *Coprosma* (coll. site 6b), *D.H. Norris 62531*, 5. July 1981. (Holotype: H)”.

Colura norrisii Pócs, *Chenia* 11: 29, 2013 (see Pócs 2013). TYPE: “PNG: Morobe Prov.: E part of Cromwell Mts. In moderately well developed moss forest along ridge 5 km WSW of Siwea, in alt. 2100–2200 m, epiphyllous, 6°19.5’S, 147°33’E (coll. site 9j), *D.H. Norris 61378*, 11 June 1981 (Holotype: H, microslide)”.

Conoscyphus koponenii Piippo, Mamontov et Potemkin, *Acta Bryolichenol. Asiat.* 5: 20, 2014 (see Piippo *et al.* 2014). TYPE: “Papua New Guinea. *Morobe Prov.* E part of Cromwell Mts. In montane rainforest on ridge, ca. 5 km of Siwea, alt. 2200–2300 m, 6°19’S, 147°33’E, on branch of fallen tree, collection site no 9f, 13.VI.1981 *Timo Koponen 30522* (H-3169861, isotype in LE)”.

Cryptolophocolea L.Söderstr., Crand.-Stotl., Stotler et Váňa, *Phytotaxa* 97 (2): 39, 2013 (see Söderström *et al.* 2013d). BASED ON: *Plagiochila* sect *V Connatae* Lindenb., *Monogr. hep. gen. Plagiochilae*: xxix, 1844 [1843] (See Lindenberg 1844).

Cryptolophocolea* sect. *Bicornutae (Spruce) J.J.Engel, *Nova Hedwigia* 99 (1/2): 168, 2014 (see Engel 2014). BASIONYM: *Lophocolea* sect. *Bicornutae* Spruce, *Trans. & Proc. Bot. Soc. Edinburgh* 15: 424, 1885 (see Spruce 1885). NOTE: This name also creates the autonym.

Cryptolophocolea* sect. *Leucophyllae (J.J.Engel) J.J.Engel, *Nova Hedwigia* 99 (1/2): 168, 2014 ‘*Leucophylli*’ (see Engel 2014). BASIONYM: *Chiloscyphus* sect. *Leucophylli* J.J.Engel, *Bryologist* 94 (3): 312, 1991 (see Engel 1991).

Cryptolophocolea* sect. *Spiniferae (J.J.Engel) J.J.Engel, *Nova Hedwigia* 99 (1/2): 168, 2014 ‘*Spiniferi*’ (see Engel 2014). BASIONYM: *Chiloscyphus* sect. *Spiniferi* J.J.Engel, *Novon* 9: 22, 1999 (see Engel 1999).

Cryptolophocolea aculeata (Mitt.) L.Söderstr., *Phytotaxa* 112 (1): 21, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Chiloscyphus aculeatus* Mitt., *Bot. antarct. voy. II (Fl. Nov.-Zel.* 2): 140, 1854 (see Mitten 1852).

Cryptolophocolea chiloscyphoidea (Lindenb.) L.Söderstr. et Crand.-Stotl., *Phytotaxa* 112 (1): 18, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Plagiochila chiloscyphoidea* Lindenb., *Nov. Stirp. Pug.* 8: 4, 1844 (see Lehmann 1844).

Cryptolophocolea ciliolata (Nees) L.Söderstr., Crand.-Stotl., Stotler et Váňa, *Phytotaxa* 97 (2): 39, 2013 (see Söderström *et al.* 2013d). BASIONYM: *Jungermannia ciliolata* Nees, *Enum. Pl. Crypt. Javae*: 68, 1830 (see Nees 1830).

Cryptolophocolea compacta (Mitt.) L.Söderstr., *Phytotaxa* 112 (1): 19, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Lophocolea compacta* Mitt., *Trans. Linn. Soc. London, Bot.* 3 (3): 198, 1891 (see Mitten 1891).

Cryptolophocolea connata (Sw.) L.Söderstr. et Váňa, *Phytotaxa* 112 (1): 19, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Jungermannia connata* Sw., *Prodr. (Swartz)*: 143, 1788 (see Swartz 1788).

- Cryptolophocolea connatifolia*** (J.J.Engel) L.Söderstr., *Phytotaxa* 112 (1): 21, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Chiloscyphus connatifolius* J.J.Engel, *Phytologia* 83 (1): 42, 1997 (see Engel 1997).
- Cryptolophocolea costata*** (Nees) L.Söderstr., *Phytotaxa* 112 (1): 19, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Jungermannia costata* Nees, *Enum. Pl. Crypt. Javae*: 69, 1830 (see Nees 1830).
- Cryptolophocolea edentata*** (J.J.Engel) L.Söderstr., *Phytotaxa* 112 (1): 21, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Chiloscyphus edentatus* J.J.Engel, *Phytologia* 83 (1): 43, 1997 (see Engel 1997).
- Cryptolophocolea fleischeri*** (Steph.) L.Söderstr., *Phytotaxa* 112 (1): 21, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Lophocolea fleischeri* Steph., *Bull. Herb. Boissier (sér. 2)* 6 (11): 952 (132), 1906 (see Stephani 1906c).
- Cryptolophocolea guadalupensis*** (Steph.) L.Söderstr. et Váňa, *Phytotaxa* 112 (1): 19, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Lophocolea guadalupensis* Steph., *Bull. Herb. Boissier (sér. 2)* 7 (1): 65 (153), 1907 (see Stephani 1907a).
- Cryptolophocolea helmsiana*** (Steph.) L.Söderstr., *Phytotaxa* 112 (1): 19, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Lophocolea helmsiana* Steph., *Bull. Herb. Boissier (sér. 2)* 6 (9): 794 (94), 1906 (see Stephani 1906a).
- Cryptolophocolea leucophylla*** (Hook.f. et Taylor) L.Söderstr., *Phytotaxa* 112 (1): 19, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Jungermannia leucophylla* Hook.f. et Taylor, *London J. Bot.* 3: 384, 1844 (see Hooker & Taylor 1844a).
- Cryptolophocolea levieri*** (Schiffn.) L.Söderstr., *Phytotaxa* 112 (1): 21, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Lophocolea levieri* Schiffn., *Hep. Fl. Buitenzorg*: 182, 1900 (see Schiffner 1900).
- Cryptolophocolea lilliena*** (Steph.) L.Söderstr., *Phytotaxa* 112 (1): 21, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Lophocolea lilliena* Steph., *Sp. Hepat. (Stephani)* 6: 282, 1922 (see Stephani 1922).
- Cryptolophocolea martiana*** (Nees) L.Söderstr., Crand.-Stotl. et Stotler, *Phytotaxa* 112 (1): 20, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Lophocolea martiana* Nees, *Syn. Hepat.* 2: 152, 1845 (see Gottsche *et al.* 1845a).
- Cryptolophocolea martiana* subsp. *bidentula*** (Nees) L.Söderstr., Crand.-Stotl. et Stotler, *Phytotaxa* 112 (1): 20, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Chiloscyphus bidentulus* Nees, *Syn. Hepat.* 2: 181, 1845 (see Gottsche *et al.* 1845a). NOTE: This name also creates the autonym.
- Cryptolophocolea massalongoana*** (Schiffn.) L.Söderstr., *Phytotaxa* 112 (1): 20, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Lophocolea massalongoana* Schiffn., *Hep. Fl. Buitenzorg*: 183, 1900 (see Schiffner 1900).
- Cryptolophocolea mitteniana*** (Colenso) L.Söderstr., *Phytotaxa* 112 (1): 21, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Isotachis mitteniana* Colenso, *Trans. & Proc. New Zealand Inst.* 21: 69, 1889 (see Colenso 1889).
- Cryptolophocolea mitteniana* var. *obtusata*** (J.J.Engel) L.Söderstr., *Phytotaxa* 112 (1): 21, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Chiloscyphus mittenianus* var. *obtusata* J.J.Engel, *Phytologia* 83 (1): 44, 1997 (see Engel 1997). NOTE: This name also creates the autonym.
- Cryptolophocolea mitteniana* var. *symmetrica*** (J.J.Engel) L.Söderstr., *Phytotaxa* 112 (1): 22, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Chiloscyphus mittenianus* var. *symmetricus* J.J.Engel, *Phytologia* 83 (1): 44, 1997 (see Engel 1997).
- Cryptolophocolea pallida*** (Mitt.) L.Söderstr., *Phytotaxa* 112 (1): 22, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Lophocolea pallida* Mitt., *Bot. antarct. voy. II (Fl. Nov.-Zel.)* 2: 135, 1854 (see Mitten 1852).

Cryptolophocolea pallidovirens (Hook.f. et Taylor) L.Söderstr., *Phytotaxa* 112 (1): 20, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Jungermannia pallidovirens* Hook.f. et Taylor, *London J. Bot.* 3: 473, 1844 ‘*pallido-virens*’ (see Hooker & Taylor 1844b).

Cryptolophocolea perissodonta (Spruce) L.Söderstr., *Phytotaxa* 112 (1): 20, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Lophocolea martiana* var. *perissodonta* Spruce, *Trans. & Proc. Bot. Soc. Edinburgh* 15: 432, 1885 (see Spruce 1885).

Cryptolophocolea proteus (Herzog) L.Söderstr., *Phytotaxa* 112 (1): 22, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Lophocolea proteus* Herzog, *Feddes Repert. Spec. Nov. Regni Veg.* 57 (1/2): 164, 1955 (see Herzog 1955).

Cryptolophocolea pycnophylla (Spruce) L.Söderstr., *Phytotaxa* 112 (1): 22, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Lophocolea pycnophylla* Spruce, *Trans. & Proc. Bot. Soc. Edinburgh* 15: 434, 1885 (see Spruce 1885).

Cryptolophocolea regularis (Steph.) L.Söderstr., *Phytotaxa* 112 (1): 23, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Chiloscyphus regularis* Steph., *Hedwigia* 32 (5): 325, 1893 (see Stephani 1893c).

Cryptolophocolea spinifera (Hook.f. et Taylor) L.Söderstr., *Phytotaxa* 112 (1): 20, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Jungermannia spinifera* Hook.f. et Taylor, *London J. Bot.* 3: 381, 1844 (see Hooker & Taylor 1844a).

Cryptolophocolea stephanii (Schiffn.) L.Söderstr., *Phytotaxa* 112 (1): 23, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Lophocolea stephanii* Schiffn., *Hep. Fl. Buitenzorg*: 181, 1900 (see Schiffner 1900).

Cryptolophocolea subopposita (J.J.Engel) L.Söderstr., *Phytotaxa* 112 (1): 23, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Chiloscyphus suboppositus* J.J.Engel, *Phytologia* 83 (1): 45, 1997 (see Engel 1997).

Cryptolophocolea thermanum (Schiffn.) L.Söderstr., *Phytotaxa* 112 (1): 23, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Lophocolea thermanum* Schiffn., *Hep. Fl. Buitenzorg*: 180, 1900 (see Schiffner 1900).

Cryptolophocolea trialata (Gottsche) L.Söderstr., *Phytotaxa* 112 (1): 23, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Lophocolea trialata* Gottsche, *Linnaea* 28 (5): 552, 1856 [1857] (see Gottsche 1856).

Cryptolophocolea tricorata (Hässel) Crand.-Stotl. et Stotler, *Phytotaxa* 112 (1): 23, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Chiloscyphus tricoratus* Hässel, *Nova Hedwigia* 70 (3/4): 456, 2000 (see Hässel 2000).

Cryptolophocolea tuberculata (J.J.Engel) L.Söderstr., *Phytotaxa* 112 (1): 23, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Chiloscyphus tuberculatus* J.J.Engel, *Phytologia* 83 (1): 45, 1997 (see Engel 1997).

Cryptolophocolea whittieriana (Inoue et H.A.Mill.) L.Söderstr., *Phytotaxa* 112 (1): 24, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Lophocolea whittieriana* Inoue et H.A.Mill., *Bull. Natl. Sci. Mus. Tokyo (n.ser.)* 8 (2): 143, 1965 (see Inoue & Miller 1965).

Cuspidatula flexicaulis (Nees) Váňa et L.Söderstr., *Phytotaxa* 76 (3): 35, 2013 (see Váňa *et al.* 2013c). BASIONYM: *Jungermannia flexicaulis* Nees, *Linnaea* 6 (4): 604, 1831 (see Nees 1831).

Cuspidatula orbicularis (Grolle) Váňa et L.Söderstr., *Phytotaxa* 76 (3): 36, 2013 (see Váňa *et al.* 2013c). BASIONYM: *Jamesoniella orbicularis* Grolle, *Feddes Repert.* 82 (1): 42, 1971 (see Grolle 1971a).

Cuspidatula robusta (Austin) Váňa et L.Söderstr., *Phytotaxa* 76 (3): 36, 2013 (see Váňa *et al.* 2013c). BASIONYM: *Jungermannia robusta* Austin, *Proc. Acad. Nat. Sci. Philadelphia* 21: 219, 1869 (see Austin 1869).

Cyclolejeuneinae Gradst. (subtrib.), *Phytotaxa* 100 (1): 12, 2013 (see Gradstein 2013d). BASED ON: Cyclolejeuneae R.M.Schust. (trib.), *J. Hattori Bot. Lab.* 91: 165, 2001 (see Schuster 2001). NOTE: Originally placed in subfam. Lejeunoideae trib. Lejeuneae

Cylindrocolea abyssinica (Gola) Váňa, *Phytotaxa* 112 (1): 2, 2013 (see Váňa *et al.* 2013i). BASIONYM: *Cephaloziella abyssinica* Gola, *Ann. Bot. (Rome)* 13 (1): 68, 1914 (see Gola 1914a).

Cylindrocolea kiaeri (Austin) Váňa, *Phytotaxa* 112 (1): 2, 2013 (see Váňa *et al.* 2013i). BASIONYM: *Jungermannia kiaeri* Austin, *Bull. Torrey Bot. Club* 6 (3): 18, 1875 (see Austin 1875).

Cylindrocolea sanctae-helenae M.Wigginton, *Polish Bot. J.* 58 (1): 107, 2013 (see Wigginton 2013). TYPE: “ST. HELENA, Blue Hill Village, in small valley E of road: on shaded, moist upper surfaces of horizontal rotting tree trunk, in *Podocarpus elongata*—*Agave* community in valley bottom, 525 m., 30L/TH/055314, 5°45'W 15°58'S, 23 October 2005, Wigginton 05/191 (holotype: E)”.

Deceptifrons J.J.Engel et Váňa, *Mem. New York Bot. Gard.* 105: 54, 2013 (see Váňa & Engel 2013). TYPE: *Deceptifrons plagiochiloides* J.J.Engel et Váňa.

Deceptifrons plagiochiloides J.J.Engel et Váňa, *Mem. New York Bot. Gard.* 105: 54, 2013 (see Váňa & Engel 2013). TYPE: “Tristan da Cunha Is., The Base at east side of Hottentot Gulch, 16 March 1962, Dickson 390 (F—holotype, herb. Váňa—istotype)”.

Diplasiolejeunea mayaykuensis Schäf.-Verw. et Heinrichs, *Polish Bot. J.* 58 (1): 143, 2013 (see Schäfer-Verwimp *et al.* 2013). TYPE: “ECUADOR, Zamora-Chinchi, Amazonasgebiet südl. Paquisha, Kulturland bei Mayayku, epiphytisch an Solitär-Strauch; 850 m; 3°59.3'S, 78°38.9'W, 30.1.2011, leg. A. Schäfer-Verwimp & M. Nebel 32094 (holotype: STU; isotypes: GOET, JE, QCA)”.

Diplophyllum sect. Protodiplophyllum (R.M.Schust.) Váňa et L.Söderstr., *Phytotaxa* 76 (3): 29, 2013 (see Váňa *et al.* 2013a). BASIONYM: *Diplophyllum* subg. *Protodiplophyllum* R.M.Schust., *Hepat. Anthocerotae N. Amer.* 3: 192, 1974 (see Schuster 1974). NOTE: This name also creates the autonym.

Diplophyllum obtusifolium subsp. *domesticum* (Gottsche) Váňa, *Phytotaxa* 76 (3): 29, 2013 (see Váňa *et al.* 2013a). BASIONYM: *Jungermannia domestica* Gottsche, *Linnaea* 28 (5): 548, 1856 [1857] (see Gottsche 1856). NOTE: This name also creates the autonym.

Douinia imbricata (M.Howe) Konstant. et Vilnet, *Phytotaxa* 76 (3): 31, 2013 (see Konstantinova *et al.* 2013). BASIONYM: *Scapania imbricata* M.Howe, *Bull. New York Bot. Gard.* 2 (6): 104, 1901 (see Howe 1901).

Douinia plicata (Lindb.) Konstant. et Vilnet, *Phytotaxa* 76 (3): 31, 2013 (see Konstantinova *et al.* 2013). BASIONYM: *Diplophyllum plicatum* Lindb., *Acta Soc. Sci. Fenn.* 10: 235, 1872 [1873] (see Lindberg 1872).

Drepanolejeuneinae Gradst. (subtrib.), *Phytotaxa* 100 (1): 14, 2013 (see Gradstein 2013d). TYPE: *Drepanolejeunea* (Spruce) Steph. NOTE: Originally placed in subfam. Lejeunoideae trib. Lejeuneae.

Drepanolejeunea actinogyna Inuthai, R.L.Zhu et Chantanaorr., *Bryologist* 117 (2): 165, 2014 (see Inuthai *et al.* 2014). TYPE: “THAILAND. NAKHON SI THAMMARAT PROVINCE: Ron Phibun District, Nam Tok Yong National Park, Khao Ramrome Mountain, montane forest, 08°14'91.75" 99°48'20.230" E, ca. 1,000 m, on leaves of *Helixanthera* sp., 20 Sept. 2012, S. Chantanaorrapiñt & J. Inuthai 1621 (holotype: PSU; isotypes: BKF, HSNU)”.

Drepanolejeunea bidoupensis Pócs, *Cryptog. Bryol.* 34 (3): 293, 2013 (see Pócs *et al.* 2013). TYPE: “VIETNAM. Central Highlands region, Lâm Đồng Province, Bidoup-Núi Bà National Park, trail from Hòn Giao station towards 1st peak of Hòn Giao, epiphyllous in shaded, humid mixed tropical montane forest at 1633–1717 m alt., 12°11.184–356'N, 108°42.818–889'E, 17 May 2011, T. T. Luong & B. C. Ho BD 511-115 (Holotype: EGR, Isotype: HUS)”.

Echinolejeuneinae Gradst. (subtrib.), *Phytotaxa* 100 (1): 11, 2013 (see Gradstein 2013d). TYPE: *Echinolejeunea* R.M.Schust. NOTE: Originally placed in subfam. Lejeunoideae trib. Lejeuneae.

Frullania ignatovii Sofronova, Mamontov et Potemkin, *Novosti Sist. Nizš. Rast.* 47: 335, 2013 (see Sofronova *et al.* 2013). TYPE: “Russia, Republic of Buryatia, Kurumkanskiy District, Dzherginskiy State Reserve, Yuzhno-Mujjsky Range, Upper Barguzin River (55°07' N, 111°53' E), 1618 m alt., on rocks over the stream, 01.08.2013, Yu. S. Mamontov, № YuSM-384-8 (holotype—LE, isotypes—KPABG, SASY, MHA, JE, TNS, HSNU)”.

Frullania magellanica* subsp. *tristaniana (S.W.Arnell) Váňa et J.J.Engel, *Mem. New York Bot. Gard.* 105: 59, 2013 (see Váňa & Engel 2013). BASIONYM: *Frullania tristaniana* S.W.Arnell, *Results Norweg. Sci. Exped. Tristan da Cunha* 42: 9, 1958 (see Arnell 1958a). NOTE: This name also creates the autonym.

Frullania subarctica Vilnet, Borovich. et Bakalin, *Phytotaxa* 173 (1): 67, 2014 (see Vilnet *et al.* 2014). TYPE: “Russia. Magadan Province: Ol'skoe Basalt Plateau in upper course of Maltan River, 60°38'46" N, 151°27'25" E), 1166 m elev., tundra belt, wet moss-*Sphagnum* tundra on slope, in hollows, 9 August 2011, *V. Bakalin Mag54-19-11* (holotype VBGI, isotypes KPABG, MHA)”.

Frullania toropuku von Konrat, de Lange et Larraín, *Polish Bot. J.* 58 (2): 439, 2013 (see von Konrat *et al.* 2013). TYPE: “New Zealand, North Island, Te Pahi Ecological Region and District, Te Pahi, North Cape Scientific Reserve, “Badlands Area”, In a small *Phyllocladus* “forest”. Saxi-terricolous—forming a loose crust over serpentine rock and ferrocrete on the margin of a small ephemeral [sic!] stream draining a large area of heavily eroded ferrocrete and bauxite, c. 180 m., 34°24'2"S, 173°1'16"E, 19 Oct. 2009, *P. J. de Lange* 8038 [Holotype: AK; Isotype: F]”.

Fuscocephaloziopsis affinis (Lindb. ex Steph.) Váňa et L.Söderstr., *Phytotaxa* 112 (1): 9, 2013 (see Váňa *et al.* 2013j). BASIONYM: *Cephalozia affinis* Lindb. ex Steph., *Bull. Herb. Boissier (sér. 2)* 8 (4): 277 (291), 1908 (see Stephani 1908a).

Fuscocephaloziopsis africana (Váňa) Váňa et L.Söderstr., *Phytotaxa* 112 (1): 9, 2013 (see Váňa *et al.* 2013j). BASIONYM: *Cephalozia africana* Váňa, *Beih. Nova Hedwigia* 90: 187, 1988 (see Váňa 1988).

Fuscocephaloziopsis albescens (Hook.) Váňa et L.Söderstr., *Phytotaxa* 112 (1): 9, 2013 (see Váňa *et al.* 2013j). BASIONYM: *Jungermannia albescens* Hook., *Brit. Jungermann.*: tab. 72, 1815 (see Hooker 1815).

Fuscocephaloziopsis albescens* var. *islandica (Nees) Váňa et L.Söderstr., *Phytotaxa* 112 (1): 9, 2013 (see Váňa *et al.* 2013j). BASIONYM: *Jungermannia islandica* Nees, *Naturgesch. Eur. Leberm.* 2: 29, 1836 (see Nees 1836). NOTE: This name also creates the autonym.

Fuscocephaloziopsis baldwinii (C.M.Cooke) Váňa et L.Söderstr., *Phytotaxa* 112 (1): 9, 2013 (see Váňa *et al.* 2013j). BASIONYM: *Cephalozia baldwinii* C.M.Cooke, *Trans. Connecticut Acad. Arts* 12 (1): 35, 1904 (see Cooke 1904).

Fuscocephaloziopsis catenulata (Huebener) Váňa et L.Söderstr., *Phytotaxa* 112 (1): 9, 2013 (see Váňa *et al.* 2013j). BASIONYM: *Jungermannia catenulata* Huebener, *Hepaticol. germ.*: 169, 1834 (see Hübener 1834).

Fuscocephaloziopsis catenulata* subsp. *nipponica (S.Hatt.) Váňa et L.Söderstr., *Phytotaxa* 112 (1): 9, 2013 (see Váňa *et al.* 2013j). BASIONYM: *Cephalozia nipponica* S.Hatt., *Bull. Tokyo Sci. Mus.* 11: 74, 1944 (see Hattori 1944). NOTE: This name also creates the autonym.

Fuscocephaloziopsis connivens (Dicks.) Váňa et L.Söderstr., *Phytotaxa* 112 (1): 9, 2013 (see Váňa *et al.* 2013j). BASIONYM: *Jungermannia connivens* Dicks., *Fasc. Pl. Crypt. Brit.* 4: 19, 1801 (see Dickson 1801).

Fuscocephaloziopsis connivens* subsp. *fissa (Steph.) Váňa et L.Söderstr., *Phytotaxa* 112 (1): 9, 2013 (see Váňa *et al.* 2013j). BASIONYM: *Cephalozia fissa* Steph., *Hedwigia* 30 (5): 204, 1891 (see Stephani 1891a). NOTE: This name also creates the autonym.

Fuscocephaloziopsis connivens* subsp. *sandwicensis (Mont.) Váňa et L.Söderstr., *Phytotaxa* 112 (1): 9, 2013 (see Váňa *et al.* 2013j). BASIONYM: *Jungermannia sandwicensis* Mont., *Ann. Sci. Nat. Bot. (sér. 2)* 19: 249, 1843 (see Montagne 1843).

Fuscocephaloziopsis crassifolia (Lindenb. et Gottsche) Váňa et L.Söderstr., *Phytotaxa* 112 (1): 10, 2013 (see Váňa *et al.* 2013j). BASIONYM: *Jungermannia crassifolia* Lindenb. et Gottsche, *Syn. Hepat.* 5: 685, 1847 (see Gottsche *et al.* 1847).

Fuscocephaloziopsis gollanii (Steph.) Váňa et L.Söderstr., *Phytotaxa* 112 (1): 10, 2013 (see Váňa *et al.* 2013j). BASIONYM: *Cephalozia gollanii* Steph., *Bull. Herb. Boissier (sér. 2)* 8 (6): 428 (304), 1908 ‘Gollani’ (see Stephani 1908b).

Fuscocephaloziopsis leucantha (Spruce) Váňa et L.Söderstr., *Phytotaxa* 112 (1): 10, 2013 (see Váňa *et al.* 2013j). BASIONYM: *Cephalozia leucantha* Spruce, *Cephalozia*: 68, 1882 (see Spruce 1882).

Fuscocephaloziopsis loitlesbergeri (Schiffn.) Váňa et L.Söderstr., *Phytotaxa* 112 (1): 10, 2013 (see Váňa *et al.* 2013j). BASIONYM: *Cephalozia loitlesbergeri* Schiffn., *Österr. Bot. Z.* 62 (1): 10, 1912 (see Schiffner 1912).

Fuscocephaloziopsis lunulifolia (Dumort.) Váňa et L.Söderstr., *Phytotaxa* 112 (1): 10, 2013 (see Váňa *et al.* 2013j). BASIONYM: *Jungermannia lunulifolia* Dumort., *Syll. Jungerm. Europ.*: 61, 1831 “*lunulaefolia*” (see Dumortier 1831).

Fuscocephaloziopsis macrostachya (Kaal.) Váňa et L.Söderstr., *Phytotaxa* 112 (1): 10, 2013 (see Váňa *et al.* 2013j). BASIONYM: *Cephalozia macrostachya* Kaal., *Rev. Bryol.* 29 (1): 8, 1902 (see Kaalaas 1902).

Fuscocephaloziopsis macrostachya* subsp. *australis (R.M.Schust.) Váňa et L.Söderstr., *Phytotaxa* 112 (1): 10, 2013 (see Váňa *et al.* 2013j). BASIONYM: *Cephalozia macrostachya* subsp. *australis* R.M.Schust., *Hepat. Anthocerotae N. Amer.* 3: 754, 1974 (see Schuster 1974). NOTE: This name also creates the autonym.

Fuscocephaloziopsis macrostachya* var. *spiniflora (Schiffn.) Váňa et L.Söderstr., *Phytotaxa* 112 (1): 10, 2013 (see Váňa *et al.* 2013j). BASIONYM: *Cephalozia spiniflora* Schiffn., *Hedwigia* 54 (6): 323, 1914 (see Schiffner 1914). NOTE: This name also creates the autonym.

Fuscocephaloziopsis monticola (J.D.Godfrey) Váňa et L.Söderstr., *Phytotaxa* 112 (1): 11, 2013 (see Váňa *et al.* 2013j). BASIONYM: *Schofieldia monticola* J.D.Godfrey, *Bryologist* 79 (3): 315, 1976 (see Godfrey 1976).

Fuscocephaloziopsis pachycaulis (R.M.Schust.) Váňa et L.Söderstr., *Phytotaxa* 112 (1): 11, 2013 (see Váňa *et al.* 2013j). BASIONYM: *Cephalozia pachycaulis* R.M.Schust., *Bryologist* 96 (4): 623, 1993 (see Schuster 1993).

Fuscocephaloziopsis pleniceps (Austin) Váňa et L.Söderstr., *Phytotaxa* 112 (1): 11, 2013 (see Váňa *et al.* 2013j). BASIONYM: *Jungermannia pleniceps* Austin, *Proc. Acad. Nat. Sci. Philadelphia* 21: 222, 1869 (see Austin 1869).

Fuscocephaloziopsis pleniceps* var. *caroliniana (R.M.Schust.) Váňa et L.Söderstr., *Phytotaxa* 112 (1): 11, 2013 (see Váňa *et al.* 2013j). BASIONYM: *Cephalozia pleniceps* var. *caroliniana* R.M.Schust., *Hepat. Anthocerotae N. Amer.* 3: 780, 1974 (see Schuster 1974). NOTE: This name also creates the autonym.

Fuscocephaloziopsis schusteri (Sushil K.Singh et D.K.Singh) Váňa, *Phytotaxa* 183 (4): 291, 2014 (see Váňa *et al.* 2014c). BASIONYM: *Cephalozia schusteri* Sushil K.Singh et D.K.Singh, *Lindbergia* 32 (1): 1, 2007 (see Singh & Singh 2007).

Fuscocephaloziopsis zoopsioides (Horik.) Váňa et L.Söderstr., *Phytotaxa* 112 (1): 11, 2013 (see Váňa *et al.* 2013j). BASIONYM: *Cephalozia zoopsioides* Horik., *J. Sci. Hiroshima Univ., Ser. B, Div. 2, Bot.* 2: 178, 1934 (see Horikawa 1934).

†***Gackstroemia cretacea*** Heinrichs, Schäf.-Verw., K.Feldberg et A.R.Schmidt, *Rev. Palaeobot. Palynol.* 203: 49, 2014 (see Heinrichs *et al.* 2014b). TYPE: “Holotype: Amber inclusion AMNH BU ASJH-1, American Museum of Natural History, New York, Plate I. Type locality: Myanmar. Stratigraphic range and age: Lower Cretaceous: Upper Albian, about 100 million years old.”.

Gackstroemia novae-zelandiae R.M.Schust. et J.J.Engel, *Phytotaxa* 118 (1): 10, 2013 (see Engel 2013b). TYPE: “Holotype: New Zealand, South Island, Westland Prov., Cascade Road, just W of Jackson River, ca. 8–12 km SW of confluence of Jackson and Arawata Rivers, 25–90 m, Engel 22996 (F); isotype (CHR)”.

†***Hepaticites iporangae*** Ricardi-Branco, R.S.Faria, Jasper et Guerra-Sommer, *J. Paleontol.* 85 (2): 363, 2011 (see Ricardi-Branco *et al.* 2011). TYPE: “Holotype: PbU 259. Occurrence. Quitéria Outcrop (S 30°17', W 52°11'), Rio Bonito Formation, Early Permian; municipality of Encruzilhada do Sul, state of Rio Grande do Sul, Brazil.”

Heterogemma patagonica (Herzog et Grolle) L.Söderstr. et Váňa, *Phytotaxa* 97 (2): 29, 2013 (see Söderström *et al.* 2013c). BASIONYM: *Lophozia patagonica* Herzog et Grolle, *Rev. Bryol. Lichénol.* 28 (3/4): 343, 1959 [1960] (see Grolle 1959).

Heteroscyphus ammophilus* var. *obtusifolius J.J.Engel et G.L.Merr., *Nova Hedwigia* 99 (1/2): 158, 2014 (see Engel 2014). TYPE: “New Zealand, Stewart Is., Pegasus Harbour, Pegasus Creek, 0.5–1 mi. above mouth, 100–220 ft., Schuster 59837 (F); isotype: (CHR)”. NOTE: This name also creates the autonym.

Heteroscyphus assurgentifolius J.J.Engel, *Nova Hedwigia* 99 (1/2): 158, 2014 (see Engel 2014). TYPE: “New Zealand, South Is., Nelson Prov., Paparoa Natl. Park, Bullock Creek Road, along Bullock Creek, NE of Punakaiki, ca. 25 m, Engel 21582 (F); isotype: (CHR)”.

Heteroscyphus circumdentatus* var. *clasmatocoleoides J.J.Engel et G.L.Merr., *Polish Bot. J.* 58 (1): 95, 2013 (see Engel 2013a). TYPE: “NEW ZEALAND. Stewart Is.: W end of Tin Range, near crest, N of Port Pegasus, 1200–1500 ft., Schuster 53143 (F); isotype: (CHR)”. NOTE: This name also creates the autonym.

Heteroscyphus deceptifrons J.J.Engel, *Nova Hedwigia* 99 (1/2): 162, 2014 (see Engel 2014). TYPE: “New Zealand, North Is., North Auckland Prov., NE Waitakere Ranges, Swanson University Reserve, Tram Valley Road, 95 m, Engel 20464 (F); isotype: (AK)”.

Heteroscyphus dentammophilus J.J.Engel et G.L.Merr., *Polish Bot. J.* 58 (1): 96, 2013 (see Engel 2013a). TYPE: “NEW ZEALAND, South Is., Canterbury Prov., Mt. Cook Natl. Park, Stocking Stream, SW facing cliffs above Hooker Valley, 1280–1330 m, Engel 18261 (F); isotype: (CHR)”.

Heteroscyphus fissistipus* var. *multispinus (E.A.Hodgs. et Allison) J.J.Engel, *Nova Hedwigia* 99 (1/2): 165, 2014 (see Engel 2014). BASIONYM: *Chiloscyphus multispinus* E.A.Hodgs. et Allison, *Trans. & Proc. Roy. Soc. New Zealand* 73 (1): 37, 1943 (see Hodgson 1943). NOTE: This name also creates the autonym.

Heteroscyphus fissistipus* var. *repandus J.J.Engel, *Nova Hedwigia* 99 (1/2): 165, 2014 (see Engel 2014). TYPE: “New Zealand, North Is., Gisborne Ecological Prov., Waioeka Gorge Scenic Reserve, S.H. 2, Engel and von Konrat 27888 (F); isotype: (AK)”.

Heteroscyphus fleischeri (Steph.) D.G.Long et Rubas., *Ceylon J. Sci., Biol. Sci.* 43 (1): 26, 2014 (see Long & Rubasinghe 2014). BASIONYM: *Chiloscyphus fleischeri* Steph., *Sp. Hepat. (Stephani)* 6: 306, 1922 (see Stephani 1922).

Heteroscyphus menziesii (Mitt.) J.J.Engel, *Polish Bot. J.* 58 (1): 99, 2013 (see Engel 2013a). BASIONYM: *Chiloscyphus menziesii* Mitt., *Bot. antarct. voy. II (Fl. Nov.-Zel. 2)*: 139, 1854 (see Mitten 1852).

Heteroscyphus mononuculus* var. *ammophilopsis J.J.Engel, *Nova Hedwigia* 99 (1/2): 166, 2014 (see Engel 2014). TYPE: “New Zealand, South Is., Fiordland Natl. Park, on track from Lake Mackenzie to Harris Saddle, ca. 3800 ft, Schuster 67-367b (F)”. NOTE: This name also creates the autonym.

Heteroscyphus mononuculus* var. *bilobus J.J.Engel, *Nova Hedwigia* 99 (1/2): 167, 2014 (see Engel 2014). TYPE: “New Zealand, South Is., Western Nelson, Kahurangi Natl. Park, Matiri Range, Thousand Acres Plateau, ca. 1100–1200 m, Engel & von Konrat 27054 (F); isotype: (CHR)”.

Heteroscyphus parallelifolius J.J.Engel, *Polish Bot. J.* 58 (1): 99, 2013 (see Engel 2013a). TYPE: “NEW ZEALAND, North Is., North Auckland Prov., NE Waitakere Ranges, Swanson University Reserve, Tram Valley Road, 95 m, Engel 20433—c. ♂ (F); isotype: (AK)”.

Heteroscyphus stolonifer J.J.Engel, *Polish Bot. J.* 58 (1): 102, 2013 ‘*stoloniferus*’ (see Engel 2013a). TYPE: “NEW ZEALAND, South Is., Sounds Nelson Ecological Province, Aniseed Valley, Hackett (Whispering) Falls Walk, SE of Richmond Township via Aniseed Valley Road off State Highway 6, 220–270 m, Engel and von Konrat 27008—c. ♂ (F); isotype: (CH)”.

Heteroscyphus triacanthus* var. *magnistipulatus J.J.Engel, *Nova Hedwigia* 99 (1/2): 167, 2014 (see Engel 2014). TYPE: “New Zealand, South Is., Canterbury Prov., Mt. Cook Natl. Park, SW facing cliffs off Wakefield Track, overlooking Hooker River, E of town of Mt. Cook, 720 m, Engel 18295 (F); isotype: (CHR)”. NOTE: This name also creates the autonym.

Hygrobiella intermedia Bakalin et Vilnet, *Pl. Syst. Evol.* 300 (10): 2286, 2014 (see Bakalin & Vilnet 2014). TYPE: “Russia, South Kurils, Shikotan Island, K-48-13-07, 27.VIII.2007, V. Bakalin (VBGI, isotype in KPABG).”.

Hygrobiella squamosa Bakalin et Vilnet, *Pl. Syst. Evol.* 300 (10): 2286, 2014 (see Bakalin & Vilnet 2014). TYPE: “Russia, Kamchatsky Territory, Commanders, Mednyj (Copper) Island, K-67-2-04, 05.VII.2004, V. Bakalin (KPABG 106771, isotype in VBGI)”.

Hygrobiellaceae Konstant. et Vilnet (fam.), *Phytotaxa* 167 (2): 217, 2014 (see Konstantinova *et al.* 2014b). BASED ON: Hygrobiellae Jørg. (tr.), *Bergens Mus. Skr. (n.ser.)* 16: 257, 1934 (see Jørgensen 1934).

Hypolophozia laxifolia (Mont.) Váňa, *Mem. New York Bot. Gard.* 105: 64, 2013 (see Váňa & Engel 2013). BASIONYM: *Sarcocypus laxifolius* Mont., *Ann. Sci. Nat. Bot. (sér. 3)* 4: 346, 1845 “*Sarcocypus*” (see Montagne 1845).

Hypolophozia tristaliana (S.W.Arnell) Váňa et J.J.Engel, *Mem. New York Bot. Gard.* 105: 64, 2013 (see Váňa & Engel 2013). BASIONYM: *Jungermannia tristaliana* S.W.Arnell, *Results Norweg. Sci. Exped. Tristan da Cunha* 42: 12, 1958 (see Arnell 1958a).

Isotachis hastatistipula (Steph.) J.J.Engel, *Phytotaxa* 183 (4): 299, 2014 (see Engel *et al.* 2014). BASIONYM: *Balantiopsis hastatistipula* Steph., *J. & Proc. Roy. Soc. New South Wales* 48 (1/2): 98, 1914 (see Stephani & Watts 1914).

*****Jackiella javanica* var. *cardiocarpa*** Schiffn. ex P.K.Verma, A.Alam et K.K.Rawat, *Polish Bot. J.* 58 (2): 532, 2013, *nom. inval.* Art. 38.1(a); no description (see Verma *et al.* 2013). ORIGINAL MATERIAL: “[Western Ghats, Tamil Nadu]”.

Jubula hattorii* var. *muthukuzhiana A.E.D.Daniels et P.Daniel, *Bryofl. Southernm. W Ghats*: 181, 2013 (see Daniels & Daniel 2013). TYPE: “India, Tamil Nadu, Kanyakumari Dist., W. Ghats, Muthukuzhivayal, ca 1200 rn, 17.5.2002, A.E.D. Daniels 2231 p.p. (Holotype: MH)”. NOTE: This name also creates the autonym.

Jungermannia gracillima* subsp. *arctica Damsh., *Liverworts Greenland*: 217, 2013 (see Damsholt 2013). TYPE: “W. Greenland, 6: Eqałúnguit (RMS & KD 70-2223)”.

*****Jungermannia jenseniana* var. *vinacea*** (R.M.Schust.) Damsh., *Liverworts Greenland*: 218, 2013, *nom. inval.* ICN Art. 41.1; basionym not cited (see Damsholt 2013). BASIONYM: *Solenostoma pusillum* var. *vinaceum* R.M.Schust., *Hepat. Anthocerotae N. Amer.* 2: 957, 1969 (see Schuster 1974).

Jungermannia pumila* f. *alpestris (Gottsche et Rabenh.) Damsh., *Liverworts Greenland*: 195, 2013 (see Damsholt 2013). BASIONYM: *Jungermannia pumila* var. *alpestris* Gottsche et Rabenh., *Hepat. Eur., Leberm.* 29–30: no. 244, 1863 (see Gottsche & Rabenhorst 1863d).

Jungermannia pumila f. cavifolia (R.M.Schust.) Damsh., *Liverworts Greenland*: 199, 2013 (see Damsholt 2013). BASIONYM: *Solenostoma polare f. cavifolium* R.M.Schust., *Bull. Natl. Mus. Canada* 164: 51, 1959 ‘*polaris f. cavifolius*’ (see Schuster *et al.* 1959).

Jungermannia pumila f. heteroica (R.M.Schust. et Damsh.) Damsh., *Liverworts Greenland*: 195, 2013 (see Damsholt 2013). BASIONYM: *Solenostoma oblongifolium* subsp. *heteroicum* R.M.Schust. et Damsh., *Meddel. Grønland* 199 (1): 167, 1974 (see Schuster & Damsholt 1974).

Jungermannia pumila f. polaris (Lindb.) Damsh., *Liverworts Greenland*: 199, 2013 (see Damsholt 2013). BASIONYM: *Jungermannia polaris* Lindb., *Öfvers. Kongl. Vetensk.-Akad. Förh.* 23 (10): 560, 1866 [1867] (see Lindberg 1866).

*****Jungermannia sphaerocarpa var. innovata*** (R.M.Schust. et Damsh.) Damsh., *Liverworts Greenland*: 213, 2013, *nom. inval.* ICN Art. 36.1(c); publ. in syn. [sub *Jungermannia sphaerocarpa* subsp. *purpurea*] (see Damsholt 2013). BASIONYM: *Solenostoma pyriformum* var. *innovatum* R.M.Schust. et Damsh., *Meddel. Grønland* 199 (1): 179, 1974 (see Schuster & Damsholt 1974).

Jungermannia yamatoensis Bakalin et Furuki, *Hikobia* 16: 423, 2014 (see Bakalin & Furuki 2014). NOM. NOV. PRO *Jungermannia claviflora* Steph., *Sp. Hepat. (Stephani)* 6: 84, 1917, *nom. illeg.* ICN Art. 53.4; hom. illeg. [non Martius 1817] (see Stephani 1917).

Kurzia nivicola (R.M.Schust.) E.D.Cooper, *Phytotaxa* 97 (2): 52, 2013 (see Cooper *et al.* 2013). BASIONYM: *Telaranea nivicola* R.M.Schust., *Nova Hedwigia* 15: 460, 1968 (see Schuster 1968).

Kurzia tasmanica (Steph.) E.D.Cooper, *Phytotaxa* 97 (2): 52, 2013 (see Cooper *et al.* 2013). BASIONYM: *Lepidozia tasmanica* Steph., *Sp. Hepat. (Stephani)* 3: 580, 1909 (see Stephani 1909).

Leiolejeuneinae Schäf.-Verw. et Heinrichs (subtrib.), *Phytotaxa* 170 (3): 194, 2014 (see Schäfer-Verwimp *et al.* 2014). TYPE: *Leiolejeunea*. NOTE: Originally placed in subfam. Lejeunoideae trib. Lejeuneae.

Lejeuneinae Gradst. (subtrib.), *Phytotaxa* 100 (1): 13, 2013 (see Gradstein 2013d). TYPE: *Lejeunea* Lib. NOTE: Originally placed in subfam. Lejeunoideae trib. Lejeuneae.

Lejeunea apiahyna (Steph.) Sushil K.Singh, *Phytotaxa* 96 (1): 63, 2013 (see Singh 2013). BASIONYM: *Otigoniolejeunea apiahyna* Steph., *Sp. Hepat. (Stephani)* 5: 514, 1914 (see Stephani 1914).

Lejeunea devendrae (Sushil K.Singh) P.K.Verma et K.K.Rawat, *J. Bryol.* 36 (2): 161, 2014 (see Verma & Rawat 2014). BASIONYM: *Rectolejeunea devendrae* Sushil K.Singh, *Indian J. Forest.* 34 (3): 341, 2011 (see Singh 2011).

Lejeunea dipterota (Eifrig) G.E.Lee, *Polish Bot. J.* 58 (1): 61, 2013 (see Lee & Gradstein 2013). BASIONYM: *Taxilejeunea dipterota* Eifrig, *Monogr. Stud. Indomal. Art. Taxilejeunea*: 96, 1937 (see Eifrig 1937).

Lejeunea estrellamontana M.A.M.Renner et Pócs, *Phytotaxa* 81 (1): 9, 2013 (see Renner *et al.* 2013a). NOM. NOV. PRO *Stenolejeunea fissistipula* R.M.Schust., *J. Hattori Bot. Lab.* 89: 167, 2000 (see Schuster 2000).

Lejeunea exilis var. abnormis (Herzog) G.E.Lee, *Polish Bot. J.* 58 (1): 61, 2013 (see Lee & Gradstein 2013). BASIONYM: *Byssolejeunea abnormis* Herzog, *Hedwigia* 80 (1/2): 84, 1941 (see Herzog 1941). NOTE: This name also creates the autonym.

Lejeunea himalayensis (Pandé et R.N.Misra) A.E.D.Daniels et P.Daniel, *Bryofl. Southernm. W Ghats*: 205, 2013 (see Daniels & Daniel 2013). BASIONYM: *Leptolejeunea himalayensis* Pandé et R.N.Misra, *J. Indian Bot. Soc.* 22 (2/4): 168, 1943 (see Pandé & Misra 1943).

Lejeunea hodgsoniana Grolle ex R.J.Lewington, Bever. et M.A.M.Renner, *PhytoKeys* 29: 2, 2013 (see Lewington *et al.* 2013). TYPE: “NEW ZEALAND. Porirua: Titahi Bay, Stuart Park, track to cliff edge at S end of bay: Sounds-

Wellington Ecological Region, Wellington Ecological District, on trunk and branches of *Melicytus ramiflorus* in coastal thicket with *Pittosporum crassifolium* and *Coprosma repens*. Bryophyte associates, *Cololejeunea minutissima*, *Frullania monocera*, *Frullania patula*, *Lejeunea colensoana*, *Rhynchostegium muriculatum*, *Siphonolejeunea nudipes* and *Syntrichia papillosa*, 41°06'33"S, 174°49'43"E, ca. 15m, 19 July 2012, P. Beveridge MB-2. (Holotype: WELT [WELT H012563], isotypes AK, CHR, F, NSW)".

Lejeunea morobensis (Grolle) M.A.M. Renner et Pócs, *Phytotaxa* 81 (1): 9, 2013 (see Renner *et al.* 2013a). BASIONYM: *Stenolejeunea morobensis* Grolle, *J. Hattori Bot. Lab.* 29: 76, 1966 (see Grolle 1966b).

Lejeunea pfleidereri Sushil K. Singh, *Phytotaxa* 96 (1): 63, 2013 (see Singh 2013). NOM. NOV. PRO *Otigoniolejeunea indica* Steph., *Sp. Hepat. (Stephani)* 6: 408, 1923 (see Stephani 1923).

Lejeunea quinqueumbonata var. *rotundata* (Herzog) Sushil K. Singh, *Phytotaxa* 96 (1): 64, 2013 (see Singh 2013). BASIONYM: *Otigoniolejeunea quinqueumbonata* var. *rotundata* Herzog, *Rev. Bryol. Lichénol.* 20 (1/2): 154, 1951 [1952] (see Herzog 1951b). NOTE: This name also creates the autonym.

Lejeunea recurva M.E. Reiner, *Polish Bot. J.* 58 (2): 423, 2013 (see Reiner-Drehwald *et al.* 2013). NOM. NOV. PRO *Hygrolejeunea herzogii* Steph., *Biblioth. Bot.* 87 (2): 265, 1916, *nom. illeg.* ICN Art. 53.1; *hom. illeg.* [non Steph. 1914] (see Stephani 1916b).

Lejeunea soae R.L. Zhu, Y.M. Wei, L. Söderstr., A. Hagborg et von Konrat, *Phytotaxa* 81 (1): 1, 2013 (see Zhu *et al.* 2013). NOM. NOV. PRO *Trachylejeunea chinensis* Herzog, *Symb. Sin.* 5: 49, 1930 (see Nicholson *et al.* 1930).

Lejeunea srivastavae P.K. Verma et K.K. Rawat, *Taiwania* 58 (1): 8, 2013 (see Verma & Rawat 2013). TYPE: "Typus: INDIA. Western Ghats, Tamil Nadu-Nilgiri hills, Ootacamund (on way to Pykara lake); ca. 2100 m; 29.03.2001; P.K. Verma and A. Alam; 13626/2001 HOLOTYPE (LWU)".

Lejeunea stenodentata M.A.M. Renner et Pócs, *Phytotaxa* 81 (1): 8, 2013 (see Renner *et al.* 2013a). NOM. NOV. PRO *Drepanolejeunea dentata* Steph., *Hedwigia* 35 (3): 82, 1896 (see Stephani 1896).

Lejeunea subplana (Steph.) C.J. Bastos, *J. Bryol.* 36 (3): 249, 2014 (see Bastos 2014). BASIONYM: *Trachylejeunea subplana* Steph., *Sp. Hepat. (Stephani)* 5: 310, 1913 (see Stephani 1913).

Lejeunea tamasii M.E. Reiner, N. Salazar et C. Chung, *Polish Bot. J.* 58 (2): 420, 2013 (see Reiner-Drehwald *et al.* 2013). TYPE: "PANAMÁ. Prov. Panamá. Isla Barro Colorado, Zona del Canal, 9°10'N, 79°50'W, camino R. Shannon. Sobre roca, 200 m desde la Quebrada Shannon; 4 March 1987, N. Salazar Allen 4281 (holotype: PMA; isotype: GOET; autoicous, perianths)".

Lejeunea taspocsii G.E. Lee, *Polish Bot. J.* 58 (1): 66, 2013 (see Lee & Gradstein 2013). TYPE: "PENINSULAR MALAYSIA, Pahang, Genting Highlands, Goh Tong Jaya, area around the waterfall, 845 m, 3 March 2011, G.E. Lee 2194 (holotype, UKMB; isotype, EGR)".

Lejeunea tonduzana (Steph.) M.E. Reiner, *Polish Bot. J.* 58 (2): 421, 2013 (see Reiner-Drehwald *et al.* 2013). BASIONYM: *Hygrolejeunea tonduzana* Steph., *Hedwigia* 35 (3): 105, 1896 (see Stephani 1896).

Lepidolejeuneinae Gradst. (subtrib.), *Phytotaxa* 100 (1): 13, 2013 (see Gradstein 2013d). TYPE: *Lepidolejeunea* R.M. Schust. NOTE: Originally placed in subfam. Lejeunoideae trib. Lejeuneae.

Lepidozia bragginsiana E.D. Cooper et M.A.M. Renner, *Phytotaxa* 173 (2): 118, 2014 (see Cooper & Renner 2014). TYPE: "New Zealand, South Island, Westland, Grey River catchment, Paparoa Range, Blackball Stream, Blackball Road, 42°20'22"S 171°23'44"E, 230 m, 17 Feb 2012, M.A.M. Renner 6190 (holotype: AK; isotypes: NSW89516 F)".

Leptolejeuneinae Heinrichs et Schäf.-Verw. (subtrib.), *Phytotaxa* 156 (3): 166, 2014 (see Heinrichs *et al.* 2014a). TYPE: *Leptolejeunea* (Spruce) Steph. NOTE: Originally placed in subfam. Lejeunoideae trib. Lejeuneae.

Leptoscyphus erraticus (W.Martin et E.A.Hodgs.) J.J.Engel, *Nova Hedwigia* 99 (1/2): 168, 2014 (see Engel 2014). BASIONYM: *Chiloscyphus erraticus* W.Martin et E.A.Hodgs., *Trans. & Proc. Roy. Soc. New Zealand* 78 (4): 497, 1950 (see Martin 1950).

Leptoscyphus physanthus (Hook.f. et Taylor) J.J.Engel, *Nova Hedwigia* 99 (1/2): 168, 2014 (see Engel 2014). BASIONYM: *Jungermannia physantha* Hook.f. et Taylor, *London J. Bot.* 3: 561, 1844 (see Hooker & Taylor 1844c).

Leptoscyphus trapezoïdes (Mont.) L.Söderstr., *Phytotaxa* 112 (1): 27, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Lophocolea trapezoïdes* Mont., *Ann. Sci. Nat. Bot. (sér. 2)* 19: 251, 1843 (see Montagne 1843).

Lethocolea indica G.Asthana et Maurya, *Natl. Acad. Sci. Lett.* 37 (6): 535, 2014 (see Asthana & Maurya 2014). TYPE: “India, Western Himalaya, Uttarakhand, Pauri (Garhwal hills), 30_08.4620N Latitude, 078_46.9200E Longitude, alt. ca. 1788 m, 23 October, 2010, G. Asthana & Party 20985/10 (LWU)”.

Lobatiriccardia alterniloba var. gigantea (Steph.) Nebel, *Phytotaxa* 81 (1): 10, 2013 (see Nebel *et al.* 2013). BASIONYM: *Aneura gigantea* Steph., *J. & Proc. Roy. Soc. New South Wales* 48 (1/2): 95, 1914 (see Stephani & Watts 1914). NOTE: This name also creates the autonym.

Lobatiriccardia alterniloba var. robusta (Rodway) Nebel, *Phytotaxa* 81 (1): 10, 2013 (see Nebel *et al.* 2013). BASIONYM: *Aneura alterniloba* f. *robusta* Rodway, *Tasm. Bryoph.*: 12, 1917 (see Rodway 1916).

Lobatiriccardia subaquatica (R.M.Schust.) Nebel, *Phytotaxa* 81 (1): 10, 2013 (see Nebel *et al.* 2013). BASIONYM: *Aneura subaquatica* R.M.Schust., *Phytologia* 56 (7): 450, 1985 (see Schuster 1985).

Lophocolea anisoloba (J.J.Engel et Glenn) L.Söderstr., *Phytotaxa* 112 (1): 25, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Chiloscyphus anisolobus* J.J.Engel et Glenn, *Bryologist* 111 (1): 118, 2008 (see Engel & Glenn 2008).

Lophocolea aperticaulis (J.J.Engel) L.Söderstr., *Phytotaxa* 112 (1): 25, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Chiloscyphus aperticaulis* J.J.Engel, *J. Hattori Bot. Lab.* 95: 229, 2004 (see Engel 2004).

Lophocolea aphelophylla (Hässel) Váňa, *Phytotaxa* 112 (1): 25, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Chiloscyphus aphelophyllus* Hässel, *J. Hattori Bot. Lab.* 98: 123, 2005 (see Hässel 2005).

Lophocolea apophylla (Hässel) Váňa, *Phytotaxa* 112 (1): 25, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Chiloscyphus apophyllus* Hässel, *J. Hattori Bot. Lab.* 98: 126, 2005 (see Hässel 2005).

Lophocolea canaliculata var. concava (J.J.Engel) L.Söderstr., *Phytotaxa* 112 (1): 26, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Chiloscyphus canaliculatus* var. *concavus* J.J.Engel, *Fieldiana, Bot. (n.ser.)* 48: 107, 2010 (see Engel 2010). NOTE: This name also creates the autonym.

Lophocolea erosa (J.J.Engel) L.Söderstr., *Phytotaxa* 112 (1): 26, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Chiloscyphus erosus* J.J.Engel, *Phytologia* 83 (1): 43, 1997 (see Engel 1997).

Lophocolea fertilis (J.J.Engel) L.Söderstr., *Phytotaxa* 112 (1): 26, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Chiloscyphus fertilis* J.J.Engel, *Phytologia* 83 (1): 43, 1997 (see Engel 1997).

Lophocolea gollanii (Steph.) Váňa, *Phytotaxa* 112 (1): 26, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Chiloscyphus gollanii* Steph., *Bull. Herb. Boissier (sér. 2)* 7 (10): 837 (209), 1907 ‘gollani’ (see Stephani 1907b).

- Lophocolea hattorii*** (J.J.Engel) L.Söderstr., *Phytotaxa* 112 (1): 26, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Chiloscyphus hattorii* J.J.Engel, *J. Hattori Bot. Lab.* 74: 29, 1993 (see Engel 1993).
- Lophocolea koponenii*** (Piippo) Váňa, *Phytotaxa* 112 (1): 26, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Chiloscyphus koponenii* Piippo, *Ann. Bot. Fenn.* 35 (1): 55, 1998 (see Piippo 1998).
- Lophocolea magna*** (Udar et V.Nath) Váňa, *Phytotaxa* 183 (4): 291, 2014 (see Váňa *et al.* 2014c). BASIONYM: *Cephaloziella magna* Udar et V.Nath, *Geophytology* 6 (1): 105, 1976 (see Udar & Nath 1976).
- Lophocolea mediinfrons*** (J.J.Engel et Braggins) L.Söderstr., *Phytotaxa* 112 (1): 26, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Chiloscyphus mediinfrons* J.J.Engel et Braggins, *Fieldiana, Bot. (n.ser.)* 48: 119, 2010 (see Engel 2010).
- Lophocolea novae-zeelandiae* var. *meridionalis*** (Steph.) L.Söderstr., *Phytotaxa* 112 (1): 26, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Lophocolea meridionalis* Steph., *Bull. Herb. Boissier (sér. 2)* 6 (10): 888 (113), 1906 (see Stephani 1906b). NOTE: This name also creates the autonym.
- Lophocolea parvispinea*** (J.J.Engel) L.Söderstr., *Phytotaxa* 112 (1): 26, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Chiloscyphus parvispineus* J.J.Engel, *Phytologia* 83 (1): 44, 1997 (see Engel 1997).
- Lophocolea piacenzai*** (Gola) Váňa, *Phytotaxa* 112 (1): 26, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Lophozia piacenzai* Gola, *Atti Reale Accad. Sci. Torino, Cl. Sci. Fis. Mat. Nat.* 49: 759, 1914 (see Gola 1914b).
- Lophocolea semiteres* var. *retusa*** (J.J.Engel) L.Söderstr., *Phytotaxa* 112 (1): 27, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Chiloscyphus semiteres* var. *retusus* J.J.Engel, *Phytologia* 83 (1): 44, 1997 (see Engel 1997). NOTE: This name also creates the autonym.
- Lophocolea subporosa* var. *inflexifolia*** (Steph.) L.Söderstr., *Phytotaxa* 112 (1): 27, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Lophocolea inflexifolia* Steph., *Sp. Hepat. (Stephani)* 6: 278, 1922 (see Stephani 1922). NOTE: This name also creates the autonym.
- Lophocolea trichocoleoides*** (Glenny, J.J.Engel et He-Nygrén) L.Söderstr., *Phytotaxa* 112 (1): 27, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Chiloscyphus trichocoleoides* Glenny, J.J.Engel et He-Nygrén, *J. Bryol.* 31 (2): 100, 2009 (see Glenny *et al.* 2009).
- Lophocolea wacei*** (S.W.Arnell ex J.J.Engel et Váňa) Váňa et L.Söderstr., *Phytotaxa* 112 (1): 27, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Chiloscyphus wacei* S.W.Arnell ex J.J.Engel et Váňa, *Mem. New York Bot. Gard.* 105: 48, 2013 (see Váňa & Engel 2013).
- Lophocolea werthii*** (J.J.Engel et R.M.Schust.) Váňa et L.Söderstr., *Phytotaxa* 112 (1): 27, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Chiloscyphus werthii* J.J.Engel et R.M.Schust., *Nova Hedwigia* 39: 425, 1984 [1985] (see Engel & Schuster 1984).
- Lopholejeunea udarii*** M.Dey et D.K.Singh, *Nelumbo* 53: 197, 2011 (see Dey & Singh 2011). TYPE: “India, Eastern Himalaya, Arunachal Pradesh, West Siang district, on way to Dupu from Rungo (Naying), c. 750 m, 29. 12. 1984, D.K. Singh 994D/1984 (ASSAM)”.
- Lophonardia jamesonii*** (Mont.) L.Söderstr. et Váňa, *Phytotaxa* 81 (1): 19, 2013 (see Söderström *et al.* 2013b). BASIONYM: *Jungermannia jamesonii* Mont., *Syll. Gen. Sp. Crypt.*: 60, 1856 ‘*Jamesoni*’ (see Montagne 1856).
- Lophonardia laxifolia*** (Mont.) L.Söderstr. et Váňa, *Phytotaxa* 81 (1): 20, 2013 (see Söderström *et al.* 2013b). BASIONYM: *Sarcocypus laxifolius* Mont., *Ann. Sci. Nat. Bot. (sér. 3)* 4: 346, 1845 ‘*Sarcocypus*’ (see Montagne 1845).

Lophonardia tristaniana (S.W.Arnell) L.Söderstr. et Váňa, *Phytotaxa* 81 (1): 20, 2013 (see Söderström *et al.* 2013b). BASIONYM: *Jungermannia tristaniana* S.W.Arnell, *Results Norweg. Sci. Exped. Tristan da Cunha* 42: 12, 1958 (see Arnell 1958a).

Lophozia indica S.Srivast., S.C.Srivast. et K.K.Rawat, *Nelumbo* 55: 133, 2013 (see Srivastava *et al.* 2013). TYPE: “India, Uttarakhand, on way to Hemkund, ca 3300m, May, 23, 1980, S.C. Srivastava, D. Kumar & D.K. Singh 4249/80 (Holo: LWU)”. *Schistochilopsis incisa* (Schrad.) Konstant., *Arctoa* 3: 125, 1994 (see Konstantinova & Vasiljev 1994).

Lophozia udarii S.Srivast., S.C.Srivast. et K.K.Rawat, *Nelumbo* 55: 130, 2013 (see Srivastava *et al.* 2013). TYPE: “India, Uttarakhand, Ghanghariya, ca 3400 m, May 23, 1980, S.C. Srivastava, D. Kumar & D.K. Singh 4347/80 (Holo: LWU)”.

Lophozioopsis longidens subsp. arctica (R.M.Schust.) Váňa et L.Söderstr., *Phytotaxa* 97 (2): 28, 2013 (see Söderström *et al.* 2013c). BASIONYM: *Lophozia longidens subsp. arctica* R.M.Schust., *Hepat. Anthocerotae N. Amer.* 2: 539, 1969 (see Schuster 1974). NOTE: This name also creates the autonym.

Lophozioopsis pellucida var. minor (R.M.Schust.) L.Söderstr. et Váňa, *Phytotaxa* 97 (2): 28, 2013 (see Söderström *et al.* 2013c). BASIONYM: *Lophozia pellucida var. minor* R.M.Schust., *Canad. J. Bot.* 39 (4): 984, 1961 (see Schuster 1961). NOTE: This name also creates the autonym.

†***Marchantites huolinhensis Rui Y.Li et B.N.Sun***, *Cret. Res.* 50: 18 (see Li *et al.* 2014). “Holotype. MDL-K1-101 (A, B) (Fig. 3C and D), relatively complete thallus with gemma cups. [...] Repository. Institute of Paleontology and Stratigraphy, Lanzhou University, Lanzhou, China. Type locality. Huolinhe City, Inner Mongolia, China. Stratigraphy. Huolinhe Formation, Lower Cretaceous.”

Marsupella emarginata var. tubulosa (Steph.) N.Kitag. ex Váňa et L.Söderstr., *Phytotaxa* 183 (4): 288, 2014 (see Váňa *et al.* 2014d). BASIONYM: *Marsupella tubulosa* Steph., *Bull. Herb. Boissier* 5 (2): 99, 1897 (see Stephani 1897).

Marsupella sparsifolia subsp. childii R.M.Schust., *Phytotaxa* 183 (4): 288, 2014 (see Váňa *et al.* 2014d). BASED ON: *Marsupella sparsifolia subsp. childii* R.M.Schust., *J. Hattori Bot. Lab.* 80: 61, 1996, *nom. inval.* ICN Art. 40.7; no herbarium indicated (see Schuster 1996). NOTE: This name also creates the autonym.

Mastigolejeunea auriculata var. rhodesica (Vanden Berghen) Sukkharak et Gradst., *Nova Hedwigia* 99 (3/4): 297, 2014 (see Sukkharak & Gradstein 2014). BASIONYM: *Brachiolejeunea rhodesica* Vanden Berghen, *Bull. Jard. Bot. État Bruxelles* 21 (1/2): 94, 1951 (see Vanden Berghen 1951). NOTE: This name also creates the autonym.

Mastigolejeunea gradsteinii Sukkharak, *J. Bryol.* 36 (1): 56, 2014 (see Sukkharak 2014). TYPE: “Malaysia, Pahang, Raub, Bukit Serdam, on limestone, 20 June 1971 S. C. Chin 1130 (holotype, JE! isotype KLU!)”.

Megaceros austronesophilus Cargill et Seppelt, *Austral. Syst. Bot.* 26 (5): 372, 2013 (see Cargill *et al.* 2013). TYPE: “Holotype: [Macquarie I] Green Gorge basin. From boggy herbfield at edge of track. East end of lake. 28 Nov. 1979 Seppelt 6921 (ADT)”.

Mesoptychia polymorpha Stotler, Crand.-Stotl. et Bakalin, *Polish Bot. J.* 58 (1): 82, 2013 (see Crandall-Stotler *et al.* 2013). TYPE: “UNITED STATES: California. Santa Cruz County, Nisene Marks State Park, Aptos Creek nr George’s Picnic Area, ca 165 ft alt, T11S R1E, 26 Nov. 2007, Doyle 11541 (F; isotypes: G, TN S, UC, VBGI)”.

Metahygrobiella subg. Apohygrobiella R.M.Schust. ex Váňa, *Phytotaxa* 76 (3): 34, 2013 (see Váňa *et al.* 2013b). BASED ON: *Metahygrobiella subg. Apohygrobiella* R.M.Schust., *Beih. Nova Hedwigia* 119: 15, 2002, *nom. inval.* Art. 36.1; no Latin description (see Schuster 2002).

Metasolenostoma Bakalin et Vilnet, *Bot. Pacifica* 3 (2): 10, 2014 (see Bakalin *et al.* 2014). TYPE: *Metasolenostoma gracillimum* (Sm.) Vilnet et Bakalin.

Metasolenostoma gracillimum (Sm.) Vilnet et Bakalin, *Bot. Pacifica* 3 (2): 10, 2014 (see Bakalin *et al.* 2014). BASIONYM: *Jungermannia gracillima* Sm., *Engl. Bot.* 32: tab. 2238, 1811 (see Smith & Sowerby 1811).

Metasolenostoma gracillimum f. *crenulatum* (Mitt.) Vilnet et Bakalin, *Bot. Pacifica* 3 (2): 10, 2014 (see Bakalin *et al.* 2014). BASIONYM: *Solenostoma crenulatum* Mitt., *J. Proc. Linn. Soc., Bot.* 8 (29): 51, 1864 [1865] (see Mitten 1864). NOTE: This name also creates the autonym.

Metasolenostoma ochotense (Bakalin et Vilnet) Vilnet et Bakalin, *Bot. Pacifica* 3 (2): 10, 2014 (see Bakalin *et al.* 2014). BASIONYM: *Solenostoma ochotense* Bakalin et Vilnet, *Bryologist* 115 (4): 575, 2012 ‘*ochotensis*’ (see Bakalin & Vilnet 2012).

Metasolenostoma orientale Bakalin et Vilnet, *Bot. Pacifica* 3 (2): 12, 2014 (see Bakalin *et al.* 2014). TYPE: “Holotypus: RUSSIA, Kamchatka Peninsula, Central Kamchatka (55°45’N 157°53’E), 900 m alt., wet travertine cone, leg. Bakalin V.A., K-88-13-01 29.VIII.2001 (KPABG 103946, duplicate in VBGI)”.

Metasolenostoma rubripunctatum (S.Hatt.) Vilnet et Bakalin, *Bot. Pacifica* 3 (2): 10, 2014 (see Bakalin *et al.* 2014). BASIONYM: *Plectocolea rubripunctata* S.Hatt., *J. Hattori Bot. Lab.* 3: 41, 1948 [1950] (see Hattori 1948).

Microlejeunea filicuspis (Steph.) Heinrichs, Schäf.-Verw., Pócs et S.Dong, *Phytotaxa* 85 (2): 52, 2013 (see Dong *et al.* 2013). BASIONYM: *Drepanolejeunea filicuspis* Steph., *Sp. Hepat. (Stephani)* 5: 344, 1913 (see Stephani 1913).

Microlejeunea fischeri (Tixier) Heinrichs, Schäf.-Verw., Pócs et S.Dong, *Phytotaxa* 85 (2): 52, 2013 (see Dong *et al.* 2013). BASIONYM: *Harpalejeunea fischeri* Tixier, *Trop. Bryol.* 11: 29, 1995 (see Tixier 1995).

Microlejeunea indica (Udar et U.S.Awasthi) Y.M.Weï et R.L.Zhu, *Phytotaxa* 97 (2): 63, 2013 (see Wei & Zhu 2013a). BASIONYM: *Lejeunea indica* Udar et U.S.Awasthi, *Cryptog. Bryol. Lichénol.* 2 (3): 345, 1981 (see Udar & Awasthi 1981).

Microlejeunea latitans (Hook.f. et Taylor) Heinrichs, Schäf.-Verw., Pócs et S.Dong, *Phytotaxa* 85 (2): 52, 2013 (see Dong *et al.* 2013). BASIONYM: *Jungermannia latitans* Hook.f. et Taylor, *London J. Bot.* 3: 399, 1844 (see Hooker & Taylor 1844a).

Microlejeunea moniliata (Mizut.) R.L.Zhu et Y.M.Weï, *Cryptog. Bryol.* 34 (3): 308, 2013 (see Wei & Zhu 2013b). BASIONYM: *Lejeunea moniliata* Mizut., *J. Hattori Bot. Lab.* 46: 357, 1979 (see Mizutani 1979).

Microlejeunea squarrosa (Steph.) Heinrichs, Schäf.-Verw., Pócs et S.Dong, *Phytotaxa* 85 (2): 51, 2013 (see Dong *et al.* 2013). BASIONYM: *Strepsilejeunea squarrosa* Steph., *Hedwigia* 35 (3): 130, 1896 (see Stephani 1896).

Microlejeunea wallichiana (Lehm.) R.L.Zhu et Y.M.Weï, *Cryptog. Bryol.* 34 (3): 308, 2013 (see Wei & Zhu 2013b). BASIONYM: *Jungermannia wallichiana* Lehm., *Nov. Stirp. Pug.* 3: 5, 1831 (see Lehmann 1831).

Myriocoleopsis minutissima (Sm.) R.L.Zhu, Y.Yu et Pócs, *Phytotaxa* 183 (4): 293, 2014 (see Yu *et al.* 2014). BASIONYM: *Jungermannia minutissima* Sm., *Engl. Bot.* 23: tab. 1633, 1806 (see Smith & Sowerby 1806).

Myriocoleopsis minutissima subsp. *myriocarpa* (Nees et Mont.) R.L.Zhu, Y.Yu et Pócs, *Phytotaxa* 183 (4): 294, 2014 (see Yu *et al.* 2014). BASIONYM: *Lejeunea myriocarpa* Nees et Mont., *Hist. Phys. Cuba, Bot., Pl. Cell.*: 473, 1842 (see Montagne 1842). NOTE: This name also creates the autonym.

Nanomarsupella (R.M.Schust.) R.M.Schust. ex A.Hagborg, L.Söderstr. et von Konrat, *Phytotaxa* 112 (1): 16, 2013 (see Hagborg *et al.* 2013). BASED ON: *Marsupella* subg. *Nanomarsupella* R.M.Schust., *Phytologia* 39 (4): 248, 1978, *nom. inval.* Art. 37.1; type not valid (see Schuster 1978). TYPE: *Nanomarsupella xenophylla* (R.M.Schust.) R.M.Schust. ex A. Hagborg, L.Söderstr. et von Konrat.

Nanomarsupella xenophylla (R.M.Schust.) R.M.Schust. ex A.Hagborg, L.Söderstr. et von Konrat, *Phytotaxa* 112 (1): 16, 2013 (see Hagborg *et al.* 2013). BASIONYM: *Marsupella xenophylla* R.M.Schust., *Phytologia* 39 (4): 248, 1978 (see Schuster 1978).

Nardia geoscyphus var. *suberecta* (Lindb. ex Kaal.) Váňa, *Phytotaxa* 76 (3): 37, 2013 (see Váňa *et al.* 2013d). BASIONYM: *Nardia haematosticta* var. β *suberecta* Lindb. ex Kaal., *Nyt Mag. Naturvidensk.* 33 (4/5): 395, 1893 (see Kaalaas 1893).

Nardia scalaris var. *botryoidea* (R.M.Schust.) Váňa, *Phytotaxa* 76 (3): 38, 2013 (see Váňa *et al.* 2013d). BASIONYM: *Nardia scalaris* subsp. *botryoidea* R.M.Schust., *Hepat. Anthocerotae N. Amer.* 2: 862, 1969 (see Schuster 1969).

Nardia scalaris var. *harae* (Amakawa) Váňa, *Phytotaxa* 76 (3): 38, 2013 (see Váňa *et al.* 2013d). BASIONYM: *Nardia harae* Amakawa, *J. Jap. Bot.* 32 (2): 38, 1957 (see Amakawa 1957).

Nardioideae Váňa (subfam.), *Phytotaxa* 183 (4): 287, 2014 (see Váňa *et al.* 2014d). TYPE: *Nardia* Gray.

Neolepidozia aubertii (Jovet-Ast) E.D.Cooper, *Phytotaxa* 97 (2): 55, 2013 (see Cooper *et al.* 2013). BASIONYM: *Lepidozia aubertii* Jovet-Ast, *Candollea* 11: 35, 1947 (see Jovet-Ast 1947).

Neolepidozia autoica (J.J.Engel et G.L.Merr.) E.D.Cooper, *Phytotaxa* 97 (2): 55, 2013 (see Cooper *et al.* 2013). BASIONYM: *Telaranea autoica* J.J.Engel et G.L.Merr., *Fieldiana, Bot. (n.ser.)* 44: 124, 2004 (see Engel & Smith Merrill 2004).

Neolepidozia consobrina (J.J.Engel et G.L.Merr.) E.D.Cooper, *Phytotaxa* 97 (2): 55, 2013 (see Cooper *et al.* 2013). BASIONYM: *Telaranea consobrina* J.J.Engel et G.L.Merr., *Novon* 9 (3): 339, 1999 (see Engel & Smith Merrill 1999).

Neolepidozia disparata (J.J.Engel et G.L.Merr.) E.D.Cooper, *Phytotaxa* 97 (2): 55, 2013 (see Cooper *et al.* 2013). BASIONYM: *Telaranea disparata* J.J.Engel et G.L.Merr., *Fieldiana, Bot. (n.ser.)* 44: 147, 2004 (see Engel & Smith Merrill 2004).

Neolepidozia gibbsiana (Steph.) E.D.Cooper, *Phytotaxa* 97 (2): 55, 2013 (see Cooper *et al.* 2013). BASIONYM: *Lepidozia gibbsiana* Steph., *Sp. Hepat. (Stephani)* 6: 328, 1922 (see Stephani 1922).

Neolepidozia heterotexta (Steph.) E.D.Cooper, *Phytotaxa* 97 (2): 55, 2013 (see Cooper *et al.* 2013). BASIONYM: *Lepidozia heterotexta* Steph., *Sp. Hepat. (Stephani)* 6: 329, 1922 (see Stephani 1922).

Neolepidozia hodgsoniae (J.J.Engel et G.L.Merr.) E.D.Cooper, *Phytotaxa* 97 (2): 55, 2013 (see Cooper *et al.* 2013). BASIONYM: *Telaranea hodgsoniae* J.J.Engel et G.L.Merr., *Phytologia* 79 (3): 251, 1995 [1996] (see Engel & Smith Merrill 1995).

Neolepidozia leratii (Steph.) E.D.Cooper, *Phytotaxa* 97 (2): 56, 2013 (see Cooper *et al.* 2013). BASIONYM: *Lepidozia leratii* Steph., *Sp. Hepat. (Stephani)* 6: 333, 1922 (see Stephani 1922).

Neolepidozia longitudinalis (Herzog) E.D.Cooper, *Phytotaxa* 97 (2): 56, 2013 (see Cooper *et al.* 2013). BASIONYM: *Lepidozia longitudinalis* Herzog, *Trans. Brit. Bryol. Soc.* 1 (4): 312, 1950 (see Herzog 1950).

Neolepidozia mamillosa (Schiffn.) E.D.Cooper, *Phytotaxa* 97 (2): 56, 2013 (see Cooper *et al.* 2013). BASIONYM: *Lepidozia mamillosa* Schiffn., *Nova Acta Acad. Caes. Leop.-Carol. German. Nat. Cur.* 60 (2): 254, 1893 (see Schiffner 1893).

Neolepidozia meridiana (E.A.Hodgs.) E.D.Cooper, *Phytotaxa* 97 (2): 56, 2013 (see Cooper *et al.* 2013). BASIONYM: *Lepidozia meridiana* E.A.Hodgs., *Trans. Roy. Soc. New Zealand* 83 (4): 611, 1956 (see Hodgson 1956).

- Neolepidozia ophiria* (Gottsche) E.D.Cooper, *Phytotaxa* 97 (2): 56, 2013 (see Cooper *et al.* 2013). BASIONYM: *Lepidozia ophiria* Gottsche, *Sp. Hepat. (Stephani)* 3: 611, 1909 (see Stephani 1909).
- Neolepidozia palmata* (J.J.Engel et G.L.Merr.) E.D.Cooper, *Phytotaxa* 97 (2): 56, 2013 (see Cooper *et al.* 2013). BASIONYM: *Telaranea palmata* J.J.Engel et G.L.Merr., *Novon* 9 (3): 344, 1999 (see Engel & Smith Merrill 1999).
- Neolepidozia paludicola* (E.A.Hodgs.) E.D.Cooper, *Phytotaxa* 97 (2): 56, 2013 (see Cooper *et al.* 2013). BASIONYM: *Lepidozia meridiana* var. *paludicola* E.A.Hodgs., *Trans. Roy. Soc. New Zealand* 83 (4): 611, 1956 (see Hodgson 1956).
- Neolepidozia patentissima* (Hook.f. et Taylor) E.D.Cooper, *Phytotaxa* 97 (2): 56, 2013 (see Cooper *et al.* 2013). BASIONYM: *Jungermannia patentissima* Hook.f. et Taylor, *London J. Bot.* 3: 286 [386], 1844 (see Hooker & Taylor 1844a).
- Neolepidozia patentissima* var. *ampliata* (J.J.Engel et G.L.Merr.) E.D.Cooper, *Phytotaxa* 97 (2): 56, 2013 (see Cooper *et al.* 2013). BASIONYM: *Telaranea patentissima* var. *ampliata* J.J.Engel et G.L.Merr., *Fieldiana, Bot. (n.ser.)* 44: 48, 2004 (see Engel & Smith Merrill 2004). NOTE: This name also creates the autonym.
- Neolepidozia patentissima* var. *zebrina* (J.J.Engel et G.L.Merr.) E.D.Cooper, *Phytotaxa* 97 (2): 57, 2013 (see Cooper *et al.* 2013). BASIONYM: *Telaranea patentissima* var. *zebrina* J.J.Engel et G.L.Merr., *Fieldiana, Bot. (n.ser.)* 44: 50, 2004 (see Engel & Smith Merrill 2004).
- Neolepidozia pennata* (J.J.Engel et G.L.Merr.) E.D.Cooper, *Phytotaxa* 97 (2): 57, 2013 (see Cooper *et al.* 2013). BASIONYM: *Telaranea pennata* J.J.Engel et G.L.Merr., *Phytologia* 79 (3): 252, 1995 [1996] (see Engel & Smith Merrill 1995).
- Neolepidozia planifolia* (Steph.) E.D.Cooper, *Phytotaxa* 97 (2): 57, 2013 (see Cooper *et al.* 2013). BASIONYM: *Lepidozia planifolia* Steph., *Sp. Hepat. (Stephani)* 3: 629, 1909 (see Stephani 1909).
- Neolepidozia praenitens* (Lehm. et Lindenb.) E.D.Cooper, *Phytotaxa* 97 (2): 57, 2013 (see Cooper *et al.* 2013). BASIONYM: *Jungermannia praenitens* Lehm. et Lindenb., *Nov. Stirp. Pug.* 6: 27, 1834 (see Lehmann 1834).
- Neolepidozia praenitens* var. *dentifolia* (J.J.Engel et G.L.Merr.) E.D.Cooper, *Phytotaxa* 97 (2): 57, 2013 (see Cooper *et al.* 2013). BASIONYM: *Telaranea praenitens* var. *dentifolia* J.J.Engel et G.L.Merr., *Phytologia* 79 (3): 253, 1995 [1996] (see Engel & Smith Merrill 1995). NOTE: This name also creates the autonym.
- Neolepidozia quadristipula* (Steph.) E.D.Cooper, *Phytotaxa* 97 (2): 57, 2013 (see Cooper *et al.* 2013). BASIONYM: *Lepidozia quadristipula* Steph., *J. & Proc. Roy. Soc. New South Wales* 48 (1/2): 115, 1914 (see Stephani & Watts 1914).
- Neolepidozia rectangularis* (R.M.Schust.) E.D.Cooper, *Phytotaxa* 97 (2): 57, 2013 (see Cooper *et al.* 2013). BASIONYM: *Telaranea rectangularis* R.M.Schust., *Phytologia* 39 (4): 241, 1978 (see Schuster 1978).
- Neolepidozia tetrapila* (Hook.f. et Taylor) E.D.Cooper, *Phytotaxa* 97 (2): 57, 2013 (see Cooper *et al.* 2013). BASIONYM: *Lepidozia tetrapila* Hook.f. et Taylor, *London J. Bot.* 5: 370, 1846 (see Taylor 1846).
- Neolepidozia tetrapila* var. *cancellata* (Colenso) E.D.Cooper, *Phytotaxa* 97 (2): 57, 2013 (see Cooper *et al.* 2013). BASIONYM: *Lepidozia cancellata* Colenso, *Trans. & Proc. New Zealand Inst.* 18: 244, 1886 (see Colenso 1886). NOTE: This name also creates the autonym.
- Neolepidozia tetrapila* var. *roseana* (Steph.) E.D.Cooper, *Phytotaxa* 97 (2): 58, 2013 (see Cooper *et al.* 2013). BASIONYM: *Lepidozia roseana* Steph., *Sp. Hepat. (Stephani)* 3: 590, 1909 (see Stephani 1909).

Neolepidozia tridactylis (Lehm. et Lindenb.) E.D.Cooper, *Phytotaxa* 97 (2): 58, 2013 (see Cooper *et al.* 2013). BASIONYM: *Jungermannia tridactylis* Lehm. et Lindenb., *Nov. Stirp. Pug.* 4: 41, 1832 (see Lehmann 1832).

Neolepidozia trifida (Steph.) E.D.Cooper, *Phytotaxa* 97 (2): 58, 2013 (see Cooper *et al.* 2013). BASIONYM: *Lepidozia trifida* Steph., *Wiss. Ergebn. Deut. Zentr.-Afr. Exped. (1907-08), Bot.* 2: 120, 1911 [1910] (see Stephani 1911c).

Neolepidozia verruculosa (J.J.Engel et G.L.Merr.) E.D.Cooper, *Phytotaxa* 97 (2): 58, 2013 (see Cooper *et al.* 2013). BASIONYM: *Telaranea verruculosa* J.J.Engel et G.L.Merr., *Fieldiana, Bot. (n.ser.)* 44: 197, 2004 (see Engel & Smith Merrill 2004).

Nothoceros minarum (Nees) J.C.Villarreal, *Molec. Phylogen. Evol.* 78: 34, 2014 (see Villarreal & Renner 2014). BASIONYM: *Anthoceros minarum* Nees, *Naturgesch. Eur. Leberm.* 4: 340, 1838 (see Nees 1838).

Nothoceros schizophyllus (Steph.) J.C.Villarreal, *Molec. Phylogen. Evol.* 78: 34, 2014 (see Villarreal & Renner 2014). BASIONYM: *Megaceros schizophyllus* Steph., *Sp. Hepat. (Stephani)* 5: 949, 1916 (see Stephani 1916a).

Notothyas irregularis Chantanaorr., *Acta Bot. Hung.* 56 (3/4): 270, 2014 (see Chantanaorrapint 2014). TYPE: “Thailand, Chiang Mai Province, Chiang Dao District, Doi Chang Dao Wildlife Sanctuary, 1,633 m, 19° 23' 35.70” N, 98° 53' 11.26” E, 9 August 2012. Coll.: S. Chantanaorrapint and J. Inuthai 1615 (holotype: PSU!; isotypes: BKF!, EGR, G!)”.

Notothyas yunnanensis T.Peng et R.L.Zhu, *Phytotaxa* 156 (3): 157, 2014 (see Peng & Zhu 2014). TYPE: “CHINA. Yunnan: Mengla Co., Menglun to Mengbang, 636 km, on moist soil by road, 21°49.833'N, 101°20. 303'E, 1155 m, 15 July 2012, T. Peng *et al.* 20120715-7 (holotype HSNU!)”.

Odontoschisma sect. *Cladopodiella* (H.Buch) Gradst., S.C.Aranda et Vanderp., *Taxon* 63 (5): 1017, 2014 (see Aranda *et al.* 2014). BASIONYM: *Cladopodiella* H.Buch, *Memoranda Soc. Fauna Fl. Fennica* 1: 89, 1927 (see Buch 1927).

Odontoschisma sect. *Iwatsukia* (N.Kitag.) Gradst., S.C.Aranda et Vanderp., *Phytotaxa* 162 (4): 232, 2014 (see Gradstein *et al.* 2014a). BASIONYM: *Iwatsukia* N.Kitag., *J. Hattori Bot. Lab.* 27: 178, 1964 (see Kitagawa 1964).

Odontoschisma sect. *Neesia* Gradst., S.C.Aranda et Vanderp., *Taxon* 63 (5): 1017, 2014 (see Aranda *et al.* 2014). TYPE: *Odontoschisma fluitans* (Nees) L.Söderstr. et Váňa.

Odontoschisma bifidum (Fulford) Gradst., S.C.Aranda et Vanderp., *Phytotaxa* 162 (4): 232, 2014 (see Gradstein *et al.* 2014a). BASIONYM: *Cladomastigum bifidum* Fulford, *Acta Bot. Venez.* 2 (5/8): 80, 1967 (see Fulford 1967).

Odontoschisma cleefii Gradst., S.C.Aranda et Vanderp., *Taxon* 63 (5): 1017, 2014 (see Aranda *et al.* 2014). TYPE: “Holotype: COLOMBIA. Cundinamarca, páramo Cruz Verde, laguna El Verjón, on humid soil in grass páramo, 3300 m, 26 May 2012, Laura V. Campos 717 (COL!; isotype: PC barcode 0703249!)”.

Odontoschisma denudatum subsp. *naviculare* (Steph.) Gradst., S.C.Aranda et Vanderp., *Taxon* 63 (5): 1019, 2014 (see Aranda *et al.* 2014). BASIONYM: *Jamesoniella navicularis* Steph., *Sp. Hepat. (Stephani)* 6: 101, 1917 (see Stephani 1917).

***Odontoschisma denudatum* subsp. *paramicola* Gradst., *Nova Hedwigia* 100 (1/2): 54, 2015 [2014], *nom. inval.* ICN Art. 36.1(c); publ. in syn. [sub *Odontoschisma cleefii* Gradst. S.C.Aranda et Vanderpoorten] (see Gradstein & Ilkiu-Borges 2015). ORIGINAL MATERIAL: “Type: Colombia. Cundinamarca, páramo Cruz Verde, laguna El Verjón, on humid soil in grass páramo, 3300 m, 26 May 2012, Laura V. Campos 717 (holotype: COL!; isotype: PC-0703249!)”. NOTE: Pre-published online Oct. 2014.

Odontoschisma denudatum subsp. *sandvicense* (Ångstr.) Gradst., S.C.Aranda et Vanderp., *Taxon* 63 (5): 1019, 2014 (see Aranda *et al.* 2014). BASIONYM: *Sphagnoecetis sandvicensis* Ångstr., *Öfvers. Kongl. Vetensk.-Akad. Förh.* 29 (4): 22, 1872 ‘*Sphagnaecetis*’ (see Ångström 1872).

- Odontoschisma fluitans*** (Nees) L.Söderstr. et Váňa, *Phytotaxa* 112 (1): 12, 2013 (see Váňa *et al.* 2013j). BASIONYM: *Jungermannia fluitans* Nees, *Flora* 6 (2): 30, 1823 (see Link 1823).
- Odontoschisma francisci*** (Hook.) L.Söderstr. et Váňa, *Phytotaxa* 112 (1): 12, 2013 (see Váňa *et al.* 2013j). BASIONYM: *Jungermannia francisci* Hook., *Brit. Jungermann.*: tab. 49, 1813 (see Hooker 1813).
- Odontoschisma jishibae*** (Steph.) L.Söderstr. et Váňa, *Phytotaxa* 112 (1): 13, 2013 (see Váňa *et al.* 2013j). BASIONYM: *Cephalozia jishibae* Steph., *Sp. Hepat. (Stephani)* 6: 437, 1924 (see Stephani 1924).
- Odontoschisma pseudogrosseverrucosum*** Gradst., S.C.Aranda et Vanderp., *Taxon* 63 (5): 1019, 2014 (see Aranda *et al.* 2014). TYPE: “Holotype: JAPAN. Honshu: Hiroshima Province, Hiroshima-shi, Aki-ku, Ayno-cho, Mt. Egesan, 35°19'10" N, 132°32'22" E, ca. 550–570 m, on rock, 15 Apr 2012, T. Katagiri 3525, c. gyn. (PC barcode PC0703247!; isotype: HIRO Nr. 1015793!)”.
- Odontoschisma spinosum*** (Fulford) Gradst., S.C.Aranda et Vanderp., *Phytotaxa* 162 (4): 232, 2014 (see Gradstein *et al.* 2014a). BASIONYM: *Cladomastigum spinosum* Fulford, *Mem. New York Bot. Gard.* 23: 840, 1972 (see Fulford 1972).
- Odontoschisma steyermarkii*** Gradst. et Ilk.-Borg., *Nova Hedwigia* 100 (1/2): 38, 2015 [2014] (see Gradstein & Ilkiu-Borges 2015). TYPE: “Venezuela. Bolivar, Cerro Guaiquinima, ”lomas bosqueadas entre el Río Szczerbanari (Río Carapo) y el pie de los peñascos de arenisca al sur del río”, 5 44'4" N, 63 41'8" W, alt. 750–840 m, 23 Jan 1977, Steyermark & Dunsterville 113396 (holotype: PC-0703250!; isotypes: MO, VEN)”. NOTE: Pre-published online Oct. 2014.
- Odontoschisma zhui*** Gradst., S.C.Aranda et Vanderp., *Taxon* 63 (5): 1020, 2014 (see Aranda *et al.* 2014). TYPE: “Holotype: CHINA. Zhejiang Prov., Longquan City, Fengyangshan Nature Reserve, Yangtiancao, ca. 1500 m, on moist sandstone rock in evergreen forest in deep river valley, in shade, 3 Dec 2012, S.R. Gradstein & R.-L. Zhu 12384 (PC barcode PC0703248!; isotype: HSNU!)”.
- Omphalanthus filiformis* var. *platycoleus*** (Herzog) Gradst., *Phytotaxa* 76 (3): 46, 2013 (see Gradstein 2013b). BASIONYM: *Omphalanthus platycoleus* Herzog, *Feddes Repert. Spec. Nov. Regni Veg.* 57 (1/2): 171, 1955 (see Herzog 1955).
- Omphalanthus filiformis* var. *wallisii*** (Prantl) Gradst., *Phytotaxa* 76 (3): 46, 2013 (see Gradstein 2013b). BASIONYM: *Lejeunea wallisii* Prantl, *Hedwigia* 31: xvii, 1892 (see Prantl 1892).
- Otigoniolejeunea huctumalcensis*** (Lindenb. et Gottsche) Y.M.Weï, R.L.Zhu et Gradst., *Phytotaxa* 162 (4): 237, 2014 (see Wei *et al.* 2014). BASIONYM: *Lejeunea huctumalcensis* Lindenb. et Gottsche, *Syn. Hepat.* 5: 762, 1847 (see Gottsche *et al.* 1847).
- Otigoniolejeunea portoricensis*** (Hampe et Gottsche) Y.M.Weï, R.L.Zhu et Gradst., *Phytotaxa* 162 (4): 237, 2014 (see Wei *et al.* 2014). BASIONYM: *Lejeunea portoricensis* Hampe et Gottsche, *Linnaea* 25 (3): 352, 1852 [1853] (see Hampe & Gottsche 1852).
- Pachyglossa austrigena*** (Hook.f. et Taylor) L.Söderstr., *Phytotaxa* 112 (1): 24, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Jungermannia austrigena* Hook.f. et Taylor, *London J. Bot.* 3: 466, 1844 (see Hooker & Taylor 1844b).
- Pachyglossa austrigena* subsp. *okaritana*** (Steph.) L.Söderstr., *Phytotaxa* 112 (1): 24, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Lophocolea okaritana* Steph., *Bull. Herb. Boissier (sér. 2)* 6 (9): 785 (85), 1906 (see Stephani 1906a). NOTE: This name also creates the autonym.
- Pachyglossa boveana*** (C.Massal.) L.Söderstr., *Phytotaxa* 112 (1): 24, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Lophocolea boveana* C.Massal., *Nuovo Giorn. Bot. Ital.* 17 (3): 225, 1885 (see Massalongo 1885).

Pachyglossa gottscheoides (Besch. et C.Massal.) L.Söderstr., *Phytotaxa* 112 (1): 25, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Lophocolea gottscheoides* Besch. et C.Massal., *Bull. Mens. Soc. Linn. Paris* 1 (79): 631, 1886 (see Bescherelle & Massalongo 1886).

Pachyglossa otiphylla (Hook.f. et Taylor) Váňa, *Phytotaxa* 112 (1): 25, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Jungermannia otiphylla* Hook.f. et Taylor, *London J. Bot.* 3: 466, 1844 (see Hooker & Taylor 1844b).

†***Pantiathallites*** Manju Banerjee et Sutapa Dutta, *Proc. Natl. Acad. Sci. India, B* 84 (3): 449 (see Banerjee & Dutta 2014). TYPE: *Pantiathallites gondwanensis* Manju Banerjee et Sutapa Dutta.

†***Pantiathallites gondwanensis*** Manju Banerjee et Sutapa Dutta, *Proc. Natl. Acad. Sci. India, B* 84 (3): 449, 2014 (see Banerjee & Dutta 2014). ” Specimen No Sc. Td 386. ... Type Slide numbers: Sc. Td 386 Sl. Nos.1, 4, 19 ... Repository MB collection of Palaeobotany-Palynology section, Department of Botany, University of Calcutta. Type locality Tulsidabar Quarry, Saharjuri Basin, Jharkhand, India. Type stratum: Shale layers between the Tulsidabar bottom (XI) and the Tulsidabar top (XII) coal seams Barakar Formation, late early Permian (late Artinskian).”

Paracromastigum denticulatum (Steph.) E.D.Cooper, *Phytotaxa* 97 (2): 61, 2013 (see Cooper *et al.* 2013). BASIONYM: *Lembidium denticulatum* Steph., *Sp. Hepat. (Stephani)* 6: 444, 1924 (see Stephani 1924).

Paracromastigum microphyllum (R.M.Schust. ex J.J.Engel) E.D.Cooper, *Phytotaxa* 97 (2): 61, 2013 (see Cooper *et al.* 2013). BASIONYM: *Hyalolepidozia microphylla* R.M.Schust. ex J.J.Engel, *Novon* 17 (3): 310, 2007 (see Engel 2007).

Pellia alpicola R.M.Schust. ex L.Söderstr., A.Hagborg et von Konrat, *Phytotaxa* 76 (3): 39, 2013 (see Söderström *et al.* 2013a). BASED ON: *Pellia endiviifolia* subsp. *alpicola* R.M.Schust., *J. Hattori Bot. Lab.* 70: 145, 1991, *nom. inval.* ICN Art. 40.7; no herbarium specified (see Schuster 1991).

Pellia appalachiana R.M.Schust., *Phytotaxa* 76 (3): 39, 2013 (see Söderström *et al.* 2013a). BASED ON: *Pellia appalachiana* R.M.Schust., *J. Hattori Bot. Lab.* 70: 145, 1991, *nom. inval.* ICN Art. 40.7; no herbarium specified / ‘*Pellia* x *appalachiana*’ (see Schuster 1991).

Phaeomegaceros plicatus (Mitt.) J.C.Villarreal, J.J.Engel et Váňa, *Mem. New York Bot. Gard.* 105: 85, 2013 (see Váňa & Engel 2013). BASIONYM: *Anthoceros plicatus* Mitt., *Rep. Challenger, Bot. I* (2): 178, 1884 (see Mitten 1884).

Phycolepidozia* subg. *Metaphycolepidozia Gradst., J.-P.Frahm et U.Schwarz, *Taxon* 63 (3): 506, 2014 (see Gradstein *et al.* 2014b). TYPE: *Phycolepidozia indica* Gradst., J.-P.Frahm et U.Schwarz. NOTE: This name also creates the autonym.

Phycolepidozia indica Gradst., J.-P.Frahm et U.Schwarz, *Taxon* 63 (3): 499, 2014 (see Gradstein *et al.* 2014b). TYPE: “INDIA. Western Ghats, Karnataka State, Coorg District, trail to the summit of Mount Tandandamol, 25.9 km SSW of Madikeri, 1610 m, on a shaded rock in remnant forest along the trail, 75°36'34.20" E, 12°13'14.68" N, 11 Nov. 2012, U. Schwarz, J.-P. Frahm & F. Schumm s.n. (PC!; isotypes: LWG!, hb. Schwarz 10659!)”.

Phyllothalliaceae E.A.Hodgs. ex T.Katag. (fam.), *Phytotaxa* 183 (4): 298, 2014 (see Katagiri *et al.* 2014). BASED ON: Phyllothalliaceae E.A.Hodgs. (fam.), *Trans. Roy. Soc. New Zealand, Bot.* 2 (19): 247, 1964 *nom. inval.* ICN Art. 39.1; no Latin description (see Hodgson 1964).

Physantholejeunea huctumalcensis (Lindenb. et Gottsche) Heinrichs et Schäf.-Verw., *Austral. Syst. Bot.* 26 (5): 387, 2013 (see Czumay *et al.* 2013). BASIONYM: *Lejeunea huctumalcensis* Lindenb. et Gottsche, *Syn. Hepat.* 5: 762, 1847 (see Gottsche *et al.* 1847).

Plagiochila* sect. *Caducifoliae J.J.Engel et G.L.Merr., *Nova Hedwigia* 96 (3/4): 407, 2013 (see Engel & Smith Merrill 2013). TYPE: *Plagiochila caducifolia* Inoue et R.M.Schust.

Plagiochila* sect. *Colensoae J.J.Engel et G.L.Merr., *Nova Hedwigia* 96 (3/4): 406, 2013 ‘*Colensoa*’ (see Engel & Smith Merrill 2013). TYPE: *Plagiochila colensoi* Hook.f. et Taylor.

*****Plagiochila* sect. *Hodgsoniae*** J.J.Engel et G.L.Merr., *Nova Hedwigia* 96 (3/4): 403, 2013, *nom. inval.* ICN Art. 38.1(a); no description / ‘*Hodgsonia*’ (see Engel & Smith Merrill 2013). ORIGINAL MATERIAL: *Plagiochila deltoidea* Lindenb.

Plagiochila* sect. *Mitteniae J.J.Engel et G.L.Merr., *Nova Hedwigia* 96 (3/4): 401, 2013 ‘*Mittenia*’ (see Engel & Smith Merrill 2013). TYPE: *Plagiochila stephensoniana* Mitt.

Plagiochila tristaniana Váňa et J.J.Engel, *Mem. New York Bot. Gard.* 105: 89, 2013 (see Váňa & Engel 2013). NOM. NOV. PRO *Plagiochila fragilifolia* S.W.Arnell, *Results Norweg. Sci. Exped. Tristan da Cunha* 42: 25, 1958, *nom. illeg.* ICN Art. 53.1; *hom. illeg.* [non Pearson 1922] (see Arnell 1958a).

Plagiochila wacei S.W.Arnell ex Váňa et J.J.Engel, *Mem. New York Bot. Gard.* 105: 89, 2013 (see Váňa & Engel 2013). TYPE: “Gough I.: Above Watersmeet, Main Glen, epiphyte on upper *Phyllica* branches, 24 Dec 1955, *Wace 522* (BM! holotype, UPS! isotype)”.

Plectocolea callithrix (Lindenb. et Gottsche) Bakalin, *Arctoa* 23: 99, 2014 (see Bakalin 2014a). BASIONYM: *Jungermannia callithrix* Lindenb. et Gottsche, *Syn. Hepat.* 5: 673, 1847 (see Gottsche *et al.* 1847).

Plectocolea dusenii (Steph.) Bakalin, *Arctoa* 23: 119, 2014 (see Bakalin 2014a). BASIONYM: *Nardia dusenii* Steph., *Hedwigia* 30 (5): 209, 1891 (see Stephani 1891a).

Plectocolea gollanii (Steph.) Bakalin, *Arctoa* 23: 101, 2014 (see Bakalin 2014a). BASIONYM: *Jungermannia gollanii* Steph., *Sp. Hepat. (Stephani)* 6: 86, 1917 (see Stephani 1917).

Plectocolea granulata (Steph.) Bakalin, *Polish Bot. J.* 58 (1): 132, 2013 (see Bakalin 2013). BASIONYM: *Nardia granulata* Steph., *Bull. Herb. Boissier* 5 (2): 100, 1897 (see Stephani 1897).

Plectocolea higuchii Bakalin et Vilnet, *Bot. Pacifica* 3 (2): 10, 2014 (see Bakalin *et al.* 2014). TYPE: “Holotypus: CHINA. Yunnan Prov. Dali State, South of Caojian (25,40956N 99,20695E), wet cliffs at roadside, 1800 m alt. leg. M. Higuchi, 48795 17 Sept. 2008 (TNS 209341, isotypes in VBG1 and KPABG)”.

Plectocolea infusca* var. *memiadzei Bakalin, *Arctoa* 22: 128, 2013 (see Bakalin *et al.* 2013). TYPE: “Holotype. Georgia. Adjara, Mtirala National Park. Upper course of Chakvistavi River, ca. 4 km upstream of Chakvistavi Village, the buffer zone of the park (41°40’30.1”N 41°52’58.1”E), 400 m alt. Leg. Vadim A. Bakalin 12 May 2013. G-12-39-13 (VBGI)”.

Plectocolea infusca* var. *recondita Bakalin, *Bot. Pacifica* 3 (2): 86, 2014 (see Bakalin 2014b). TYPE: “Holotypus: RUSSIA, Kurils Islands, Shikotan Island (43°46’08”N 146°43’29”E), 300 m alt., cliff crevices, in mixture with *Nardia scalaris* (Schrad.) Gray and *Cephalozia bicuspidata* (L.) Dumort., VB, K-45-11-07 26.VIII.2007 (VBGI)”.

Plectocolea montana (Steph.) Bakalin, *Arctoa* 23: 102, 2014 (see Bakalin 2014a). BASIONYM: *Nardia montana* Steph., *Hedwigia* 28 (3): 164, 1889 (see Stephani 1889a).

Plectocolea newellana (Steph.) Bakalin, *Arctoa* 23: 107, 2014 (see Bakalin 2014a). BASIONYM: *Jungermannia newellana* Steph., *Sp. Hepat. (Stephani)* 6: 89, 1917 (see Stephani 1917).

Plectocolea obliquifolia (Schiffn.) Bakalin, *Arctoa* 23: 121, 2014 (see Bakalin 2014a). BASIONYM: *Nardia obliquifolia* Schiffn., *Denkschr. Kaiserl. Akad. Wiss., Math.-Naturwiss. Kl.* 67: 191, 1898 (see Schiffner 1898).

Plectocolea renauldii (Steph.) Bakalin, *Arctoa* 23: 109, 2014 (see Bakalin 2014a). BASIONYM: *Jungermannia renauldii* Steph., *Bull. Soc. Roy. Bot. Belgique, Compt. Rend.* 30 (2): 201, 1891 (see Stephani 1891b).

Plectocolea schusterana (J.D.Godfrey et G.Godfrey) Bakalin, *Bot. Pacifica* 3 (2): 92, 2014 ‘*schusteriana*’ (see Bakalin 2014b). BASIONYM: *Jungermannia schusterana* J.D.Godfrey et G.Godfrey, *J. Hattori Bot. Lab.* 46: 109, 1979 (see Godfrey & Godfrey 1979).

Plectocolea sexplicata (Steph.) Bakalin, *Arctoa* 23: 112, 2014 (see Bakalin 2014a). BASIONYM: *Jungermannia sexplicata* Steph., *Sp. Hepat. (Stephani)* 6: 91, 1917 (see Stephani 1917).

Plectocolea shinii (Amakawa) Bakalin, *Polish Bot. J.* 58 (1): 132, 2013 (see Bakalin 2013). BASIONYM: *Jungermannia shinii* Amakawa, *J. Hattori Bot. Lab.* 33: 156, 1970 (see Amakawa 1970).

Plectocolea sikkimensis (Schiffn. ex Steph.) Bakalin, *Arctoa* 23: 114, 2014 (see Bakalin 2014a). BASIONYM: *Jungermannia sikkimensis* Schiffn. ex Steph., *Sp. Hepat. (Stephani)* 6: 92, 1917 (see Stephani 1917).

Plectocolea subbalfourii Bakalin, *Polish Bot. J.* 58 (1): 129, 2013 (see Bakalin 2013). TYPE: “REUNION: E edge of Cirque de Mafate, on rocky N slope of Plateau de La Sale, along path, 26 Aug 1994, *A. Vojtkó* 9429 (NY 1717834)”.

Plectocolea vulcanicola (Schiffn.) Bakalin, *Arctoa* 23: 117, 2014 (see Bakalin 2014a). BASIONYM: *Nardia vulcanicola* Schiffn., *Denkschr. Kaiserl. Akad. Wiss., Math.-Naturwiss. Kl.* 67: 191, 1898 (see Schiffner 1898).

***Plectocolea vulcanicola* f. *cavifolia* (Schiffn.) Bakalin, *Arctoa* 23: 125, 2014, *nom. inval.* ICN Art. 41.1; basionym not valid (see Bakalin 2014a). BASIONYM: *Nardia vulcanicola* f. *cavifolia* Schiffn., *Denkschr. Kaiserl. Akad. Wiss., Math.-Naturwiss. Kl.* 67: 192, 1898, *nom. inval.* ICN Art. 38.1(a); no description (see Schiffner 1898).

Plectocolea vulcanicola var. *tenuiretis* (Schiffn.) Bakalin, *Arctoa* 23: 125, 2014 (see Bakalin 2014a). BASIONYM: *Nardia vulcanicola* var. *tenuiretis* Schiffn., *Denkschr. Kaiserl. Akad. Wiss., Math.-Naturwiss. Kl.* 67: 191, 1898 (see Schiffner 1898).

Plectocolea yunnanensis Bakalin, *Polish Bot. J.* 58 (1): 132, 2013 (see Bakalin 2013). TYPE: “Yunnan, Cangyuan Co., Banhong-Xiang, Nangunhe Nature Reserve, 17 Nov 2009, *W. Ma* 09-0698 (NY 1717750)”.

Pleurozia pocsii Frank Müll., *Polish Bot. J.* 58 (1): 50, 2013 (see Müller 2013). TYPE: “NEW CALEDONIA, Noumea 45 km N: Mont Humboldt, ascension from the mountain shelter below the top to the top of the mountain, epiphytic, c. 1500 m, 21°53’S, 166°25’E, 31 Aug. 2003, *F. Müller* NC708 (holotype: DR)”.

Plicanthus difficilis (Steph.) L.Söderstr. et Váňa, *Phytotaxa* 81 (1): 30, 2013 (see Váňa *et al.* 2013h). BASIONYM: *Chandonanthus difficilis* Steph., *J. & Proc. Roy. Soc. New South Wales* 48 (1/2): 101, 1914 (see Stephani & Watts 1914).

Protolophozia androgyna R.M.Schust. ex Váňa et L.Söderstr., *Phytotaxa* 76 (3): 51, 2013 (see Váňa *et al.* 2013e). BASED ON: *Lophozia androgyna* R.M.Schust., *Beih. Nova Hedwigia* 119: 266, 2002, *nom. inval.* ICN Art. 39.1; no Latin description (see Schuster 2002).

Protolophozia autoica (R.M.Schust.) Váňa et L.Söderstr., *Phytotaxa* 76 (3): 51, 2013 (see Váňa *et al.* 2013e). BASIONYM: *Lophozia autoica* R.M.Schust., *Nova Hedwigia* 15: 479, 1968 (see Schuster 1968).

Protolophozia crispata (R.M.Schust.) Váňa et L.Söderstr., *Phytotaxa* 76 (3): 51, 2013 (see Váňa *et al.* 2013e). BASIONYM: *Lophozia crispata* R.M.Schust., *Nova Hedwigia* 15: 474, 1968 (see Schuster 1968).

Protolophozia druceae (Grolle et E.A.Hodgs.) Váňa et L.Söderstr., *Phytotaxa* 76 (3): 51, 2013 (see Váňa *et al.* 2013e). BASIONYM: *Lophozia druceae* Grolle et E.A.Hodgs., *J. Roy. Soc. New Zealand* 2 (1): 112, 1972 (see Hodgson 1972).

Protolophozia herzogiana (E.A.Hodgs. et Grolle) Váňa et L.Söderstr., *Phytotaxa* 76 (3): 51, 2013 (see Váňa *et al.* 2013e). BASIONYM: *Lophozia herzogiana* E.A.Hodgs. et Grolle, *Rev. Bryol. Lichénol.* 31 (3/4): 152, 1962 [1963] (see Grolle 1962).

- Protolophozia lancistipa*** (Grolle) Váňa et L.Söderstr., *Phytotaxa* 76 (3): 51, 2013 (see Váňa *et al.* 2013e). BASIONYM: *Andrewsianthus lancistipus* Grolle, *Marion Prince Edw. Is.* 230, 1971 (see Grolle 1971b).
- Protolophozia leucorhiza*** (Mitt.) Váňa et L.Söderstr., *Phytotaxa* 76 (3): 51, 2013 (see Váňa *et al.* 2013e). BASIONYM: *Jungermannia leucorhiza* Mitt., *J. Linn. Soc., Bot.* 15 (82): 68, 1876 (see Mitten 1876).
- Protolophozia longiflora*** (Herzog) L.Söderstr. et Váňa, *Phytotaxa* 76 (3): 51, 2013 (see Váňa *et al.* 2013e). BASIONYM: *Orthocaulis longiflorus* Herzog, *Rev. Bryol. Lichénol.* 23 (1/2): 32, 1954 (see Herzog 1954).
- Protolophozia monoica*** (E.A.Hodgs.) Váňa et L.Söderstr., *Phytotaxa* 76 (3): 52, 2013 (see Váňa *et al.* 2013e). BASIONYM: *Metahygrobiella monoica* E.A.Hodgs., *Trans. Roy. Soc. New Zealand, Bot.* 3 (4): 76, 1965 (see Hodgson 1965).
- Protolophozia multicuspidata*** (Hook.f. et Taylor) Váňa et L.Söderstr., *Phytotaxa* 76 (3): 52, 2013 (see Váňa *et al.* 2013e). BASIONYM: *Jungermannia multicuspidata* Hook.f. et Taylor, *London J. Bot.* 3: 375, 1844 (see Hooker & Taylor 1844a).
- Protolophozia nivicola*** (R.M.Schust.) Váňa et L.Söderstr., *Phytotaxa* 76 (3): 52, 2013 (see Váňa *et al.* 2013e). BASIONYM: *Lophozia nivicola* R.M.Schust., *Nova Hedwigia* 15: 477, 1968 (see Schuster 1968).
- Protolophozia perssoniana*** (H.A.Mill.) Váňa et L.Söderstr., *Phytotaxa* 76 (3): 52, 2013 (see Váňa *et al.* 2013e). BASIONYM: *Lophozia perssoniana* H.A.Mill., *Ark. Bot. (n.ser.)* 5 (2): 508, 1963 (see Miller 1963).
- Protolophozia subalpina*** (R.M.Schust.) Váňa et L.Söderstr., *Phytotaxa* 76 (3): 52, 2013 (see Váňa *et al.* 2013e). BASIONYM: *Lophozia autoica* var. *subalpina* R.M.Schust., *Nova Hedwigia* 15: 482, 1968 (see Schuster 1968).
- Protolophozia tasmanica*** (R.M.Schust.) Váňa et L.Söderstr., *Phytotaxa* 76 (3): 52, 2013 (see Váňa *et al.* 2013e). BASIONYM: *Lophozia tasmanica* R.M.Schust., *Nova Hedwigia* 15: 484, 1968 (see Schuster 1968).
- Protolophozia verruculosa*** (R.M.Schust.) Váňa et L.Söderstr., *Phytotaxa* 76 (3): 52, 2013 (see Váňa *et al.* 2013e). BASIONYM: *Lophozia verruculosa* R.M.Schust., *Phytologia* 39 (4): 242, 1978 (see Schuster 1978).
- Protosolenostoma*** (Amakawa) Bakalin et Vilnet, *Bot. Pacífica* 3 (2): 14, 2014 (see Bakalin *et al.* 2014). BASIONYM: *Jungermannia* sect. *Protosolenostoma* Amakawa, *J. Hattori Bot. Lab.* 22: 55, 1960 (see Amakawa 1960).
- Protosolenostoma fusiforme*** (Steph.) Vilnet et Bakalin, *Bot. Pacífica* 3 (2): 14, 2014 (see Bakalin *et al.* 2014). BASIONYM: *Nardia fusiformis* Steph., *Bull. Herb. Boissier* 5 (2): 99, 1897 (see Stephani 1897).
- Pseudoisotachis*** Váňa, *Polish Bot. J.* 58 (1): 55, 2013 (see Váňa 2013). TYPE: *Pseudoisotachis pocsii* Váňa.
- Pseudoisotachis pocsii*** Váňa, *Polish Bot. J.* 58 (1): 55, 2013 (see Váňa 2013). TYPE: “SUBANTARCTICA. Prince Edward Islands. Marion Island: south-eastern coast. Middelrooikop between Black Haglet Valley and Soft Plume River, lat. 46°56'14"S, long. 37°48'59"E, alt. 360 m; on dry bare soil between black lava boulders, 18 April 1999, *R. Ochyra* 1272/99 (holotype: KRAM)”.
- Pseudolepicolea temnomoides*** (R.M.Schust.) Váňa et J.J.Engel, *Mem. New York Bot. Gard.* 105: 92, 2013 (see Váňa & Engel 2013). BASIONYM: *Archeochaete temnomoides* R.M.Schust., *Candollea* 21 (1): 129, 1966 (see Schuster 1966).
- Pycnolejeuneinae*** Heinrichs et Schäf.-Verw. (subtrib.), *Phytotaxa* 163 (2): 64, 2014 (see Heinrichs *et al.* 2014d). TYPE: *Pycnolejeunea* (Spruce) Schiffn. NOTE: Originally placed in subfam. Lejeunoideae trib. Lejeuneae.
- Radula anisotoma*** M.A.M.Renner, *PhytoKeys* 27: 30, 2013 (see Renner *et al.* 2013c). TYPE: “Australia: Norfolk Island: Mount Pitt Reserve, Filmy Fern Trail, off Selwyn Pine Road, 29°01'S, 167°58'E, 130 m, 3 Dec 1984, H. Streimann 32084A, (holotype: CANB650459)”.

Radula demissa M.A.M.Renner, *PhytoKeys* 27: 53, 2013 (see Renner *et al.* 2013c). TYPE: “New Zealand, North Island, Puaiti Bush south of Rotorua, ca 1,600 ft, 20 Jun 1931, K.W. Allison, (holotype: CHR587329, isotypes: AK, F, NSW, WELT)”.

Radula erigens (M.A.M.Renner et Braggins) M.A.M.Renner, *Phytotaxa* 81 (1): 12, 2013 (see Renner *et al.* 2013b). BASIONYM: *Radula cordiloba* subsp. *erigens* M.A.M.Renner et Braggins, *J. Hattori Bot. Lab.* 97: 45, 2005 (see Renner 2005).

Radula forficata M.A.M.Renner, *Austral. Syst. Bot.* 26 (4): 307, 2013 (see Renner *et al.* 2013d). TYPE: “Australia: Queensland: Cook, Mount Lewis Forest Reserve, Mount Lewis Road, 16°33'2”S, 145°16'48”E, 950, 13 July 2005, *M.A.M. Renner 2118 & E.A. Brown*, NSW878032”.

Radula imposita M.A.M.Renner, *PhytoKeys* 27: 65, 2013 (see Renner *et al.* 2013c). TYPE: “Australia: Queensland: Cook, Daintree National Park, Mount Lewis, headwaters of Leichhardt Creek flowing down the south-west flanks of the summit, epiphyllous on *Normandia* frond overhanging stream, 1150 m, 16°35'03”S, 145°16'33”E, 27 May 2012, *M.A.M. Renner 6356, V.C. Linis & E.A. Brown* (holotype: NSW896812; isotype: BRI)”.

Radula kilgourii M.A.M.Renner, *Austral. Syst. Bot.* 26 (4): 313, 2013 (see Renner *et al.* 2013d). TYPE: “Australia: Queensland: Cook, Cairns, Saddle Mountain above Smithfield, 16°49'8”S, 145°39'55”E, 620 m, 20 Jan. 2011, *M.A.M. Renner 5042 & C.D. Kilgour* (holotype: NSW970350; isotype: BRI)”.

Radula myriopoda M.A.M.Renner, *Austral. Syst. Bot.* 26 (4): 323, 2013 (see Renner *et al.* 2013d). TYPE: “Australia: Queensland: Cook, Wooroonooran National Park, South Johnston River catchment, Maple Creek, Maple Creek Road, 17°42'28”S, 145°24'41'16”E, 720, *M.A.M. Renner 6532, V.C. Linis & E.A. Brown*, (holotype: NSW898867; isotypes: BRI, F)”.

Radula notabilis M.A.M.Renner, *PhytoKeys* 27: 77, 2013 (see Renner *et al.* 2013c). TYPE: “Australia: Queensland: Cook, Wooroonooran National Park, tributary of Babinda Stream 30 m above junction with Babinda Stream, forming conspicuous patches of pendant, procumbent, brown-green shoots on trunk of *Ficus* 26 cm dbh rooted in streambed, 85 m, 17°19'59”S, 145°51'40”E, 3 Apr 2012, *M.A.M. Renner 6506, V.C. Linis, & E.A. Brown*. (holotype: NSW909501; isotypes: BRI, CANB, F)”.

Radula oreopsis M.A.M.Renner, *Telopea* 17: 123, 2014 (see Renner 2014). TYPE: “Australia, Queensland, Cook, Daintree National Park, Mossman Gorge, Rex Creek, upstream from swingbridge, 16° 28' 13” S 145° 19' 42” E, 105 m, 24 Mar 2012, *M.A.M. Renner 6270, V.C. Linis & E.A. Brown* (holotype: NSW896415, isotypes: BRI, F)”.

Radula psychosis M.A.M.Renner, *Austral. Syst. Bot.* 26 (4): 328, 2013 (see Renner *et al.* 2013d). TYPE: “Cook, Dinden National Park, Lamb Range, walking track close to Kahlpalum Rock, 17°00'59”S, 145°37'49”E 1200 m, 24 Jan. 2011, *M.A.M. Renner 5051, C.D. Kilgour & Y. Baba*, (holotype: NSW970357; isotypes: BRI, CANB, F)”.

Radula pugioniformis M.A.M.Renner, *PhytoKeys* 27: 84, 2013 (see Renner *et al.* 2013c). TYPE: “Australia: New South Wales: Central Tablelands, Small gully near Wonga Falls on Lamonds Creek, Barren Ground Nature Reserve, 34°41'S, 150°43'E, 500 m, 22 April 1992, *R.G. Coveny 16096 & P.D. Hind*, (holotype: Element 1 within NSW770504, with a portion separated in a subpacket)”.

Riccardia deguchii Furuki et K.T.Yong, *Hikobia* 16 (3): 285, 2013 (see Furuki *et al.* 2013). TYPE: “Malaysia, Malay Peninsula, Pahang, Genting Highlands, near the summit of Mt. Ulu Kali, 1,750 m alt., on soil in evergreen forest. 14 September 2005, *K. T Yong & T Furuki 20560* (holotype in CBM, isotype in KLU)”.

Riccardia elisabethae Thouvenot et Reeb, *Telopea* 17: 229, 2014 (see Thouvenot & Reeb 2014). TYPE: “NEW CALEDONIA: Province Sud (South): Dumbéa, Mont Dzumac, UTM 58K 0649771E–7561282N, 1075 m, 18 Sept 2008, *L. Thouvenot NC280* (holotype PC0703246; isotypes NSW, private herb. L. Thouvenot)”.

Riccardia inconspicua (Steph.) Reeb et Bardat, *Cryptog. Bryol.* 35 (1): 61, 2014 (see Reeb & Bardat 2014). BASIONYM: *Aneura inconspicua* Steph., *Hedwigia* 32 (1): 23, 1893 (see Stephani 1893a).

†***Riccia thongjaorokensis*** Hemantha Singh et Kishor 2009. *J. Geol. Soc. India* 73 (5): 606 (see Hemantha Singh & Kishor 2009). “Holotype: Specimen No. TRF 1101. Paratype: Specimen No. TRF 1102–1104. Locality: Sandstone of Laishong Formation of Barail group of early Oligocene epoch, Thongjaorok Stream (24°27’41”N and 93°44’40”E), Imphal Valley.”

Riella echinata (Müll.Frib.) Segarra, Puche et Sabovlj., *Phytotaxa* 159 (3): 165, 2014 (see Segarra-Moragues *et al.* 2014). BASIONYM: *Riella cossoniana* var. *echinata* Müll.Frib., *Rev. Bryol. Lichénol.* 22 (3/4): 132, 1953 [1954] (see Müller 1953).

Riella mediterranea Segarra, Puche, Sabovlj., M.Infante et Heras, *Phytotaxa* 159 (3): 170, 2014 (see Segarra-Moragues *et al.* 2014). TYPE: “SPAIN. Ciudad Real: Pedro Muñoz, Laguna de El Retamar, 02 May 2010, *J.G. Segarra-Moragues & S. Donat*, (holotype VAL-Brief. 9.246)”.

Riella trigonospora Segarra et Puche, *S. African J. Bot.* 94: 175, 2014 (see Segarra-Moragues & Puche 2014). TYPE: “South Africa. Western Cape. Caledon (3419): Springfield, near Cape Agulhas, Soutpan, on a salt pan (–DD), 13 m.a.s.l., cultured in the laboratory from mud collected 11 Jun 2012 and culture dried 23 Jul 2013, *F. Ojeda* s.n. sub VAL-Brief. 9994 (VAL, holo.! BOL, iso!).”.

Rivulariella D.H.Wagner, *Phytoneuron* 2013 (10): 2, 2013 (see Wagner 2013). TYPE: *Rivulariella gemmipara* (A.Evans) D.H.Wagner.

Rivulariella gemmipara (A.Evans) D.H.Wagner, *Phytoneuron* 2013 (10): 2, 2013 ‘*gemmipera*’ (see Wagner 2013). BASIONYM: *Chiloscyphus gemmiparus* A.Evans, *Bryologist* 41 (3): 50, 1938 (see Evans 1938).

Scapania gaochii X.Fu ex T.Cao, *Phytotaxa* 97 (2): 26, 2013 (see Cao *et al.* 2013). BASED ON: *Scapania gaochii* X.Fu ex T.Cao, *Acta Bot. Yunnan.* 25 (5): 541, 2003, *nom. inval.* ICN Art. 40.7; more than one herbarium specified (see Cao *et al.* 2003).

*****Scapania mucronata f. rotundifolia*** Damsh., *Liverworts Greenland*: 323, 2013, *nom. inval.* ICN Art. 40.2; based on more than one gathering (see Damsholt 2013). ORIGINAL MATERIAL: “Middlewest Greenland, head of Søndre Strømfjord, near Taserssuatsiaq (Lake Ferguson). *Salix* moss-tundra (RMS & KD 66-0083, 66-084, 66-088a)”.

Scapania obcordata f. lapponica (Arnell et C.E.O.Jensen) Damsh., *Liverworts Greenland*: 311, 2013 (see Damsholt 2013). BASIONYM: *Martinellius lapponicus* Arnell et C.E.O.Jensen, *Moose Sarekgeb.*: 93, 1907 ‘*Martinellia lapponica*’ (see Arnell & Jensen 1907). NOTE: This name also creates the autonym.

Scapania obcordata f. paradoxa (R.M.Schust.) Damsh., *Liverworts Greenland*: 311, 2013 (see Damsholt 2013). BASIONYM: *Scapania paradoxa* R.M.Schust., *Hepat. Anthocerotae N. Amer.* 3: 287, 1974 (see Schuster 1974).

Scapania obcordata f. ramosa (R.M.Schust.) Damsh., *Liverworts Greenland*: 311, 2013 (see Damsholt 2013). BASIONYM: *Scapania paradoxa* var. *ramosa* R.M.Schust., *Hepat. Anthocerotae N. Amer.* 3: 294, 1974 (see Schuster 1974).

Scapania obcordata var. paradoxa (R.M.Schust.) Damsh., *Liverworts Greenland*: 311, 2013 (see Damsholt 2013). BASIONYM: *Scapania paradoxa* R.M.Schust., *Hepat. Anthocerotae N. Amer.* 3: 287, 1974 (see Schuster 1974).

Schistochila conchophylla var. multidentata (J.J.Engel) Xiao L.He et Glenny, *Phytotaxa* 173 (1): 92, 2014 (see He *et al.* 2014a). BASIONYM: *Gottschea conchophylla* var. *multidentata* J.J.Engel, *Nova Hedwigia* 93 (3/4): 407, 2011 (see Engel 2011). NOTE: This name also creates the autonym.

Schistochila simulans (C.Massal.) Xiao L.He et Yu Sun, *Polish Bot. J.* 58 (2): 473, 2013 (see He & Sun 2013).
BASIONYM: *Cephalozia simulans* C.Massal., *Nuovo Giorn. Bot. Ital.* 17 (3): 236, 1885 (see Massalongo 1885).

Schistochilopsis hyperarctica Konstant. et L.Söderstr., *Phytotaxa* 162 (4): 240, 2014 (see Konstantinova *et al.* 2014a).
BASED ON: *Lophozia hyperarctica* R.M.Schust., *Canad. J. Bot.* 39 (4): 967, 1961, *nom. inval.* ICN Art. 40.2; based
on more than one gathering (see Schuster 1961).

Schistochilopsis incisa var. *himalayana* S.Srivast., S.C.Srivast. et K.K.Rawat, *Nelumbo* 55: 142, 2013 (see Srivastava
et al. 2013). TYPE: “India, Ghanghariya, c. 3300m, May 22, 1980, S.C. Srivastava, D. Kumar & D.K. Singh 4171/80
(Holo: LWU)”. *Schistochilopsis incisa* (Schrad.) Konstant., *Arctoa* 3: 125, 1994 (see Konstantinova & Vasiljev
1994).

Schizophyllopsis Váňa et L.Söderstr., *Phytotaxa* 152 (1): 48, 2013 (see Váňa *et al.* 2013l). NOM. NOV. PRO.:
Anastrophyllum subg. *Schizophyllum* R.M.Schust., *Hepat. Anthocerotae N. Amer.* 2: 739, 1969 (see Schuster 1969).

Schizophyllopsis aristata (Herzog ex N.Kitag.) Váňa et L.Söderstr., *Phytotaxa* 152 (1): 48, 2013 (see Váňa *et al.*
2013l). BASIONYM: *Anastrophyllum bidens* var. *aristatum* Herzog ex N.Kitag., *J. Hattori Bot. Lab.* 33: 216, 1970
(see Kitagawa 1970).

Schizophyllopsis bidens (Reinw., Blume et Nees) Váňa et L.Söderstr., *Phytotaxa* 152 (1): 48, 2013 (see Váňa *et al.*
2013l). BASIONYM: *Jungermannia bidens* Reinw., Blume et Nees, *Nova Acta Phys.-Med. Acad. Caes. Leop.-Carol.*
Nat. Cur. 12 (1): 208, 1824 [1825] (see Reinwardt *et al.* 1824).

Schizophyllopsis lanciloba (Steph.) Váňa et L.Söderstr., *Phytotaxa* 152 (1): 48, 2013 (see Váňa *et al.* 2013l).
BASIONYM: *Anastrophyllum lancilobum* Steph., *Sp. Hepat. (Stephani)* 6: 107, 1917 (see Stephani 1917).

Schizophyllopsis papillosa (J.J.Engel et Braggins) Váňa et L.Söderstr., *Phytotaxa* 152 (1): 48, 2013 (see Váňa *et al.*
2013l). BASIONYM: *Anastrophyllum papillosum* J.J.Engel et Braggins, *J. Bryol.* 20 (2): 381, 1998 (see Engel &
Braggins 1998).

Schizophyllopsis sphenoloboides (R.M.Schust.) Váňa et L.Söderstr., *Phytotaxa* 152 (1): 49, 2013 (see Váňa *et al.*
2013l). BASIONYM: *Anastrophyllum sphenoloboides* R.M.Schust., *Hepat. Anthocerotae N. Amer.* 2: 741, 1969 (see
Schuster 1969).

**Schizophyllum* (R.M.Schust.) Váňa et L.Söderstr., *Phytotaxa* 81 (1): 16, 2013, *nom. illeg.* ICN Art. 53.4; *hom. illeg.*
[non Nutt. 1841 (Asteraceae)] (see Váňa *et al.* 2013f). BASIONYM: *Anastrophyllum* subg. *Schizophyllum* R.M.Schust.,
Hepat. Anthocerotae N. Amer. 2: 739, 1969 (see Schuster 1969).

Schizophyllum aristatum (Herzog ex N.Kitag.) Váňa et L.Söderstr., *Phytotaxa* 81 (1): 16, 2013 (see Váňa *et al.*
2013f). BASIONYM: *Anastrophyllum bidens* var. *aristatum* Herzog ex N.Kitag., *J. Hattori Bot. Lab.* 33: 216, 1970
(see Kitagawa 1970).

Schizophyllum bidens (Reinw., Blume et Nees) Váňa et L.Söderstr., *Phytotaxa* 81 (1): 16, 2013 (see Váňa *et al.*
2013f). BASIONYM: *Jungermannia bidens* Reinw., Blume et Nees, *Nova Acta Phys.-Med. Acad. Caes. Leop.-Carol.*
Nat. Cur. 12 (1): 208, 1824 [1825] (see Reinwardt *et al.* 1824).

Schizophyllum lancilobum (Steph.) Váňa et L.Söderstr., *Phytotaxa* 81 (1): 16, 2013 (see Váňa *et al.* 2013f).
BASIONYM: *Anastrophyllum lancilobum* Steph., *Sp. Hepat. (Stephani)* 6: 107, 1917 (see Stephani 1917).

Schizophyllum papillosum (J.J.Engel et Braggins) Váňa et L.Söderstr., *Phytotaxa* 81 (1): 16, 2013 (see Váňa *et al.*
2013f). BASIONYM: *Anastrophyllum papillosum* J.J.Engel et Braggins, *J. Bryol.* 20 (2): 381, 1998 (see Engel &
Braggins 1998).

Schizophyllum sphenoloboides (R.M.Schust.) Váňa et L.Söderstr., *Phytotaxa* 81 (1): 17, 2013 (see Váňa *et al.* 2013f). BASIONYM: *Anastrophyllum sphenoloboides* R.M.Schust., *Hepat. Anthocerotae N. Amer.* 2: 741, 1969 (see Schuster 1969).

Solenostoma appalachianum R.M.Schust. ex Bakalin, *Arctoa* 23: 127, 2014 (see Bakalin 2014a). BASED ON: *Solenostoma appalachianum* R.M.Schust., *Rhodora* 60 (717): 246, 1958, *nom. inval.* ICN Art. 38.1(a); no description (see Schuster 1958).

Solenostoma costaricanum Bakalin, *Polish Bot. J.* 58 (1): 128, 2013 (see Bakalin 2013). TYPE: “COSTA RICA: Alajuela, Calera de San Ramon, 29 Jan 1934, *A. M. Brenes 19033* (NY 636521)”.

Solenostoma gracillimum* subsp. *camiguinense Bakalin, *Polish Bot. J.* 58 (1): 134, 2013 (see Bakalin 2013). TYPE: “PHILIPPINES: Is. of Camiguin, from around fumaroles at base of New Volcano thrown up in 1871, s.d., *Challenger Expedition s.n.* (NY 1717840)”. NOTE: This name also creates the autonym.

Solenostoma gracillimum* var. *heteromorphum (Gottsche et Rabenh.) Bakalin, *Arctoa* 23: 104, 2014 (see Bakalin 2014a). BASIONYM: *Jungermannia hyalina* var. *heteromorpha* Gottsche et Rabenh., *Hepat. Eur., Leberm.* 62–64: no. 628, 1877 (see Gottsche & Rabenhorst 1877).

Solenostoma inundatum* var. *grandirete Bakalin, *Polish Bot. J.* 58 (1): 135, 2013 (see Bakalin 2013). TYPE: “NEW ZEALAND: Great Barrier Island, s.d. *Hutton 3* (NY 1717891)”.

Solenostoma kurilense (Bakalin) Váňa, *Phytotaxa* 152 (1): 40, 2013 (see Váňa *et al.* 2013k). BASIONYM: *Plectocolea flagellata* var. *kurilensis* Bakalin, *Arctoa* 18: 90, 2009 [2010] (see Bakalin *et al.* 2009).

Solenostoma marcescens (Mitt.) Bakalin, *Polish Bot. J.* 58 (1): 139, 2013 (see Bakalin 2013). BASIONYM: *Jungermannia marcescens* Mitt., *J. Proc. Linn. Soc., Bot.* 5 (18): 91, 1860 [1861] (see Mitten 1860).

Solenostoma minutissimum (Amakawa) Bakalin, Vilnet et Furuki, *Bot. Pacifica* 3 (2): 15, 2014 (see Bakalin *et al.* 2014). BASIONYM: *Jungermannia pyriflora* var. *minutissima* Amakawa, *J. Hattori Bot. Lab.* 22: 61, 1960 (see Amakawa 1960).

Solenostoma ovalifolium (Amakawa) Váňa, *Phytotaxa* 152 (1): 40, 2013 (see Váňa *et al.* 2013k). BASIONYM: *Plectocolea infusca* var. *ovalifolia* Amakawa, *J. Jap. Bot.* 34 (4): 115, 1959 (see Amakawa 1959).

Solenostoma papulosum (Steph.) Bakalin, *Arctoa* 23: 95, 2014 (see Bakalin 2014a). BASIONYM: *Jungermannia papulosa* Steph., *Bull. Herb. Boissier (sér. 2)* 1 (5): 511 (73), 1901 (see Stephani 1901).

Solenostoma philippinense Váňa, *Phytotaxa* 152 (1): 43, 2013 (see Váňa *et al.* 2013k). BASED ON: *Solenostoma gracillimum* subsp. *camiguinense* Bakalin, *Polish Bot. J.* 58 (1): 134, 2013 (see Bakalin 2013).

****Solenostoma purpuratum* var. *gollanii*** (Steph.) Bakalin, *Arctoa* 23: 129, 2014, *nom. illeg.* ICN Art. 52.1; earlier name included [cf. *Solenostoma gollanii* var. *koponenii* Bakalin et Li Wei 2013] (see Bakalin 2014a). BASIONYM: *Solenostoma gollanii* Steph., *Sp. Hepat. (Stephani)* 6: 81, 1917 (see Stephani 1917).

Solenostoma purpuratum* var. *koponenii Bakalin et W.Li, *Arctoa* 22: 135, 2013 (see Bakalin & Wei 2013). TYPE: “Holotypus: China, Sichuan Province, Maerkang County, North of Qiang-Lai Range, 3000 m alt., on soil, leg. T. Koponen (field number 47490) 23 Sept. 1991, PE (PE-1735267)”.

Solenostoma rubrum* var. *underwoodii Bakalin, *Polish Bot. J.* 58 (1): 131, 2013 (see Bakalin 2013). TYPE: “Holotype. USA: Washington, King Co., Seattle, 12 Apr. 1891, *C. V. Piper 21* (NY 564814). Isotypes. USA: Washington, King Co., Seattle, 12 Apr. 1891, *C. V. Piper* (NY 564815, 564817). Paratype. USA: Washington, Thurston Co., Olympia, 19 Apr. 1981 *L. F. Henderson 2596* (NY 564816)”. NOTE: This name also creates the autonym.

Solenostoma sichuanicum Bakalin et W.Li, *Arctoa* 22: 137, 2013 ‘*sichuanica*’ (see Bakalin & Wei 2013). TYPE: “Holotypus. China, Sichuan, Muli County, leg. Gao C., date unknown, field no. 21125 IFP (IFP24600)”.

Solenostoma sunii Bakalin et Vilnet, *Bot. Pacifica* 3 (2): 15, 2014 (see Bakalin *et al.* 2014). TYPE: “Holotypus: REP. OF KOREA, KyongNam Province, Chiri Mt. (35°19’46”N 127°44’07”E), 1800 m alt., wet and shady crevices in cliffs, leg. Bakalin V.A., Kor-10-27-09 14.VI.2009 (VBGI, isotype in KPABG)”.

Sphenolobus austroamericanus (Váňa) Váňa, *Phytotaxa* 81 (1): 30, 2013 (see Váňa *et al.* 2013h). BASIONYM: *Anastrophyllum austroamericanum* Váňa, *J. Hattori Bot. Lab.* 48: 225, 1980 (see Váňa 1980).

Stolonivector gremmenii (Váňa) Váňa, *Phytotaxa* 112 (1): 28, 2013 (see Söderström *et al.* 2013e). BASIONYM: *Chiloscyphus gremmenii* Váňa, *Cryptog. Bryol.* 26 (1): 81, 2005 (see Váňa & Gremmen 2005).

Symbiezidieae Gradst. (trib.), *Phytotaxa* 100 (1): 10, 2013 (see Gradstein 2013d). TYPE: *Symbiezidium* Trevis. NOTE: Originally placed in subfam. Lejeunoideae.

Syzygiella ciliata Gradst. et A.R.Benitez, *Nova Hedwigia* 99 (1/2): 115, 2014 (see Gradstein & Benitez 2014). TYPE: “Ecuador, Zamora Chinchipe, Palanda, La Canela, northern slope of Cerro Plateado, ca. 2600 m, on moist humus among terrestrial bromeliads in low shrubby and herbaceous vegetation, 20 August 2012, A.Benitez 559 (holotype: PC; isotype: HUTPL)”.

Syzygiella colorata var. *collenchymata* J.J.Engel et Váňa, *Mem. New York Bot. Gard.* 105: 102, 2013 (see Váňa & Engel 2013). TYPE: “Holotype: Tristan da Cunha: The Peak above Hottentot Gulch; summit of crater, above 4000 ft., 23 Feb 1962, Dickson 185E (F)”. NOTE: This name also creates the autonym.

Syzygiella teres (Carrington et Pearson) Váňa, *Phytotaxa* 76 (3): 35, 2013 (see Váňa *et al.* 2013c). BASIONYM: *Jungermannia teres* Carrington et Pearson, *Pap. & Proc. Roy. Soc. Tasmania* 1887: 9, 1888 (see Carrington & Pearson 1888).

Thysananthus ciliaris (Sande Lac.) Sukkharak, *Nova Hedwigia* 99 (3/4): 339, 2014 (see Sukkharak & Gradstein 2014). BASIONYM: *Phragmicoma ciliaris* Sande Lac., *Ann. Mus. Bot. Lugduno-Batavi* 1: 307, 1864 (see Sande Lacoste 1864).

***Thysananthus combinatus* Sukkharak, *Tax. Phylog. Thysananthus (Thesis)*: 105, 2011, *nom. inval.* ICN Art. 30.8; publ. in thesis (see Sukkharak 2011). ORIGINAL MATERIAL: “MALAYSIA. Perak: Taiping, on old planted trees in park around Taiping lake at the foot of Maxwell Hill, ca 50 m, on tree buttress, 9 Mar 2004, *Gradstein et al.* 10366 (holotype: GOET!)”.

***Thysananthus convolutus* var. *laceratus* (Steph.) G.E.Lee, Gradst., L.Söderstr. et Latiff, *Malayan Nat. J.* 65 (2/3): 107, 2013, *nom. inval.* ICN Art. 41.5; basionym not cited (see Lee *et al.* 2013). BASIONYM: *Thysananthus laceratus* Steph., *Sp. Hepat. (Stephani)* 4: 796, 1912 (see Stephani 1912).

***Thysananthus gottschei* var. *continuus* G.E.Lee, Gradst., L.Söderstr. et Latiff, *Malayan Nat. J.* 65 (2/3): 107, 2013, *nom. inval.* ICN 38.1(a); no description (see Lee *et al.* 2013). ORIGINAL MATERIAL: “Sarawak”.

Trichocolea iriomotensis T.Katag., *Hattoria* 4: 6, 2013 (see Katagiri *et al.* 2013). TYPE: “Japan, Ryukyu, Iriomote Island, Ootomi Trail, between Daiichi-yamagoya and Ootomi-guchi, 150–210 m alt., on moist boulder, 23 Dec. 2009, *Miyauchi 1869* (holotype: HIRO)”.

Trichocolea magna T.Katag., *Hattoria* 4: 7, 2013 (see Katagiri *et al.* 2013). TYPE: “Japan. Honshu, Mt. Kaikoma, Southern Japanese Alps, between Kitazawa mountain pass and Sensui mountain pass, Katagiri 3198 (holotype: HIRO!; isotypes: NY!, TNS!)”.

- Tricholepidozia*** (R.M.Schust.) E.D.Cooper, *Phytotaxa* 97 (2): 58, 2013 (see Cooper *et al.* 2013). BASIONYM: *Telaranea* subg. *Tricholepidozia* R.M.Schust., *J. Hattori Bot. Lab.* 26: 256, 1963 (see Schuster 1963).
- Tricholepidozia chaetocarpa*** (Pearson) E.D.Cooper, *Phytotaxa* 97 (2): 58, 2013 (see Cooper *et al.* 2013). BASIONYM: *Lepidozia chaetocarpa* Pearson, *J. Linn. Soc., Bot.* 46 (305): 27, 1922 (see Pearson 1922).
- Tricholepidozia fernandeziensis*** (Steph.) E.D.Cooper, *Phytotaxa* 97 (2): 58, 2013 (see Cooper *et al.* 2013). BASIONYM: *Lepidozia fernandeziensis* Steph., *Kungl. Svenska Vetensk.-Akad. Handl. (n.ser.)* 46 (9): 63, 1911 (see Stephani 1911b).
- Tricholepidozia ferruginea*** (J.J.Engel et G.L.Merr.) E.D.Cooper, *Phytotaxa* 97 (2): 58, 2013 (see Cooper *et al.* 2013). BASIONYM: *Telaranea ferruginea* J.J.Engel et G.L.Merr., *Fieldiana, Bot. (n.ser.)* 44: 159, 2004 (see Engel & Smith Merrill 2004).
- Tricholepidozia fissifolia*** (Steph.) E.D.Cooper, *Phytotaxa* 97 (2): 58, 2013 (see Cooper *et al.* 2013). BASIONYM: *Lepidozia fissifolia* Steph., *Sp. Hepat. (Stephani)* 3: 610, 1909 (see Stephani 1909).
- Tricholepidozia jowettiana*** (H.A.Mill.) E.D.Cooper, *Phytotaxa* 97 (2): 59, 2013 (see Cooper *et al.* 2013). BASIONYM: *Telaranea jowettiana* H.A.Mill., *J. Bryol.* 14 (2): 235, 1986 (see Miller 1986).
- Tricholepidozia kaindina*** (Grolle) E.D.Cooper, *Phytotaxa* 97 (2): 59, 2013 (see Cooper *et al.* 2013). BASIONYM: *Telaranea kaindina* Grolle, *J. Hattori Bot. Lab.* 31: 9, 1968 (see Grolle 1968a).
- Tricholepidozia kogiana*** (Steph.) E.D.Cooper, *Phytotaxa* 97 (2): 59, 2013 (see Cooper *et al.* 2013). BASIONYM: *Lepidozia kogiana* Steph., *Sp. Hepat. (Stephani)* 6: 332, 1922 (see Stephani 1922).
- Tricholepidozia lawesii*** (Steph.) E.D.Cooper, *Phytotaxa* 97 (2): 59, 2013 (see Cooper *et al.* 2013). BASIONYM: *Lepidozia lawesii* Steph., *Hedwigia* 28 (4): 264, 1889 (see Stephani 1889b).
- Tricholepidozia leratii*** (Steph.) E.D.Cooper, *Phytotaxa* 167 (2): 218, 2014 (see Cooper *et al.* 2014). BASIONYM: *Lepidozia leratii* Steph., *Sp. Hepat. (Stephani)* 6: 333, 1922 (see Stephani 1922).
- Tricholepidozia lindenbergii*** (Gottsche) E.D.Cooper, *Phytotaxa* 97 (2): 59, 2013 (see Cooper *et al.* 2013). BASIONYM: *Lepidozia lindenbergii* Gottsche, *Syn. Hepat.* 2: 213, 1845 (see Gottsche *et al.* 1845a).
- Tricholepidozia lindenbergii* var. *complanata*** (J.J.Engel et G.L.Merr.) E.D.Cooper, *Phytotaxa* 97 (2): 59, 2013 (see Cooper *et al.* 2013). BASIONYM: *Telaranea lindenbergii* var. *complanata* J.J.Engel et G.L.Merr., *Phytologia* 79 (3): 252, 1995 [1996] (see Engel & Smith Merrill 1995). NOTE: This name also creates the autonym.
- Tricholepidozia lindenbergii* var. *mellea*** (J.J.Engel et G.L.Merr.) E.D.Cooper, *Phytotaxa* 97 (2): 59, 2013 (see Cooper *et al.* 2013). BASIONYM: *Telaranea lindenbergii* var. *mellea* J.J.Engel et G.L.Merr., *Phytologia* 79 (3): 252, 1995 [1996] (see Engel & Smith Merrill 1995).
- Tricholepidozia lindenbergii* var. *papillata*** (J.J.Engel et G.L.Merr.) E.D.Cooper, *Phytotaxa* 97 (2): 59, 2013 (see Cooper *et al.* 2013). BASIONYM: *Telaranea lindenbergii* var. *papillata* J.J.Engel et G.L.Merr., *Fieldiana, Bot. (n.ser.)* 44: 83, 2004 (see Engel & Smith Merrill 2004).
- Tricholepidozia marginata*** (J.J.Engel et G.L.Merr.) E.D.Cooper, *Phytotaxa* 97 (2): 59, 2013 (see Cooper *et al.* 2013). BASIONYM: *Telaranea marginata* J.J.Engel et G.L.Merr., *Fieldiana, Bot. (n.ser.)* 44: 166, 2004 (see Engel & Smith Merrill 2004).
- Tricholepidozia martinii*** (E.A.Hodgs.) E.D.Cooper, *Phytotaxa* 97 (2): 59, 2013 (see Cooper *et al.* 2013). BASIONYM: *Lepidozia martinii* E.A.Hodgs., *Trans. Roy. Soc. New Zealand* 83 (4): 602, 1956 “*martini*” (see Hodgson 1956).

Tricholepidozia melanesica (H.A.Mill.) E.D.Cooper, *Phytotaxa* 97 (2): 60, 2013 (see Cooper *et al.* 2013). BASIONYM: *Telaranea melanesica* H.A.Mill., *J. Bryol.* 14 (2): 237, 1986 (see Miller 1986).

Tricholepidozia murphyae (Paton) E.D.Cooper, *Phytotaxa* 97 (2): 60, 2013 (see Cooper *et al.* 2013). BASIONYM: *Telaranea murphyae* Paton, *Trans. Brit. Bryol. Soc.* 4 (5): 776, 1965 (see Paton 1965).

Tricholepidozia neesii (Lindenb.) E.D.Cooper, *Phytotaxa* 97 (2): 60, 2013 (see Cooper *et al.* 2013). BASIONYM: *Lepidozia neesii* Lindenb., *Syn. Hepat.* 2: 212, 1845 (see Gottsche *et al.* 1845a).

Tricholepidozia octoloba (Del Ros.) E.D.Cooper, *Phytotaxa* 97 (2): 60, 2013 (see Cooper *et al.* 2013). BASIONYM: *Telaranea octoloba* Del Ros., *Philipp. J. Sci.* 100 (3/4): 239, 1971 (see Del Rosario 1971).

Tricholepidozia plumulosa (Lehm. et Lindenb.) E.D.Cooper, *Phytotaxa* 97 (2): 60, 2013 (see Cooper *et al.* 2013). BASIONYM: *Jungermannia plumulosa* Lehm. et Lindenb., *Nov. Stirp. Pug.* 6: 30, 1834 (see Lehmann 1834).

Tricholepidozia pulcherrima (Steph.) E.D.Cooper, *Phytotaxa* 97 (2): 60, 2013 (see Cooper *et al.* 2013). BASIONYM: *Lepidozia pulcherrima* Steph., *Sp. Hepat. (Stephani)* 3: 600, 1909 (see Stephani 1909).

Tricholepidozia pulcherrima* var. *mooreana (Steph.) E.D.Cooper, *Phytotaxa* 97 (2): 60, 2013 (see Cooper *et al.* 2013). BASIONYM: *Lepidozia mooreana* Steph., *Sp. Hepat. (Stephani)* 3: 585, 1909 (see Stephani 1909). NOTE: This name also creates the autonym.

Tricholepidozia quadriseta (Steph.) E.D.Cooper, *Phytotaxa* 97 (2): 60, 2013 (see Cooper *et al.* 2013). BASIONYM: *Lepidozia quadriseta* Steph., *Sp. Hepat. (Stephani)* 3: 582, 1909 (see Stephani 1909).

Tricholepidozia remotifolia (E.A.Hodgs.) E.D.Cooper, *Phytotaxa* 97 (2): 60, 2013 (see Cooper *et al.* 2013). BASIONYM: *Telaranea remotifolia* E.A.Hodgs., *Rec. Domin. Mus.* 4 (11): 107, 1962 (see Hodgson 1962).

Tricholepidozia semperiana (Steph.) E.D.Cooper, *Phytotaxa* 97 (2): 60, 2013 (see Cooper *et al.* 2013). BASIONYM: *Lepidozia semperiana* Steph., *Sp. Hepat. (Stephani)* 3: 612, 1909 (see Stephani 1909).

Tricholepidozia tetradactyla (Hook.f. et Taylor) E.D.Cooper, *Phytotaxa* 97 (2): 61, 2013 (see Cooper *et al.* 2013). BASIONYM: *Jungermannia tetradactyla* Hook.f. et Taylor, *London J. Bot.* 3: 286 [386], 1844 (see Hooker & Taylor 1844a).

Tricholepidozia trichocoleoides (Herzog) E.D.Cooper, *Phytotaxa* 97 (2): 61, 2013 (see Cooper *et al.* 2013). BASIONYM: *Lepidozia trichocoleoides* Herzog, *Trans. Brit. Bryol. Soc.* 1 (4): 314, 1950 (see Herzog 1950).

Trilophozia quinquedentata* var. *asymmetrica (Horik.) L.Söderstr. et Vána, *Phytotaxa* 97 (2): 32, 2013 (see Söderström *et al.* 2013c). BASIONYM: *Lophozia asymmetrica* Horik., *J. Sci. Hiroshima Univ., Ser. B, Div. 2, Bot.* 2: 153, 1934 (see Horikawa 1934). NOTE: This name also creates the autonym.

Tritomaria exsectiformis* subsp. *camerunensis S.W.Arnell ex Vána, *Phytotaxa* 167 (2): 216, 2014 (see Vána *et al.* 2014a). BASED ON: *Tritomaria camerunensis* S.W.Arnell, *Svensk Bot. Tidskr.* 52 (1): 64, 1958, *nom. inval.* ICN Art. 40.2; based on more than one gathering (see Arnell 1958b).

Tritomaria ferruginea (Grolle) Vána, *Phytotaxa* 81 (1): 24, 2013 (see Vána *et al.* 2013g). BASIONYM: *Andrewsianthus ferrugineus* Grolle, *Khumbu Himal* 1 (4): 275, 1966 (see Grolle 1966a).

Trocholejeunea sinensis Jian Wang bis, R.L.Zhu et Gradst., *Phytotaxa* 174 (5): 296, 2014 (see Wang *et al.* 2014b). TYPE: “CHINA. Guangxi. Jinxiu Co., Dayaoshan National Nature Reserve, *Cathaya argyrophylla* Protection Station, on rotten logs, 900–1000 m, 19 Jul. 2009, *Wen Ye & Yu-Mei Wei* 20090719-47A (holotype: HSNU!)”.

Xylolejeuneinae Heinrichs et Schäf.-Verw. (subtrib.), *Phytotaxa* 163 (2): 64, 2014 (see Heinrichs *et al.* 2014d). TYPE: *Xylolejeunea* Xiao L.He et Grolle. NOTE: Originally placed in subfam. Lejeunoideae trib. Lejeuneae.

Zantenia (S.Hatt.) Váňa et J.J.Engel, *Mem. New York Bot. Gard.* 105: 29, 2013 (see Váňa & Engel 2013). BASIONYM: *Anastrophyllum* subg. *Zantenia* S.Hatt., *Bot. Mag. (Tokyo)* 79 (937): 342, 1966 (see Hattori 1966).

Zantenia borneensis (Herzog) Váňa et J.J.Engel, *Mem. New York Bot. Gard.* 105: 29, 2013 (see Váňa & Engel 2013). BASIONYM: *Anastrophyllum borneense* Herzog, *Trans. Brit. Bryol. Soc.* 1 (4): 282, 1950 (see Herzog 1950).

Zantenia denticulata (Grolle) Váňa et J.J.Engel, *Mem. New York Bot. Gard.* 105: 30, 2013 (see Váňa & Engel 2013). BASIONYM: *Anastrophyllum denticulatum* Grolle, *Nova Hedwigia* 16: 148, 1968 (see Grolle 1968b).

Zantenia karstenii (Schiffn.) Váňa et J.J.Engel, *Mem. New York Bot. Gard.* 105: 30, 2013 (see Váňa & Engel 2013). BASIONYM: *Anastrophyllum karstenii* Schiffn., *Nova Acta Acad. Caes. Leop.-Carol. German. Nat. Cur.* 60 (2): 268, 1893 (see Schiffner 1893).

Zantenia prionophylla (S.Hatt.) Váňa et J.J.Engel, *Mem. New York Bot. Gard.* 105: 30, 2013 (see Váňa & Engel 2013). BASIONYM: *Anastrophyllum prionophyllum* S.Hatt., *Bot. Mag. (Tokyo)* 79 (937): 342, 1966 (see Hattori 1966).

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