



Early Land Plants Today: Index of Liverwort and Hornwort names published 2021–2022

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Abstract

Centralization and standardization of biodiversity data increases accessibility and can lead to the development of checklists and other resources as powerful and important tools for taxonomy and conservation. The publication of new liverwort and hornwort names remains vastly scattered across dozens of journals. Thus we continue the longstanding index series of published names of liverworts and hornworts with 2021 and 2022. The list herein includes the following: six higher taxon names, 15 generic names, 81 infrageneric names, 187 specific names, 32 infraspecific names, three infrageneric autonyms and 13 infraspecific autonyms. Among them are 24 names of fossils as well as six illegitimate and 64 invalid names. Six older names omitted in the earlier indices are included.

Key words: Liverworts, hornworts, index, nomenclature, fossils, new names

Introduction

Previous indices of liverworts and hornworts have briefly summarized the ecological, biological and evolutionary significance of bryophytes (e.g., Söderström *et al.* 2020, 2022a). This index closely follows on from a series of indices under the auspices of the Early Land Plants Today initiative spanning over a decade (Söderström 2012). This effort continues the many decades of previous bryophyte specific indices, ongoing nomenclatural indexing efforts as well as the many valuable historical contributions. Söderström *et al.* (2018) provided a detailed summary of these efforts. In the current index we list citations for effectively published names for liverworts and hornworts during the period January 1, 2021 through December 31, 2022. Valid, illegitimate and invalid names that were overlooked by earlier indices (2000–2020) are also included.

This list contains six names of higher taxa, 15 generic names, 81 infrageneric names, 187 specific names, and 32 infraspecific names, three infrageneric autonyms and 13 infraspecific autonyms. Twenty-four names are for fossils. Six older names omitted in the earlier indices are included. Six of the names are illegitimate and 64 are invalid. Eighty-five infra-generic and higher taxa, 142 species and 19 infraspecific taxa were published as new to science, the rest are new combinations or new names for existing taxa.

The format closely follows previous versions. Asterisks preceding an entry indicate that the name has been interpreted by us as contrary to the ICN (Turland *et al.* 2018) being either illegitimate (*) or invalid (**). We give both the article that we based our interpretation on, and a short statement about what we think is wrong. A dagger (†) preceding an entry indicates a name for a fossil. The type information for new species is verbatim from the protologue, including spelling errors and formatting.

The Index

Acrobolbus mashpianus Burghardt, *Phytotaxa* 577 (1): 133, 2022 (see Burghardt 2022). TYPE: “ECUADOR. Pichincha: Metropolitan District of Quito, Parrish Pacto, Mashpi Ecological Reserve, Jungle Swing trail, elev. 913 m, 0°09'58.13"N 78°52'50.36"W, 22 February 2019, M. Burghardt MB 11033 (holotype: QCNE!)”.

Acrobolbus setaceus (Steph.) Gradst., *Mem. New York Bot. Gard.* 121: 134, 2021 (see Gradstein 2021). BASIONYM: *Tylimanthus setaceus* Steph., *Bull. Herb. Boissier (sér. 2)* 5 (12): 1141 (13), 1905 (see Stephani 1905a).

Acrobolbus sect. *Ciliatae* R.M.Schust., *Nova Hedwigia Beih.* 120: 479, 2021 (see Schuster 2021). TYPE: *Acrobolbus ciliatus* (Mitt.) Schiffn.

Acrobolbus sect. *Xanthophylla* R.M.Schust., *Nova Hedwigia Beih.* 120: 467, 2021 (see Schuster 2021). TYPE: *Acrobolbus lophocoleoides* (Mitt.) Mitt.

Allorgella integerrima (Steph.) Ilk.-Borg., *Nova Hedwigia* 113 (1/2): 133, 2021 (see Prado & Ilkiu-Borges 2021). BASIONYM: *Odontolejeunea integerrima* Steph., *Hedwigia* 44 (4): 227, 1905 (see Stephani 1905b).

Andrewsianthus australis var. *australis*, *Arctoa* 31 (2): 182, 2022 (see Mamontov 2022a).

Andrewsianthus australis var. *verrucosus* Mamontov, *Arctoa* 31 (2): 182, 2022 (see Mamontov 2022a). TYPE: “CHILE, Aysén Region, Aysén Province, Cisnes Commune, Parque Nacional Queulat, Salto el Condor Waterfall near Carretera Austral, 44°38'34.3" S, 72°26'28.5" W, 326 m a.s.l., 30.XI.2021, Mamontov & Shkurko 934-6-7484 (MHA—holotype)”.

†*Anthoceroites* Khursel et Narkhede, *Intl. J. Res. Biosci. Agricult. Tech.* 5 (spec. iss. 2): 1198, 2017 (see Khursel & Narkhede 2017). TYPE: *Anthoceroites deccanii* Khursel et Narkhede.

†*Anthoceroites deccanii* Khursel et Narkhede, *Intl. J. Res. Biosci. Agricult. Tech.* 5 (spec. iss. 2): 1198, 2017 (see Khursel & Narkhede 2017). TYPE: “Holotype: APS. / Thallus-1. Department of Botany, Institute of Science, Nagpur. Locality: Mohgaonkalm, M.P. Horizon: Deccan Intertrappean Series of India. Age: ?Upper Cretaceous”.

Anthoceros subg. *Australienses* Cargill et J.C.Villarreal, *Bryophyte Diversity Evol.* 45 (1): 38, 2022 (see Cargill *et al.* 2022). TYPE: *Anthoceros wellmanii* Cargill.

Anthoceros subg. *Indici* Cargill, Chantanaorr., R.L.Zhu, A.K.Asthana, Renzaglia et J.C.Villarreal, *Bryophyte Diversity Evol.* 45 (1): 38, 2022 (see Cargill *et al.* 2022). TYPE: *Anthoceros alpinus* Steph.

Anthoceros apocynon Cargill et Palsson, *Telopea* 24: 327, 2021 (see Cargill & Palsson 2021). TYPE: “AUSTRALIA. New South Wales. North West Slopes. Pilliga State Conservation Area (SCA), Dog Proof Fence Rd, in tributary of Goona Ck, edge of creekline in plain of *Allocasuarina luehmannii*—ironbark woodland, 13 Sept. 2020 R.L.Palsson & K.D.Durham 398(3)pp (holotype: CANB 923469; isotype: NSW)”.

Anthoceros palssoniae Cargill, *Telopea* 24: 334, 2021 (see Cargill & Palsson 2021). TYPE: “AUSTRALIA. New South Wales: North West Slopes. Pilliga State Conservation Area (SCA), Dog Proof Fence Rd, in tributary of Goona Ck, edge of creekline in plain of *Allocasuarina luehmannii* - ironbark woodland, 13 Sept. 2020 R.L.Palsson & K.D.Durham 398(2) (holotype: CANB 923468; isotype: NSW)”.

Anthoceros wellmanii Cargill, *Telopea* 24: 340, 2021 (see Cargill & Palsson 2021). TYPE: “AUSTRALIA. New South Wales: North West Slopes. Yarrigan National Park, 12 km S Baradine, 33.1 km NW Coonabarabran on Baradine Rd, 21 Sept. 2010, P.Wellman 588A.1 (holotype: CANB 923459; isotype: NSW)”.

Asperifolia (Warnst.) A.V.Troitsky, Bakalin et Maltseva, *Plants* 2022 (11, 983): 34, 2022 (see Bakalin *et al.* 2022b). BASIONYM: *Calypogeia asperifoliae* Warnst., *Bryol. Z.* 1 (7): 111, 1917 (see Warnstorf 1917).

Asperifolia arguta (Nees et Mont.) A.V.Troitsky, Bakalin et Maltseva, *Plants* 2022 (11, 983): 35, 2022 (see Bakalin *et al.* 2022b). BASIONYM: *Calypogeia arguta* Nees et Mont., *Naturgesch. Eur. Leberm.* 3: 24, 1838 (see Nees 1838).

Asperifolia indosinica Bakalin et A.V.Troitsky, *Plants* 2022 (11, 983): 35, 2022 (see Bakalin *et al.* 2022b). TYPE: “Holotype: Vietnam, Lai Châu Province, Hoang Lien Range, Hoang Lien National Park (22°20'55" N 103°46'03" E), 1700–1900 m a.s.l., moist cliffs in evergreen south subtropical mountain forest in deep valley, 15 March 2016, V.A. Bakalin, V-1-112-16 (VBGI)”.

Asperifolia sullivantii (Austin) A.V.Troitsky, Bakalin et Maltseva, *Plants* 2022 (11, 983): 35, 2022 (see Bakalin *et al.* 2022b). BASIONYM: *Calypogeia sullivantii* Austin, *Hepat. bor.-amer.*: 19, 1873 “*Sullivantii*” (see Austin 1873).

Asterellopsis R.L.Zhu et You L.Xiang, *Cladistics* 38 (6): 659, 2022 (see Xiang *et al.* 2022b). TYPE: *Asterellopsis grollei* (D.G.Long) R.L.Zhu et You L.Xiang.

Asterellopsis grollei (D.G.Long) R.L.Zhu et You L.Xiang, *Cladistics* 38 (6): 659, 2022 (see Xiang *et al.* 2022b). BASIONYM: *Asterella grollei* D.G.Long, *Bryologist* 102 (2): 169, 1999 (see Long 1999).

Bazzania amadoi D.P.Costa, *Syst. Bot.* 46 (3): 728, 2021 (see Costa 2021). TYPE: “BRAZIL. Roraima State, Monte Roraima National Park, Monte Caburaí, na mata depois do alagado, pendente do tronco de uma Clusiaceae, 1338 m, 08°09'31.9"N, 60°10'20"W, 7 November 2014 (♂/♀), D.P.Costa, G.Martinelli, M.A. Nadruz & R.C. Forzza 6079 (holotype: RB 931539!”).

Bazzania decrescens subsp. *ambahatrae* Gyarmati et Pócs, *Frahmia* 24: 1, 2021 (see Sass-Gyarmati & Pócs 2021). TYPE: “MADAGASCAR, Prov. Antsiranana (Diego-Suarez)—Réserve spéciale de Manongarivo Ambahatra, cours supérieur; 13°59'S; 48°26'E. Crête entre les deux bras de l'Ambahatra 0,8–0,3 km au N du point côté 1528. Alt.: 1350–1400m. Habitat: première arête dans une forêt montagnarde. Substrat: tronc. Holotype: P. Geissler. 19742. Date: 10.03.1999 (G)”.

Bazzania decrescens subsp. *curvidens* (Steph.) Gyarmati, *Acta Biol. Pl. Agr.* 9 (1): 34, 2021 (see Sass-Gyarmati & Reeb 2021). BASIONYM: *Bazzania curvidens* Steph., *Bull. Soc. Roy. Bot. Belgique* 30 (2): 197, 1891 (see Stephani 1891).

†*Blasiites huolinhensis* Rui Y.Li et B.N.Sun, *Cret. Res.* 119 (104684): 3, 2020 (see Li *et al.* 2021a). TYPE: “Holotype. MDL-K1-209 (designated here). Repository. Northwest University Museum, Northwest University, Xi'an, China. Type locality and horizon. Mandala open-cast coal mine, Huolinhe Basin, Inner Mongolia, China; lower coal-bearing member, Huolinhe Formation, Valanginiane-Hauterivian, Lower Cretaceous”.

Blepharolejeunea saccata subsp. *harlingii* (S.W.Arnell) Gradst., *Mem. New York Bot. Gard.* 121: 405, 2021 (see Gradstein 2021). BASIONYM: *Blepharolejeunea harlingii* S.W.Arnell, *Svensk Bot. Tidskr.* 56 (2): 335, 1962 (see Arnell 1962).

Blepharolejeunea saccata subsp. *saccata*, *Mem. New York Bot. Gard.* 121: 405, 2021 (see Gradstein 2021).

***Brevianthus bilobatus* R.M.Schust., *Nova Hedwigia Beih.* 120: 646, 2021, *nom. inval.* ICN2018 Art. 40.7; herbarium not specified (see Schuster 2021). ORIGINAL MATERIAL: “New Zealand, Waipoa Forest, RMS 3002”.

***Brevianthus flavus* subsp. *novazelandiae* R.M.Schust., *Nova Hedwigia Beih.* 120: 648, 2021, *nom. inval.* ICN2018 Art. 40.7; herbarium not specified (see Schuster 2021). ORIGINAL MATERIAL: “New Zealand, Waipoa Forest, RMS 3002”.

Calypogeia kamchatica Bakalin, A.V.Troitsky et Maltseva, *Plants* 2022 (11, 983): 42, 2022 (see Bakalin *et al.* 2022b). TYPE: “Holotype: Russia, Russian Far East, Kamchatka Territory, East Kamchatka, Nalychevo Valley, middle course of Talovaya River, Kraevedcheskie Hot Springs area (53°34'30" N 158°50'23" E), 460 m a.s.l., flat thermal mesotrophic swamp (t~30 °C), on mineral soil, 17 August 2015, V.A. Bakalin, K-63-1-15 (VBGI)”.

Calypogeia pseudocuspidata Bakalin, Frank Müll. et A.V.Troitsky, *Plants* 2022 (11, 983): 36, 2022 (see Bakalin *et al.* 2022b). TYPE: “Vietnam, Lao Cai Province, Sa Pa District, San Sa Ho Commune, Hoang Lien Range, Hoang Lien National Park, open moist cliff near stream in south subtropical forest in the stream valley near waterfall (22°20'22.6" N 103°46'40.2" E), 2014 m a.s.l., 5 April 2018, V.A. Bakalin & K.G. Klimova, V-21-17-18 (VBGI)”.

Calypogeia pseudointegristipula Bakalin, A.V.Troitsky et Maltseva, *Plants* 2022 (11, 983): 48, 2022 (see Bakalin *et al.* 2022b). TYPE: “Russia, Russian Far East, Sakhalin Province, Kuril Islands, Kunashir Island, Gornaya River valley middle course (44°26'22" N 146°12'10" E), 220 m a.s.l., moist fallen decaying wood in part shade in the valley's forest dominating by *Picea*, *Abies*, *Sorbus commixta*, *Betula*, 30 August 2018, V.A. Bakalin & K.G. Klimova K-34-34-18 (VBGI)”.

Calypogeia pseudosphagnicola Bakalin, A.V.Troitsky et Maltseva, *Plants* 2022 (11, 983): 41, 2022 (see Bakalin *et al.* 2022b). TYPE: “Holotype: Russia, Russian Far East, Khabarovsk Territory, Tardoki-Yani Range, ca. 1 km westward of Tardoki-Yani Mt. peak (48°53'16.9" N 138°02'52.8" E), 1940 m a.s.l moist cliff crevice in open place in steep N-facing slope with cliffs, 24 August 2013, V.A. Bakalin, Kh-40-28-13 (VBGI)”.

Calypogeia shevockii Bakalin et A.V.Troitsky, *Plants* 2022 (11, 983): 47, 2022 (see Bakalin *et al.* 2022b). TYPE: “Holotype: U.S.A., California, El Dorado County, Eldorado national forest (38°45'07.6" N 120°26'00.0" W), 4140 ft. alt., mixed conifer-hardwood forest with *Cornus nuttallii*, *Acer marcophyllum* and *Aralia* at hillside seeps of roadbank, 3 June 2017, J.R. Shevock 50287 (CAS, under *Calypogeia fissa*; duplicate in VBGI)”.

***Caudalejeunea harpaphylla* f. *longiloba* (Spruce) Gradst., *Mem. New York Bot. Gard.* 121: 411, 2021, *nom. inval.* ICN2018 Art. 41.5; basionym not correctly cited (see Gradstein 2021). BASIONYM: *Lejeunea harpaphylla* f. *longiloba* Spruce, *Trans. & Proc. Bot. Soc. Edinburgh* 15 (1): 123, 1884 ‘*Lopho-Lejeunea*’ (see Spruce 1884).

Cephaloziella grossigemma Mamontov, *Arctoa* 31 (2): 124, 2022 (see Mamontov 2022b). TYPE: “CHILE, Aysén Region, Aysén Province, Aysén Commune, Exploradores River valley, Parque Exploradores, near camino a Bahía Exploradores, 46°29'53.2" S, 73°09'12.1" W, 226 m a.s.l., 6.XII.2021, Mamontov & Shkurko 957-1-7472 (MHA—holotype)”.

Ceratolejeunea baracoensis G.Dauphin, C.J.Bastos et B.Cañiza, *Nova Hedwigia* 113 (3/4): 304, 2021 (see Dauphin *et al.* 2021). TYPE: “Cuba, Oriente, Baracoa, orillas del río Baez, cerca del campamento “Los Naranjos”, 2 Aug 1975, F.K. Meyer 27770 (JE!)”.

Ceratolejeunea ocirii A.M.Sierra, C.J.Bastos et Zartman, *Bryophyte Diversity Evol.* 44 (1): 13, 2021 (see Sierra *et al.* 2021). TYPE: “BRAZIL. Amazonas, Manaus, ZF 4, 80 km north of Manaus, Biological Dynamics Forest Fragment Project (BDFFP), Km 41 reserve, continuous forest of terra firme, 2°25'06.9"S, 59°44'35.5"W, on a decomposing log. 16 November 2018. A.M. Sierra 5541 (holotype INPA!, isotypes ALCB!, PMA!)”.

Ceratolejeunea semicornua A.M.Sierra, C.J.Bastos et Zartman, *Bryophyte Diversity Evol.* 44 (1):, 2021 (see Sierra *et al.* 2021). TYPE: “BRAZIL. Amazonas, São Gabriel da Cachoeira, Uaupés River, Comunidade de Ananás, 00°00'34.7"S, 68°18'17.6"W, on sandy soils at rivers edge in seasonally inundated blackwater Amazonian forests (igapó). 22 December 2017. A.M. Sierra 5084 (holotype INPA!, isotypes ALCB!, PMA!)”.

***Cheilolejeunea microlejeuneoides* R.M.Schust., *Nova Hedwigia Beih.* 120: 115, 2021, *nom. inval.* ICN2018 Art. 38.1(a); no description (possibly error for *Cololejeunea microlejeuneoides*) (see Schuster 2021). ORIGINAL MATERIAL: “South Island: Fiordland, Milford Sound, trail to foot of Bowen Falls (RMS 48602a:with *Acromastigum brachyphyllum*, *Herbertus alpinus*, *Trichotemnoma corrugatum*, *Cheilolejeunea microlejeuneoides*, *Adelanthus falcatus*, *Anastrophyllum schismoides*, etc.)”.

Cheilolejeunea renigastria Pócs, *Cryptog. Bryol.* 42 (8): 130, 2021 (see Pócs 2021b). TYPE: “Madagascar, former Antsiranana Province, Sava Region, Marojejy National Park. Elfin forest on the SE ridge near Camp III, at 1830 m elevation, epiphyllous. T. Pócs, with R.E. Magill & C. LaFarge England, 90114/HY, 26–28.III.1990 (holo-, EGR; iso-, TAN)”.

Cheilolejeunea schaefer-verwimpii Gradst. et C.J.Bastos, *Nova Hedwigia* 112 (1/2): 82, 2021 (see Gradstein & Bastos 2021). TYPE: “Costa Rica, Cartago: Cordillera de Talamanca, Panamericano km 67, Reserva 3 de Junio, “in Quellmoor epiphytisch an Sträuchern,” 2460 m, 3 January 2000, A. Schäfer-Verwimp & I. Holz 0452/B as *C. choachina* (holotype: hb. Schäfer-Verwimp!: isotypes: GOET!, INB)”.

Cheilolejeunea velazquezii Gradst. et C.J.Bastos, *Nova Hedwigia* 112 (1/2): 84, 2021 (see Gradstein & Bastos 2021). TYPE: “Mexico, Michoacán: Tancitaro, Cañada de Culebra, S of Pico Tancitaro, on rock in canyon, 2400 m, 25 March 2003, S. R. Gradstein & A. Velázquez Montes 10109 as *Cheilolejeunea* cf. *laevicalyx* (holotype: GOET!; isotypes: JE!, MEXU!)”.

Chiastocaulon raetzeli Frank Müll., *Phytotaxa* 521 (4): 238, 2021 (see Müller & Thouvenot 2021). TYPE: “NEW CALEDONIA. South Province, Nouméa 45 km N, Mont Humboldt, ascend from the south to the mountain hut below the summit, epiphytic in mossy forest, ca. 1200 m, 21°54'S, 166°24'E, 30 August 2003, F.Müller NC811 (DR)”.

*****Chiloscyphus* sect. *Apomicrolophocoleus*** R.M.Schust., *Nova Hedwigia Beih.* 120: 80, 2021, *nom. inval.* ICN2018 Art. 40.1; no type indicated (see Schuster 2021).

*****Chiloscyphus* sect. *Connati*** (Lindenb.) J.J.Engel et R.M.Schust., *Nova Hedwigia Beih.* 120: 62, 2021, *nom. inval.* ICN2018 Art. 41.5; basionym not cited / ‘*Connatae*’ (see Schuster 2021). BASIONYM: *Plagiochila* sect. V *Connatae* Lindenb., *Monogr. hep. gen. Plagiochilae*: xxix, 1844 (see Lindenberg 1844).

Chiloscyphus* sect. *Patulistipae R.M.Schust., *Nova Hedwigia Beih.* 120: 37, 2021 (see Schuster 2021). TYPE: *Chiloscyphus patulistipus* (Steph.) J.J.Engel et R.M.Schust.

Chiloscyphus* subg. *Connati (Lindenb.) J.J.Engel et R.M.Schust., *Nova Hedwigia Beih.* 120: 61, 2021 ‘*Connatae*’ (see Schuster 2021). BASIONYM: *Plagiochila* sect. V *Connatae* Lindenb., *Monogr. hep. gen. Plagiochilae*: xxix, 1844 (see Lindenberg 1844).

Chiloscyphus* subg. *Lamellocolea (J.J.Engel) R.M.Schust., *Nova Hedwigia Beih.* 120: 85, 2021 (see Schuster 2021). BASIONYM: *Lamellocolea* J.J.Engel, *J. Hattori Bot. Lab.* 70: 65, 1991 (see Engel 1991).

Chiloscyphus* subsect. *Spiniferi R.M.Schust., *Nova Hedwigia Beih.* 120: 63, 2021 (see Schuster 2021). TYPE: *Chiloscyphus spinifer* (Hook.f. et Taylor) J.J.Engel et R.M.Schust.

Chiloscyphus ambiguus R.M.Schust., *Nova Hedwigia Beih.* 120: 58, 2021 (see Schuster 2021). TYPE: “Known only from Fiordland, N. Zealand (Moraine Cr., RMS 48105a; F)”.

Chiloscyphus brunneorhizus R.M.Schust., *Nova Hedwigia Beih.* 120: 84, 2021 (see Schuster 2021). TYPE: “New Zealand, South Island: Paparoa Range, peaty, thin bryophyte layer over vertical damp rock walls along a rill draining Morgan Tarn, 1.5–2 km below tarn, 3100–3300 ft (RMS 84-1662a (F), among *Radula dentata*, *Riccardia* spp., *Calyptrocolea occlusa*)”.

*****Chiloscyphus childii*** R.M.Schust., *Nova Hedwigia Beih.* 120: 25, 2021, *nom. inval.* ICN2018 Art. 40.7; herbarium not specified (see Schuster 2021). ORIGINAL MATERIAL: “Pelorus Bridge, S. I., N. Z. Child 5550a”.

Chiloscyphus chiloscyphoides (R.M.Schust.) R.M.Schust., *Nova Hedwigia Beih.* 120: 227, 2021 (see Schuster 2021). BASIONYM: *Saccogynidium chiloscyphoides* R.M.Schust., *J. Hattori Bot. Lab.* 26: 272, 1963 (see Schuster 1963). NOTE: The name is possibly too similar to *Chiloscyphus chiloscyphoideus* (Lindenb.) Vanderp., Schäf.-Verw. et D.G.Long to be accepted/considered legitimate.

***Chiloscyphus conspectus* Colenso ex R.M.Schust., *Nova Hedwigia Beih.* 120: 109, 2021, *nom. inval.* ICN2018 Art. 38.1(a); no description (probably error for '*Chiloscyphus compactus* Colenso') (see Schuster 2021). ORIGINAL MATERIAL: none.

***Chiloscyphus epiphyllus* R.M.Schust., *Nova Hedwigia Beih.* 120: 32, 2021, *nom. inval.* ICN2018 Art. 40.6; no type specified (apparent error for *Chiloscyphus epiphytus*) (see Schuster 2021). ORIGINAL MATERIAL: none.

***Chiloscyphus fulvopallidus* R.M.Schust., *Nova Hedwigia Beih.* 120: 26, 2021, *nom. inval.* ICN2018 Art. 40.7; herbarium not specified, '*fulvo-pallida*' (see Schuster 2021). ORIGINAL MATERIAL: "RMS 84-116, Mt. Burns, Fiordland, N.Z.".

**Chiloscyphus granditextus* (Steph.) R.M.Schust., *Nova Hedwigia Beih.* 120: 88, 2021, *nom. illeg.* ICN2018 Art. 53.1; *hom. illeg.* (non Stephani 1908) (see Schuster 2021). BASIONYM: *Lophocolea granditexta* Steph., *Bull. Herb. Boissier (sér. 2)* 6 (10): 881 (106), 1906 (see Stephani 1906).

***Chiloscyphus heterophyllus* subsp. *cladogynus* (R.M.Schust.) R.M.Schust., *Nova Hedwigia Beih.* 120: 24, 2021, *nom. inval.* ICN2018 Art. 41.5; basionym not correctly cited (see Schuster 2021). BASIONYM: *Lophocolea heterophylla* subsp. *cladogyna* R.M.Schust., *Hepat. Anthoc. N. Amer.* 4: 223, 1980 (see Schuster 1980).

***Chiloscyphus mucronatus* R.M.Schust., *Nova Hedwigia Beih.* 120: 13, 2021, *nom. inval.* ICN2018 Art. 40.7; herbarium not specified (see Schuster 2021). ORIGINAL MATERIAL: "RMS59599".

***Chiloscyphus opacifolius* R.M.Schust., *Nova Hedwigia Beih.* 120: 27, 2021, *nom. inval.* ICN2018 Art. 40.7; herbarium not specified (see Schuster 2021). ORIGINAL MATERIAL: "RMS 55549d, Milford Sd., S.I., N.Z.".

**Chiloscyphus renistipulus* R.M.Schust., *Nova Hedwigia Beih.* 120: 73, 2021, *nom. illeg.* ICN2018 Art. 53.1; *hom. illeg.* (non Stephani 1893: 326) (see Schuster 2021). TYPE: "New Zealand: Campbell I. (RMS; F)".

***Chiloscyphus subbrunneus* R.M.Schust., *Nova Hedwigia Beih.* 120: 28, 2021, *nom. inval.* ICN2018 Art. 40.7; herbarium not specified (see Schuster 2021). ORIGINAL MATERIAL: "RMS 84-400, Haast Pass, S.I., N.Z.".

***Cladoradula* (Spruce) M.A.M.Renner, Gradst., Ilk.-Borg. et F.R.Oliveira-da-Silva, *Nova Hedwigia* 115 (3–4): 360, 2022, *nom. inval.* ICN2018 Art. 41.5; basionym not correctly cited (see Gradstein *et al.* 2022). BASIONYM: *Radula* subg. *Cladoradula* Spruce, *Trans. & Proc. Bot. Soc. Edinburgh* 15: 315, 1885 (see Spruce 1885).

Cladoradula (Spruce) M.A.M.Renner, Gradst., Ilk.-Borg. et F.R.Oliveira-da-Silva, *Bryophyte Diversity Evol.* 45 (1): 105, 2022 (see Renner *et al.* 2022). BASIONYM: *Radula* subg. *Cladoradula* Spruce, *Trans. & Proc. Bot. Soc. Edinburgh* 15: 315, 1885 (see Spruce 1885).

Cladoradula auriculata (Steph.) M.A.M.Renner, Gradst., Ilk.-Borg. et F.R.Oliveira-da-Silva, *Bryophyte Diversity Evol.* 45 (1): 109, 2022 (see Renner *et al.* 2022). BASIONYM: *Radula auriculata* Steph., *Bull. Herb. Boissier* 5 (2): 105, 1897 (see Stephani 1897).

***Cladoradula boryana* (F.Weber) M.A.M.Renner, Gradst., Ilk.-Borg. et F.R.Oliveira-da-Silva, *Nova Hedwigia* 115 (3–4): 360, 2022, *nom. inval.* ICN2018 Art. 38.1(a); no description (see Gradstein *et al.* 2022). BASIONYM: *Jungermannia boryana* F.Weber, *Hist. Musc. Hepat. Prodr.*: 58, 1815 (see Weber 1815).

Cladoradula boryana (F.Weber) M.A.M.Renner, Gradst., Ilk.-Borg. et F.R.Oliveira-da-Silva, *Bryophyte Diversity Evol.* 45 (1): 105, 2022 (see Renner *et al.* 2022). BASIONYM: *Jungermannia boryana* F.Weber, *Hist. Musc. Hepat. Prodr.*: 58, 1815 (see Weber 1815).

Cladoradula campanigera (Mont.) M.A.M.Renner, Gradst., Ilk.-Borg. et F.R.Oliveira-da-Silva, *Bryophyte Diversity Evol.* 45 (1): 109, 2022 (see Renner *et al.* 2022). BASIONYM: *Radula campanigera* Mont., *London J. Bot.* 3: 634, 1844 (see Montagne 1844).

Cladoradula chinensis (Steph.) M.A.M.Renner, Gradst., Ilk.-Borg. et F.R.Oliveira-da-Silva, *Bryophyte Diversity Evol.* 45 (1): 109, 2022 (see Renner *et al.* 2022). BASIONYM: *Radula chinensis* Steph., *Nuovo Giorn. Bot. Ital. (n.ser.)* 13 (4): 355, 1906 (see Levier 1906).

Cladoradula obiensis (S.Hatt.) M.A.M.Renner, Gradst., Ilk.-Borg. et F.R.Oliveira-da-Silva, *Bryophyte Diversity Evol.* 45 (1): 109, 2022 (see Renner *et al.* 2022). BASIONYM: *Radula obiensis* S.Hatt., *Bull. Tokyo Sci. Mus.* 11: 83, 1944 (see Hattori 1944).

Cladoradula perrottetii (Gottsche) M.A.M.Renner, Gradst., Ilk.-Borg. et F.R.Oliveira-da-Silva, *Bryophyte Diversity Evol.* 45 (1): 109, 2022 (see Renner *et al.* 2022). BASIONYM: *Radula perrottetii* Gottsche, *Hedwigia* 23 (10): 154, 1884 (see Stephani 1884).

Cladoradula tenax (Lindb.) M.A.M.Renner, Gradst., Ilk.-Borg. et F.R.Oliveira-da-Silva, *Bryophyte Diversity Evol.* 45 (1): 109, 2022 (see Renner *et al.* 2022). BASIONYM: *Radula tenax* Lindb., *Acta Soc. Sci. Fenn.* 10: 492, 1875 (see Lindberg 1875).

***Clasmatocolea cylindrica* R.M.Schust., *Nova Hedwigia Beih.* 120: 159, 2021, *nom. inval.* ICN2018 Art. 40.7; herbarium not specified / '*cylindricum*' (see Schuster 2021). ORIGINAL MATERIAL: "RMS 50372, Camp Creek, Tasmania".

***Clasmatocolea stenophylla* R.M.Schust., *Nova Hedwigia Beih.* 120: 150, 2021, *nom. inval.* ICN2018 Art. 38.1(a); no description (see Schuster 2021). ORIGINAL MATERIAL: "southern Chile, north to Valdivia".

Cololejeunea ankasica N.G.Hodgetts, *J. Bryol.* 43 (3): 252, 2021 (see Hodgetts *et al.* 2021). TYPE: "Ghana, Western Region, Ankasa Forest, near Bamboo Cathedral, epiphyllous on forest shrubs with *Caudalejeunea africana* (Steph.) Steph., 5.28891°N, 2.64071°W, ca 100 m a.s.l., 15 November 2017, N.G. Hodgetts 10068. Holotype: E; isotypes: EGR, GC".

Cololejeunea bencei Pócs, *Acta Bot. Hung.* 63 (3/4): 418, 2021 (see Pócs 2021d). TYPE: "Venezuela, Bolivar state, Municipio Gran Sabana, on the ridge E of Rio Churún valley and of Angel Falls (Salto Angel) SW of Canaima, on the way to viewpoint Mirador Laime, between 600 and 1,000 m elevation, wet submontane rainforest, epiphyllous, rare, coll. B. Pócs (01161/H), 31 October 2001 (holotype: EGR)".

Cololejeunea reniformis M.A.M.Renner, *Telopea* 23: 182, 2020 (see Renner 2020). TYPE: "Holotype: Australia, Queensland, North Kennedy, Tully Falls National Park, Tully Falls Road, Walters Waterhole Track, to Rhyolite Pinnacle, at river crossing, 17°43'33"S 145°32'20"E, c. 800 m, 27 Aug 2014, M.A.M. Renner 7221 & L.J. Gray (BRI). Isotype: NSW 1061475".

Cololejeunea translucens Pócs, *Cryptog. Bryol.* 42 (8): 130, 2021 (see Pócs 2021b). TYPE: "Madagascar, Fianarantsoa prov., Haute Matsiatra reg., Parc national de l'Andringitra. Mossy montane rainforest along a W tributary of Korokoro river, near camp III, 1000–1270 m, epiphyllous, 22°12'40"S, 47°0'E, T. Pócs, G. Kis & A. Szabó, 9473/GR, 20–23.IX.1994 (holo-, EGR)".

Conocephalum orientale H.Akiyama, *Humans and Nature* 32: 7, 2022 '*orientalis*' (see Akiyama 2022). TYPE: "JAPAN, Hyogo Pref., Yabu-shi, Oya-cho, Yokoiki valley, 30 Nov. 2020, H. Akiyama 26465 (holotype in HYO; isotypes distributed as *exiccatae* "Bryophytes of Asia" from HIRO".

Conocephalum purpleorubrum H.Akiyama, *Humans and Nature* 32: 11, 2022 (see Akiyama 2022). TYPE: "JAPAN, Oita Prefecture, Saiki-shi, Honjyo, Inoue, 70 m elev., 34.943661° N, 131.743191° E, 13 March 2018, H. Akiyama 25427 (holotype HYO, isotypes HIRO, NICH, TNS)".

Conocephalum toyotae H.Akiyama, *Humans and Nature* 32: 16, 2022 (see Akiyama 2022). TYPE: "JAPAN, Hyogo Pref., Yabu-shi, Oyacho, Yokoiki valley, 700 m elev., 35.325840° N, 134.544164° E, 30 March, 2021, H. Akiyama 26610 (holotype in HYO, isotypes distributed as *exiccatae* "Bryophytes of Asia" from HIRO)".

Conoscyphus trapezioides subsp. *obtusifolius* R.M.Schust., *Nova Hedwigia Beih.* 120: 213, 2021 (see Schuster 2021). TYPE: “Borneo: “Kina-Baloo” (Kinabalu), H. Low; herb. RMS [Field Museum of Natural History, Chicago]”.

Conoscyphus trapezioides subsp. *pocsii* R.M.Schust., *Nova Hedwigia Beih.* 120: 213, 2021 (see Schuster 2021). TYPE: “Madagascar: Prov. Antsiranana, Reserve Marojezy, subalpine bush, 1800–1900 m, Pócs *et al.* 90116; EGR”.

Conoscyphus trapezioides subsp. *trapezioides*, *Nova Hedwigia Beih.* 120: 213, 2021 (see Schuster 2021).

Cryptolophocolea sikkimensis (Steph.) Bakalin et Maltseva, *PhytoKeys* 206: 14, 2022 (see Bakalin *et al.* 2022d). BASIONYM: *Herpocladium sikkimense* Steph., *Sp. Hepat. (Stephani)* 6: 349, 1922 (see Stephani 1922).

Cyclolejeunea gradsteinii Ilk.-Borg., *Nova Hedwigia* 113 (1/2): 116, 2021 (see Prado & Ilkiu-Borges 2021). TYPE: “Colombia, Chocó, along road St. Cecilia to Tadó 40 km W of St. Cecilia, lightly logged rainforest ca. 20 m high along Rio San Juan, rather wet and mossy, 200 m, 1 August 1992, Gradstein 8751 (holotype: GOET!; isotype: MG!)”.

Cyclolejeunea longirostrata Ilk.-Borg. et M.L.M.Prado, *Nova Hedwigia* 113 (1/2): 119, 2021 (see Prado & Ilkiu-Borges 2021). TYPE: “Ecuador, Zamora-Chinchi, Straße Loja-Zamora, km 10, feuchte, offene Strauchvegetation im Bereich der Passhöhe “El Tiro”, 3°59’53,6” S, 79°08’37,5” W, epiphyll in etwas dichter Vegetation an kleinem Bach, 2780 m, 17 April 2003, Schäfer-Verwimp & Preussing 23325/C (holotype: JE!; isotype: MG!)”.

Cyclolejeunea schaefer-verwimpii M.L.M.Prado et Ilk.-Borg., *Nova Hedwigia* 113 (1/2): 130, 2021 (see Prado & Ilkiu-Borges 2021). TYPE: “Panama, Chiriqui, Reserva Forestal Fortuna, 8°44,3’N, 82°14,7’W, “epiphytisch, feuchtes Sekundärgebüsch am Ufer des Stausees,“ 1100 m, 31 March 2013, A. Schäfer-Verwimp & Verwimp 34520 (holotype: JE!; isotype: MG!)”.

Dactyloradula (Devos, M.A.M.Renner, Gradst., A.J.Shaw et Vanderp.) M.A.M.Renner et Gradst., *Bryophyte Diversity Evol.* 45 (1): 109, 2022 (see Renner *et al.* 2022). BASIONYM: *Radula* subg. *Dactyloradula* Devos, M.A.M.Renner, Gradst., A.J.Shaw et Vanderp., *Taxon* 60 (6): 1630, 2011 (see Devos *et al.* 2011).

Dactyloradula brunnea (Steph.) M.A.M.Renner et Gradst., *Bryophyte Diversity Evol.* 45 (1): 110, 2022 (see Renner *et al.* 2022). BASIONYM: *Radula brunnea* Steph., *Sp. Hepat. (Stephani)* 4: 232, 1910 (see Stephani 1910).

†*Dibrachiella grollei* (Gradst.) Gradst., *Bryophyte Diversity Evol.* 43 (1): 47, 2021 (see Feldberg *et al.* 2021a). BASIONYM: *Archilejeunea grollei* Gradst., *Nova Hedwigia* 57 (3/4): 354, 1993 (see Gradstein 1993).

Drepanolejeunea orthophylla subsp. *orthophylla*, *Mem. New York Bot. Gard.* 121: 488, 2021 (see Gradstein 2021).

Drepanolejeunea orthophylla subsp. *saxicola* Gradst. et Pócs, *Mem. New York Bot. Gard.* 121: 488, 2021 (see Gradstein 2021). TYPE: “Holotype: Colombia, Quindío, Salento, Cocora, reserva Palma de Cera, ca. 2400 m, on rock near bridge across the river, at the edge of remnant montane rainforest, S. R. Gradstein & A. L. López 12729 (HUQ; isotypes EGR, PC-0773220)”.

Drepanolejeunea tubana Pócs, *Cryptog. Bryol.* 42 (8): 133, 2021 (see Pócs 2021b). TYPE: “Madagascar, Fianarantsoa prov., Atsinanana reg; parc National de Ranomafana. Along the N side of main road at the head the big waterfalls on the Namorona river. Dripping granitic cliffs surrounded by montane rainforest, 1080–1150 m, 21°14.70–86’S, 47°23.82’E. S. & T. Pócs, 04126/QD, 29.VII.2004 (holo-, EGR)”.

Drepanolejeunea vanderpoortenii Gradst. et Pócs, *Acta Bot. Hung.* 63 (1/2): 205, 2021 (see Pócs 2021c). TYPE: “Madagascar, Toamasine Province, Andasibe (Périnet) Mantadia National Park. Chutes Sacrées 4, 1,029 m, 18° 49’ 52” S, 48° 26’ 12” E, on flooded stone in stream in submontane rainforest, October 2018, A. Vanderpoorten MD 67 (holotype EGR!, isotype GOET!)”.

Exormotheca martins-loussaoae Sim-Sim, A.Martins, J.Patiño et C.A.Garcia, *Pl. Biosyst.* 157 (2): 295, 2022 (see Martins *et al.* 2023). TYPE: “Cape Verde, São Nicolau: road to Hortelão, lower limit of the Monte Gordo Natural

Park, 16°36'59"N, 24°20'30"W, 847 m a.s.l., 19.11.2017, *M. Sim-Sim & C.A. Garcia SNI6* (holotype LISU266756!; isotype TFC)".

Fossombronia pseudointestinalis Cargill, *Arctoa* 30 (2): 177, 2021 (see Cargill 2021). TYPE: "Australia: New South Wales. Bendick Murrell National Park, NNE of Young, 34°04'25.2"S, 148°25'55.2"E, 547 m a.s.l. Rounded crest of ridge ... with moss and *Asterella drummondii*. Frequent. 19 July 2020, leg. R.W. Purdie & M.A. Fagg, Coll. No. 12052 (holotype: CANB 918520; isotype: NSW)".

Frullania sect. Diversitextae (Kamim.) J.J. Atwood, Vilnet et Mamontov, *Cryptog. Bryol.* 42 (3): 28, 2021 (see Atwood et al. 2021). BASIONYM: *Frullania* subsect. *Diversitextae* Kamim., *J. Hattori Bot. Lab.* 24: 80, 1961 (see Kamimura 1961).

Frullania azureomontana Schäf.-Verw. et Gerh. Winter, *Frahmia* 30: 2, 2022 (see Schäfer-Verwimp & Winter 2022). TYPE: "JAMAICA, St. Thomas: Blue Mountains, Weg zwischen Portland Gap und Blue Mt. Peak, Elfinforest entlang Kammweg, epiphytisch; 2150 m; WGS84: 18°02,8' N, 76°35,1' W, 15. Dez. 2013, leg. A. Schäfer-Verwimp 35391/D, mit H. van Melick [with androecia] (Holotype: JE!; isotype: FR!)"

Frullania intumescens var. *closterantha* (Spruce) Gradst. et Pócs, *Nova Hedwigia* 112 (1/2): 58, 2021 (see Gradstein & Pócs 2021). BASIONYM: *Frullania closterantha* Spruce, *Trans. & Proc. Bot. Soc. Edinburgh* 15 (1): 51, 1884 (see Spruce 1884).

Frullania intumescens var. *intumescens*, *Nova Hedwigia* 112 (1/2): 58, 2021 (see Gradstein & Pócs 2021).

†*Frullania kachinensis* Ya Li bis, Y.D. Wang et K. Feldberg, *Geol. J.* 56 (10): 5048, 2021 (see Li et al. 2021b). TYPE: "Holotype: PB22711a. Paratypes: PB22711c–d, ZMNH155047a, d–e, ZMNH155048c. Type locality and horizon: Amber mines south-west of the village of Tanai ca. 105 km north of Myitkyina in Kachin State, northern Myanmar, fossil enclosed in upper Albian–lower Cenomanian Kachin amber. ... Repository: PB22711 is deposited at the Collection Department of Nanjing Institute of Geology and Palaeontology, Chinese Academy of Sciences, Nanjing, China, while ZMNH155047–155048 are deposited at Zhejiang Museum of Natural History".

†*Frullania palaeoaficana* K. Feldberg, Bouju, Schäf.-Verw. et A.R. Schmidt, *J. Syst. Evol.* 60 (4): 940, 2021 (see Bouju et al. 2022). TYPE: "Holotype IGR.ET2020/015, single liverwort gametophyte fragment".

Frullania rio-janeirensis var. *megalostipa* (Spruce) Gradst., *Mem. New York Bot. Gard.* 121: 379, 2021 (see Gradstein 2021). BASIONYM: *Frullania megalostipa* Spruce, *Trans. & Proc. Bot. Soc. Edinburgh* 15 (1): 15, 1884 (see Spruce 1884).

Frullania rio-janeirensis var. *rio-janeirensis*, *Mem. New York Bot. Gard.* 121: 379, 2021 (see Gradstein 2021).

†*Frullania shewanensis* K. Feldberg, Bouju, Schäf.-Verw. et A.R. Schmidt, *J. Syst. Evol.* 60 (4): 937, 2021 (see Bouju et al. 2022). TYPE: "Holotype IGR.ET2020/013b, sterile gametophyte fragment".

Frullania tibetica Mamontov et J.J. Atwood, *Novon* 29: 306, 2021 (see Atwood & Mamontov 2021). TYPE: "China. Tibet (Xizang): Nyingchi City, Bomê County, Tongmai, 10 May 1980, K.-C. Chang & J.-Y. Feng 15109 (holotype, MO-4441058!; isotype, MHA!)"

Gaolejeunea hoi W. Ye et Y.M. Wei, *Bryologist* 124 (4): 605, 2021 (see Ye & Wei 2021). TYPE: "SINGAPORE. Bukit Timah Nature Reserve, Jungle Fall Stream, 5 Oct. 2018, B.-C. Ho et al. 20181005-33, c. per. (holotype, SING!; isotypes, AU!, IBK!)"

Gongylanthus innovans var. *innovans*, *Nova Hedwigia Beih.* 120: 564, 2021 (see Schuster 2021).

Gongylanthus innovans var. *sanguineus* R.M. Schust., *Nova Hedwigia Beih.* 120: 564, 2021 (see Schuster 2021). TYPE: "RMS & L. Ruiz-Teran 76–837 (F), Venezuela: Est. Mérida, Páramo de Mucubaji, and Sierra de Sto. Domingo".

Gymnomitrium blankae Mamontov, Potemkin et Vilnet, *Arctoa* 31 (2): 118, 2022 (see Potemkin *et al.* 2022). TYPE: “China, Yunnan, Luquan Co., Jiaozixueshan Mtn., ca. 115 km N of Kunming, between lower and middle chair lift station, 26°05′04″N, 102°50′45″E, 3670 m a.s.l., 25.IX.2006, *Blanka Shaw 5764*, det. by J. Váňa as *Marsupella revoluta* (DUKE-180581—holotype, LE B-0026804—isotype)”.

Gymnomitrium rubidum subsp. *rubidum*, *Phytotaxa* 533 (2): 131, 2022 (see Bakalin *et al.* 2022a).

Gymnomitrium rubidum subsp. *subvittatum* Vilnet, Bakalin et D.G.Long, *Phytotaxa* 533 (2): 131, 2022 (see Bakalin *et al.* 2022a). TYPE: “CHINA. Yunnan Province: Fugong County, Lishadi Xiang, Yaduo Cun, E slope of Gaoligong Shan (Nu Jiang catchment), N bank of North Fork Yamu River, side valley 11 km above Shibali Forestry Station on way to ‘Yaping Pass’, rocky valley with bouldery *Betula*-bamboo forest, on tree branches, 3200 m a.s.l., 27°12′30.7″N 98°43′23.7″E, 08 August 2005, *Long 34462* (E). ITS1-2: MW822010, trnL-F: MW841071 (KF943103)”.

Gymnomitrium schusterianum Konstant., D.G.Long, Mamontov et Vilnet, *Arctoa* 30 (2): 150, 2021 ‘*schusterianum*’ (see Konstantinova *et al.* 2021b). TYPE: “CHINA. Yunnan Province, Gongshan County, Cikai Zheng, east slope of Gaoligong Shan, Nu Jiang (Salween) catchment, Yipisaka Lake at head of Pula He valley, 2.2 km SSE of tunnel, 27°45′12.4″N, 98°27′36.4″E, alt. c. 3455 m a.s.l., 12 August 2006, D.G. Long 35728 (KPABG—holotype; E, KUN, CAS, MO, MHA—isotypes)”.

Gymnomitrium sichuanicum Bakalin et Vilnet, *Phytotaxa* 533 (2): 123, 2022 (see Bakalin *et al.* 2022a). TYPE: “Holotype:—CHINA. Sichuan Province: Kangding airport area, SW-facing gentle slope of the range, covered with communities like hummocky tundra with low *Rhododendron* and *Pentaphylloides*. Crusts in open and dry frosty weathering spot, 4474 m a.s.l., 30°07′1.2″N 101°46′40.8″E, 14 October 2017, *V.A. Bakalin & K.G. Klimova* China-45-2-17 (VBGI) (with tiny admixture of *Isopaches decolorans*. ITS1-2: MW829523, trnL-F: MW841070”.

Harpalejeunea zilmariae D.P.Costa et M.A.Rezende, *Syst. Bot.* 47 (4): 899, 2022 ‘*zilmarii*’ (see Costa & Rezende 2022). TYPE: “BRAZIL. Rio de Janeiro State, Itatiaia National Park, trail to Pico das Agulhas Negras, lake on the right side of the trail, on the ground at the base of *Chusquea* sp., alt. 2401 m, 22°33′05″S, 44°40′08″W, 25 April 2013, *M.A. Rezende & D.P. Costa* 92 (holotype: RB 592523!)”.

Hepatostolonophora perssonii (R.M.Schust.) R.M.Schust., *Nova Hedwigia Beih.* 120: 169, 2021 (see Schuster 2021). BASIONYM: *Calyptrocolea perssonii* R.M.Schust., *Rev. Bryol. Lichénol.* 34 (3/4): 699, 1966 (see Schuster 1966).

Heteroscyphus ammophilopsis (J.J.Engel) R.M.Schust., *Nova Hedwigia Beih.* 120: 104, 2021 (see Schuster 2021). BASIONYM: *Heteroscyphus mononuculus* var. *ammophilopsis* J.J.Engel, *Nova Hedwigia* 99 (1/2): 166, 2014 (see Engel 2014).

Heteroscyphus assurgentissimus J.J.Engel, Thouvenot et Frank Müll., *Nova Hedwigia* 113 (1/2): 67, 2021 (see Engel *et al.* 2021). TYPE: “New Caledonia, South Province, Parc Provincial de la Rivière Bleue, along the Sentier des Cascades from the Refuge de la Rivière Bleue over Corne du Diable to Grande Cascade, ca. 200–380 m, lowland rainforest, on a rockface, 22°4′S, 166°37′E, 5 Sept 2001, Müller NC327 (DR); isotypes: (F, hb. Thouvenot)”.

Heteroscyphus sect. *Biciliatae* R.M.Schust., *Nova Hedwigia Beih.* 120: 101, 2021 (see Schuster 2021). TYPE: *Heteroscyphus biciliatus* (Hook.f. et Taylor) J.J.Engel.

Heteroscyphus sect. *Billardierei* R.M.Schust., *Nova Hedwigia Beih.* 120: 105, 2021 (see Schuster 2021). TYPE: *Heteroscyphus billardierei* (Schwägr.) Schiffn.

Heteroscyphus sect. *Conjugati* R.M.Schust., *Nova Hedwigia Beih.* 120: 110, 2021 ‘*Conjugatae*’ (see Schuster 2021). TYPE: *Heteroscyphus conjugatus* (Mitt.) J.J.Engel et R.M.Schust.

Heteroscyphus sect. *Sinuosi* R.M.Schust., *Nova Hedwigia Beih.* 120: 106, 2021 (see Schuster 2021). TYPE: *Heteroscyphus sinuosus* (Hook.) Schiffn.

Heteroscyphus* subg. *Assurgentissimi J.J.Engel, *Nova Hedwigia* 113 (1/2): 72, 2021 (see Engel *et al.* 2021). TYPE: *Heteroscyphus assurgentissimus* J.J.Engel, Thouvenot et Frank Müll.

*****Heteroscyphus bidentatus*** (Steph.) R.M.Schust., *Nova Hedwigia Beih.* 120: 100, 2021, *nom. inval.* ICN2018 Art. 41.5; basionym not correctly cited (see Schuster 2021). BASIONYM: *Chiloscyphus bidentatus* Steph., *Hedwigia* 32 (5): 320, 1893 (see Stephani 1893).

*****Heteroscyphus conistipulus*** (Steph.) R.M.Schust., *Nova Hedwigia Beih.* 120: 99, 2021, *nom. inval.* ICN2018 Art. 41.5; basionym not correctly cited (see Schuster 2021). BASIONYM: *Chiloscyphus conistipulus* Steph., *Sp. Hepat. (Stephani)* 6: 304, 1922 (see Stephani 1922).

*****Heteroscyphus cuneifolius*** R.M.Schust., *Nova Hedwigia Beih.* 120: 51, 2021, *nom. inval.* ICN2018 Art. 38.1(a); no description (see Schuster 2021). ORIGINAL MATERIAL: no specimen mentioned.

*****Heteroscyphus cylindricus*** R.M.Schust., *Nova Hedwigia Beih.* 120: 22, 2021, *nom. inval.* ICN2018 Art. 40.7; herbarium not specified (see Schuster 2021). ORIGINAL MATERIAL: “New Zealand RMS 48692a”.

Heteroscyphus kanakensis Thouvenot et J.J.Engel, *Nova Hedwigia* 112 (1/2): 166, 2021 (see Thouvenot & Engel 2021). TYPE: “New Caledonia, South Province, Yaté, Natural Park of Rivière Bleue, La Tranchée, on bark of tree at river side in ultramafic massif, 200 m, coordinate UTM 58K: 0668 E; 7556 N, 19 Oct. 2016, Thouvenot NC2487 (PC0779856); isotypes: (F, hb. Thouvenot)”.

Heteroscyphus rotundifolius R.M.Schust., *Nova Hedwigia Beih.* 120: 110, 2021 (see Schuster 2021). TYPE: “New Zealand: Stewart I. (RMS 53143, F)”.

Heteroscyphus supinopsis J.J.Engel, Thouvenot et Frank Müll., *Nova Hedwigia* 113 (1/2): 62, 2021 (see Engel *et al.* 2021). TYPE: “New Caledonia, South Province, Mont Ouin 19 km N of Dumbéa, ascent from the south, epiphytic in mossy forest, ca. 900 m, 22°01'S, 166°28'E, 1 Sept 2003, Müller NC797 (DR); isotypes: (F, hb. Thouvenot)”.

*****Homalolejeunea longistipula*** (Steph.) Steph. ex Gradst., *Mem. New York Bot. Gard.* 121: 403, 2021, *nom. inval.* ICN2018 Art. 38.1(a); no description & Art. 36.1(c); publ. in syn. (see Gradstein 2021). BASIONYM: *Marchesinia longistipula* Steph., *Sp. Hepat. (Stephani)* 5: 150, 1912 (see Stephani 1912).

Isotachis* subg. *Procumbens (Hatcher) R.M.Schust., *Nova Hedwigia Beih.* 120: 592, 2021 (see Schuster 2021). BASIONYM: *Isotachis* sect. *Procumbens* Hatcher, *Nova Hedwigia* 2 (4): 11, 1960 (see Hatcher 1960).

Konstantinovia Bakalin et Fedosov, *Pl. Syst. Evol.* 307 (6:62): 62, 2021 (see Bakalin *et al.* 2021d). TYPE: *Konstantinovia pulchra* Bakalin et Fedosov.

Konstantinovia pulchra Bakalin et Fedosov, *Pl. Syst. Evol.* 307 (6:62): 62, 2021 (see Bakalin *et al.* 2021d). TYPE: “China. Yunnan Province, Lijiang Area, 3590 m a. s. l., 26°38'34.7”N 99°45'16.9”E, crooked forest of evergreen rhododendrons and other scattered trees along ridge, open, moist cliff crevice, 13 Oct 2018, V.A. Bakalin & W.Z. Ma, C-77-2-18 (VBGI; isotypes: KUN, MW)”.

†***Lejeunea abyssinicooides*** Schäf.-Verw., Bouju, K.Feldberg et A.R.Schmidt, *J. Syst. Evol.* 60 (4): 937, 2021 (see Bouju *et al.* 2022). TYPE: “**Holotype** IGR.ET2020/009, sterile gametophyte fragment, associated with the moss *Isopterygium* and *Frullania shewanensis*”.

Lejeunea amphinephea M.A.M.Renner, *Arctoa* 30 (2): 195, 2021 (see Renner *et al.* 2021). TYPE: “New Zealand, Auckland Island, Hanfield Inlet near waterfall on southern side, 50°45'S 166°10'E, 23.II.1973, P.N. Johnson 23/5 (holotype: WELTH006349)”.

- Lejeunea cuneistipula*** (Steph.) G.E.Lee et Pócs, *Lindbergia* 45[43] (1: 01151): 1, 2022 (see Lee *et al.* 2022a). BASIONYM: *Taxilejeunea cuneistipula* Steph., *Sp. Hepat. (Stephani)* 6: 401, 1923 (see Stephani 1923).
- Lejeunea demissa*** M.A.M.Renner, *Arctoa* 30 (2): 199, 2021 (see Renner *et al.* 2021). TYPE: “New Zealand, North Island, Coromandel Ecological Region, Te Aroha Ecological District, Mt Te Aroha summit, along track to Dog Kennel Flat, SW side of summit, in *Nothofagus menziesii* (Hook.f.) Oerst. and *Griselinia littoralis* Raoul forest, 37°32’S 175°45’E, 940 m, 12.III.1995, J.E. Braggins 95/201 (holotype: AK255268)”.
- Lejeunea furcicornuta*** (Grolle) G.E.Lee et Pócs, *Lindbergia* 45[43] (1: 01151): 1, 2022 (see Lee *et al.* 2022a). BASIONYM: *Taxilejeunea furcicornuta* Grolle, *J. Bryol.* 8 (1): 93, 1974 (see Grolle 1974).
- Lejeunea geisslerae*** Pócs, *Cryptog. Bryol.* 42 (8): 133, 2021 blocking name *Lejeunea patriciae* Schäf.-Verw. 2001 (see Pócs 2021b). NOM. NOV. PRO *Lejeunea alata* var. *patriciae* Pócs, *Candollea* 56 (1): 72, 2001 (see Pócs 2001a).
- Lejeunea killipii*** (Herzog) Gradst., *Mem. New York Bot. Gard.* 121: 535, 2021 (see Gradstein 2021). BASIONYM: *Taxilejeunea killipii* Herzog, *Feddes Repert. Spec. Nov. Regni Veg.* 57 (1/2): 190, 1955 (see Herzog 1955).
- Lejeunea malaysiana*** G.E.Lee et Pócs, *Plants* 11 (13-1642): 2, 2022 (see Lee *et al.* 2022c). TYPE: “Peninsular Malaysia, Pahang, Genting Highlands, along the forest trail to the Goh Tong Jaya station near the waterfall, at 845 m elevation, 6 May 2011, G.E. Lee and H.Y. Tang 11001 (holotype: UMTF 01730; isotype: UKMB)”.
- Lejeunea mamilliflora*** Pócs, *Cryptog. Bryol.* 42 (8): 136, 2021 (see Pócs 2021b). TYPE: “Madagascar, Fianarantsoa Prov., Haute Matsiatra reg., Parc national de l’Andringitra. Montane rainforests on the W side of Korokoro river, around camp II, 750–1000 m, 22°13’S, 47°01-02’E. T. Pócs, G. Kis & A. Szabó, 20–23.IX.1994, 9472/BG (holo- on microslide, EGR)”.
- Lejeunea masamiana*** G.E.Lee et Pócs, *Hattoria* 12: 3, 2021 (see Lee & Pócs 2021). TYPE: “INDONESIA. Western New Guinea, Antares Mts., Camp 39a, 1,500 m elev., 1959, *Zanten 716a* (holotype: JE)”.
- Lejeunea mojandae*** Gradst., *Mem. New York Bot. Gard.* 121: 537, 2021 (see Gradstein 2021). TYPE: “Ecuador, Pichincha, Mojanda, crater lake, on flaky bark of *Polylepis* in mixed, mesic *Polylepis* forest at east side of lake, ca. 3800 m, 12 Oct 2018, S. R. Gradstein, S. León-Yáñez & A. Moscoso 12749, c. per. (holotype QCA; isotype PC). Paratype: *ibid.*, 2017, S. León-Yáñez *et al. s.n.*, ster. (QCA)”.
- Lejeunea perichymidia*** M.A.M.Renner, *Arctoa* 30 (2): 203, 2021 (see Renner *et al.* 2021). TYPE: “New Zealand, North Island, Auckland Ecological Region, Waitakere Ecological District, Waitakere Ranges, Spraggs Bush, 29.VII.1973, R.E. Beever & J.E. Beever *s.n.* (holo: AK291280)”.
- Lejeunea schultesii*** Gradst., *Mem. New York Bot. Gard.* 121: 548, 2021 (see Gradstein 2021). TYPE: “Holotype: Colombia, Cundinamarca, páramo de Chisacá, southeast of Bogotá, ca. 3500 m [“11.000–12.000 feet”], on twigs among *Metzgeria dorsipara*, Jul 1953, R. E. Schultes 20212a, c. gyn. (PC-0774214)”.
- Lejeunea simii*** G.E.Lee et Pócs, *Lindbergia* 45[43] (1: 01151): 1, 2022 (see Lee *et al.* 2022a). NOM. NOV. PRO *Taxilejeunea elobulata* Sim, *Trans. Roy. Soc. South Africa* 15 (1): 66, 1926 (see Sim 1926).
- ***Lejeunea tarapotensis* var. *microstipa*** Spruce ex Gradst., *Mem. New York Bot. Gard.* 121: 532, 2021, *nom. inval.* ICN2018 Art. 36.1(c); publ. in syn. [sub *Lejeunea glaucescens* Gottsche] (see Gradstein 2021). ORIGINAL MATERIAL: “Peru, near Tarapoto, Mt. Campana, Spruce *s.n.* (MANCH-000439!, MANCH-000440!, G!)”.
- Lejeunea thalassoides*** M.A.M.Renner et Glenny, *Arctoa* 30 (2): 207, 2021 (see Renner *et al.* 2021). TYPE: “Type: New Zealand, North Island, Hawkes Bay Ecological Region, Heretaunga Ecological District, Tangarewai Stream catchment, Monckton Scenic Reserve, 39° 57.816’S 176° 16.906’E, 290 m, 16.X.2009, M.A.M. Renner 4407 (holotype: AK314727)”.

Lejeunea tubulirostris Pócs, *Cryptog. Bryol.* 42 (8): 136, 2021 (see Pócs 2021b). TYPE: “Madagascar, Fianarantsoa prov., Haute Matsiatra reg., Parc national de l’Andringitra. Mossy montane rainforest along a W tributary of Korokoro river, near camp III, 1000–1270 m, epiphyllous, 22°12’40”S, 47°0’E. T. Pócs, G. Kis & A. Szabó 9473/GL, 20–23.IX.1994. (holo-, EGR; iso-, TAN)”.

Lejeunea vallis-gratiae (Steph.) G.E.Lee et Pócs, *Lindbergia* 45[43] (1: 01151): 1, 2022 (see Lee *et al.* 2022a). BASIONYM: *Taxilejeunea vallis-gratiae* Steph., *Hedwigia* 35 (3): 137, 1896 “*Vallis gratiae*” (see Stephani 1896).

Lejeunea yasuniensis Gradst. et C.J.Bastos, *Mem. New York Bot. Gard.* 121: 555, 2021 (see Gradstein 2021). TYPE: “Ecuador, Orellana, Yasuni National Park, 0°40’S 76°24’–28’W, lowland rainforest in valley, 200–230 m a.s.l., on tree trunks at ca. 2–12(–20) m height, creeping scattered over *Ceratolejeunea*, *Plagiochila* or *Symbiezidium*, March–April 2019, M. Berdugo, J. Deleg, L. Guérot & K. Suarez 10VV-22VV, c. gyn. (holotype PC-0763782; isotype QCA)”.

Leptolejeunea sect. Australes L.Shu et R.L.Zhu, *J. Syst. Evol.* 60 (5): 1212, 2021 (see Shu *et al.* 2022). TYPE: *Leptolejeunea australis* Steph.

Leptolejeunea sect. Leptolejeunea, *J. Syst. Evol.* 60 (5): 1212, 2021 (see Shu *et al.* 2022). BASIONYM: *Lejeunea* subg. *Leptolejeunea* Spruce, *Trans. & Proc. Bot. Soc. Edinburgh* 15 (1): 193, 1884 (see Spruce 1884).

Leptolejeunea sect. Nigrae L.Shu et R.L.Zhu, *J. Syst. Evol.* 60 (5): 1212, 2021 (see Shu *et al.* 2022). TYPE: *Leptolejeunea nigra* L.Shu et R.L.Zhu.

Leptolejeunea sect. Subacutae L.Shu et R.L.Zhu, *J. Syst. Evol.* 60 (5): 1212, 2021 (see Shu *et al.* 2022). TYPE: *Lejeunea subacuta* Mitt.

Leptolejeunea subg. Neoleptolejeunea L.Shu et R.L.Zhu, *J. Syst. Evol.* 60 (5): 1212, 2021 (see Shu *et al.* 2022). TYPE: *Leptolejeunea exocellata* (Spruce) A.Evans.

***Leptoscyphus sect. Connatae* R.M.Schust., *Nova Hedwigia Beih.* 120: 121, 2021, *nom. inval.* ICN2018 Art. 40.1; no type indicated (see Schuster 2021). NOTE: No name is connected with the section.

Leptoscyphus subg. Amphileptoscyphus R.M.Schust., *Nova Hedwigia Beih.* 120: 143, 2021 (see Schuster 2021). TYPE: *Leptoscyphus anomalus* R.M.Schust.

Leptoscyphus subg. Pseudoleptoscyphus R.M.Schust., *Nova Hedwigia Beih.* 120: 124, 2021 (see Schuster 2021). TYPE: *Leptoscyphus novazelandiae* R.M.Schust.

**Leptoscyphus anomalus* R.M.Schust., *Nova Hedwigia Beih.* 120: 141, 2021, *nom. illeg.* ICN2018 Art. 53.1; *hom. illeg.* [non (Hook.) Lindb.] (see Schuster 2021). TYPE: “Venezuela: Est. Tachira, s. of Villa Paez, below Páramo de Tama, rain forest ridge below Mirador, 2774 m, on humus, RMS 76-1974b (F)”.

***Leptoscyphus combinatus* R.M.Schust., *Nova Hedwigia Beih.* 120: 144, 2021, *nom. inval.* ICN2018 Art. 38.1(a); no description (see Schuster 2021). ORIGINAL MATERIAL: “Tasmania: West Coast, near Camp Creek, Surprise Valley, W. of Derwent Bridge, Lyell Hwy., 2.7 mi W. of King William Divide (RMS 50367b, F)”.

***Leptoscyphus connatus* R.M.Schust., *Nova Hedwigia Beih.* 120: 141, 2021, *nom. inval.* ICN2018 Art. 40.2; based on more than one gathering (see Schuster 2021). ORIGINAL MATERIAL: “Auckland Islands, F”.

Leptoscyphus incisus Gradst., F.R.Oliveira-da-Silva et Ilk.-Borg., *Cryptog. Bryol.* 43 (4): 60, 2022 (see Oliveira-da-Silva *et al.* 2022a). TYPE: “Brazil. Roraima state, Uei tepui, *Bonnetia* woodland, on tree trunk, 5°01’30”N, 60°36’45”W, alt. 2103 m, 8.IV.2019, *Viana et al.* 6264 (holo-, MG)”.

***Leptoscyphus liebmanianus var. crispatus* R.M.Schust., *Nova Hedwigia Beih.* 120: 129, 2021, *nom. inval.* ICN2018 Art. 40.7; herbarium not specified (see Schuster 2021). ORIGINAL MATERIAL: “Dominica; Freshwater L., near Morne Micotrin, 2600 ft., RMS 66624F”.

Leptoscyphus novazelandiae R.M.Schust., *Nova Hedwigia Beih.* 120: 124, 2021 (see Schuster 2021). TYPE: “New Zealand: S. I.; Alex Knob trail above Christmas Point, scrubby *Olearia- Dracophyllum traversii* forest (RMS 84-1275; herb. RMS in F)”.

***Leptoscyphus pseudaustralis* R.M.Schust., *Nova Hedwigia Beih.* 120: 121, 2021, *nom. inval.* ICN2018 Art. 38.1(a); no description (see Schuster 2021). ORIGINAL MATERIAL: none.

Leptoscyphus tricoratus (Hässel) R.M.Schust., *Nova Hedwigia Beih.* 120: 119, 2021 (see Schuster 2021). BASIONYM: *Chiloscyphus tricoratus* Hässel, *Nova Hedwigia* 70 (3/4): 456, 2000 (see Hässel 2000).

Lethocolea sect. *Lethocolea*, *Nova Hedwigia Beih.* 120: 531, 2021 (see Schuster 2021).

Lethocolea sect. *Pachycolea* R.M.Schust., *Nova Hedwigia Beih.* 120: 531, 2021 (see Schuster 2021). TYPE: *Lethocolea glossophylla* (Spruce) Grolle.

Lindigina muelleri (Gottsche) R.M.Schust., *Nova Hedwigia Beih.* 120: 556, 2021 (see Schuster 2021). BASIONYM: *Lindigina muelleri* Gottsche, *Mexik. Leverm.*: 121, 1863 (see Gottsche 1863).

Lophocolea alpicola (J.J.Engel) L.Söderstr. et A.Hagborg, *Lindbergia* 45[43] (1: 01155): 1, 2022 (see Söderström *et al.* 2022b). BASIONYM: *Chiloscyphus alpicola* J.J.Engel, *Phytotaxa* 207 (2): 181, 2015 (see Engel 2015).

Lophozia koreana (Bakalin, S.S.Choi et B.Y.Sun) Maltseva, Vilnet et Bakalin, *Phytotaxa* 512 (1): 52, 2021 (see Bakalin *et al.* 2021c). BASIONYM: *Tritomaria koreana* Bakalin, S.S.Choi et B.Y.Sun, *Arctoa* 18: 163, 2009 (see Bakalin *et al.* 2009).

Marchantia emarginata subsp. *cuneiloba* (Steph.) T.X.Zheng et Shimamura, *Bryologist* 125 (1): 145, 2022 (see Zheng & Shimamura 2022a). BASIONYM: *Marchantia cuneiloba* Steph., *Bull. Herb. Boissier* 5 (2): 98, 1897 (see Stephani 1897).

Marchesinia brachiata var. *robusta* (Mitt.) Gradst. et Uribe, *Mem. New York Bot. Gard.* 121: 573, 2021 (see Gradstein 2021). BASIONYM: *Lejeunea robusta* Mitt., *Hooker's J. Bot. Kew Gard. Misc.* 3: 359, 1851 (see Mitten 1851).

Marsupella anastrophyloides Bakalin, Vilnet et Maltseva, *Plants* 11 (12-1596): 6, 2022 (see Bakalin *et al.* 2022c). TYPE: “Vietnam, Hà Giang Province, Vi Xuyên District, Cao Bo Commune, Tay Con Linh Range, Tay Con Linh Nature Reserve (22°47'53.0" N 104°48'33.5" E), 2296 m a.s.l., south subtropical mountain evergreen forest with large conglomerate cliffy massif, open mesic cliff; 22 March 2020, V.A. Bakalin & K.G. Klimova, V-15-6-20 (VBGI)”.

Marsupella praetermissa Bakalin et Vilnet, *Plants* 11 (12-1596): 8, 2022 (see Bakalin *et al.* 2022c). TYPE: “China, Yunnan Province, Gongshan County, Cikai Xheng, east slope of Gaoligong Shan, Nu Jiang (Salween) catchment, Yipisaka Lake at head of Pula He valley, 2.2 km SSE of tunnel (27°45'12.4" N 98°27'36.4" E), 3455 m a.s.l., granitic cliff on alpine lake shore; on small boulder under shady dripping cliff, 12 August 2006, D.G. Long, Long 35,742 (E, duplicate in VBGI)”.

Marsupella taiwanica Mamontov, Vilnet et Schäf.-Verw., *Plants* 11 (12-1596): 12, 2022 (see Bakalin *et al.* 2022c). TYPE: “China, Taiwan Province, Nantou Co., Taroko National Park, roadside along Highway 8 between High Experimental Station/Visitor Center and Mt. Hehuan North & West Peak Trail (24°09.79' N, 121°17.3' E), 2970–3000m.a.s.l., on soil that is exposed to sunlight, 17 October 2016, A. Schäfer-Verwimp 37663 (MHA, duplicates in PRC (sub *Cephaloziella divaricata*), TAIE, JE, CAS, FR, TAIM, VBGI, KPABG)”.

Marsupidium subg. *Anomarsupidium* R.M.Schust., *Nova Hedwigia Beih.* 120: 512, 2021 (see Schuster 2021). TYPE: *Marsupidium gradsteinii* Grolle.

***Marsupidium* subg. *Echinocaulis* R.M.Schust., *Nova Hedwigia Beih.* 120: 458, 2021, *nom. inval.* ICN2018 Art. 38.1(a); no description (see Schuster 2021). “TYPE”: *Marsupidium setulosum* (Mitt.) Hook.f.

Marsupidium subg. Trichomarsupidium R.M.Schust., *Nova Hedwigia Beih.* 120: 514, 2021 (see Schuster 2021). TYPE: *Marsupidium setulosum* (Mitt.) Hook.f.

****Marsupidium bispinulosum** R.M.Schust., *Nova Hedwigia Beih.* 120: 515, 2021, *nom. inval.* ICN2018 Art. 40.7; herbarium not specified (see Schuster 2021). ORIGINAL MATERIAL: “Urewera Natl. Park, trail to Whakataka Summit, North Island, New Zealand. RMS 95-330”.

****Marsupidium bispinulosum var. aplanatum** R.M.Schust., *Nova Hedwigia Beih.* 120: 519, 2021, *nom. inval.* ICN2018 Art. 40.7; herbarium not specified (see Schuster 2021). ORIGINAL MATERIAL: “RMS 95-330 (same specimen as for *Marsupidium epiphytum* var. *aplanatum*)”.

****Marsupidium epiphytum var. aplanatum** R.M.Schust., *Nova Hedwigia Beih.* 120: 509, 2021, *nom. inval.* ICN2018 Art. 40.7; herbarium not specified / unranked here (but cf. p. 609) (see Schuster 2021). ORIGINAL MATERIAL: “RMS 95-330, New Zealand, North Island”.

****Marsupidium knightii var. pseudoknightii** R.M.Schust., *Nova Hedwigia Beih.* 120: 521, 2021, *nom. inval.* ICN2018 Art. 40.7; herbarium not specified (see Schuster 2021). ORIGINAL MATERIAL: “RMS 95-335, New Zealand: North I.: Urewera Natl. Park, Crest Trail to Whakataka Summit, 930–1030 m”.

Metzgeria deniseana Gradst. et Ilk.-Borg., *Phytotaxa* 525 (1): 32, 2021 (see Gradstein & Ilkiu-Borges 2021). TYPE: “GUYANA. Upper Mazaruni District: North slope of Mt. Roraima, 5°16' N, 60°43' W, on twigs in montane scrub on ridge, 2000–2300 m, 14–17 February 1985, S. R. Gradstein 5347a (holotype MG); *ibid.*, on dry bark of branches of *Clusia* sp., very scarce, with *Metzgeria auriculata*, S. R. Gradstein 5700f (paratype GOET)”.

Myriocoleopsis tixieri Pócs et Gradst., *Mem. New York Bot. Gard.* 121: 579, 2021 (see Gradstein 2021). NOM. NOV. PRO *Cololejeunea tixieri* M.I.Morales et G.Dauphin, *Trop. Bryol.* 14: 133, 1998, *nom. illeg.* ICN2018 Art. 53.1; *hom. illeg.* [non Onr. 1989], ‘*tixierii*’ (see Morales & Dauphin 1998).

Neesioscyphus complanatus R.M.Schust., *Nova Hedwigia Beih.* 120: 591, 2021 (see Schuster 2021). TYPE: “Dominica: Freshwater L. near Morne Micotrin (RMS 66617, F)”.

Nowellia asperilobula Thouvenot, *Cryptog. Bryol.* 42 (10): 150, 2021 (see Thouvenot 2021b). TYPE: “New Caledonia. South Province, Yaté, Wé Toa, on dead wood in a low wet forest on ultramafic bedrock, interwoven in a mat of various liverwort species, 500 m a.s.l., 166°57'5"E, 22°13'10"S, 8.IX.2019, Thouvenot NC2953 (holo-, PC[PC0712112], isotype in the author's private herbarium)”.

Obtusifoliaceae Bakalin et Fedosov (fam.), *Pl. Syst. Evol.* 307 (6:62): 62, 2021 (see Bakalin *et al.* 2021d).

****Orthocaulis hyperboreus f. paradoxus** (R.M.Schust.) Potemkin, *Nov. Syst. Pl. non Vasc.* 55 (2): 458, 2021, *nom. inval.* ICN2018 Art. 41.5; basionym not correctly cited, ‘*paradoxa*’ (see Czernyad'eva *et al.* 2021). BASIONYM: *Lophozia hyperborea f. paradoxa* R.M.Schust., *Hepat. Anthoc. N. Amer.* 2: 286, 1969 (see Schuster 1969).

Pallavicinia sect. Hypandrae J.J.Engel, *Arctoa* 30 (2): 174, 2021 (see Engel 2021). TYPE: *Pallavicinia hypandra* J.J.Engel.

Pallavicinia subg. Subciliatae (Grolle) Mamontov, Vilnet et Schäf.-Verw., *Arctoa* 30 (2): 167, 2021 (see Mamontov *et al.* 2021). BASIONYM: *Pallavicinia* sect. *Subciliatae* Grolle, *Acta Bot. Fenn.* 133: 62, 1986 (see Grolle & Piippo 1986).

Pallavicinia hypandra J.J.Engel, *Arctoa* 30 (2): 170, 2021 (see Engel 2021). TYPE: “New Zealand, South Is., Westland Prov., Cascade Road, Cascade ultramafic moraine, W of Martyr Saddle, SSW of Jackson Bay, 135 m, Engel 21773 (F—c. ♂); isotype: (CHR)”.

Pallavicinia ouinensis Frank Müll., *Nova Hedwigia* 115 (3–4): 384, 2022 (see Müller 2022). TYPE: “Holotype: New Caledonia, South Province, Nouméa 30 km N, valley of the Kalouéholà at the mine west of Mont Ouin, open slopes along the brook, 550–600 m, 22°0' S, 166°26' E, 02 September 2003, F. Müller NC888 (DR)”.

**Pandea* U.B.Deshmukh, *Phytotaxa* 482 (3): 291, 2021, *nom. illeg.* ICN2018 Art. 52.1; earlier name included (cf. *Ramudaria*) (see Deshmukh 2021). TYPE: *Pandea lamellicaulis* (D.K.Singh, S.Majumdar et D.Singh) U.B.Deshmukh.

**Pandea lamellicaulis* (D.K.Singh, S.Majumdar et D.Singh) U.B.Deshmukh, *Phytotaxa* 482 (3): 291, 2021, *nom. illeg.* ICN2018 Art. 52.1; earlier name included (cf. *Ramudaria*) (see Deshmukh 2021). BASIONYM: *Udaria lamellicaulis* D.K.Singh, S.Majumdar et D.Singh, *Curr. Sci.* 115 (8): 1537, 2018 (see Singh *et al.* 2018).

***Paramocolea* R.M.Schust., *Nova Hedwigia Beih.* 120: 12, 2021, *nom. inval.* ICN2018 Art. 40.1; no type indicated (see Schuster 2021). NOTE: *Paramocolea* is mentioned but not connected to any species in Schuster (2021).

Pedinophylloideae R.M.Schust. (subfam.), *Nova Hedwigia Beih.* 120: 238, 2021 (see Schuster 2021). TYPE: *Pedinophyllum* Lindb. ex Nordst.

****Pigafettoideae** R.M.Schust. (subfam.), *Nova Hedwigia Beih.* 120: 201, 2021, *nom. inval.* ICN2018 Art. 38.1(a); no description (see Schuster 2021). “TYPE”: *Pigafettoa* C.Massal.

†*Plagiochasma intertrappeum* Chudiwale, *Intl. J. Res. Biosci. Agricult. Tech.* 5 (spec. iss. 2): 195, (see Chudiwale 2017). TYPE: “Holotype: ADC-6/slide 1-18. Horizons: Deccan Intertrappean Series of India. Locality: Mohaonkalon, Chindwara Dist. M.P., India. Age: Eocene”.

Plagiochila sect. *Ansatae* R.M.Schust., *Nova Hedwigia Beih.* 120: 261, 2021 (see Schuster 2021). TYPE: *Plagiochila ansata* (Hook.f. et Taylor) Gottsche, Lindenb. et Nees.

Plagiochila sect. *Bicornutae* R.M.Schust., *Nova Hedwigia Beih.* 120: 269, 2021 (see Schuster 2021). TYPE: *Plagiochila bicornuta* Steph.

Plagiochila sect. *Bryhniae* R.M.Schust., *Nova Hedwigia Beih.* 120: 280, 2021 (see Schuster 2021). TYPE: *Plagiochila bryhnii* Steph.

Plagiochila sect. *Chiastocaulon* R.M.Schust., *Nova Hedwigia Beih.* 120: 401, 2021 (see Schuster 2021). TYPE: *Plagiochila dendroides* (Nees) Lindenb.

Plagiochila sect. *Fragmentifoliae* R.M.Schust., *Nova Hedwigia Beih.* 120: 325, 2021 (see Schuster 2021). TYPE: *Plagiochila gradsteinii* Inoue.

Plagiochila sect. *Haeseliae* R.M.Schust., *Nova Hedwigia Beih.* 120: 337, 2021 (see Schuster 2021). TYPE: *Plagiochila haeseliae* Inoue.

Plagiochila sect. *Hewsonianae* R.M.Schust., *Nova Hedwigia Beih.* 120: 339, 2021 (see Schuster 2021). TYPE: *Plagiochila hewsoniana* Inoue et Grolle.

***Plagiochila* sect. *Microplagiochila* R.M.Schust., *Nova Hedwigia Beih.* 120: 346, 2021, *nom. inval.* ICN2018 Art. 40.1; type species not valid (see Schuster 2021). “TYPE”: *Plagiochila microphylla* R.M.Schust.

Plagiochila sect. *Odoratae* R.M.Schust., *Nova Hedwigia Beih.* 120: 305, 2021 (see Schuster 2021). TYPE: *Plagiochila odorata* Inoue et Grolle.

Plagiochila sect. *Papuanae* R.M.Schust., *Nova Hedwigia Beih.* 120: 348, 2021 (see Schuster 2021). TYPE: *Plagiochila papuana* Inoue et Grolle.

Plagiochila* sect. *Propinquae R.M.Schust., *Nova Hedwigia Beih.* 120: 367, 2021 (see Schuster 2021). TYPE: *Plagiochila propinqua* Sande Lac.

Plagiochila* sect. *Pseudaberrantes R.M.Schust., *Nova Hedwigia Beih.* 120: 368, 2021 (see Schuster 2021). TYPE: *Plagiochila pseudaberrans* Inoue et Grolle.

Plagiochila* sect. *Rudolfinae R.M.Schust., *Nova Hedwigia Beih.* 120: 373, 2021 (see Schuster 2021). TYPE: *Plagiochila rudolfii* Pócs.

Plagiochila* sect. *Scopariae R.M.Schust., *Nova Hedwigia Beih.* 120: 377, 2021 (see Schuster 2021). TYPE: *Plagiochila scoparia* Inoue et Grolle.

Plagiochila* sect. *Tectae R.M.Schust., *Nova Hedwigia Beih.* 120: 305, 2021 (see Schuster 2021). TYPE: *Plagiochila tecta* Inoue et Grolle.

Plagiochila* sect. *Tixieri R.M.Schust., *Nova Hedwigia Beih.* 120: 389, 2021 (see Schuster 2021). TYPE: *Plagiochila tixieri* Inoue.

Plagiochila* sect. *Ulatae R.M.Schust., *Nova Hedwigia Beih.* 120: 392, 2021 (see Schuster 2021). TYPE: *Plagiochila ulata* Inoue et Grolle.

*****Plagiochila* subg. *Euryplagiochilae*** R.M.Schust., *Nova Hedwigia Beih.* 120: 236, 2021, *nom. inval.* ICN2018 Art. 40.1; no type indicated (see Schuster 2021).

Plagiochila* subsect. *Annotinae R.M.Schust., *Nova Hedwigia Beih.* 120: 260, 2021 (see Schuster 2021). TYPE: *Plagiochila annotina* Lindenb.

Plagiochila* subsect. *Banksianae (Carl) R.M.Schust., *Nova Hedwigia Beih.* 120: 264, 2021 (see Schuster 2021). BASIONYM: *Plagiochila* sect. *Banksianae* Carl, *Ann. Bryol., Suppl.* 2: 138, 1931 (see Carl 1931).

Plagiochila* subsect. *Caducifoliae R.M.Schust., *Nova Hedwigia Beih.* 120: 296, 2021 (see Schuster 2021). TYPE: *Plagiochila caducifolia* Inoue et R.M.Schust.

Plagiochila* subsect. *Caducilobae (Inoue) R.M.Schust., *Nova Hedwigia Beih.* 120: 274, 2021 (see Schuster 2021). BASIONYM: *Plagiochila* sect. *Caducilobae* Inoue, *J. Hattori Bot. Lab.* 39: 339, 1975 (see Inoue 1975).

*****Plagiochila* subsect. *Cardotiae*** (Inoue) R.M.Schust., *Nova Hedwigia Beih.* 120: 295, 2021, *nom. inval.* ICN2018 Art. 41.5; basionym not cited, ‘*Cardotii*’ (see Schuster 2021). BASIONYM: *Plagiochila* sect. *Cardotiae* Inoue, *Bull. Natl. Sci. Mus. Tokyo (n.ser.)* 8 (3): 386, 1965 (see Inoue 1965).

*****Plagiochila* subsect. *Choachinae*** R.M.Schust., *Nova Hedwigia Beih.* 120: 291, 2021, *nom. inval.* ICN2018 Art. 40.1; no type indicated (see Schuster 2021).

*****Plagiochila* subsect. *Ciliatae*** (Schiffn.) R.M.Schust., *Nova Hedwigia Beih.* 120: 297, 2021, *nom. inval.* ICN2018 Art. 41.5; basionym not cited (see Schuster 2021). BASIONYM: *Plagiochila* sect. *Ciliatae* Schiffn., *Hep. Fl. Buitenzorg:* 107, 1900 (see Schiffner 1900).

*****Plagiochila* subsect. *Contiguae*** R.M.Schust., *Nova Hedwigia Beih.* 120: 304, 2021, *nom. inval.* ICN2018 Art. 40.1; type not indicated (see Schuster 2021).

*****Plagiochila* subsect. *Corniculatae*** R.M.Schust., *Nova Hedwigia Beih.* 120: 271, 2021, *nom. inval.* ICN2018 Art. 40.1; no type indicated (see Schuster 2021).

Plagiochila subsect. *Cymbiformes* R.M.Schust., *Nova Hedwigia Beih.* 120: 359, 2021 (see Schuster 2021). TYPE: *Plagiochila cymbiformis* Inoue.

Plagiochila subsect. *Deltoideae* R.M.Schust., *Nova Hedwigia Beih.* 120: 322, 2021 (see Schuster 2021). TYPE: *Plagiochila deltoidea* Lindenb.

****Plagiochila** subsect. *Frondescentes* R.M.Schust., *Nova Hedwigia Beih.* 120: 328, 2021, *nom. inval.* ICN2018 Art. 40.1; no type indicated (see Schuster 2021).

Plagiochila subsect. *Gymnocladae* R.M.Schust., *Nova Hedwigia Beih.* 120: 359, 2021 (see Schuster 2021). TYPE: *Plagiochila gymnoclada* Sande Lac.

Plagiochila subsect. *Hottae* R.M.Schust., *Nova Hedwigia Beih.* 120: 397, 2021 (see Schuster 2021). TYPE: *Plagiochila hottae* Inoue.

****Plagiochila** subsect. *Hylacoetes* (Carl) R.M.Schust., *Nova Hedwigia Beih.* 120: 265, 2021, *nom. inval.* ICN2018 Art. 41.5; basionym not indicated (see Schuster 2021). BASIONYM: *Plagiochila* sect. *Hylacoetes* Carl, *Ann. Bryol., Suppl.* 2: 50, 1931 (see Carl 1931).

Plagiochila subsect. *Hypnoides* R.M.Schust., *Nova Hedwigia Beih.* 120: 343, 2021 (see Schuster 2021). TYPE: *Plagiochila hypnoides* Willd. ex Lindenb.

Plagiochila subsect. *Incurvicollae* R.M.Schust., *Nova Hedwigia Beih.* 120: 322, 2021 (see Schuster 2021). TYPE: *Plagiochila incurvicolla* (Hook.f. et Taylor) Gottsche, Lindenb. et Nees.

Plagiochila subsect. *Lyalliae* R.M.Schust., *Nova Hedwigia Beih.* 120: 322, 2021 ‘*Lyallii*’ (see Schuster 2021). TYPE: *Plagiochila lyallii* Mitt.

Plagiochila subsect. *Moniliformes* R.M.Schust., *Nova Hedwigia Beih.* 120: 277, 2021 (see Schuster 2021). TYPE: *Plagiochila moniliformis* R.M.Schust.

Plagiochila subsect. *Nutantes* R.M.Schust., *Nova Hedwigia Beih.* 120: 260, 2021 (see Schuster 2021). TYPE: *Plagiochila nutans* Steph.

Plagiochila subsect. *Obtusae* R.M.Schust., *Nova Hedwigia Beih.* 120: 344, 2021 (see Schuster 2021). TYPE: *Plagiochila obtusa* Lindenb.

Plagiochila subsect. *Odoratae* R.M.Schust., *Nova Hedwigia Beih.* 120: 383, 2021 (see Schuster 2021). TYPE: *Plagiochila odorata* Inoue et Grolle.

Plagiochila subsect. *Pluriciliatae* R.M.Schust., *Nova Hedwigia Beih.* 120: 260, 2021 (see Schuster 2021). TYPE: *Plagiochila vinkii* Inoue et Grolle.

Plagiochila subsect. *Propinquae* R.M.Schust., *Nova Hedwigia Beih.* 120: 307, 2021 (see Schuster 2021). TYPE: *Plagiochila propinqua* Sande Lac.

****Plagiochila** subsect. *Subplanae* R.M.Schust., *Nova Hedwigia Beih.* 120: 293, 2021, *nom. inval.* ICN2018 Art. 36.1; not accepted by author (see Schuster 2021). “TYPE”: *Plagiochila subplana* Lindenb.

****Plagiochila** subsect. *Subtropicae* (Carl) R.M.Schust., *Nova Hedwigia Beih.* 120: 382, 2021, *nom. inval.* (see Schuster 2021). BASIONYM: *Plagiochila* sect. *Subtropicae* Carl, *Ann. Bryol., Suppl.* 2: 102, 1931 (see Carl 1931).

Plagiochila subsect. *Sullivantiae* R.M.Schust., *Nova Hedwigia Beih.* 120: 291, 2021 (see Schuster 2021). TYPE: *Plagiochila sullivantii* Gottsche.

Plagiochila subsect. *Takakiae* R.M.Schust., *Nova Hedwigia Beih.* 120: 279, 2021 (see Schuster 2021). TYPE: *Plagiochila takakii* Inoue.

***Plagiochila blomquistii* R.M.Schust., *Nova Hedwigia Beih.* 120: 207, 2021, *nom. inval.* ICN2018 Art. 38.1(a); no description (see Schuster 2021). ORIGINAL MATERIAL: none.

Plagiochila corniculata subsp. *andina* R.M.Schust., *Nova Hedwigia Beih.* 120: 277, 2021 (see Schuster 2021). TYPE: “Venezuela [RMS 76-2056, F]”. *Plagiochila exigua* (Taylor) Taylor, *London J. Bot.* 5: 264, 1846 (see Taylor 1846).

Plagiochila corniculata subsp. *corniculata*, *Nova Hedwigia Beih.* 120: 277, 2021 (see Schuster 2021).

***Plagiochila corniculata* subsp. *exigua* R.M.Schust., *Nova Hedwigia Beih.* 120: 275, 2021, *nom. inval.* ICN2018 Art. 40.6; type specimen not indicated (see Schuster 2021). ORIGINAL MATERIAL: none.

**Plagiochila flagellifera* R.M.Schust., *Nova Hedwigia Beih.* 120: 379, 2021, *nom. illeg.* ICN2018 Art. 53.1; *hom. illeg.* [non Steph. 1918] (see Schuster 2021). TYPE: “RMS 76-1935 (F), Venezuela: Est. Tachira s. of Villa Paez, lower edge of páramo formation, 3100 m; mixed with “*Leptoscyphus liebmanianus*”.

***Plagiochila intermedia* R.M.Schust., *Nova Hedwigia Beih.* 120: 282, 2021, *nom. inval.* ICN2018 Art. 40.7; herbarium not specified (see Schuster 2021). ORIGINAL MATERIAL: “RMS 76-1481c, Venezuela”.

***Plagiochila microphylla* R.M.Schust., *Nova Hedwigia Beih.* 120: 348, 2021, *nom. inval.* ICN2018 Art. 40.7; herbarium not specified (see Schuster 2021). ORIGINAL MATERIAL: “Chile, Magallanes: s. shore of Caleta Occasion, Isla Piazz; Dept. Ultima Esperanza; Hässel B 1086, p.p.”.

Plagiochila punctata var. *paucidentata* (Mont. et Gottsche) Gradst., *Cryptog. Bryol.* 43 (5): 88, 2022 (see Gradstein & Reeb 2022). BASIONYM: *Plagiochila paucidentata* Mont. et Gottsche, *Ann. Sci. Nat. Bot. (sér. 4)* 6: 197, 1856 (see Montagne 1856).

Plagiochila vandenberghenii Gradst., *Cryptog. Bryol.* 43 (5): 102, 2022 (see Gradstein & Reeb 2022). TYPE: “Holotype.—Madagascar. Prov. Fianarantsoa, Ranomafana Nat. Park, opposite park gate, near Ambodiamontana settlement, Namorona river valley, on bark in partially degraded lower montane rainforest, 865–1015 m, VII.2004, Pócs *et al.* 04118/AY (holo-, EGR!; iso-, GOET!)”.

Plagiochiloideae R.M.Schust. (subfam.), *Nova Hedwigia Beih.* 120: 242, 2021 (see Schuster 2021). TYPE: *Plagiochila* (Dumort.) Dumort.

***Plectocolea polyrhizoides* (Grolle) Bakalin, *Pl. Syst. Evol.* 307 (6:62): 13, 2021, *nom. inval.* ICN2018 Art. 41.5; basionym not cited (see Bakalin *et al.* 2021d). BASIONYM: *Jungermannia polyrhizoides* Grolle, *J. Hattori Bot. Lab.* 29: 262, 1966 (see Amakawa 1966).

Preissia platycarpa (D.G.Long et Crand.-Stotl.) T.X.Zheng et Shimamura, *Hattoria* 13: 67, 2022 (see Zheng & Shimamura 2022b). BASIONYM: *Marchantia platycarpa* D.G.Long et Crand.-Stotl., *Nova Hedwigia Beih.* 150: 110, 2020 (see Long & Crandall-Stotler 2020).

Prionoathallus (R.M.Schust.) Mamontov, Vilnet et Schäf.-Verw., *Arctoa* 30 (2): 167, 2021 (see Mamontov *et al.* 2021). NOM. NOV. PRO *Pallavicinia* sect. *Dentigerae* R.M.Schust., *J. Hattori Bot. Lab.* 70: 146, 1991 (see Schuster 1991).

Prionoathallus xiphoides (Hook.f. et Taylor) Mamontov, Vilnet et Schäf.-Verw., *Arctoa* 30 (2): 167, 2021 (see Mamontov *et al.* 2021). BASIONYM: *Jungermannia xiphoides* Hook.f. et Taylor, *London J. Bot.* 3: 569, 1844 (see Hooker & Taylor 1844).

Protoharpanthus Bakalin, Fedosov et D.G.Long, *Bryologist* 124 (2): 222, 2021 (see Bakalin *et al.* 2021a).

Protoharpanthus sinensis Bakalin, Fedosov et D.G.Long, *Bryologist* 124 (2): 223, 2021 (see Bakalin *et al.* 2021a). TYPE: “CHINA. YUNNAN PROVINCE: Gongshan Co., Bingzhongluo Xiang, east slope of Gaoligong Shan, Nu Jiang (Salween) catchment, valley on SW slope of Gawagapu Mountain. Rocky, alpine valley with rocky slopes and cliffs above snow patch, in mossy crevice of cliff, 27°59'16.8"N 98°28'27.4"E, 3940 m a.s.l., 20 Aug. 2006, D.G. Long 35924 (holotype, E00997077; isotypes, CAS, KUN, MO, MW, VBGI)”.

†*Protolophozia kutscheri* (Grolle) Heinrichs, K.Feldberg, M.A.M.Renner et Schäf.-Verw., *Bryophyte Diversity Evol.* 43 (1): 24, 2021 (see Feldberg *et al.* 2021a). BASIONYM: *Lophozia kutscheri* Grolle, *Bryologist* 107: 79, 2004 (see Grolle & Meister 2004).

Pseudolophocolea fuegiensis (C.Massal.) R.M.Schust., *Nova Hedwigia Beih.* 120: 190, 2021 (see Schuster 2021). BASIONYM: *Leioscyphus repens* var. β *fuegiensis* C.Massal., *Nuovo Giorn. Bot. Ital.* 17 (3): 212, 1885 (see Massalongo 1885).

***Pseudolophocolea* subg. *Physolophocolea* R.M.Schust., *Nova Hedwigia Beih.* 120: 190, 2021, *nom. inval.* ICN2018 38.11; not a reference to a generic description (see Schuster 2021). “TYPE”: *Pseudolophocolea fuegiensis* (C.Massal.) R.M.Schust.

Pseudomoerckia Vilnet, Konstant., D.G.Long, N.D.Lockh. et Mamontov, *J. Bryol.* 43 (2): 107, 2021 (see Konstantinova *et al.* 2021a). TYPE: *Pseudomoerckia blyttii* (Mørch) Vilnet, Konstant., D.G.Long, N.D.Lockh. et Mamontov.

Pseudomoerckia blyttii (Mørch) Vilnet, Konstant., D.G.Long, N.D.Lockh. et Mamontov, *J. Bryol.* 43 (2): 108, 2021 (see Konstantinova *et al.* 2021a). BASIONYM: *Jungermannia blyttii* Mørch, *Fl. Danica* 12: 6, 1830 “*Blyttii*” (see Hornemann 1830).

Pseudomoerckiaceae Vilnet, Konstant., D.G.Long, N.D.Lockh. et Mamontov (fam.), *J. Bryol.* 43 (2): 107, 2021 (see Konstantinova *et al.* 2021a). TYPE: *Pseudomoerckia* Vilnet, Konstant., D.G.Long, N.D.Lockh. et Mamontov.

Pseudotritomaria heterophylla f. *anomala* (Potemkin) Potemkin, *Nov. Syst. Pl. non Vasc.* 55 (2): 459, 2021 (see Czernyad'eva *et al.* 2021). BASIONYM: *Tritomaria heterophylla* f. *anomala* Potemkin, *Bot. Zhurn.* 75 (12): 1746, 1990 (see Potemkin 1990).

Pseudotritomaria heterophylla f. *heterophylla*, *Nov. Syst. Pl. non Vasc.* 55 (2): 459, 2021 (see Czernyad'eva *et al.* 2021).

Ptilidium himalayanum Vilnet, Bakalin et Hentschel, *Phytotaxa* 510 (1): 38, 2021 (see Bakalin *et al.* 2021b). TYPE: “CHINA. Yunnan Province: Diqing Prefecture, Shangri-La County, Xiao-Zhong-Dian Xiang, Tian-Bao Mountain, narrow valley with coniferous forest with admixture of *Rhododendron* and many limestone outcrops (also resulted in basic reaction of humificated soil), partly shaded *Rhododendron* trunk, 4,031 m a.s.l., 27°36'56"N 99°53'54"E, 16 October 2018, V.A. Bakalin & W.Z. Ma C-83-6-18 (VBGI, duplicates KPABG, KUN)”.

Ptychanthus striatus var. *motuoensis* Jian Wang bis, Gradst. et R.L.Zhu, *Bryologist* 124 (4): 477, 2021 (see Dai *et al.* 2021). TYPE: “CHINA. XIZANG: Motuo Co., from Motuo county town to Renqinbeng Temple; 29°19'13.1"N, 95°19'90.2"E, 1233 m; on tree bark, 14 Oct. 2011, J. Wang 20111014-14A (holotype, HSNU!”.

Pycnolejeunea apiculata Thouvenot et Gradst., *Nova Hedwigia* 112 (3/4): 376, 2021 (see Thouvenot & Gradstein 2021). TYPE: “New Caledonia. South Province: Yaté, Wé Toa, on ridge of coastal range, 500 m, on bark of small tree, with trunk diameter less than 10 cm, in wet forest, coordinates 166°57' E, 22°13' S, 8.IX.2019, Thouvenot NC3013 (holotype: PC [PC0712109]; isotype: hb. L. Thouvenot)”.

Radula bischlerae Gradst. et Ilk.-Borg., *Mem. New York Bot. Gard.* 121: 623, 2021 (see Gradstein 2021). TYPE: “Colombia, Boyacá, Sierra Nevado del Cocuy, Guicán, Corralitos, 3900 m, on soil in páramo, 10 Jun 1959, H. Bischler 2894 (holotype COL; isotypes MG, PC-0774218)”.

***Radula formosa* var. *spicata* (Mitt.) M.A.M.Renner, Gradst., Ilk.-Borg., F.R.Oliveira-da-Silva et Promma, *Bryophyte Diversity Evol.* 45 (1): 116, 2022, *nom. inval.* ICN Art. 41.3; basionym not cited (see Renner *et al.* 2022). BASIONYM: *Radula spicata* Mitt., *Bonplandia* 10 (2): 19, 1862 (see Mitten 1862).

†*Radula heinrichsii* K.Feldberg, Schäf.-Verw., M.A.M.Renner, von Konrat et A.R.Schmidt, *Cret. Res.* 128 (104987): 15, 2021 (see Feldberg *et al.* 2021b). TYPE: “Holotype. Geoscience Centre (GZG) at the University of Göttingen, Germany (GZG.BST.22023, formerly Patrick Müller Amber Collection no BuB3683; described here).. Locality and horizon. Amber mines southwest of the village of Tanai c. 105 km north of Myitkyina in Kachin State, northern Myanmar, fossil enclosed in upper Albian–lower Cenomanian Kachin amber”.

Radula pallens var. *marginata* F.R.Oliveira-da-Silva, Gradst. et Ilk.-Borg., *Phytotaxa* 564 (1): 96, 2022 (see Oliveira-da-Silva *et al.* 2022b). TYPE: “VENEZUELA. Maracay: “Nebelwald von Rancho Grande, am Weg zum Periquito,” 1300 m, 25 February 1958, K. Mägdefrau 363 (holotype JE!, isotype MG!)”.

†*Radula patrickmuelleri* K.Feldberg, Schäf.-Verw. et M.A.M.Renner, *Foss. Rec.* 25 (1): 220, 2022 (see Feldberg *et al.* 2022). TYPE: “Holotype. GZG.BST.22041 (Müller BuB4395), Geoscience Centre (GZG) at the University of Göttingen, Germany. Locality and horizon. Amber mines southwest of the village of Tanai ca. 105 km north of Myitkyina in Kachin State, northern Myanmar, fossil enclosed in upper Albian–lower Cenomanian Kachin amber”.

Radula smithii F.R.Oliveira-da-Silva, Ilk.-Borg. et Gradst., *Phytotaxa* 564 (1): 99, 2022 (see Oliveira-da-Silva *et al.* 2022b). TYPE: “PERU. San Martín: Rioja, Venceremos, km 390, Pedro Ruíz—Moyobamba road, primary montane forest, on soil bank, 05°50’S, 077°45’W, 1750–2100 m, 27 July–9 August 1983, D. N. Smith C-300 (holotype MO6968335!, isotype MG!)”.

Radula subacuminata L.N.Zhang et R.L.Zhu, *Bryologist* 124 (2): 263, 2020 (see Zhang *et al.* 2021). TYPE: “VIETNAM. Cao Bằng: Nguyễn Bình District, Quang Thành Commune, from Km 7 to Vài Khau Village to Khau Canh place, 22°35’14.06”N, 105°53’20.06”E, 1318 m, on living leaves, 27 Oct. 2013, R.-L. Zhu *et al.* 20131027-138C (holotype, HSNU10002703!)”.

†*Radula tanaiensis* K.Feldberg, Schäf.-Verw. et M.A.M.Renner, *Foss. Rec.* 25 (1): 223, 2022 (see Feldberg *et al.* 2022). TYPE: “Holotype. GZG.BST.22042 (Müller BuB4329), Geoscience Centre (GZG) at the University of Göttingen, Germany. Locality and horizon. Amber mines southwest of the village of Tanai ca. 105 km north of Myitkyina in Kachin State, northern Myanmar, fossil enclosed in upper Albian–lower Cenomanian Kachin amber”.

Radula tonitrua Pócs et M.A.M.Renner, *Teloepa* 24: 197, 2021 (see Pócs & Renner 2021). TYPE: “Australia: Queensland, Paluma Range State Forest 1.5 km NW of Paluma settlement. Birthday Creek, in the experimental area of James Cook University Tropical Biology Department. On *Abrodictyum obscurum* (Blume) Ebihara & K.Iwats. filmy fern leaves in wet, notophyll vine forest among boulders near the streamlet. At 840–870 m elevation, 18°59’\’9”S, 146°10’7–8”E S. & T. Pócs 01121/AW, accompanied by A. Cairns, E.A. Brown & Ch. Cargill, 20 June 2001. (holo: EGR, including 2 portions mounted on microslides; iso: BRI, CANB)”.

Riccardia browniae A.Hagborg et L.Söderstr., *Lindbergia* 45[43] (1: 01152): 1, 2022 (see Hagborg & Söderström 2022). NOM. NOV. PRO *Aneura pusilla* Steph., *J. & Proc. Roy. Soc. New South Wales* 48 (1/2): 96, 1914 (see Stephani & Watts 1914).

Riccardia pseudodendroceros R.M.Schust. ex M.A.M.Renner, *Teloepa* 25: 354, 2022 (see Renner 2022). BASED ON: *Riccardia pseudodendroceros* R.M.Schust., *Phytologia* 56 (7): 452, 1985, *nom. inval.* ICN2018 Art. 38.1(a); no description (see Schuster 1985).

***Riccardia punctulata* R.M.Schust., *Nova Hedwigia Beih.* 120: 84, 2021, *nom. inval.* ICN2018 Art. 38.1(a); no description (see Schuster 2021). ORIGINAL MATERIAL: “New Zealand, South Island: Paparua Range, peaty, thin bryophyte layer over vertical damp rock walls along a rill draining Morgan Tarn, 1.5–2 km below tarn, 3100–3300 ft. Same location (RMS 84-1683a)”.

Riccia abdita Cargill, *Austral. Syst. Bot.* 34 (4): 340, 2021 (see Cargill *et al.* 2021). TYPE: “AUSTRALIA. Northern Territory. Fish River Station, under rock ledge on damp algal mat over soil, surrounded by spinifex, 29 Apr. 2012, *D.C.Cargill 1298* (holo:CANB811430!; iso: DNA!)”.

Riccia anatolica Özenoğlu et Kırmacı, *Phytotaxa* 532 (1): 79, 2022 (see Özenoğlu & Kırmacı 2022). TYPE: “TURKEY, Mersin; Tarsus, on Tarsus-Çamlıyayla road (1,5 km to Taşkuyu Village), 260 m altitude; 36°57' 11.0" N 34° 47' 48.9" E, 03.03.2014; Col. Kırmacı; Det. Özenoğlu & Kırmacı; Özenoğlu TR/291. (AYDN 4000)”.

Riccia chrysocrinita Cargill, *Austral. Syst. Bot.* 34 (4): 345, 2021 (see Cargill *et al.* 2021). TYPE: “CULTIVATED. Australia. New South Wales, University of Sydney, 14 June 1969 (grown from live material collected from c. 325+ miles Stuart Highway, Northern Territory), *O.Na-Thalang 312* (holo: SYD (no accession number)!, iso: CANB 914650!)”.

Riccia epecenia Cargill, *Bryophyte Diversity Evol.* 45 (1): 86, 2022 (see Cargill 2022). TYPE: “Holotype:—Australia. New South Wales. Gum Ridge Fire Trail West, Mt Canobolas State Conservation Area (SCA), 1244 m, 33° 21' S 148° 57' E, 20 May 2022, D.C. Cargill 1702 (CANB, isotype NSW)”.

Riccia keralensis Manju, Chandini, Sushil K.Singh et K.P.Rajesh, *Bryologist* 124 (3): 377, 2021 (see Manju *et al.* 2021). TYPE: “INDIA. KERALA: Kozhikode District, Ramanattukara, on damp soil in overlapping patches in pure population, 15 m a.s.l., 14 Aug. 2019, *K.P. Rajesh & C.N. Manju 1405* (holotype, CALI!; isotypes, ZGC!, BSD!)”.

Riccia obchantiana Cargill, *Austral. Syst. Bot.* 34 (4): 358, 2021 (see Cargill *et al.* 2021). TYPE: “Type: CULTIVATED. Australia. New South Wales, University of Sydney, 23 July 1969 (grown from live material collected from ca. 380 mile(s) Stuart H'way(s), on dry creek, under tree shade, 4 Feb. 1969), *O.Na-Thalang 315* (holo: SYD (no accession number)!, iso: CANB 914651!)”.

Riccia sariuae A.E.D.Daniels et D.T.T.Daniels, *Phytotaxa* 554 (2): 203, 2022 (see Daniels & Daniels 2022). TYPE: “India, Western Ghats, Tamil Nadu, Kanniyakumari District, Marunthuvazhmalai, an open hillock, on damp soil-covered rocks, at ca 40 m a.s.l., 08°07.758' N and 77°30.851' E, 2 October 2021, D.T.T. Daniels 17 (holotype: CAL; isotype: SCCN), 20, 34, 35 (Paratypes: SCCN)”.

Riccia subcrinita You L.Xiang et R.L.Zhu, *Phytotaxa* 531 (1): 48, 2022 (see Xiang *et al.* 2022a). TYPE: “China, Sichuan, Kangding City, hillside of S215 Road (from Waze Town to Jiulong County), 29°33'38.02" N, 101°22'26.52" E, 3112 m, on soil, *Y.L. Xiang & C. Shen 20190908-14* (holotype: HSNU)”.

Riccia verrucosa Cargill, *Austral. Syst. Bot.* 34 (4): 360, 2021 (see Cargill *et al.* 2021). TYPE: “AUSTRALIA. Northern Territory. Fish River Station, under shrub on sticky algal mat over silty/sandy soil, 25 Apr. 2012, *D.C.Cargill 1277p.p.* (holo: CANB 811408!; iso: DNA!)”.

†*Ricciellites* Savoretti, Bodnar, Coturel et M.Beltrán, *Ameghiniana* 59 (3): 183, 2022 (see Savoretti *et al.* 2022). TYPE: *Ricciellites unsaltoensis* Savoretti, Bodnar, Coturel et M.Beltrán.

†*Ricciellites unsaltoensis* Savoretti, Bodnar, Coturel et M.Beltrán, *Ameghiniana* 59 (3): 185, 2022 (see Savoretti *et al.* 2022). TYPE: “Type material. Holotype PBSJ 1343A, B. Referred material. PBSJ 1542. Geographic occurrence. 31° 39' 16" S; 69° 24' 58.5" W, Un Salto creek, Barreal area, Barreal-Calingasta depocenter, San Juan Province, Argentina. Stratigraphic occurrence. EF 4, Don Raúl Member, Cortaderita Formation (Ladinian), Sorocayense Group”.

†*Ricciopsis asturica* A.A.Santos, Sender, Piñuela, García-Ramos et J.B.Diez, *Bot. Lett.* 169 (4): 560, 2022 ‘*asturicus*’ (see Santos *et al.* 2022). TYPE: “**Locality:** Jurassic coast of Asturias, Colunga, Asturias (NW Spain). **Repository:** Palaeobotanical collection of the Museo del Jurásico de Asturias (MUJA). **Holotype:** MUJA-3655-1. **Stratigraphic horizon and age:** Lower part of the Lastres Formation (Kimmeridgian, Upper Jurassic)”.

†*Ricciopsis baojishanensis* Lei Han et D.F.Yan, *Palaeoworld* 31 (3): 446, 2021 (see Han *et al.* 2022). TYPE: “Holotype: BJST-1603 (Fig. 3A–E). Repository: The material is housed in the Paleontology Laboratory of the School of Earth Sciences, Lanzhou University, China. ... Locality and horizon: Late Triassic; Baojishan Basin, Baiyin City, Gansu Province, Northwest China”.

†*Ricciopsis cortaderitaensis* Savoretti, Bodnar, Coturel et M.Beltrán, *Ameghiniana* 59 (3): 188, 2022 (see Savoretti *et al.* 2022). TYPE: “Type material. Holotype PBSJ 408, Paratype PBSJ 409. Geographic occurrence. 31° 38' 53.6" S; 69° 24' 34.9" W, La Tinta creek, Barreal area, Barreal-Calingasta depocenter, San Juan Province, Argentina. Stratigraphic occurrence. EF 6, Don Raúl Member, Cortaderita Formation (Ladinian), Sorocayense Group”.

Riella macrocarpa (P.Allorge) Puche, Segarra, Sabovlj., M.Infante et Heras, *Taxon* 71 (3): 520, 2022 (see Segarra-Moragues *et al.* 2022). BASIONYM: *Riella helicophylla* var. *macrocarpa* P.Allorge, *Sched. Br. Iber. (ser. 2)*: 4, 1929 (see Allorge 1929).

Rudolgaea Potemkin et Vilnet, *Arctoa* 30 (2): 144, 2021 (see Potemkin & Vilnet 2021). TYPE: *Rudolgaea fascinifera* (Potemkin) Potemkin et Vilnet.

Rudolgaea borealis (Frisvoll et Moen) Potemkin et Vilnet, *Arctoa* 30 (2): 145, 2021 (see Potemkin & Vilnet 2021). BASIONYM: *Lophozia borealis* Frisvoll et Moen, *Lindbergia* 6 (2): 138, 1980 (see Frisvoll & Moen 1980).

Rudolgaea fascinifera (Potemkin) Potemkin et Vilnet, *Arctoa* 30 (2): 144, 2021 (see Potemkin & Vilnet 2021). BASIONYM: *Gymnocolea fascinifera* Potemkin, *Arctoa* 2: 76, 1993 (see Potemkin 1993).

Saccobasis polita var. *arctica* Konstant., Vilnet et Mamontov, *Arctoa* 31 (2): 177, 2022 (see Konstantinova *et al.* 2022). TYPE: “Norway: Svalbard, Wedel Jarlsberg Land, Recherchefjorden, Lagerneset, 77°31'31.8" N–14°45'54" E, river terrace, patterned ground tundra on gentle slope, on frost boils, on side of micro-bumps and in crevices. 19.VIII.2018, Konstantinova & Savchenko # K45-3a-18 (KPABG-123662, holotype)”.

Saccobasis polita var. *polita*, *Arctoa* 31 (2): 177, 2022 (see Konstantinova *et al.* 2022).

Saccogyna darjeelingensis M.Dey et S.Majumdar, *Curr. Sci.* 123 (2): 145, 2022 (see Dey & Majumdar 2022). TYPE: “India, Eastern Himalaya, West Bengal, Darjeeling district, 2 km from Jogighat towards Ahaldara, 26°56'05.59"N, 88°22'18.33"E, 726 m, 08 March 2019, M. Dey 81492A (Holotype & Isotype: CAL!)”.

Scapania subsect. *Giganteae* Potemkin, Vilnet et Bakalin, *Bryologist* 124 (4): 586, 2021 (see Potemkin *et al.* 2021). TYPE: *Scapania gigantea* Horik.

Scapania pseudouliginosa Potemkin, Bakalin, Vilnet et Klimova, *Bryologist* 124 (4): 574, 2021 (see Potemkin *et al.* 2021). TYPE: “RUSSIA. KAMCHATKA TERRITORY: northern part of Koryak Okrug, southern bank of the Lagoon Tintikun (c. 60°17.192'N, 166°53.406'E) at the base of the Goven Peninsula, on soil at the margin of warm thermal pool hollow, 30 July 2019, E. Yu. Kuzmina T1-5 (holotype of *Scapania pseudouliginosa*, LE; isotypes, VBGI, KPABG)”.

Schistochila gradsteinii Thouvenot, *Cryptog. Bryol.* 42 (2): 13, 2021 (see Thouvenot 2021a). TYPE: “New Caledonia. North Province, Hienghène, Ouaième rocks, coordinates UTM 58K: 0485 E, 7717 N, 22 Sept. 2019, Thouvenot NC2807 (holotype PC[PC0712100]; isotype in author's private herbarium)”.

Soella spinistipula (Mizut.) R.L.Zhu et L.Shu, *J. Syst. Evol.* 60 (5): 1212, 2021 (see Shu *et al.* 2022). BASIONYM: *Pycnolejeunea spinistipula* Mizut., *J. Hattori Bot. Lab.* 33: 255, 1970 (see Mizutani 1970).

Southbya subg. *Metasouthbya* R.M.Schust., *Nova Hedwigia Beih.* 120: 550, 2021 (see Schuster 2021). TYPE: *Southbya grollei* N.Kitag.

Southbya subg. *Muellerella* R.M.Schust., *Nova Hedwigia Beih.* 120: 550, 2021 (see Schuster 2021). TYPE: *Southbya laevifolia* R.M.Schust.

Southbya subg. *Southbya*, *Nova Hedwigia Beih.* 120: 550, 2021 (see Schuster 2021). BASIONYM: *Southbya* Spruce, *Ann. Mag. Nat. Hist. (ser. 2)* 3 (18): 501, 1849 (see Spruce 1849c).

Southbya laevifolia R.M.Schust., *Nova Hedwigia Beih.* 120: 550, 2021 (see Schuster 2021). TYPE: “Venezuela: Sierra de Santo Domingo, Estado Mérida, páramo de Mucubaji, near Laguna Grande, 3600 m. [RMS & Ruiz-Teran 76-826 (F)]”.

***Southbya laevis* R.M.Schust., *Nova Hedwigia Beih.* 120: 548, 2021, *nom. inval.* ICN2018 Art. 40.1; no type specified (probably error for *Southbya tophacea*) (see Schuster 2021). ORIGINAL MATERIAL: none.

†*Sporollites* Pundkar, *Int. J. Adv. Innov. Res.* 8 (4): 27, 2021 (see Pundkar 2021). TYPE: *Sporollites harisii* Pundkar.

†*Sporollites harisii* Pundkar, *Int. J. Adv. Innov. Res.* 8 (4): 27, 2021 (see Pundkar 2021). TYPE: “Holotype—MOH/SVP/ BRY—SPO Department of Botany, Shri. Shivaji College, Akola. Locality—Mohgaonkalan, Dist. Chhidwara, M.P., India. Horizon—Deccan Intertrappean Series of India. Age—Lower Cretaceous”.

†*Spruceanthus extinctus* (Heinrichs, Gyarmati et Schäf.-Verw.) Gradst. et Sukkharak, *Bryophyte Diversity Evol.* 43 (1): 48, 2021 (see Feldberg *et al.* 2021a). BASIONYM: *Mastigolejeunea extincta* Heinrichs, Gyarmati et Schäf.-Verw., *Rev. Palaeobot. Palynol.* 221: 62, 2015 (see Heinrichs *et al.* 2015).

Syzygiella contracta (Reinw., Blume et Nees) Gradst. et G.E.Lee, *Guide Genera Liverw. Hornw. Malaysia:* 52, 2021 (see Lee & Gradstein 2021). BASIONYM: *Jungermannia contracta* Reinw., Blume et Nees, *Nova Acta Phys.-Med. Acad. Caes. Leop.-Carol. Nat. Cur.* 12 (1): 233, 1824 (see Reinwardt *et al.* 1824).

Syzygiella flaccida (Steph.) Gradst. et G.E.Lee, *Guide Genera Liverw. Hornw. Malaysia:* 52, 2021 (see Lee & Gradstein 2021). BASIONYM: *Anastrophyllum flaccidum* Steph., *Sp. Hepat. (Stephani)* 6: 105, 1917 (see Stephani 1917).

Syzygiella flexicaulis (Nees) Gradst. et G.E.Lee, *Guide Genera Liverw. Hornw. Malaysia:* 53, 2021 (see Lee & Gradstein 2021). BASIONYM: *Jungermannia flexicaulis* Nees, *Linnaea* 6 (4): 604, 1831 (see Nees 1831).

***Syzygiella recurvata* R.M.Schust., *Nova Hedwigia Beih.* 120: 436, 2021, *nom. inval.* ICN2018 Art. 40.7; herbarium not specified (see Schuster 2021). ORIGINAL MATERIAL: “Venezuela”.

***Syzygiella revoluta* R.M.Schust., *Nova Hedwigia Beih.* 120: 442, 2021, *nom. inval.* ICN2018 Art. 40.7; herbarium not specified (see Schuster 2021). ORIGINAL MATERIAL: “Venezuela: Páramo de Mucubaji, Est. Mérida, above Laguna Grande, 3600 m. (RMS 76-832; mixed with *Mnioloma cyclostipum*)”.

***Taxilejeunea pseudocellata* R.M.Schust., *Nova Hedwigia Beih.* 120: 141, 2021, *nom. inval.* ICN2018 Art. 38.1(a); no description [possibly error for *Prionolejeunea pseudocellata*] (see Schuster 2021). ORIGINAL MATERIAL: “Venezuela: Est. Tachira, s. of Villa Paez, below Páramo de Tama, rain forest ridge below Mirador, 2774 m, on humus, RMS 76-1974b (F)”.

***Telaranea wallichiana* var. *remotifolia* (Herzog) G.E.Lee, Gradst., Pesiu et Norhazr., *PhytoKeys* 199: 73, 2022, *nom. inval.* ICN2018 Ar. 41.3; basionym not indicated (see Lee *et al.* 2022b). BASIONYM: *Lepidozia wallichiana* var. *remotifolia* Herzog, *Trans. Brit. Bryol. Soc.* 1 (4): 312, 1950 (see Herzog 1950).

Tetralophozia pusilla (Steph.) Bakalin et Vilnet, *Plants* 2022 (11,3121): 19, 2022 (see Bakalin *et al.* 2022e). BASIONYM: *Chandonanthus pusillus* Steph., *Sp. Hepat. (Stephani)* 3: 644, 1909 (see Stephani 1909).

Tetralophozia sibirica Vilnet et Bakalin, *Plants* 2022 (11,3121): 11, 2022 (see Bakalin *et al.* 2022e). TYPE: “Russia, Buryatia Republic, Khamar-Daban Range, Anosovka River Valley, Levaya Anosovka River Middle course; small narrow and wet canyon with waterfall; shady moist side of the stone (51.42925N 105.040583E), 780 m a.s.l., N.A. Konstantinova 13-24-01, 04 Aug. 2001 (KPABG102424, duplicate in VBG1)”.

†*Thysananthus aethiopicus* Bouju, K.Feldberg, Schäf.-Verw. et A.R.Schmidt, *J. Syst. Evol.* 60 (4): 935, 2021 (see Bouju *et al.* 2022). TYPE: “Holotype PB23742 (housed in NIGPAS), single sterile liverwort gametophyte (Figs. 3A–3E)”.

Triandrophyllum julaceum R.M.Schust., *Nova Hedwigia Beih.* 120: 284, 2021 (see Schuster 2021). TYPE: “(F) RMS 76-1621a Venezuela: Est. Mérida: La Fria, above Mérida, 2500 m. (in *Plagiochila bryhnii*)”.

***Trichotemnoma* J.J.Engel ex R.M.Schust. (ord.), *Nova Hedwigia Beih.* 120: 2, 2021, *nom. inval.* ICN2018 Art. 38.1(a); no description (see Schuster 2021). “TYPE”: *Trichotemnoma* R.M.Schust.

Tylimanthus hirsutus R.M.Schust., *Nova Hedwigia Beih.* 120: 496, 2021 (see Schuster 2021). TYPE: “N. Zealand: South I.; Falls Cr., Fiordland (RMS 48792; F)”.

***Tylimanthus novoguineensis* R.M.Schust., *Nova Hedwigia Beih.* 120: 503, 2021, *nom. inval.* ICN2018 Art. 40.7; herbarium not specified (see Schuster 2021). ORIGINAL MATERIAL: “New Guinea, Summit of Mt. Kaindi, 2200–2350 m., SSW of Wau (RMS 67-6362)”.

Tylimanthus sect. Pseudacrobolbus R.M.Schust., *Nova Hedwigia Beih.* 120: 494, 2021 (see Schuster 2021). TYPE: *Tylimanthus tenellus* (Taylor) Mitt.

Xylolejeunea pellucidissima (Spruce) Gradst., *Mem. New York Bot. Gard.* 121: 613, 2021 (see Gradstein 2021). BASIONYM: *Lejeunea pellucidissima* Spruce, *Trans. & Proc. Bot. Soc. Edinburgh* 15 (1): 184, 1884 (see Spruce 1884).

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References

- Akiyama, H. [秋山弘之] (2022) Morphological and ecological diversification of *Conocephalum conicum* complex in Japan and Taiwan [台湾産ジャゴケ複合種における形態と生態の多様性]. *Humans and Nature* 32: 1–45.
https://doi.org/10.24713/hitotoshizen.32.0_1
- Allorge, P. (1929) *Schedae ad Bryothecam Ibericam*, 2e série, Nos. 51-100, Espagne. Impr. de la Cour d'appel, Paris, 27 pp.
- Amakawa, T. [尼川大録] (1966) New or little known Asiatic species of the family Jungermanniaceae. II [アジア産ツボミゴケ科雑泥. II]. *Journal of the Hattori Botanical Laboratory* 29: 253–266.
- Arnell, S.W. (1962) Contribution to the knowledge of the Hepaticae of Ecuador. *Svensk Botanisk Tidskrift* 56 (2): 334–350.
- Atwood, J.J. & Mamontov, Y.S. (2021) *Frullania tibetica* (Frullaniaceae), a new species from Tibet, China. *Novon* 29: 305–310.
<https://doi.org/10.3417/2021715>
- Atwood, J., Vilnet, A.A. & Mamontov, Y.S. (2021) The taxonomic position and lectotypification of *Frullania diversitexta* Steph. (Frullaniaceae, Marchantiophyta) and its synonyms, with notes on the placement of *F. ignatovii* Sofronova, Mamontov & Potemkin. *Cryptogamie, Bryologie* 42 (3): 19–31.
<https://doi.org/10.5252/cryptogamie-bryologie2021v42a3>
- Austin, C.F. (1873) *Hepaticae boreali-americanae*. Closter, New Jersey, pp. 1–48.
- Bakalin, V.A., Choi, S.-S. & Sun, B.-Y. [Бакалин ВА, Чой С-С, Сан Б-Ю] (2009) A new species of *Tritomaria* (Lophoziaceae) from the Korean peninsula [Новый вид *Tritomaria* (Lophoziaceae) с Корейского полуострова]. *Arctoa* 18: 163–166.
<https://doi.org/10.15298/arctoa.18.09>
- Bakalin, V.A., Fedosov, V., Long, D.G., Fedorova, A. & Maltseva, Y. (2021a) *Protoharpanthus* gen. nov. (Harpanthaceae)—a relict relative of *Harpanthus* from the Sino-Himalaya. *The Bryologist* 124 (2): 218–229.
<https://doi.org/10.1639/0007-2745-124.2.218>
- Bakalin, V.A., Vilnet, A.A., Klimova, K., Ma, W.-Z., Choi, S.-S. & Hentschel, J. (2021b) Hidden in plain view: an example from *Ptilidium* (Ptilidiaceae, Marchantiophyta). *Phytotaxa* 510 (1): 29–42.

<https://doi.org/10.11646/phytotaxa.510.1.3>

- Bakalin, V.A., Maltseva, Y.D., Vilnet, A.A. & Choi, S.S. (2021c) The transfer of *Tritomaria koreana* to *Lophozia* has led to recircumscription of the genus and shown convergence in Lophoziaceae (Hepaticae). *Phytotaxa* 512 (1): 41–56.
<https://doi.org/10.11646/phytotaxa.512.1.3>
- Bakalin, V.A., Fedosov, V.E., Fedorova, A.V. & Ma, W.-C. (2021d) Obtusifoliaceae, a new family of leafy liverworts to accommodate *Konstantinovia*, newly described from the Hengduan Mts. (South China) and *Obtusifolium* (Cephaloziineae, Marchantiophyta). *Plant Systematics and Evolution* 307 (6): 1–16.
<https://doi.org/10.1007/s00606-021-01779-8>
- Bakalin, V.A., Vilnet, A.A., Long, D.G., Klimova, K., Maltseva, Y., Nguyen, V.S. & Ma, W.Z. (2022a) On two species of *Gymnomitrium* (Gymnomitriaceae, Marchantiophyta) in the Eastern Sino-Himalaya. *Phytotaxa* 533 (2): 117–136.
<https://doi.org/10.11646/phytotaxa.533.2.1>
- Bakalin, V.A., Maltseva, Y.D., Müller, F., Klimova, K.G., Nguyen, V.S., Choi, S.S. & Troitsky, A.V. (2022b) *Calypogeia* (Calypogeiaceae, Marchantiophyta) in Pacific Asia: Updates from molecular revision with particular attention to the genus in north Indochina. *Plants* 11 (7): 1–56.
<https://doi.org/10.3390/plants11070983>
- Bakalin, V.A., Vilnet, A.A., Mamontov, Yu.S., Schäfer-Verwimp, A., Maltseva, Yu.D., Klimova, K.G., Nguyen, V.S. & Choi, S.S. (2022c) *Stolonicaulon*: A section-puzzle within *Marsupella* (Gymnomitriaceae, Marchantiophyta). *Plants* 11 (12): 1–21.
<https://doi.org/10.3390/plants11121596>
- Bakalin, V.A., Maltseva, Yu.D., Klimova, K.G., Nguyen, V.S., Choi, S.S. & Troitsky, A.V. (2022d) The systematic position of puzzling Sino-Himalayan *Lophocolea sikkimensis* (Lophocoleaceae, Marchantiophyta) is identified. *PhytoKeys* 206: 1–24.
<https://doi.org/10.3897/phytokeys.206.84227>
- Bakalin, V.A., Vilnet, A.A., Maltseva, Yu.D., Klimova, K.G., Bakalin, D.A. & Choi, S.S. (2022e) Hidden diversity within *Tetralophozia filiformis* (Marchantiophyta, Anastrophyllaceae) in East Asia. *Plants* 11 (22): 1–27.
<https://doi.org/10.3390/plants11223121>
- Bouju, V., Feldberg, K., Kaasalainen, U., Schäfer-Verwimp, A., Hedenäs, L., Buck, W.R., Wang, B., Perrichot, V. & Schmidt, A.R. (2022) Miocene Ethiopian amber: A new source of fossil cryptogams. *Journal of Systematics and Evolution* 60 (4): 932–954.
<https://doi.org/10.1111/jse.12796>
- Burghardt, M. (2022) *Acrobolbus mashpianus* (Acrobolbaceae, Marchantiophyta) sp. nov. from the Northern Andes of Ecuador—Notes on the Bryophytes of Ecuador VII. *Phytotaxa* 577 (1): 133–138.
<https://doi.org/10.11646/phytotaxa.577.1.7>
- Cargill, D.C. [Каргилл ДК] (2021) *Fossombronia pseudointestinalis* (Fossombroniaceae, Marchantiophyta), a new species from Southern Australia [*Fossombronia pseudointestinalis* (Fossombroniaceae, Marchantiophyta)—новый вид из Южной Австралии]. *Arctoa* 30 (2): 175–186.
<https://doi.org/10.15298/arctoa.30.19>
- Cargill, D.C. (2022) *Riccia epecenia*: a new species of *Riccia* section *Piliferae* Volk from Australia. *Bryophyte Diversity and Evolution* 45 (1): 85–94.
<https://doi.org/10.11646/bde.45.1.6>
- Cargill, D.C. & Palsson, R. (2021) Hornworts of Australia: three new *Anthoceros* L. (Anthocerotaceae) species from New South Wales. *Telopea* 24: 325–343.
<https://doi.org/10.7751/telopea15398>
- Cargill, D.C., Beckmann, K. & Seppelt, R. (2021) Taxonomic revision of *Riccia* L. (Ricciaceae, Marchantiophyta) in the monsoon tropics of the Northern Territory, Australia. *Australian Systematic Botany* 34 (4): 336–430.
<https://doi.org/10.1071/SB20030>
- Cargill, D.C., Chantanaorrapint, S., Zhu, R.-L., Asthana, A.K., Li, L., Renzaglia, K.S. & Villarreal, J.C. (2022) Resolving relationships within the hornwort genus *Anthoceros*. *Bryophyte Diversity and Evolution* 45 (1): 26–43.
<https://doi.org/10.11646/bde.45.1.2>
- Carl, H. (1931) Die Arttypen und die systematische Gliederung der Gattung *Plagiochila* Dum. *Annales Bryologici, supplement* 2: 1–170.
- Chudiwale, A.D. (2017) A bryophytic thallus with fructification from the Deccan Intertrappean beds of India. *International Journal of Research in Biosciences, Agriculture and Technology* 5 (spec. iss. 2): 193–198.
- Costa, D.P. (2021) A new species of *Bazzania* (Lepidoziaceae, Marchantiophyta) from the Guiana Highlands of Brazil. *Systematic Botany* 46 (3): 728–731.
<https://doi.org/10.1600/036364421X16312067913354>
- Costa, D.P. & Rezende, M.A. (2022) A new species of *Harpalejeunea* (Lejeuneaceae) from upper montane forest in southeastern Brazil. *Systematic Botany* 47 (4): 899–902.

<https://doi.org/10.1600/036364422X16674053033886>

- Czernyadjeva, I.V., Potemkin, A.D. & Troeva, E.I. [Чернядьева ИВ, Потемкин АД, Троева ЕИ] (2021) Mosses and liverworts of Stolbovoy Island (New Siberian Islands Archipelago, Yakutia) [Мхи и печеночники острова Столбовой (архипелаг Новосибирские острова, Якутия)]. *Novitates Systematicae Plantarum non Vascularium* 55 (2): 439–467.
<https://doi.org/10.31111/nsnr/2021.55.2.439>
- Dai, Z., Xing, S.-C., Gradstein, S.R., Chen, X., Zhu, R.-L. & Wang, J. (2021) New species or infraspecific variation? A case study of *Ptychanthus striatus* var. *motuoensis* var. nov. (Marchantiophyta: Lejeuneaceae) from Xizang, China. *The Bryologist* 124 (4): 475–483.
<https://doi.org/10.1639/0007-2745-124.4.475>
- Daniels, A.E.D. & Daniels, D.T.T. (2022) *Riccia sarieae* (Ricciaceae: Marchantiophyta)—a new species from a fragmented hillock of the Western Ghats, India. *Phytotaxa* 554 (2): 201–205.
<https://doi.org/10.11646/phytotaxa.554.2.8>
- Dauphin, G., Cañiza, B.D. & Bastos, C.J.P. (2021) A new species of *Ceratolejeunea* (Marchantiophyta, Lejeuneaceae) from Cuba. *Nova Hedwigia* 113 (3/4): 303–309.
https://doi.org/10.1127/nova_hedwigia/2021/0662
- Deshmukh, U.B. (2021) *Pandea*, a new replacement name for *Udaria* D.K.Singh, S.Majumdar & D.Singh (Marchantiophyta, Lophocoleaceae). *Phytotaxa* 482 (3): 291–292.
<https://doi.org/10.11646/phytotaxa.482.3.7>
- Devos, N., Renner, M.A.M., Gradstein, S.R., Shaw, A.J. & Vanderpoorten, A. (2011) Molecular data challenge traditional subgeneric divisions in the leafy liverwort *Radula*. *Taxon* 60 (6): 1623–1632.
<https://doi.org/10.1002/tax.606007>
- Dey, M. & Majumdar, S. (2022) *Saccogyna darjeelingensis* (Saccogynaceae: Marchantiophyta)—a new species from Eastern Himalaya, India with a new generic record for Indian Bryoflora. *Current Science* 123 (2): 145–147.
- Engel, J.J. (1991) Studies on Geocalycaceae (Hepaticae). IV. *Lamellocolea*, a new genus of Leptoscyphoideae from New Zealand. *Journal of the Hattori Botanical Laboratory* 70: 63–78.
- Engel, J.J. (2014) Studies on Lophocoleaceae XXIII. Novelties in *Heteroscyphus* Schiffn. together with refinements in *Cryptolophocolea* L.Söderstr., Crand.-Stotl., Stotler & Váňa and *Leptoscyphus* Mitt. *Nova Hedwigia* 99 (1/2): 157–170.
<https://doi.org/10.1127/0029-5035/2014/0208>
- Engel, J.J. (2015) Studies on Lophocoleaceae. XXIV. *Chiloscyphus alpicola* J.J.Engel, an interesting new liverwort species from New Zealand together with nomenclatural changes in *Tetracymbaliella* Grolle. *Phytotaxa* 207 (2): 181–186.
<https://doi.org/10.11646/phytotaxa.207.2.4>
- Engel, J.J. [Энгел ДД] (2021) Austral Hepaticae 52. A novel species of *Pallavicinia* S. Gray from New Zealand together with a new section [Печеночники южного полушария 52. Новый вид рода *Pallavicinia* S. Gray из новой зеландии, а также и новая секция]. *Arctoa* 30 (2): 170–174.
<https://doi.org/10.15298/arctoa.30.18>
- Engel, J.J., Thouvenot, L. & Müller, F. (2021) Studies on Lophocoleaceae XXVIII. Two new and interesting species of *Heteroscyphus* Schiffn. (Marchantiophyta, Lophocoleaceae) from New Caledonia. *Nova Hedwigia* 113 (1/2): 61–73.
https://doi.org/10.1127/nova_hedwigia/2021/0634
- Feldberg, K., Gradstein, S.R., Gröhn, C., Heinrichs, J., von Konrat, M., Mamontov, Yu.S., Renner, M.A.M., Roth, M., Schäfer-Verwimp, A., Sukkharak, P. & Schmidt, A.R. (2021a) Checklist of fossil liverworts suitable for calibrating phylogenetic reconstructions. *Bryophyte Diversity and Evolution* 43 (1): 14–71.
<https://doi.org/10.11646/bde.43.1.6>
- Feldberg, K., Schäfer-Verwimp, A., Renner, M.A.M., von Konrat, M., Bechteler, J., Müller, P., Wang, Y.-D., Schneider, H. & Schmidt, A.R. (2021b) Liverworts from Cretaceous amber. *Cretaceous Research* 128: 1–21.
<https://doi.org/10.1016/j.cretres.2021.104987>
- Feldberg, K., Schäfer-Verwimp, A., Li, Y. & Renner, M.A.M. (2022) Extending the diversity of the bryoflora in Kachin amber (Myanmar), with the description of *Radula patrickmuelleri*, sp. nov. and *R. tanaiensis*, sp. nov. (Jungermanniopsida, Porellales, Radulaceae). *Fossil Record* 25 (1): 213–230.
<https://doi.org/10.3897/fr.25.82362>
- Frivoll, A.A. & Moen, A. (1980) *Lophozia borealis* sp. nov., a rich fen hepatic from Fennoscandia. *Lindbergia* 6 (2): 137–146.
- Gottsche, C.M. (1863) *De Mexikanske Levermosses*. Bianco Lunos Bogtrykkeri, Kjøbenhavn, 285 pp.
- Gradstein, S.R. (1993) New fossil Hepaticae preserved in amber of the Dominican Republic. *Nova Hedwigia* 57 (3/4): 353–374.
- Gradstein, S.R. (2021) The liverworts and hornworts of Colombia and Ecuador. *Memoirs of the New York Botanical Garden* 121: 1–723.
<https://doi.org/10.1007/978-3-030-49450-6>

- Gradstein, S.R. & Bastos, C.J.P. (2021) On the identity of *Cheilolejeunea choachina* (Marchantiophyta: Lejeuneaceae) with description of two new species of *Cheilolejeunea* from the Neotropics. *Nova Hedwigia* 112 (1/2): 75–89.
https://doi.org/10.1127/nova_hedwigia/2021/0648
- Gradstein, S.R. & Ilkiu-Borges, A.L. (2021) Two noteworthy ramicolous liverworts from Mount Roraima, Guyana: *Frullania trigona* and *Metzgeria deniseana* sp. nov. *Phytotaxa* 525 (1): 26–36.
<https://doi.org/10.11646/phytotaxa.525.1.3>
- Gradstein, S.R. & Pócs, T. (2021) Diversity of liverworts and hornworts in *Polylepis sericea* forests in the Andes of Venezuela. *Nova Hedwigia* 112 (1/2): 49–68.
https://doi.org/10.1127/nova_hedwigia/2021/0612
- Gradstein, S.R. & Reeb, C. (2022) The genus *Plagiochila* (Dumort.) Dumort. (Marchantiophyta) in Madagascar. *Cryptogamie, Bryologie* 43 (5): 65–106.
<https://doi.org/10.5252/cryptogamie-bryologie2022v43a5>
- Gradstein, S.R., Ilkiu-Borges, A.L. & Oliveira-da-Silva, F.R. (2022) The genus *Radula* Dumort. (Marchantiophyta: Radulaceae) in Madagascar, with a key to the tropical African species. *Nova Hedwigia* 115 (3–4): 349–382.
https://doi.org/10.1127/nova_hedwigia/2022/0721
- Grolle, R. (1974) Eine neue *Taxilejeunea* aus Madagaskar und Reunion. *Journal of Bryology* 8 (1): 93–96.
<https://doi.org/10.1179/jbr.1974.8.1.93>
- Grolle, R. & Meister, K. (2004) *Lophozia kutscheri*, a new hepatic (Jungermanniales) in Bitterfeld Amber from central Germany. *The Bryologist* 107: 79–81.
[https://doi.org/10.1639/0007-2745\(2004\)107\[79:LKANHJ\]2.0.CO;2](https://doi.org/10.1639/0007-2745(2004)107[79:LKANHJ]2.0.CO;2)
- Grolle, R. & Piippo, S. (1986) Bryophyte flora of the Huon Peninsula, Papua New Guinea. XVI. Pallaviciniaceae (Hepaticae). *Acta Botanica Fennica* 133: 59–79.
- Hagborg, A. & Söderström, L. (2022) Notes on Early Land Plants Today. 80. *Riccardia browniae*, a new name for *Riccardia pusilla* (Steph.) E.A.Br., *hom. illeg. Lindbergia* 45[43] (1): 1–1.
<https://doi.org/10.25227/linbg.01152>
- Han, L., Yang, T., Wang, H.-J., Cai, J.-H., Liang, W.-L., Bao, L., Chen, H.-Y., Zhang, L., Li, W.-J. & Yan, D.-F. (2022) Liverwort fossils from the Late Triassic of Baiyin City, Gansu Province, and their geological significance. *Palaeoworld* 31 (3): 443–454.
<https://doi.org/10.1016/j.palwor.2021.09.009>
- Hässel de Menéndez, G.G. (2000) *Parachiloscyphus* Hässel, a new subgenus of *Chiloscyphus* Corda (Hepatophyta) from southern South America, including a new species. *Nova Hedwigia* 70 (3/4): 451–460.
<https://doi.org/10.1127/nova.hedwigia/70/2000/451>
- Hatcher, R.E. (1960) A monograph of the genus *Isotachis*. *Nova Hedwigia* 2 (4): 573–608.
- Hattori, S. [服部新佐] (1944) Contributio ad floram hepaticarum austro-kiushiuensem. *Bulletin of the Tokyo Science Museum* 11: 1–203.
- Heinrichs, J., Kettunen, E., Lee, G.E., Marzaro, G., Pócs, T., Ragazzi, E., Renner, M.A.M., Rikkinen, J., Sass-Gyarmati, A., Schäfer-Verwimp, A., Scheben, A., Solórzano Kraemer, M.M., Svojtka, M. & Schmidt, A. (2015) Lejeuneaceae (Marchantiophyta) from a species-rich taphocoenosis in Miocene Mexican amber, with a review of liverworts fossilised in amber. *Review of Palaeobotany and Palynology* 221: 59–70.
<https://doi.org/10.1016/j.revpalbo.2015.05.007>
- Herzog, T. (1950) Hepaticae borneenses (Oxford University expeditions to Sarawak, 1932). *Transactions of the British Bryological Society* 1 (4): 275–326.
<https://doi.org/10.1179/006813850804878680>
- Herzog, T. (1955) Hepaticae aus Columbia und Peru. *Feddes Repertorium Specierum Novarum Regni Vegetabilis* 57 (1/2): 156–203.
<https://doi.org/10.1002/fedr.4880570105>
- Hodgetts, N.G., Ameka, G., Agyei, R. & Dankwah, C. (2021) Additions and corrections to the bryophyte flora of Ghana, including a new species of *Cololejeunea* (Spruce) Schiffn. (Lejeuneaceae, Marchantiophyta). *Journal of Bryology* 43 (3): 251–258.
<https://doi.org/10.1080/03736687.2021.1921464>
- Hooker, J.D. (1867) *Handbook of the New Zealand flora, part II*. Reeve & Co., London, pp. 393–798.
<https://doi.org/10.5962/bhl.title.132966>
- Hooker, J.D. & Taylor, T. (1844) Hepaticae Novae-Zelandiae et Tasmaniae. III. Species of New Zealand. *London Journal of Botany* 3: 556–577.
- Hornemann, J.W. (1830) *Flora Danica vol. 12 heft 34 (tab. MDCCCCLXXXI–MMXL)*. E. A. H. Mölleri Aulæ Regiæ & Universitatis Typographi, Haunie [Copenhagen], pp. 1–14.
- Inoue, H. (1965) Contributions to the knowledge of the Plagiochilaceae of southeastern Asia. VII. Synopsis of *Plagiochila* Dum. in the

- Himalayan region. *Bulletin of the National Science Museum, Tokyo (n.ser.)* 8 (3): 375–403.
- Inoue, H. (1975) Notes on the Plagiochilaceae, IV. Sectio Caducilobae (sect. nov.) of the genus *Plagiochila* Dum. *Journal of the Hattori Botanical Laboratory* 39: 339–343.
- Kamimura, M. [上村登] (1961) A monograph of Japanese Frullaniaceae [日本産ヤスデゴケ科モノグラフ]. *Journal of the Hattori Botanical Laboratory* 24: 1–109.
- Khursel, A.S. & Narkhede, S.D. (2017) Report of a new petrified bryophytic thallus from the Deccan Intertrappean beds of Mohgaonkalan, M.P, India. *International Journal of Research in Biosciences, Agriculture and Technology* 5 (spec. iss. 2): 1197–1201.
<https://doi.org/10.20546/ijcmas.2016.504.057>
- Konstantinova, N.A., Vilnet, A.A., Long, D.G., Mamontov, Yu.S. & Lockhart, N. (2021a) An integrative approach to the study of *Moerckia* (Marchantiopsida: Moerckiaceae), with description of a new genus, *Pseudomoerckia*, and new family, Pseudomoerckiaceae. *Journal of Bryology* 43 (2): 99–114.
<https://doi.org/10.1080/03736687.2021.1919832>
- Konstantinova, N.A., Long, D.G., Mamontov, Yu.S. & Vilnet, A.A. [Константинова НА, Лонг ДГ, Мамонтов ЮС, Вильнет АА] (2021b) *Gymnomitrium schusteranum* (Gymnomitriaceae), a new species from the Sino-Himalaya [*Gymnomitrium schusteranum* (Gymnomitriaceae)—новый вид из Сино-Гималайского региона]. *Arctoa* 30 (2): 149–158.
<https://doi.org/10.15298/arctoa.30.16>
- Konstantinova, N.A., Vilnet, A.A. & Mamontov, Yu.S. [Константинова НА, Вильнет АА, Мамонтов ЮС] (2022) How many taxa are in the genus *Saccobasis* H. Buch? Evidence from integrative taxonomy [Род *Saccobasis* H. Buch, неожиданный результат интегративного изучения]. *Arctoa* 31 (2): 166–180.
<https://doi.org/10.15298/arctoa.31.18>
- Lee, G.E. & Gradstein, S.R. (2021) *Guide to the genera of liverworts and hornworts of Malaysia*. Hattori Botanical Laboratory, Nichinan, 233 pp.
- Lee, G.E. & Pócs, T. (2021) *Lejeunea masamiana* (Lejeuneaceae), a new liverwort species from Indonesian New Guinea. *Hattoria* 12: 1–7.
- Lee, G.E., Pócs, T., Söderström, L., Hagborg, A. & von Konrat, M. (2022a) Notes on Early Land Plants Today. 79 Transfer of African *Taxilejeunea* to *Lejeunea* (Lejeuneaceae, Marchantiophyta). *Lindbergia* 45[43] (1): 1–2.
<https://doi.org/10.25227/linbg.01151>
- Lee, G.E., Gradstein, S.R., Pesiu, E. & Norhazrina, N. (2022b) An updated checklist of liverworts and hornworts of Malaysia. *PhytoKeys* 199: 29–111.
<https://doi.org/10.3897/phytokeys.199.76693>
- Lee, G.E., Bechteler, J., Pócs, T., Schäfer-Verwimp, A., Tang, H.Y. & Chia, P.W. (2022c) Integrative taxonomy reveals a new species of the genus *Lejeunea* (Marchantiophyta: Lejeuneaceae) from peninsular Malaysia. *Plants* 11 (13): 1–12.
<https://doi.org/10.3390/plants11131642>
- Lievier, E. (1906) Muscinee raccolte nello Schen-Si (Cina) dal Rev. Guiseppe Giraldi (continuazione e fine). *Nuovo Giornale Botanico Italiano (n.ser.)* 13 (4): 347–356.
- Li, R.-Y., Li, X.-Q., Wang, X.-L. & Sun, B.-N. (2021a) First fossil liverwort with in situ flask-shaped receptacles from the Lower Cretaceous of Inner Mongolia, China. *Cretaceous Research* 119: 1–6.
<https://doi.org/10.1016/j.cretres.2020.104684>
- Li, Y., Wang, Y.-D., Feldberg, K., Wang, Q. & Yang, X.-J. (2021b) A new leafy liverwort of *Frullania* (Frullaniaceae, Porellales) from the mid-Cretaceous Kachin amber, Myanmar. *Geological Journal* 56 (10): 5046–5057.
<https://doi.org/10.1002/gj.4222>
- Lindberg, S.O. (1875) Hepaticae in Hibernia mense Julii 1873 lectae. *Acta Societatis Scientiarum Fennicae* 10: 465–559.
<https://doi.org/10.5962/bhl.title.115604>
- Lindenberg, J.B.G. (1844) *Monographia hepaticarum generis Plagiochilae*. Henry & Cohen, Bonn, pp. 1–29.
- Long, D.G. (1999) Studies on the genus *Asterella*. IV. *Asterella grollei* sp. nov., a new species from eastern Asia related to the American *A. palmeri*. *The Bryologist* 102 (2): 169–178.
<https://doi.org/10.2307/3244357>
- Long, D.G. & Crandall-Stotler, B.J. (2020) *Marchantia platycarpa* (Marchantiopsida, Marchantiaceae), a new species from China. *Nova Hedwigia Beiheft* 150: 109–116.
<https://doi.org/10.1127/nova-suppl/2020/109>
- Mamontov, Yu.S. [Мамонтов ЮС] (2022a) *Andrewsianthus australis* var. *verrucosus* var. nov. (Lophoziaceae, Marchantiophyta) from Chile [*Andrewsianthus australis* var. *verrucosus* var. nov. (Lophoziaceae, Marchantiophyta) из Чили]. *Arctoa* 31 (2): 181–184.
<https://doi.org/10.15298/arctoa.31.19>
- Mamontov, Yu.S. [Мамонтов ЮС] (2022b) A new species of *Cephaloziella* (Cephaloziellaceae, Marchantiophyta) from Chile [Новый

- вид *Cephaloziella* (Cephaloziellaceae, Marchantiophyta) из Чили]. *Arctoa* 31 (2): 124–127.
<https://doi.org/10.15298/arctoa.31.13>
- Mamontov, Yu., Vilnet, A.A. & Schäfer-Verwimp, A. [Мамонтов ЮС, Вильнет АА, Шефер-Фервимп А] (2021) On the taxonomy of the subfamilies Pallavicinoideae and Podomitroideae of the family Pallaviciniaceae (Marchantiophyta) [К таксономии подсемейств Pallavicinoideae и Podomitroideae семейства Pallaviciniaceae (Marchantiophyta)]. *Arctoa* 30 (2): 159–169.
<https://doi.org/10.15298/arctoa.30.17>
- Manju, C.N., Chandini, V.K., Singh, S.K. & Rajesh, K.P. (2021) A new species of *Riccia* (Ricciaceae: Marchantiophyta) from the Western Ghats of Kerala. *The Bryologist* 124 (3): 376–384.
<https://doi.org/10.1639/0007-2745-124.3.376>
- Martins, A., Garcia, C., Patiño, J. & Sim-Sim, M. (2023) *Exormotheca martins-loussaoae* (Exormothecaceae, Hepaticae), a new species from Cape Verde. *Plant Biosystems* 157 (2): 294–300.
<https://doi.org/10.1080/11263504.2022.2100504>
- Massalongo, C. (1885) Epatiche raccolte alla Tierra del Fuoco. *Nuovo Giornale Botanico Italiano* 17 (3): 201–277.
- Mitten, W. (1851) Catalogue of cryptogamic plants collected by Professor W. Jameson in the vicinity of Quito (conclusion). *Hooker's Journal of Botany and Kew Gardens Miscellany* 3: 351–361.
- Mitten, W. (1862) Musci et Hepaticae vitienses. *Bonplandia* 10 (2): 19.
- Mizutani, M. [水谷正美] (1970) Lejeuneaceae, subfamilies Lejeuneoideae and Cololejeuneoideae, from Sabah (North Borneo) [サハ (北ボルネオ) のクサリゴケ科. クサリゴケ亜科及びヒメクサリゴケ亜科]. *Journal of the Hattori Botanical Laboratory* 33: 225–265.
- Montagne, J.F.C. (1844) Diagnoses muscorum quorundam javanicorum. *London Journal of Botany* 3: 632–634.
- Montagne, J.F.C. (1856) Huitième centurie de plantes cellulaires nouvelles tant indigènes qu'exotiques, décades I à III. *Annales des Sciences Naturelles, Botanique (sér. 4)* 6: 179–199.
- Morales, M.I. & Dauphin, G. (1998) A new species of *Cololejeunea* (Lejeuneaceae: Cololejeuneoideae) from Panama. *Tropical Bryology* 14: 133–136.
<https://doi.org/10.11646/BDE.14.1.16>
- Müller, F. (2022) *Pallavicinia ouinensis* (Pallaviciniaceae, Marchantiophyta), a new species from New Caledonia. *Nova Hedwigia* 115 (3–4): 383–391.
https://doi.org/10.1127/nova_hedwigia/2022/0710
- Müller, F. & Thouvenot, L. (2021) *Chiastocaulon raetzeli* (Marchantiophyta, Plagiochilaceae), a new species from New Caledonia. *Phytotaxa* 521 (4): 237–243.
<https://doi.org/10.11646/phytotaxa.521.4.1>
- Nees, C.G. (1831) Berichtigungen zur Enumeratio plantarum cryptogamicarum Javae. *Linnaea* 6 (4): 602–623.
- Nees von Esenbeck, C.G. (1838) *Naturgeschichte der Europäischen Lebermoose, vol. 3*. Grass, Barth & Co., Breslau, 593 pp.
- Oliveira-da-Silva, F.R., Gradstein, S.R., Viana, P.L., Schaefer, C.E.G.R. & Ilkiu-Borges, A.L. (2022a) Bryophytes from Uei tepui (Serra do Sol), with liverworts new to Brazil and the description of *Leptoscyphus incisus* sp. nov. [Des bryophytes d'Uei tepui (Serra do Sol), avec des hépatiques nouvelles pour le Brésil et description de *Leptoscyphus incisus* sp. nov.]. *Cryptogamie, Bryologie* 43 (4): 51–64.
<https://doi.org/10.5252/cryptogamie-bryologie2022v43a4>
- Oliveira-da-Silva, F.R., Ilkiu-Borges, A.L. & Gradstein, S.R. (2022b) Two new Neotropical taxa of *Radula* Dumort. (Marchantiophyta: Radulaceae) with bordered leaves. *Phytotaxa* 564 (1): 95–103.
<https://doi.org/10.11646/phytotaxa.564.1.7>
- Özenoğlu, H. & Kırmacı, M. (2022) *Riccia anatolica* sp. nov. a new liverwort (Ricciaceae) species from Turkey. *Phytotaxa* 532 (1): 78–84.
<https://doi.org/10.11646/phytotaxa.532.1.6>
- Pócs, T. (2001a) East African bryophytes, XVI. New taxa of Lejeuneoideae (Lejeuneaceae) collected in Manongarivo Special Reserve, NW Madagascar [Bryophytes Est-Africains, XVI. Nouveaux taxons des Lejeuneoideae (Lejeuneaceae) collectés dans la Réserve Spéciale de Manongarivo, Nord-Ouest de Madagascar]. *Candollea* 56 (1): 69–78.
- Pócs, T. (2021b) Notes on the bryophytes of Madagascar 3. Six new Lejeuneaceae species. *Cryptogamie, Bryologie* 42 (8): 129–131.
<https://doi.org/10.5252/cryptogamie-bryologie2021v42a8>
- Pócs, T. (2021c) The African species of *Drepanolejeunea vesiculosa* group with description of *Drepanolejeunea vanderpoorteni* spec. nova (Jungermanniopsida) from Madagascar. *Acta Botanica Hungarica* 63 (1/2): 195–212.
<https://doi.org/10.1556/034.63.2021.1-2.11>
- Pócs, T. (2021d) New or little-known epiphyllous liverworts, XXIV. A collection made in the Venezuelan Guayana at the foot of Salto Angel with description of *Cololejeunea bencei*. *Acta Botanica Hungarica* 63 (3/4): 417–426.

<https://doi.org/10.1556/034.63.2021.3-4.11>

- Pócs, T. & Renner, M.A.M. (2021) Contribution to the bryoflora of Australia, V. *Radula tonitrua* sp. nov. from Queensland. *Telopea* 24: 189–201.
<https://doi.org/10.7751/telopea14918>
- Potemkin, A.D. [Потёмкин АД] (1990) The genus *Tritomaria* (Lophoziaceae, Hepaticae) in Yamal [Род *Tritomaria* (Lophoziaceae, Hepaticae) на Ямале]. *Botanicheskij Zhurnal* 75 (12): 1742–1753.
- Potemkin, A.D. [Потёмкин АД] (1993) The Hepaticae of the Yamal Peninsula, West Siberian Arctic [Печеночники Полуострова Ямал, Западносибирская Арктика]. *Arctoa* 2: 57–101.
<https://doi.org/10.15298/arctoa.02.04>
- Potemkin, A.D. & Vilnet, A.A. [Потемкин АД, Вильнет АА] (2021) Reappraisal of *Gymnocolea* and description of a new genus *Rudolgaea* (Anastrophyllaceae, Marchantiophyta) [Пересмотр рода *Gymnocolea* и описание нового рода *Rudolgaea* (Anastrophyllaceae, Marchantiophyta)]. *Arctoa* 30 (2): 138–148.
<https://doi.org/10.15298/arctoa.30.15>
- Potemkin, A.D., Bakalín, V.A., Vilnet, A.A., Klimova, K.G. & Kuzmina, E.Yu. (2021) A survey of the section *Scapania* of the genus *Scapania* (Scapaniaceae) with description of new species *Scapania pseudouliginosa* and resurrection of *S. gigantea*. *The Bryologist* 124 (4): 569–589.
<https://doi.org/10.1639/0007-2745-124.4.569>
- Potemkin, A.D., Vilnet, A.A. & Mamontov, Yu.S. [Потемкин АД, Вильнет АА, Мамонтов ЮС] (2022) *Gymnomitrium blankae* (Marchantiophyta), a new species from Yunnan province, China [*Gymnomitrium blankae* (Marchantiophyta)—новый вид из китайской провинции Юньнань]. *Arctoa* 31 (2): 111–123.
<https://doi.org/10.15298/arctoa.31.12>
- Prado, M.L.M. & Ilkiu-Borges, A.L. (2021) A taxonomic revision of the genus *Cyclolejeunea* (Marchantiophyta: Lejeuneaceae). *Nova Hedwigia* 113 (1/2): 91–138.
https://doi.org/10.1127/nova_hedwigia/2021/0650
- Pundkar, S.V. (2021) A new sporophyte from the Deccan Intertrappean beds of central India. *International Journal of Advanced and Innovative Research* 8 (4): 25–30.
- Reinwardt, C.G.C., Blume, C.L. & Nees von Esenbeck, C.G. (1824) Hepaticae iavanicae. *Nova Acta Physico-Medica Academiae Caesareae Leopoldino-Carolinae Naturae Curiosorum* 12 (1): 181–238.
- Renner, M.A.M. (2020) *Cololejeunea reniformis*, a new species from the Wet Tropics of Queensland, Australia (Lejeuneaceae: Marchantiophyta). *Telopea* 23: 181–186.
<https://doi.org/10.7751/telopea14760>
- Renner, M.A.M. (2022) Validation of *Riccardia pseudodendroceros* R.M.Schust. ex M.A.M.Renner (Aneuraceae: Marchantiophyta). *Telopea* 25: 353–354.
<https://doi.org/10.7751/telopea17075>
- Renner, M.A.M., De Lange, P.J. & Glenn, D.S. [Реннер МАМ, Де Ланге ПД, Гленни ДС] (2021) A synopsis of Aotearoa/New Zealand *Lejeunea* (Lejeuneaceae: Jungermanniopsida) and new species in the *Lejeunea epiphylla* Colenso complex [Обзор рода *Lejeunea* (Lejeuneaceae: Jungermanniopsida) в Аотеароа/Новой Зеландии, с новыми видами из комплекса *Lejeunea epiphylla* Colenso]. *Arctoa* 30 (2): 187–212.
<https://doi.org/10.15298/arctoa.30.20>
- Renner, M.A.M., Gradstein, S.R., Ilkiu-Borges, A.L., Oliveira-da-Silva, F.R. & Promma, C. (2022) Molecular and morphological evidence support the recognition of three genera within Radulaceae (Porellales: Marchantiophyta). *Bryophyte Diversity and Evolution* 45 (1): 95–118.
<https://doi.org/10.11646/bde.45.1.7>
- Santos, A.A., Sender, L.M., Piñuela, L., García-Ramos, J.C. & Diez, J.B. (2022) First evidence of Ricciaceae in the Jurassic of the Iberian Peninsula (Asturias, NW Spain): *Ricciopsis asturicus* sp. nov. *Botany Letters* 169 (4): 557–567.
<https://doi.org/10.1080/23818107.2022.2124452>
- Sass-Gyarmati, A. & Pócs, T. (2021) A new taxon of *Bazzania* (Lepidoziaceae) collected in Manongarivo Special Reserve, NW Madagascar. *Frahmia* 24: 1–5.
- Sass-Gyarmati, A. & Reeb, C. (2021) The present status of *Bazzania curvidens* Steph. (Lepidoziaceae). *Acta Biologica Plantarum Agriensis* 9 (1): 32–35.
<https://doi.org/10.21406/abpa.2021.9.1.32>
- Savoretti, M.A., Bodnar, J., Coturel, E.P. & Beltrán, M. (2022) Fossil bryophytes from the middle triassic Sorocayense group, San Juan province, central-western Argentina [Briofitas fósiles del grupo Sorocayense (triásico medio), provincia San Juan, centro-oeste de Argentina]. *Ameghiniana* 59 (3): 179–200.

<https://doi.org/10.5710/AMGH.26.02.2022.3469>

- Schäfer-Verwimp, A. & Winter, G. (2022) *Frullania azureomontana*—a new species from Jamaica (Marchantiophyta: Frullaniaceae). *Frahmia* 30: 1–12.
- Schiffner, V. (1900) *Die Hepaticae der Flora von Buitenzorg. I. Band*. E. J. Brill, Leiden, 220 pp.
- Schuster, R.M. (1963) Studies on antipodal Hepaticae. I. Annotated keys to the genera of antipodal Hepaticae with special reference to New Zealand and Tasmania [南半球産苔類の研究. I. 南半球産苔類のキイと説明, 特にニュージーランドとクスマニアについて]. *Journal of the Hattori Botanical Laboratory* 26: 185–309.
- Schuster, R.M. (1966) Studies on Hepaticae, VII–X. On *Adelanthus* Mitten and *Calyptrocolea* Schuster, gen. n. *Revue Bryologique et Lichénologique* 34 (3/4): 676–703.
- Schuster, R.M. (1969) *The Hepaticae and Anthocerotae of North America. II*. Columbia University Press, New York, 1062 pp.
- Schuster, R.M. (1980) *The Hepaticae and Anthocerotae of North America. IV*. Columbia University Press, New York, 1334 pp.
- Schuster, R.M. (1985) Austral Hepaticae. XIX. Some taxa new to New Zealand and New Caledonia. *Phytologia* 56 (7): 449–464.
- Schuster, R.M. (1991) Diagnoses of new taxa of Hepaticae. I. Jungermanniidae. *Journal of the Hattori Botanical Laboratory* 70: 143–150.
- Schuster, R.M. (2021) Austral Hepaticae III. *Nova Hedwigia Beiheft* 120: 1–721.
- Schuster, R.M. & Engel, J.J. (1981) Austral Hepaticae. XIII. Two new genera of Geocalyceaceae (Lophocoleaceae). *Phytologia* 47 (4): 309–312.
<https://doi.org/10.5962/bhl.part.4458>
- Segarra-Moragues, J.G., Puche, F., Sabovljević, M.S., Infante, M. & Heras, P. (2022) Integrative taxonomy of the model liverwort *Riella helicophylla* (Riellaceae, Sphaerocarpaceae) reveals its extreme rarity and an overlooked widespread new species, *R. macrocarpa*. *Taxon* 71 (3): 506–530.
<https://doi.org/10.1002/tax.12682>
- Shu, L., Jin, X.-J. & Zhu, R.-L. (2022) Novel classification and biogeography of *Leptolejeunea* (Lejeuneaceae, Marchantiophyta) with implications for the origin and evolution of the Asian evergreen broad-leaved forests. *Journal of Systematics and Evolution* 60 (5): 1199–1217.
<https://doi.org/10.1111/jse.12798>
- Sierra, A.M., Bastos, C.J.P. & Zartman, C.E. (2021) Two new species of *Ceratolejeunea* (Lejeuneaceae) and five noteworthy records for Brazil. *Bryophyte Diversity and Evolution* 44 (1): 12–21.
<https://doi.org/10.11646/bde.44.1.2>
- Sim, T.R. (1926) The bryophyta of South Africa. *Transactions of the Royal Society of South Africa* 15 (1): 1–475.
<https://doi.org/10.1080/00359192609519311>
- Singh, D.K., Majumdar, S. & Singh, D. (2018) *Udaria*—a new liverwort genus of Lophocoleaceae from Eastern Himalaya, India. *Current Science* 115 (8): 1536–1542.
<https://doi.org/10.18520/cs/v115/i8/1536-1542>
- Söderström, L., Hagborg, A., von Konrat, M.J. & Crosby, M.R. (2012) Early Land Plants Today: Index of liverworts and hornworts 2009–2010. *Phytotaxa* 63 (1): 21–68.
<https://doi.org/10.11646/phytotaxa.63.1.2>
- Söderström, L., Hagborg, A. & von Konrat, M. (2018) Early Land Plants Today: Index of Liverworts & Hornworts 2015–2016. *Phytotaxa* 350 (2): 101–134.
<https://doi.org/10.11646/phytotaxa.440.1.1>
- Söderström, L., Hagborg, A. & von Konrat, M. (2020) Early Land Plants Today. Index of liverwort and hornwort names published 2017–2018. *Phytotaxa* 440 (1): 1–24.
<https://doi.org/10.11646/phytotaxa.440.1.1>
- Söderström, L., Hagborg, A. & von Konrat, M. (2022a). Early Land Plants Today: Index of liverwort and hornwort names published 2019–2020. *Phytotaxa* 542 (1): 1–23.
<https://doi.org/10.11646/phytotaxa.542.1.1>
- Söderström, L., Hagborg, A. & von Konrat, M. (2022b) Notes on Early Land Plants Today. 77. *Lophocolea alpicola* (J.J.Engel) comb. nov. *Lindbergia* 45[43] (1): 1–1.
<https://doi.org/10.25227/linbg.01155>
- Spruce, R. (1849c) The Musci and Hepaticae of the Pyrenees (cont.). *Annals and Magazine of Natural History (ser. 2)* 3 (18): 478–503.
<https://doi.org/10.1080/03745485909495644>
- Spruce, R. (1884) Hepaticae amazonicae et andinae. I. *Transactions and Proceedings of the Botanical Society of Edinburgh* 15 (1): 1–308.
- Spruce, R. (1885) Hepaticae amazonicae et andinae. II. *Transactions and Proceedings of the Botanical Society of Edinburgh* 15: 309–

588.

<https://doi.org/10.1080/03746608409468150>

- Stephani, F. (1884) Die Gattung *Radula* (Fortsetzung). *Hedwigia* 23 (10): 145–159.
- Stephani, F. (1891) Hepaticae (In: Renauld F, Cardot J, Musci exotici novi vel minus cogniti. II). *Bulletin de la Société Royale de Botanique de Belgique* 30 (2): 194–207.
- Stephani, F. (1893) Hepaticarum species novae IV. *Hedwigia* 32 (5): 315–327.
- Stephani, F. (1896) Hepaticarum species novae IX. *Hedwigia* 35 (3): 73–140.
- Stephani, F. (1897) Hepaticae japonicae. *Bulletin de l'Herbier Boissier* 5 (2): 76–108.
- Stephani, F. (1905a) Species hepaticarum 3. *Bulletin de l'Herbier Boissier (sér. 2)* 5 (12): 1129–1144.
<https://doi.org/10.5962/bhl.title.95494>
- Stephani, F. (1905b) Hepaticae amazonicae ab Ernesto Ule collectae. *Hedwigia* 44 (4): 223–229.
- Stephani, F. (1906) Species hepaticarum 3. *Bulletin de l'Herbier Boissier (sér. 2)* 6 (10): 872–889.
<https://doi.org/10.5962/bhl.title.95494>
- Stephani, F. (1909) *Species hepaticarum* 3. George & Cie, Genève & Bale, pp. 517–693.
<https://doi.org/10.5962/bhl.title.95494>
- Stephani, F. (1910) *Species hepaticarum* 4. George & Cie, Genève & Bale, pp. 97–448.
<https://doi.org/10.5962/bhl.title.95494>
- Stephani, F. (1912) *Species hepaticarum* 5. George & Cie, Genève & Bale, pp. 1–176.
<https://doi.org/10.5962/bhl.title.95494>
- Stephani, F. (1917) *Species hepaticarum* 6. George & Cie, Genève & Bale, pp. 1–128.
<https://doi.org/10.5962/bhl.title.95494>
- Stephani, F. (1922) *Species hepaticarum* 6. George & Cie, Genève & Bale, pp. 241–368.
<https://doi.org/10.5962/bhl.title.95494>
- Stephani, F. (1923) *Species hepaticarum* 6. George & Cie, Genève & Bale, pp. 369–432.
<https://doi.org/10.5962/bhl.title.95494>
- Stephani, F. & Watts, W.W. (1914) Hepaticae australes. *Journal and Proceedings of the Royal Society of New South Wales* 48 (1/2): 94–135.
<https://doi.org/10.5962/p.219444>
- Taylor, T. (1846) New Hepaticae. *London Journal of Botany* 5: 258–284.
- Thouvenot, L. (2021a) *Schistochila gradsteinii* sp. nov., a new species from New Caledonia related to *S. vitreocincta* (Schistochilaceae, Marchantiophyta), with a key to the local species and a description of the gynoeceum of *S. integerrima* [*Schistochila gradsteinii* sp. nov., une nouvelle espèce néocalédonienne apparentée à *S. vitreocincta* (Schistochilaceae, Marchantiophyta), avec une clé des espèces locales et une description du gynoeceum de *S. integerrima*]. *Cryptogamie, Bryologie* 42 (2): 11–18.
<https://doi.org/10.5252/cryptogamie-bryologie2021v42a2>
- Thouvenot, L. (2021b) A new species of *Nowellia* Mitt. (Marchantiophyta, Cephaloziaceae) discovered in New Caledonia [Une nouvelle espèce de *Nowellia* Mitt. (Marchantiophyta, Cephaloziaceae) découverte en Nouvelle-Calédonie]. *Cryptogamie, Bryologie* 42 (10): 149–153.
<https://doi.org/10.5252/cryptogamie-bryologie2021v42a10>
- Thouvenot, L. & Engel, J.J. (2021) Studies on Lophocoleaceae XXVII. A new species of *Heteroscyphus* Schiffn. (Marchantiophyta, Lophocoleaceae) from New Caledonia. *Nova Hedwigia* 112 (1/2): 165–171.
https://doi.org/10.1127/nova_hedwigia/2021/0613
- Thouvenot, L. & Gradstein, S.R. (2021) A new species of *Pycnolejeunea* (Lejeuneaceae, Marchantiophyta) from New Caledonia. *Nova Hedwigia* 112 (3/4): 375–382.
https://doi.org/10.1127/nova_hedwigia/2021/0625
- Turland, N.J., Wiersema, J.H., Barrie, F.R., Greuter, W., Hawksworth, D.L., Herendeen, P.S., Knapp, S., Kusber, W.-H., Li, D.-Z., Marhold, K., May, T.W., McNeill, J., Monro, A.M., Prado, J., Price, M.J. & Smith, G.F. (2018) International Code of Nomenclature for algae, fungi, and plants (Shenzhen Code). *Regnum Vegetabile* 159: 1–254.
<https://doi.org/10.12705/Code.2018>
- Warnstorff, C. (1917) Die europäischen Artengruppen der Gattung *Calypogeia* Raddi (1820). *Bryologische Zeitschrift* 1 (7): 97–114.
- Weber, F. (1815) *Historiae muscorum hepaticarum prodromus*. Aug. Hesse, Academiae bibliopolae, Kiel, 160 pp.
- Xiang, Y.-L., Zhang, Z.-X., Chen, S.-W., Yu, J.-P., Huang, W.-Z., Shen, C. & Zhu, R.-L. (2022a) Morphological and molecular evidence confirms a new species, *Riccia subcrinita* You L.Xiang & R.L.Zhu and *Riccia junghuhniana* Nees & Lindenb. (Ricciaceae, Marchantiophyta) new to China. *Phytotaxa* 531 (1): 41–53.
<https://doi.org/10.11646/phytotaxa.531.1.3>

- Xiang, Y.-L., Jin, X.-J., Shen, C., Cheng, X.-F., Shu, L. & Zhu, R.-L. (2022b) New insights into the phylogeny of the complex thalloid liverworts (Marchantiopsida) based on chloroplast genomes. *Cladistics* 38 (6): 649–662.
<https://doi.org/10.1111/cla.12513>
- Ye, W. & Wei, Y.-M. (2021) *Gaolejeunea hoi* (Lejeuneaceae), a new species and generic record from Singapore. *The Bryologist* 124 (4): 600–604.
<https://doi.org/10.1639/0007-2745-124.4.600>
- Zhang, L.-N., Promma, C., Shu, L., Wei, Y.-M., Wang, J., Do, T.V., Lu, T.N. & Zhu, R.-L. (2021) *Radula subacuminata*, a new epiphyllous species of *Radula* (Marchantiophyta) from China and Vietnam. *The Bryologist* 124 (2): 257–270.
<https://doi.org/10.1639/0007-2745-124.2.257>
- Zheng, T.X. & Shimamura, M. (2022a) Taxonomic reevaluation of the Japanese *Marchantia* taxa belonging to sect. *Papillatae* of subg. *Chlamidium* (Marchantiaceae). *The Bryologist* 125 (1): 135–147.
<https://doi.org/10.1639/0007-2745-125.1.135>
- Zheng, T.X. & Shimamura, M. (2022b) Taxonomic revision of the genus *Marchantia* (Marchantiaceae) in Japan and the redefinition of the genus. *Hattoria* 13: 33–77.