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New Check-list of the *Hepaticae* and *Anthocerotae* of Italy

Abstract

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This check-list of the *Hepaticae* and *Anthocerotae* of Italy (including Sicily and Sardinia) comprises 289 species, 3 subspecies, and 8 varieties, representing 86 genera and 42 families; it also includes a list of excluded and doubtful species, and a list of synonyms. The main list includes tabular distributional data, by region, based partly on literature records and mostly on herbarium material, especially for rare and doubtful species; it differentiates between reports before 1950 and reports since 1950, based on more recently published information when useful. Critical notes on distributional and taxonomical problems are included.

Introduction

During the last decade, Italian and foreign bryologists have devoted increased effort to more detailed investigations of the Italian territories (Aleffi & al. 2005). As a consequence, they have revealed new localities for the species reported in the previous check-list (Aleffi & Schumacker 1995), as well as new species for Italy.

The current publication provides the complete list of the *Hepaticae* and *Antocerotae* known to date in Italian territory, defined by its current political borders, citing a total of 288 species, 3 subspecies and 8 varieties representing 86 genera and 42 families.

Increasing interest in Bryophyte taxonomy and chorology, especially in terms of biodiversity conservation, has prompted the preparation of an updated and corrected check-list. In this new edition, 9 new species are reported, some of which were previously included among the uncertain (several species from Sardinia) or excluded *taxa*, but subsequently have been reconsidered based on recent research or taxonomic revisions.

The present check-list is based on information gleaned from the literature, from studies and revisions of bryological collections in various Italian and foreign institutional or private Herbaria (in particular for species from taxonomically difficult genera or groups of species of doubtful occurrence), and from the authors' recent observations and reports as well as those of numerous European bryologists.

Regional distribution is reported for each *taxon*; the tabular representation follows that of the previous edition of the check-list. The Italian regions are arranged from north to south (Fig. 1) and are designed by the following abbreviations:

N.B.: The reports for the Republic of San Marino are listed under the Emilia-Romagna region (EMR).

Each report uses the following symbols:

- reports before 1950
- reports since 1950
- ? dubious reports

With a few exceptions, nomenclature follows Grolle & Long (2000) and Schumacker & Váňa (2000). Patronym abbreviations follow Brummit & Powell (1992).

The check-list also provides critical notes on some important misidentifications, nomenclatural and taxonomical problems, and species for which only one report is known.

Species to be considered absent from the Italian flora, either due to revision of herbarium specimens or because of their ecology, have been listed alphabetically in an appendix. A second appendix lists taxonomically unclear binomials and species of doubtful ecology and chorology for which herbarium specimens could not be traced and checked. The bibliographic source has been cited for each of these species. The check-list is also supplemented by a lists of synonyms.

Finally, an exhaustive liverwort bibliography of the last decade completes the work (every citation indicates, in square brackets, the region to which it refers).

The present new check-list aspires to offer a notable contribution to the knowledge of Italian liverwort flora, one of the richest in Europe, and thus to serve as a starting point for further updates and more in-depth studies.

**Conspectus of classification
of the *Hepaticae* and *Anthocerotae* of Italy**

The nomenclature follows Grolle & Long (2000) and Schumacker & Váňa (2000). Patronym abbreviations follow Brummit & Powell (1992). Within the orders, families and their genera are listed alphabetically, without any consideration of their phylogenetic relationships. Numbers in parentheses give the number of species in Italy.

ANTHOCEROTOPSIDA (*Anthocerotae*)

ANTHOCEROTALES (6)

ANTHOCEROTACEAE Dumort. (5)

Anthoceros L. (3)

Phaeoceros Prosk. (2)

NOTOTHYLADEACEAE (Milde) Müll. Frib. ex Prosk. (1)

Notothylas Sull. ex A. Gray (1)

MARCHANTIOPSIDA (*Hepaticae* s. str.)

CALOBRYALES (1)

HAPLOMITRIACEAE Dědeček (1)

Haplomitrium Nees (1)

JUNGERMANNIALES (197)

ANTHELIACEAE R.M. Schust. (2)

Anthelia (Dumort.) Dumort. (2)

ARNELLIACEAE Nakai (4)

Arnellia Lindb. (1)

Gongylanthus Nees (1)

Southbya Spruce (2)

CALYPOGEIACEAE (Müll. Frib.) Arnell (8)

Calypogeia Raddi (8)

CEPHALOZIACEAE Mig. (18)

Cephalozia (Dumort.) Dumort. (9)

Cladopodiella H. Buch (2)

Hygrobiella Spruce (1)

Nowellia Mitt. (1)

Odontoschisma (Dumort.) Dumort. (4)

Pleurocladula Grolle (1)

CEPHALOZIELLACEAE Douin (13)

Cephaloziella (Spruce) Schiffn. (13)

FRULLANIACEAE Lorch (7)

Frullania Raddi (7)

GEOCALYCACEAE H. Klinggr. (9)

Chiloscyphus Corda (1)

Geocalyx Nees (1)

Harpanthus Nees (2)

Lophocolea (Dumort.) Dumort. (4)

Saccogyna Dumort. (1)

GYMNOMITRIACEAE H. Klinggr. (16)

Apomarsupella R.M. Schust. (1)

Eremonotus Lindb. et Kaal. ex Pearson (1)

Gymnomitrium Corda (3)

Marsupella Dumort. (11)

JUNGERMANNIACEAE Rchb. (18)

Jungermannia L. (12)

Mylia Gray (2)

Nardia Gray (4)

LEJEUNEACEAE Casares-Gil (8)

Cololejeunea (Spruce) Schiffn. (3)

Harpalejeunea (Spruce) Schiffn. (1)

Lejeunea Lib. (2)

Marchesinia Gray (1)

Microlejeunea Steph. (1)

LEPIDOZIACEAE Limpr. (6)

Bazzania Gray (3)

Kurzia G. Martens (2)

Lepidozia (Dumort.) Dumort. (1)

LOPHOZIACEAE Cavers (40)

Anastrepta (Lindb.) Schiffn. (1)

Anastrophyllum (Spruce) Steph. (5)

Barbilophozia Loeske (7)

Gymnocolea (Dumort.) Dumort. (1)

Jamesoniella (Spruce) F. Lees (1)

Leiocolea (Müll. Frib.) H. Buch (5)

Lophozia (Dumort.) Dumort. (14)
Tetralophozia (R.M. Schust.) Schljakov (1)
Tritomaria Schiffn. ex Loeske (5)

PLAGIOCHILACEAE (Jörg.) Müll. Frib. (5)
Pedinophyllum (Lindb.) Lindb. (1)
Plagiochila (Dumort.) Dumort. (4)

PORELLACEAE Cavers (4)
Porella L. (4)

PSEUDOLOPICOLEACEAE Fulford et J. Taylor (1)
Blepharostoma (Dumort.) Dumort. (1)

PTILIDIACEAE H. Klinggr. (2)
Ptilidium Nees (2)

RADULACEAE (Dumort.) Müll. Frib. (3)
Radula Dumort. (3)

SCAPANIACEAE Mig. (32)
Diplophyllum (Dumort.) Dumort. (4)
Scapania (Dumort.) Dumort. (28)

TRICHOCOLEACEAE Nakai (1)
Trichocolea Dumort. (1)

MARCHANTIALES (57)

AYTONIACEAE Cavers (10)
Asterella P. Beauv. (4)
Mannia Opiz (4)
Plagiochasma Lehm. et Lindenb. (1)
Reboulia Raddi (1)

CLEVEACEAE Cavers (3)
Athalamia Falconer (2)
Sauteria Nees (1)

CONOCEPHALACEAE Müll. Frib. ex Grolle (1)
Conocephalum Hill (1)

CORSINIACEAE Engler (1)
Corsinia Raddi (1)

CYATHODIACEAE (Grolle) Stotler et Stotl.-Crand. (1)

Cyathodium Kunze (1)

EXORMOTHECACEAE Müll. Frib. ex Grolle (1)
Exormotheca Mitt. (1)

LUNULARIACEAE H. Klinggr. (1)
Lunularia Adans. (1)

MARCHANTIACEAE (Bisch.) Lindl. (4)
Dumortiera Nees (1)
Marchantia L. (2)
Preissia Corda (1)

MONOSOLENIACEAE Inoue (1)
Peltolepis Lindb. (1)

OXYMITRACEAE Müll. Frib. ex Grolle (1)
Oxymitra Bisch. ex Lindenb. (1)

RICCIACEAE Rchb. (31)
Riccia L. (30)
Ricciocarpos Corda (1)

TARGIONIACEAE Dumort. (2)
Targionia L. (2)

METZGERIALES (25)

ANEURACEAE H. Klinggr. (5)
Aneura Dumort. (1)
Riccardia Gray (4)

BLASIACEAE H. Klinggr. (1)
Blasia L. (1)

FOSSOMBRONIACEAE Hazslinszky (9)
Fossombronia Raddi (8)
Petalophyllum Nees et Gottsche ex Lehm. (1)

METZGERIACEAE H. Klinggr. (4)
Metzgeria Raddi (3)
Apometzgeria Kuwah. (1)

PALLAVICINIACEAE Mig. (3)
Pallavicinia Gray (1)
Moerckia Gottsche (2)

PELLIACEAE H. Klinggr. (3)
Pellia Raddi (3)

SPHAEROCARPALES (3)

RIELLACEAE Engler (1)
Riella Mont. (1)

SPHAEROCARPACEAE (Dumort.) Heeg (2)
Sphaerocarpos Boehm. (2)

Notes

1. The herbarium specimen [TO] by Cappelletti (1927) for PIE (*leg. Gola 1912, Val Macra below Colle del Mulo*) corresponds to *Tritomaria polita* (*rev. R.S. & J.V., 1994*). The report for TRA refers to a specimen gathered by Wolfskeel (July, 1993) at the Picco di Vallandro (Dürrensteinhütte, Bolzano) (*det. R.S. & J.V., 1994*).
2. The report for PIE refers to a herbarium specimen gathered by Carestia in 1881 at Alagna Valsesia near Ovago d' Otro (*conf. R.S., 1994*).
3. The report for SAR by Moris (1829), not being confirmed by herbarium specimens, is considered uncertain by Bischler & Jovet-Ast (1971-72). However, the species was found recently on Limbara Mountain (Northern Sardinia) by Cogoni & al. (2002).
4. In nearly all manuals, *A. julacea* and *A. juratzkana* are considered as two separate species. A recent comprehensive study on *Anthelia* by Schnyder (1988) considers them as subspecies.
5. The herbarium specimen by Beccari for TOS (*leg. Beccari 1862, M. Rondinaio, per Jungermannia julacea*) corresponds to *A. juratzkana*.
6. Only reported by Cortini Pedrotti (1980) (*sub A. mandonii*) for the Island of Montecristo. *A. caucasicus* Steph. 1914 and *A. mandonii* Steph. 1916 are conspecific, as has been shown by Sérgio (1987).
7. Recently, Schuster (1996b) transferred *Marsupella revoluta* to the genus *Apomarsupella* R.M. Schuster based on the absence of perianth and perigynium, and the presence of dorsal-intercalary branches.
8. The revision by R.S. & J.V. of herbarium specimens [VER] gathered by Carestia at Lake Combal (Courmayeur, Aosta, 21 July, 1885) confirmed its presence in AOS; nevertheless, notwithstanding recent on-site research, the species was not been found. Given the lack of herbarium specimens, the reports for TRA and FRV are considered dubious.
9. The report for SAR by Bischler & Jovet-Ast (1971-72) refers to herbarium specimen [PC] collected by De Notaris and identified as *Marchantia commutata* (= *Preissia quadrata*).
10. The report for TOS refers to herbarium specimens [BI] gathered by Santarelli in 1929 in the Apuan Alps “*nella vallata della Lima, su ceppaie di castagni marcescenti lungo Botri*” (*conf. R.S., 1990*). Nevertheless, the report was omitted in Cortini Pedrotti & al. (1991). The specimen collected by Martelli for TOS (*leg. Martelli 1885, Abetone*) corresponds to *Lophozia ventricosa*. The herbarium specimens [TO] for PIE (*leg. Maccagno 1919, near Barius, leg. ? 1907, near Piedimulera*) correspond respectively to *Leiocolea col-laris* (incl. in *L. bantriensis*) and *Tritomaria exsecta*.

11. The report by Blockeel & al. (1999) for PIE (Rochemolles Valley, 2400-2700 m) is the first confirmed record for Italy. In fact, the herbarium specimen [TO] by Gola for PIE (*leg. Gola 1905, Baldissero Canavese*) corresponds to *B. barbata*. The report for AOS by Levier (1905), not being confirmed by herbarium specimens, is to be considered as uncertain.
12. The report for PIE refers to a herbarium specimen [LGHF] gathered by R. Schumacker in Valsesia (*in litt.*, 1994). As a result of taxonomic study by Grolle (1972), all reports for EMR, TOS and CAL correspond to *B. flaccida*. A revision of the genus *Bazzania* in Italy is thus required because there has often been confusion between *B. flaccida*, *B. tricrenata* and some depauperate forms of *B. trilobata*.
13. The report for TRA refers to a specimen gathered by Düll (9 August, 1988) in Val Passiria near Merano (*leg. Düll, beim Sterzinger Jaufenhaus, 2000 m*) and identified dubitably as *B. trichophyllum* (*rev. R.S. & J.V., 1994*).
14. The report for PIE refers to a herbarium specimen [LGHF] gathered by R. Schumacker in Valsesia (*in litt.*, 1994). The reports for SAR by Herzog (1905, 1909), not being confirmed by herbarium specimens, are considered uncertain by Bischler & Jovet-Ast (1971-72). However, the species was found recently on Limbara Mountain (Northern Sardinia) by Cogoni & al. (2002).
15. The report for SAR by Moris (1829), not being confirmed by herbarium specimens, is considered uncertain by Bischler & Jovet-Ast (1971-72). The herbarium specimens for VEN (Colli Euganei) and UMB (Trasimeno Lake) correspond to *C. fissa*; those for VEN (M. Baldo) and PIE (Riva Valsesia) correspond to *C. neesiana*. Herbarium specimens for TOS reviewed to date all correspond to *C. fissa* and *C. neesiana*. Reports for LOM, LIG, EMR, LAZ, CAM and CAL [*sub C. trichomanis*] are considered dubious. In fact, in the literature, under the name *C. trichomanis* 5 species may probably be found: *C. fissa*, *C. neesiana*, *C. muelleriana*, *C. integriflora*, and *C. azurea* (Stotler & Crotz 1983). However, in the absence of herbarium specimens, the literature reports are not useful. *C. azurea* is recognizable by its blue oil-bodies only in recent herbarium materials.
16. The reports for TRA by Pedrotti (1978) and Venanzoni (1987) correspond respectively to *C. neesiana* and *C. fissa*. The report by Cappelletti (1927) for PIE (Val Maira) is confirmed neither by Zodda (1934) nor by Müller (1951-58) and is considered dubious given the species' ecology. Owing to numerous instances of confusion with other *Calypogeia*, old data cannot be taken into consideration.
17. The report for TRA (near Pinzolo) refers to a herbarium specimen of Philippi (*in litt.*, 4 January, 1994). Düll (1991) erroneously attributes to TRA a vague report by Müller (1951-58) for "Oberitalien" which, however, refers to VEN and FRV.
18. The report for PIE refers to a herbarium specimen [LGHF] gathered by R. Schumacker in Valsesia (*in litt.*, 1994). The herbarium specimen by Schwab for TRA (Nova

Ponente) corresponds to *C. loitlesbergeri* (rev. R.S. & J.V., 1993).

19. The report for PIE refers to an old herbarium specimen [MRSN] gathered in Valsesia (*conf.* R.S., 1994). The herbarium specimen by Schwab for TRA (Nova Ponente), identified as *C. connivens*, corresponds to *C. loitlesbergeri* (rev. R.S. & J.V., 1993).

20. Only reported by Aleffi & al. (2004) for PIE (Stura di Demonte Valley, Western Alps). This species is new for Italy.

21. The herbarium specimen by Massalongo (1907) for PIE (*leg.* Carestia 1891, Riva Valsesia, Cramisei nell' Alpe Nozzarella) is confirmed by R.S. (*in litt.*, 1994). The report for TOS (between Pariana and S. Carlo) by Ferrarini & Marchetti (1983) corresponds to *C. lunulifolia*. Other old reports for PIE, LOM and FRV correspond to *C. bicuspidata*. There has been confusion among *C. lunulifolia*, *C. connivens*, *C. macrostachya*, *C. pleniceps* and *C. bicuspidata*. Herbarium material pre-dating Müllers' flora (1951-58) should be revised.

22. The report for SAR by Herzog (1905), not being confirmed by herbarium specimens, is considered uncertain by Bischler & Jovet-Ast (1971-72). However, the species was found recently on Limbara Mountain (Northern Sardinia) by Cogoni & al. (2002).

23. In some populations, usually from moist, sheltered sites, at least some of the leaves have coarsely papillose cell walls, marginal teeth and abaxial projections. Such plants have been referred to *C. divaricata* var. *scabra*, but a range of intermediates occurs between these forms and non-papillose, unarmed examples of *C. divaricata*. The reports of *C. divaricata* var. *scabra* for TRA and SIC (Aleffi & Schumacker 1995) are also now included in *C. divaricata*.

24. The report for PIE refers to a herbarium specimen [LGHF] gathered by R. Schumacker in Valsesia (*in litt.*, 1994).

25. The report for SAR by Zodda (1934), not being confirmed by herbarium specimens, is considered uncertain by Bischler & Jovet-Ast (1971-72). However, the species was recently found on the Island of Tavolara (*leg.* Bocchieri, 1988) (Cortini Pedrotti & Aleffi 1994) and on Limbara Mountain (Cogoni & al. 2002). Most recent authors recognize *C. rubella* var. *sullivantii* as a synonym of *C. rubella*. The report of *C. rubella* var. *sullivantii* by Massalongo (1885) for VEN (Valle di Tregnago near Revolto) (Aleffi & Schumacker 1995) is also included in *C. rubella*.

26. The conspecificity of *C. varians* and *C. arctica* has been pointed out by Ochyra & Váňa (1989) and confirmed by Schuster (1996a). The report for PIE is a very generic one; in fact, Müller (1951-58) mentions it for "Penninische Alpen bis 3000 m".

27. Modern authors still consider a single species with two varieties, but these are probably of little taxonomic value. The treatment of the *C. polyanthos* complex ranges from a single species with two varieties (e.g. Smith 1990) to four segregate species: *C. polyanthos*

s.str., *C. fragilis* and *C. rivularis* (e.g. Konstantinova, Potemkin & Schljakov 1992).

28. Only reported by Rossetti (1888) for TOS (Miniere del Bottino near Serravezza) (see Cortini Pedrotti & al. 1991).

29. Recently, Ligrone & Duckett (2005) have reported the finding of a population of *Cyathodium* Kunze in the Ferriere Valley, near Amalfi (Campania). In none of the collected specimens were the antheridia found; there morphology constitutes an important diagnostic character for the identification of the species. However, on the basis of the general morphology of the thallus, the collected specimens show substantial affinities with *C. foetidissimum*. Family and genus are new for Europe and Italy.

30. The specimen, gathered by Rossetti in 1891 at the Forno Volasco (Apuan Alps), identified by him as *D. obtusifolium* and later revised by Massalongo as *D. taxifolium*, corresponds to *D. obtusatum* (rev. R.S. 1991, conf. J.V. 1991). The species is to be considered new for Italy and Europe (Cortini Pedrotti & al. 1991).

31. The herbarium specimen by Rossetti for TOS (*leg.* Rossetti, August 1891, Forno Volasco, Apuan Alps) corresponds to *D. obtusatum*.

32. The report for FRV (Malga Lussari Peatbog, 1554 m) by Lausi & Gerdol (1980), not being confirmed by herbarium specimens, is to be considered as uncertain, considering the species' ecology and chorology. Recently, six sites of *D. hirsuta* have been discovered in Calabria: four of them were located between 340 and 690 m in altitude, while the other two sites were respectively at 900 and 1100 m. The latter sites are the southernmost and highest in Europe, at ca. 1000 km south of those in the Apuan Alps.

33. The species was reported by Goebel (1905) for CAM (Ischia or Amalfi) and by Zodda (1911) for SIC (Aci Castello). Later, however, Zodda (1934) attributed the latter location to *E. bullosa*, an error that was then repeated in the following bibliographic reports (Müller 1951-58; Bischler 1976). The discovery and revision of the herbarium specimen (*leg.* Zodda 28 March, 1909 "Al pie' di una rupe lavica *in situ* presso Aci Castello", 80 m) conserved in the Levier Herbarium [FI], confirms Zodda's first report (1911). *E. pustulosa* was recently found near Bronte (Catania) in Sicily (Puglisi, Aleffi & Privitera 1994).

34. *Fossombronia crozalsii* was recently found on the Island of Linosa (Pelagian Islands, Sicily) associated with *Exormotheca pustulosa* (Carratello & Aleffi 1999). The species is new for the Italian bryological flora. The report of Ferrarini & Marchetti (1983) for TOS (Canale di Renara in the Fosso della Canala and Torrente di Antona) corresponds to *F. angulosa* (Cortini Pedrotti & al. 1991).

35. The species was reported dubiously by Düll (1991) for TRA. He says, in fact, that all the reports before 1900 are not confirmed, probably because he confused it with *F. wondraczekii*. The report for FRV (*leg.* Breidler, on moist ground near Pontebba, 1250 m) is by Müller (1906-16).

36. The report for SAR refers to a herbarium specimen gathered by I. Bisang (28 March, 1993) near Monte Longu (Orosei) (Bisang 1994).
37. The herbarium specimen for SAR (*leg. Major & Cossu* 17 March, 1910, “*Sassari alla Guglia*”, *det. Zodda per F. wondraczekii*) (Zodda 1914) corresponds to *F. pusilla* var. *decipiens* (*rev. M.A.*, 1994). However, recent authors recognize *F. pusilla* var. *decipiens* as a synonym of *F. pusilla*. The reports of *F. pusilla* var. *decipiens* for SAR and SIC (Aleffi & Schumacker 1995) are also included in the species.
38. *Fossombronia wondraczekii* var. *loitlesbergeri* is now generally treated as synonym of *F. wondraczekii*. The report by Lübenau R. & Lübenau K. (1970) for the Island of Vulcano is also included in the species.
39. *Frullania dilatata* var. *anomala* is included by Bisang & al. (1988) in the synonymy of *F. dilatata*.
40. Only reported for TRA (around Merano). Collected by Schiffner in 1899 and by Schwab in 1976.
41. In Europe, only reported in Switzerland (Kanton Bern, near Kandersteg, 950-1150 m, *leg. Rüegsegger, conf. Hattori, JE*) and in Italy in TRA (Schlern, 1450-1550 m, *leg. Schiffner, det. Hattori, JE*) (Düll, 1991) and SIC (Monte Erice, 630 m, *leg. and det. Düll, DUIS*) (Düll 2004).
42. After a comprehensive study of abundant material including the types, *F. riparia* and *F. cesatiana* are considered conspecific by Grolle & Long (2000), as treated by Müller (1951-58) and Schuster (1966-92). The reinstatement of *F. cesatiana* for the European populations by Bisang & al. (1988), therefore, is rejected.
43. In the recent taxonomic revision of the Genus *Frullania* Raddi in Portugal and Madeira, Sim-Sim (1999) distinguishes two varieties of *F. tamarisci*: var. *mediterranea* De Not. and var. *sardoa* De Not. They are associated with specific ecological and climatic conditions, favourable to the differentiation of these morphological variants. The var. *mediterranea* is also reported for TOS, CAM and SAR (“*in Sardinia maritimis ad rupes*”, De Notaris, 1835; *Isotypus PC, RO*); the var. *sardoa* is reported for CAM and SAR (“*in Sardinia, in montibus di Villarido*”, De Notaris, 1834; *Isotypus PC, RO*).
44. The report for SAR by Bertoloni (1858-62) corresponds to *Lophozia turbinata* (Bischler & Jovet-Ast 1971-72).
45. Only reported by Düll (1991), who refers to a specimen gathered by Riehmer in 1914 in Val Rossa near Casere (abandoned copper mines between 1600 and 2000 m). Müller (1906-16) reports it for the Val Gardena (*leg. Schiffner, 1899*) and for Ortles, Val Martello and Cevedale (*leg. Kern, 1913*). According to Schumacker & Váňa (2000), *G. acutiloba* is considered a variety of *G. inflata* on mineralized substrata with heavy metals. The problem-

atic relationships between *G. inflata* and *G. acutiloba* have been treated by Schuster (1988).

46. Only reported by Glowacki (1915) for TRA (Val di Lazzago near Vipiteno, 1900 m). The herbarium specimen [TO] for LOM (leg. Davies, 1903 or 1893, Santa Caterina at the feet of M. Sobretta) corresponds to *G. concinnatum* (rev. R.S. & J.V., 1994).

47. Only reported by Schumacker & al. (1999a, b) for PIE (Valsoera, Gran Paradiso National Park). New for the Italian bryological flora. This species has been reported by Zodda (1934) for TRA (Bressanone at M. Riffel) and by Rodegher (1896) for LOM (Val Brembana), but original specimens could never be traced; the species is not cited by Müller (1951-58) for Italy and therefore is considered as doubtful by Aleffi & Schumacker (1995), owing to the absence of specimens and to the ecology given by Zodda and Rodegher.

48. The report for SAR (Taquisara and Seui) by Barbey (1884), not being confirmed by herbarium specimens, is considered uncertain by Bischler & Jovet-Ast (1971-72). However, the species was found recently on Limbara Mountain (Northern Sardinia) by Cogoni & al. (2002).

49. Only reported by Schumacker & al. (1999a) for AOS (Gran Paradiso National Park: Rhême Valley, above Rifugio Benevolo, 2300-2500 m; Urtier Valley, Miserino Lake, 2300-2670 m) and by Blockeel & al. (1999) for PIE (Val Gravio, Alpeggio Mustione, 1670 m). The species is new for Italy.

50. The report for TRA (Val Passiria) by Düll (1991) corresponds to *Nardia compressa* (rev. R.S. & J.V., 1994). In fact, this species is probably very common and has been often confused - on base-rich substrates - with *J. sphaerocarpa* (see Váňa 1976).

51. The report for SAR (Iglesias) by Moris (1829) corresponds to *Chiloscyphus pallescens* (Bischler & Jovet-Ast 1971-72).

52. The reports for SAR by Moris (1829) for Maracalagonis and by Massalongo (1885) for Taquisara, not being confirmed by herbarium specimens, are considered uncertain by Bischler & Jovet-Ast (1971-72).

53. *Leiocolea* is treated here at generic rank in accordance with Grolle & Long (2000), Konstantinova & Potemkin (1996), Paton (1999), Smith (1990), and others.

54. Váňa & Hubáčková (1989) have clearly demonstrated the conspecificity of *L. collaris* and *L. bantriensis* (being only ecomorphosis correlated to the degree of humidity of the stands). In this case *L. bantriensis* has priority.

55. Engel & Schuster (1985) and Schumacker & Váňa (2000) include *Lophocolea* in *Chiloscyphus*, but Grolle & Long (2000) and Paton (1999) presented reasons to maintain them as separate genera. Correct binomials are: *Lophocolea bidentata* = *Chiloscyphus coadunatus* (Sw.) J.J. Engel & R.M. Schust.; *L. fragrans* = *C. fragrans* (Moris & De Not.) J.J.

Engel & R.M. Schust.; *L. heterophylla* = *C. profundus* (Nees) J.J. Engel et R.M. Schust.; *L. minor* = *C. minor* (Nees) J.J. Engel et R.M. Schust.

56. The report for TRA refers to a specimen by Schwab for Karerewald (*in litt.*, 10 February, 1993) and to a specimen by Philippi for the areas around Pinzolo (*in litt.*, 4 January, 1994).

57. The report for AOS (Valsavarenche, Pian de la Pesce) by Buffa & Miserere (2004) corresponds to *Lophozia sudetica*. The report for SAR (Aritzo) by Moris (1829), not being confirmed by herbarium specimens, is considered uncertain by Bischler & Jovet-Ast (1971-72).

58. Only reported for TRA by Bisang (1991): refers to a specimen gathered by Suse, 4 September, 1896 (Hb Möller, S) at Karereseehotel (Carezza al Lago).

59. The report for PIE (*leg.* Gola 1911, Val Macra below Colle di Soleglio Bue, TO) corresponds to *L. bantriensis* (*rev.* R.S., 1994).

60. Only reported by Jones (1969) for TRA (Passo di Costalunga). The report for AOS (Valsavarenche, Pian de la Pesce) by Buffa & Miserere (2004) corresponds to *Lophozia sudetica*. Probably overlooked.

61. The report for SAR (Iglesias) by Moris (1829), not being confirmed by herbarium specimens, is considered uncertain by Bischler & Jovet-Ast (1971-72).

62. The report by Müller (1906-16) for “*Italien, Seealpen, Seeufser Tre Colpas 2150 m und Lac de La Madone 2250 m (leg. Corbière)*” [CHER] refers to locations on French territory. The specimen was correctly identified (*conf.* J.V. & R.S., 1994).

63. The report for TRA by Düll (1991) seems doubtful. Düll, in fact, has reported a data by Zodda (1934) for the Dolomites and Alpi Carniche, attributing them to South Tirol. Yet Zodda (1934) reports the species only for “*Alpi Giulie, M. Pelmo nel Bellunese*”. Probably Düll has confused Müller’s reports (1951-58) for “*Karnische Alpen, Friauler Alpen, Dolomiten*”. In any case, the report for “*Dolomiten*” is too generic and that for “*Karnische Alpen*” is to be referred to the VEN and not TRA.

64. For the revision of the genus *Marchantia* L. see Bischler-Causse (1993). On the basis of this revision, *M. polymorpha* var. *aquatica* corresponds to *M. polymorpha* subsp. *polymorpha*, *M. alpestris* to *M. polymorpha* subsp. *montivagans* and *M. polymorpha* auct. to *M. polymorpha* subsp. *ruderalis*. However, many reports from Italy have been placed generically under the binomial *M. polymorpha* L. “*sensu lato*” and thus under the subsp. *ruderalis*. A revision of the herbarium specimens is necessary.

65. Only reported for PIE by Massalongo & Carestia (1882) for Riva Valsesia (Alpe Rizzolo at Lago Bianco) (*conf.* J.V., 1993).

66. The report for SIC (lacking a precise location) by Düll (*in litt.*, 12 March, 1991), not being confirmed by herbarium specimens, has not been checked.
67. Only a generic report by Düll (1991) for TRA (South Tirol).
68. The report by Massalongo (1909) for PIE (*leg. Carestia* 1882, “*ad rupes supra Riva Valsesia ex loco Sause*” per *M. badensis*) is included in *M. funckii*. The reports for TRA (Torbiera del Vedes) by Pedrotti (1978) correspond to *Gymnocolea inflata* and *Cladopodiella francisci*.
69. Considered as vanished by Aleffi & Schumacker (1995), the report for AOS by Schumacker & al. (1999) is the first recent one for the Italian Alps.
70. The report for TRA (Torbiera del Vedes) by Pedrotti (1978) corresponds to *Cladopodiella fluitans*.
71. *M. conjugata* var. *simplex* Lorb. is included in the species. The status of the *M. simplex* Lorb. in Europe is uncertain. It was distinguished from *M. conjugata* by minor morphological differences and a haploid chromosome complement as opposed to $n=18$.
72. Paton (1999) presents some arguments to distinguish *Lejeunea ulicina* under *Microlejeunea* as a separate genus. This view is accepted by Grolle & Long (2000), but Schumacker & Váňa (2000), for practical reasons of determination, maintain it in *Lejeunea*.
73. The herbarium specimen [BER] for LOM (Val Brembana) by Rodegher (1896) corresponds to *Chiloscyphus pallescens*.
74. The report for TRA (Laghi di Soprane) is by Schwab (*in litt.*, 10 February, 1993).
75. The reports for TOS, not being confirmed by herbarium specimens, are to be considered as uncertain.
76. Only reported by Jack (1898) for TRA (Merano).
77. Only reported by Müller (1906-16) for TRA (Lago di Braies “*am kleinen See*”, 1906 v. Degen, *det. Schiffner*).
78. The herbarium specimens for PIE (Alpe Larec) by Carestia in 1881 [TO] and 1883 [FI] correspond to *O. elongatum* (rev. R.S., 1994). The herbarium specimen for PIE (*leg. Maccagno*, 12 October, 1921, Col di Mombarone, 2000 m, TO) corresponds to *Chiloscyphus pallescens*. The herbarium specimen for TOS (*leg. Bottini* 1888, near Seravezza, TO) corresponds to *Jungermannia sphaerocarpa*. The presence of the species is confirmed for PIE, LOM and TOS by the revision of all available herbarium specimens (rev. R.S., 1993).
79. Bergdolt (1926) reports the species for TRA (near Molveno in Val Persa, Cima Roma,

below Bocca di Vallazza, 2300 m), VEN (Gola di Sottoguda alla Marmolada) and FRV (M. Canale near Collina, 1800 m).

80. The report for SAR (S. Margherita, between Pula and Cala d' Ostia) by Herzog (1905), not being confirmed by herbarium specimens, is considered uncertain by Bischler & Jovet-Ast (1971-72). However, the species has been recently found in the “*Foresta Demaniale del Marganai*” by Flore & al. (2005).

81. In the literature, *P. asplenoides* s. str. and *P. poreloides* are often confused. A systematic revision of the herbarium specimens is necessary.

82. Only reported by Cortini Pedrotti & al. (1991) for TOS (Apuan Alps). As Heinrichs, Grolle & Drehwald (1998) have pointed out, the neotropical *P. bifaria* and the European *P. killarniensis* are conspecific.

83. Only reported by Cortini Pedrotti & al. (1991) for TOS (Apuan Alps: Seravezza; Renara di Gronda).

84. Boisselier-Dubayle & Bischler (1994) and Bischler & Boisselier-Dubayle (1998) have recently conducted a study on the morphological and molecular characteristics of European species of *Porella*. The analyses were directed towards a reassessment of relationships between the different species and the definition of improved morphological character sets for discriminating the taxa. Following this revision, *P. baueri* is considered a hybrid between *P. cordaeana* × *P. platyphylla*; as shown by Therrien, Crandall-Stotler & Stotler (1998), *P. platyphylloidea* (Schwein.) Lindb. is conspecific with *P. platyphylla* (L.) Pfeiff. (see also note on the *P. platyphylloidea* in excluded taxa).

85. The report for SAR (Ingurtosu, Gola di Pizzinurri) by Barbey (1884), not being confirmed by herbarium specimens, is considered uncertain by Bischler & Jovet-Ast (1971-72). However, the species has been recently found on Limbara Mountain by Cogoni & al. (2002).

86. Recently, Aleffi & Schumacker (2004) have conducted some searches in the two localities of *Radula visianica*: on the Colli Euganei in VEN (Massalongo 1904) and in the Bosco Welsperg (Fiera di Primiero, Val Cismòn) in TRA (Gerola 1938). These searches did not reveal the species again. In the Red Data Book of European Bryophytes (E.C.C.B. 1995), *Radula visianica* is considered probably extinct: the recent searches seem to confirm such a hypothesis, perhaps because of the notable anthropic impact to which the two localities are currently submitted. The Holotypus of *Radula visianica* [“nei Colli Euganei “prov. di Padova” al mt. Senigiari (sulla terra o sul tronco degli alberi?) sopra Torreglia, non lungi dal luogo dove trovasi la villa che un giorno possedeva il defunto professore R. De Visiani; 23 febbraio 1878”; conf. R.S., 1994] is preserved in the Massalongo Herbarium of the Civic Museum of Natural History in Verona [VER].

87. The report for SIC (Palermo Botanical Gardens) by Dia & Aiello (1992) corresponds to *R. palmata* (rev. R.S., 1994).

88. The report for SAR (Carloforte, S. Pietro) by Herzog (1905), not being confirmed by herbarium specimens, is considered uncertain by Bischler & Jovet-Ast (1971-72).

89. Only reported for AOS (Gran Paradiso National Park: Urtier Valley, Alpe Broillot, 2400 m; Valsavarenche, Lago Nero, 2750 m) and PIE (Gran Paradiso National Park: Eugio Valley, 1900 m) by Schumacker & al. (1999). A report of *Riccia sorocarpa* var. *nana* by Kern (1910) exists for TRA (Piz Sesvenna west of the Rifugio Rasass in the Valle di Slingia, on calcareous terrain at 2300 m) which Gams (1951) interpreted as *Riccia breidleri* (Geissler 1984). However, notwithstanding on-site research, the species has not been found to date, and the herbarium specimens gathered by Gams all refer to locations on Austrian and Swiss territory.

90. The reports for PIE by Re (1821) and for TOS by Raddi (1808) correspond to *R. crystallina*. The report for PUG (Otranto) is by Schwab (*in litt.*, 10 February, 1993). For morphological differences between *R. cavernosa* and *R. crystallina* compare Jovet-Ast (1964-65, 1986).

91. Only reported by Düll (1968) for FRV (Tagliamento River near Latisana, Udine).

92. Recent authors recognize the var. *subinermis* as a synonym of *R. glauca*. The report of *R. glauca* var. *subinermis* by Bischler & Jovet-Ast (1971-72) for SAR (Olbia, Cagliari, Seui and Ittiri) is also included in *R. glauca*.

93. Only reported by Bischler & Jovet-Ast (1971-72) for SAR (Bosa and Alghero).

94. Only reported by Baudoin & al. (1984) for SIC (Pachino).

95. The report for SAR (Carloforte) by Herzog (1905), not being confirmed by herbarium specimens, is considered uncertain by Bischler & Jovet-Ast (1971-72).

96. Reports by Bischler & Jovet-Ast (1971-72) for SAR refer to some herbarium specimens of Müller for Cagliari [PC], Gennari (without a precise location) [RO] and De Notaris for Pula [PC]. The occurrence of *Riella notarisi*i is recently reported for SIC by Privitera & Puglisi (1997a) near Gela (S. Sicily).

97. The report for SAR (without a precise location) by Müller (1951-58), not being confirmed by herbarium specimens, is considered uncertain by Bischler & Jovet-Ast (1971-72) and very improbable phytogeographically.

98. The report for SAR by Herzog (1905), not being confirmed by herbarium specimens, is considered uncertain by Bischler & Jovet-Ast (1971-72).

99. Only reported by Müller (1901) for VEN (Revolto, Verona: leg. Massalongo, 21 September, 1878 “*ad truncos emarcidos Pini piceae, prope Revolto*”, VER; *conf.* R.G., 1975).

100. In the group of *S. curta* various species can be distinguished on the basis of the characteristics of the perianth and the propagules; in their absence one can only speak of *S. curta* s.l.

101. The reports for LOM, VEN, TOS (Impruneta) and UMB, not being confirmed by herbarium specimens, are considered uncertain by Müller (1951-58), given the species' ecology. The report for TOS (Apuan Alps near Seravezza) corresponds to *S. aspera* (Müller 1951-58). The herbarium specimen for the Island of Montecristo (*leg. Béguinot, 29 December, 1897, VER; conf. R.S. & J.V., 1994*) is confirmed for TOS, in agreement with Müller' affirmation (1951-58). The report for TRA (Bosco Welsperg, Val Cismòn) by Aleffi & al. (2004) is the second undoubted report for Italy and the only one since 1950.

102. Only reported for PIE (Sagna del Vallone and Rochemolles Valley) by Blockeel & al. (1999). The species is new for Italy.

103. Only reported by Schumacker & al. (1999) for AOS (Gran Paradiso National Park: Urtier Valley, Lago Ponton, 2600 m). The species is new for Italy.

104. The report by Massalongo (1902) for VEN (Revolto, Verona) is confirmed by Grolle (*conf. R.G., 1975*). This rare species has been found in abundance in the Gran Paradiso National Park (AOS) (Schumacker & al. 1999). Recently Potemkin (1998) synonymized this species with *S. carinthiaca*.

105. The report for PIE refers to a herbarium specimen [TO] gathered by Carestia in 1882 near “*Riva Valsesia al Colletto*” and erroneously identified as *Cephaloziella* cfr. *rubella*; in the same specimen both *Lophozia longidens* and *Scapania mucronata* were contemporaneously found.

106. Only reported for AOS (Gran Paradiso National Park: Eaux-Rouges Valley, 2375-2630 m) by Schumacker & al. (1999). This species is new for Italy. *S. obscura* differs from *S. subalpina* by its very short and narrow stem, by its almost equal and entire lobes, without thickened margins, by its smaller gemmae and by its ecology, being restricted to arctic alpine conditions (melting snowbed at high altitude).

107. Only reported for AOS (Gran Paradiso National Park: Cogne and Valeille Valley, surroundings of Lillaz, 1700 m; Urtier Valley, Alpe Broillot, 2400 m) and PIE (Gran Paradiso National Park: Orco Valley, Chiapili di sotto, 1700 m; Piantonetto Valley, Lago di Teleccio, 1950 m) by Schumacker & al. (1999). This species is new for Italy.

108. Reported for the first time by Massalongo (1885) for VEN (Valle di Tregnago near Revolto, Verona, *leg. Massalongo 1878 ad truncos subputridos in sylvis piniferis circa Revolto, prov. Verona*”, VER, TO; *conf. R.G., 1975*). Stephani (1898-1924) indicates as a second location “*Abruzzen*”. However, the data is not confirmed by Müller (1906-16), who claims never to have seen specimens from this locality. Recent field research failed to identify the species in this region; it is thus to be considered dubious. Recently, the species has

been reported for PIE (Gran Paradiso National Park: Orco Valley, Lago di Ceresole Reale, 1600 m) by Schumacker & al. (1999). From a taxonomical point of view, in contrast with Müller (1951-58), Schljakov (1981) and Konstantinova & al. (1992), Schuster (1966-92) and Grolle & Long (2000) consider *S. scapanioides* as a distinct species from *S. glaucocephala*.

109. The report for TOS (Island of Montecristo) by Cortini Pedrotti (1980) corresponds to *S. compacta*.

110. The report for TOS (Apuan Alps) by Ferrarini & Marchetti (1983) corresponds to *Diplophyllum albicans*.

111. The report for SAR by Herzog (1905), not being confirmed by herbarium specimens, is considered uncertain by Bischler & Jovet-Ast (1971-72).

112. The report for SAR (without a precise location) by Haynes (1910), not being confirmed by herbarium specimens, is considered uncertain by Bischler & Jovet-Ast (1971-72). Recently *S. texanus* was found in SIC (in the urban area of Gela) by Polizzi & Lo Giudice (2002). This report is the only one recorded since 1950 in Italy.

113. According to Grolle & Long (2000) *T. hypophylla* and *T. lorbeeriana* are considered here as separate species. But, as indicated by Zamora & al. (1990) and underlined by Paton (1999), most of the differences between the two taxa are confusing or unreliable; although Perold (1993) observed clear difference in spore ornamentation.

114. The report for LOM (Agro di Como) by Garovaglio (1844) has been considered doubtful by Müller (1906-16) and by Massalongo (1913). The report for TRA (Brennero) by Müller (1906-16) is the only one confirmed for Italy.

New species with respect to the check-list from 1995

Barbilophozia quadriloba (Lindb.) Loeske

Cephalozia macrostachya Kaal.

Cyathodium cfr. *foetidissimum* Schiffn.

Fossombronia crozalsii Corb.

Haplomitrium hookeri (Sm.) Nees

Jungermannia borealis Damsh. et Váňa

Scapania gymnostomophila Kaal.

Excluded taxa from Italy

Cephalozia lucens (Evans) Steph.

Reported by Rodegher (1896) for LOM (along the Brembo River at Olmo and near

Averara, *sub Jungermannia lucens*). The species does not exist in Italy; it lives only in the Hawaiian Islands. The herbarium specimen [BER] could not be found.

Cephaloziella elachista (Jack ex Gottsche et Rabenh.) Schiffn.

The herbarium specimens [TO] gathered by Carestia in 1882 near “Riva Valsesia al Colletto” correspond to the *C. rubella/hampeana* group. Also reported generically for Italy by Douin (1920). This report refers to a herbarium specimen conserved in the Douin Herbarium [BR], gathered by Nicholson in April, 1910 at the “Solfatara of Pozzuoli” near Naples and identified by Schiffner as *C. byssacea* (= *C. divaricata*). In addition, there is a note by Douin on the specimen, identifying it as *C. elachista* var. *sulfuracea*. The specimen revision by R.S. & J.V. confirms Schiffner’s identification. The reports for TRA and VEN by Gerdol (1993), not being confirmed by herbarium specimens, are to be considered as uncertain.

Cephaloziella integerrima (Lindb.) Warnst.

The reports for PIE (leg. Cesati 1857, along the Sesia River near Vercelli) and TOS (leg. Sommier 19 February, 1901, Elba Island, FI; leg. Levier 1885, “Firenze La Concezione”, VER) correspond to *C. calyculata* (rev. M.A., 1993).

Chiloscyphus integrifolius Lehm. et Lindenb.

Reported by Rodegher (1896) for LOM (Val Brembana, *sub Jungermannia integrifolia*). The species does not exist in Italy; it lives only in Peru and Chile. However, the herbarium specimen [BER] could not be found.

Drepanolejeunea hamatifolia (Hook.) Schiffn.

Reported by De Notaris (1859) for LOM (Carennà, Brumano, Aralatta and Monte Resegone, *sub Lejeunea hamatifolia* Dum.). *D. hamatifolia* does not exist in Italy; it is an eu-oceanic species which lives only on the Atlantic coasts of Portugal, Spain, France, Ireland, England, and Macaronesia. However, the herbarium specimens (leg. Rota, BER) could not be found.

Exormotheca bulbosa (Link ex Lindenb.) K. Müll.

Incorrectly reported by Zodda (1934) for SIC (Aci Castello). The error was later reported by Müller (1951-58) and Bischler (1976). For a description of the problem see note 33 regarding *Exormotheca pustulosa*.

Fimbriaria blumeana Nees

Reported by Tassi (1901) for TOS (Siena Botanical Gardens). The species does not exist in Italy; it lives only in Java and in the Himalayas. The herbarium specimen [SIENA] could not be found.

Fimbriaria stahlii Steph.

Reported by Tassi (1901) for TOS (Siena Botanical Gardens). The species does not exist in Italy; it lives only in Mexico and Guatemala. The herbarium specimen [SIENA]

could not be found.

Frullania teneriffae (F. Weber) Nees

Reported by Herzog (1905) for SAR (Canale d’Inferno, S. Pietro). The herbarium specimen corresponds to *F. tamarisci* (rev. R.G.).

Herbertus sendtneri (Nees) Lindb.

Reported by Zodda (1934) for TRA (Alto Adige between Merano and Bolzano at the Passo della Croce, *sub Schisma sendtneri* Nees). Zodda erroneously reports the data by Dalla Torre & Sarnthein (1904) “*im Anstieg zum Kreuzjoch*” [*sub Herberta straminea* (Dum.) Trevisan], situated on Austrian territory. In fact, Müller (1906-16) reports the data by Dalla Torre & Sarnthein among the Austrian sites of the species and later (Müller 1951-58) affirms that *Herberta straminea* is found “*In den Ostalpen in einem kleinen Gebiet westlich und östlich von Innsbruck, auf einer Strecke von nur 120 km Luftlinie*”, enriching the site list with a map of the species’ distribution. Thus Zodda surely confused the Austrian toponym with the Italian one existing between Bolzano and Merano.

Jungermannia brembana Rota

Only reported by Rodegher (1896) for LOM (Bergamo and Val Brembana). The herbarium specimen [BER] corresponds to *Cephaloziella divaricata* (rev. R.S., 1993).

Jungermannia caespiticia Lindenb.

The herbarium specimen [BER] for LOM (Val Camonica) by Rodegher (1896) corresponds to *Nardia geoscyphus* (rev. R.S., 1993). The report for PIE by Cappelletti (1927) refers to a herbarium specimen (*leg. Gola 1900, Piedimulera, TO*) corresponding with *J. atrovirens* (rev. R.S., 1994). The reports for TOS (Appennino Pistoiese at the Laghetto del Greppo) by Barsali (1907) and for PIE (Monte Rocciacotello) by Filipello (1964), not being confirmed by herbarium specimens, are to be considered as uncertain.

Jungermannia horkii Nees

Only reported by Rodegher (1896) for LOM (Sarnico). The herbarium specimen [BER] corresponds to *Cephaloziella* sp. (rev. R.S., 1993).

Jungermannia rorata Rota

Only reported by Rodegher (1896) for LOM (Val Camonica and Val Brembana). The herbarium specimens [BER] correspond to *Cephalozia bicuspidata* (rev. R.S., 1993).

Jungermannia subulata Evans

The herbarium specimen [TO] gathered by Gola in 1905 in PIE (near Piedimulera) corresponds to *J. atrovirens*. The generic report for Italy by Váňa (1973), which refers to a herbarium specimen [BM] gathered by Strickland in 1899 (*sub J. lanceolata*), corresponds to a location on Austrian territory (Váňa *in litt.*, May, 1994).

Kurzia pauciflora (Dicks.) Grolle

The reports for PIE correspond to *K. sylvatica* and *K. trichoclados* (rev. H. Hürlimann). The gatherings of Carestia (Riva Valsesia, Gola Rossa, Ovago d’Otro and Cramisei) correspond to *K. trichoclados*. Farneti (1894) reports the species doubtfully for

LOM (Agro di Como). The reports for TRA by Dalla Torre & Sarnthein (1904) (*sub Lepidozia setacea*) correspond to *K. trichoclados*. Even though the herbarium specimen is sterile, Gerdol's determination (leg. Gerdol 1987, Oberrasen Antholz – Rasun Anterselva above) is almost certainly incorrect given the species' ecology. All reports for TOS, after revision of the herbarium specimens (Cortini Pedrotti & al. 1991), correspond to *K. sylvatica*. All the specimens examined were confused with *K. sylvatica* or *K. trichoclados*. For the determination of *Kurzia* see Stieperaere & Schumacker (1986).

Lejeunea flava (Sw.) Nees subsp. *moorei* (Lindb.) Schust.

Reported by Massalongo & Carestia (1882) for PIE (Alpe Casera in Valsesia, *sub L. moorei*). According to Müller (1951-58) and Düll (1983) the identification appears clearly incorrect. Schuster (1966-1992) notes the species in Central and South America and the subsp. *moorei* for Ireland. Probably confusion with yellow forms of *L. cavifolia*.

Lejeunea patens Lindb.

Following revision of the herbarium specimens, all the reports for Italy correspond to *L. lamacerina* and *L. cavifolia*. *L. patens* only lives along the Atlantic coasts of Europe. For the distinction between *L. patens*, *L. lamacerina* and *L. cavifolia* see Müller (1951-58) and Geissler (1987).

Lepidozia cupressina (Sw.) Lindenb.

The report for FRV (Monte Cretabianca) by Gortani (1955), not being confirmed by herbarium specimens, is to be considered as uncertain. *L. cupressina* is a markedly oceanic species that lives in isolated locations (Vosges, Black Forest) under oceanic influences.

Leptoscyphus cuneifolius (Hook.) Mitt.

Reported by Rodegher (1896) for LOM (Ca' S. Marco in Val Brembana, *sub Jungermannia cuneifolia*). The herbarium specimen [BER] corresponds to *Cephalozia bicuspidata* (rev. R.S., 1993).

Metzgeria temperata Kuwah.

The report for ABR (Vallone di Cacciagrande, Abruzzo National Park) by Mastracci & Düll (1991), corresponds to *M. furcata* (rev. M.A., 1994).

Nardia insecta Lindb.

Reported by Levier (1905) for AOS (leg. Vaccari, Piccolo S. Bernardo, *det. Bryhn, sub Alicularia geoscypha* De Not. fo. *insecta* (Lindb.) K. Müll.). Following revision by Schumacker & al. (1986), the herbarium specimen corresponds to *N. geoscyphus*.

Phaeoceros carolinianus (Michx.) Prosk.

The report for TRA by Düll (1983) (*sub P. laevis* subsp. *carolinianus*) is excluded by the author (*in litt.*, 1993).

Plagiochila spinulosa (Dicks.) Dum.

All herbarium specimens for PIE, LOM, FRV and TOS were confused with *P. killarniensis* and *P. poreloides*. *P. spinulosa* is a North-Atlantic/Macaronesian species (Grolle & Schumacker 1982). In Italy only *P. killarniensis* exists, with a South-Atlantic/Macaronesian distribution (Cortini Pedrotti & al. 1991). For identification of the *Plagiochila* species, see Schumacker & Lecointe (1989).

Pleurozia purpurea Lindb.

The report by Scopoli (1772) (*sub Jungermannia purpurea*) refers to a location on Austrian territory, which furthermore is erroneous, this species being restricted to the British Isles, the Färöer and SW-Norway.

Porella canariensis (F. Weber) Bryhn

The report for SAR by Herzog (1905), not being confirmed by herbarium specimens, is considered uncertain by Bischler & Jovet-Ast (1971-72). In fact, it is *P. obtusata* owing to nomenclatural confusion (Düll *in litt.*, January, 1995).

Porella platyphylloidea (Schwein.) Lindenb.

The herbarium specimen (Hb De Notaris, RO), gathered by Bonnay in 1837 “*in valle augustana*” (AOS) corresponds to *P. platyphylla* (rev. M.A., 1993). The herbarium specimen (Hb De Notaris, RO) gathered by Cesati in 1837 “*ad Verbanum*” (PIE) corresponds to *P. obtusata* (rev. M.A., 1993). The herbarium specimens [TR] of Venturi for TRA (Rabbi e Nogaré) correspond to *P. platyphylla* (rev. R.S., 1994). The report for TOS (Montieri, Grosseto) by Murgia & Sassi (1982) is incorrect. The report for SAR (*leg. Gennari* 1858, Monte Sette Fratelli, *sub Madotheca thuja*, Hb De Notaris, RO) by Bertoloni (1858-62) corresponds to *P. obtusata*. The reports for LIG (De Notaris 1846), VEN (Trevisan 1840) and LOM (De Notaris 1859) appear dubious. At present, as shown by Therrien, Crandall-Stotler & Stotler (1998), *P. platyphylloidea* (Schwein.) Lindenb. is considered conspecific with *P. platyphylla* (L.) Pfeiff. For the molecular, morphological and taxonomical differences of the European species of the genus *Porella*, consult also Boisselier-Dubayle & Bischler (1994) and Bischler & Boisselier-Dubayle (1998).

Prasanthus suecicus (Gottsche) Lindb.

Massalongo (1923) refers to the species: “*In Italia trovato dal Corbière nelle Alpi marittime: rive del lago Tre Colpas (2150 m.s.m.) ed alla Madonna (2250 m.s.m.)*”. These localities are in French territory. The species has not been found in Italy to date.

Radula aquilegia (Hook. F. et Tayl.) Gott. *et al.*

Reported by Rodegher (1896) for LOM (Val Brembana). The herbarium specimen [BER] corresponds to *R. complanata* (rev. R.S., 1993).

Riccardia incurvata Lindb.

The reports for LOM by Andreis & Rotondi (1982) and Ferranti & Zavagno (1999) correspond to *R. multifida* (rev. R.S., 1994). The report for TOS (Island of Montecristo) by Cortini Pedrotti (1980) corresponds to *R. chamedryfolia* (rev. R.S. & J.V., 1994).

Riccia melitensis C. Massal.

Reported incorrectly by various authors for SIC. Actually, “*Insula Gozo, prope Sicilia, leg. Sommier, 1906 (G)*” is written on the holotype. The Island of Gozo is well-known to belong to the independent Maltese archipelago; hence the species, at least in terms of strict national boundaries, cannot be ascribed to the Italian flora, although Malta is included in Italy by Flora Europea and in Red Data Book for threatened Bryophytes in Europe and Macaronesia (Schumacker & Martiny 1995).

Telaranea nematodes (Gott.) Howe

Reported by Ferrarini & Marchetti (1983) for TOS (Apuan Alps). All the herbarium specimens correspond to *Blepharostoma trichophyllum* and *Kurzia sylvatica* (Cortini Pedrotti & al. 1991).

Doubtful species*Fimbriaria raddii* Corda

Zodda (1934) regarding this species, cites: “*Specie dubbia, scoperta da Raddi presso Firenze e descritta da Corda, ma non più ritrovata né ivi, né altrove; né è stato possibile rintracciare gli esemplari autotipi*”. Müller (1906-16) writes of never having seen the original specimen and adds that the description was done by Nees, with a specimen at hand.

Gymnomitrium apiculatum (Schiffn.) Müll. Frib.

The report by Düll (1991) for TRA is incorrect. In fact, he reports data of Müller (1951-58) for Macugnaga (not Macagnuga!) referring it to South Tirol. Nevertheless, this locality is in PIE. However, the reports for PIE by Cappelletti (1929) and for LOM by Matouschek (1904), not being confirmed by herbarium specimens, are considered as uncertain.

Jungermannia equisetifolia

The report for PIE (Vagna, Domodossola) by Gagliardi (1884) refers to a binomial unknown to liverwort taxonomy. The herbarium specimen has not been found.

Jungermannia microcarpa Carringt.

The report for PIE (Valsesia) by Gallo (1892) refers to a binomial unknown to liverwort taxonomy. The herbarium specimen has not been found.

Jungermannia minima

Reported by Scopoli (1772) for Carnia in Austrian territory and doubtfully by Viviani (1804) for LIG (Polcevera) and LAZ (Agro Romano). Viviani, referring to Scopoli's report, notes: “*A Scopolio tam imperfecte descripta, ut sine dubitationis nota eiusdem synonimon recipere non auserim*”.

List of abbreviations

List of abbreviations cited in the notes; abbreviations of Herbaria follow Vitt & al. (1985):

- J.V.: J. Váňa
 M.A.: M. Aleffi
 R.G.: R. Grolle
 R.S.: R. Schumacker
conf.: confirmavit
det.: determinavit
in litt.: in litteris
leg.: legit
per: with the erroneous name of
rev.: revised by
s.l.: sensu lato
s.str.: sensu stricto
sub: with the synonym of
v.: vidit
 [BER]: Bergamo
 [BI]: Bari (Santarelli Herbarium)
 [BM]: London (British Museum of Natural History)
 [BR]: Bruxelles (National Botanical Garden)
 [CHER]: Cherbourg
 [DUIS]: Münstereifel (Düll Herbarium)
 [FI]: Firenze (Cryptogamic Herbarium)
 [JE]: Jena
 [LGHF]: Herbarium University of Liege – Station Scientifique des Hautes-Fagnes
 [PC]: Paris
 [RO]: Roma (De Notaris Herbarium)
 [S]: Stockholm
 [SIENA]: Siena
 [TO]: Torino (Plant Biology Department)
 [MRSN]: Torino (Regional Museum of Natural Sciences)
 [TR]: Trento (Venturi Herbarium)
 [VER]: Verona (Massalongo Herbarium)

Synonyms

- Achiton quadratum* Corda = *Reboulia hemisphaerica* (L.) Raddi
Acolea adusta Nees = *Marsupella adusta* (Nees emend. Limpr.) Spruce
Acolea alpina Gott. = *Marsupella alpina* (Gottscche ex Husn.) Bernet
Acolea brevissima Dumort. = *Marsupella brevissima* (Dumort.) Grolle
Acolea concinnata (Lightf.) Dumort. = *Gymnomitrion concinnatum* (Lightf.) Corda
Acolea conferta (Limpr.) Mass. et Carest. = *Marsupella brevissima* (Dumort.) Grolle
Acolea coralliooides (Nees) Dumort. = *Gymnomitrion coralliooides* Nees

- Acolea revoluta* (Nees) Steph. = *Apomarsupella revoluta* (Nees) R.M. Schust.
Acolea varians (Lindb.) Steph. = *Marsupella brevissima* (Dumort.) Grolle
Alicularia breidleri Limpr. = *Nardia breidleri* (Limpr.) Lindb.
Alicularia compressa (Hook.) Gottsche et al. = *Nardia compressa* (Hook.) Gray
Alicularia geoscyphus De Not. = *Nardia geoscyphus* (De Not.) Lindb.
Alicularia geoscyphus fo. *insecta* (Lindb.) Müll. Frib. = *Nardia insecta* Lindb.
Alicularia minor (Nees) Limpr. = *Nardia geoscyphus* (De Not.) Lindb.
Alicularia pachyphylla De Not. = *Nardia compressa* (Hook.) Gray
Alicularia rotaeana De Not. = *Nardia scalaris* Gray
Alicularia scalaris (Gray) Corda = *Nardia scalaris* Gray
Alicularia scalaris var. *minor* Nees = *Nardia geoscyphus* (De Not.) Lindb.
Anastrophyllum minutum (Schreb.) R.M. Schust. var. *grande* (Gottsche ex Lindb.) R.M. Schust. = *Anastrophyllum minutum* (Schreb.) R.M. Schust.
Anastrophyllum myriocarpum (Carrington) R.M. Schust. = *Eremonotus myriocarpus* (Carrington) Pearson
Anastrophyllum nardioides (Lindb.) Kaal. = *Anastrophyllum assimile* (Mitt.) Steph.
Anastrophyllum reichardtii (Gottsche) Steph. = *Anastrophyllum assimile* (Mitt.) Steph.
Aneura incurvata (Lindb.) Steph. = *Riccardia incurvata* Lindb.
Aneura latifrons Lindb. = *Riccardia latifrons* (Lindb.) Lindb.
Aneura multifida (L.) Dumort. = *Riccardia multifida* (L.) Gray
Aneura multifida var. *major* Nees = *Riccardia chamedryfolia* (With.) Grolle
Aneura multifida var. *rivularis* Rabenh. = *Riccardia chamedryfolia* (With.) Grolle
Aneura palmata (Hedw.) Dum. = *Riccardia palmata* (Hedw.) Carruth.
Aneura pinnatifida Dumort. = *Riccardia chamedryfolia* (With.) Grolle
Aneura sinuata (Dicks.) Dum. = *Riccardia chamedryfolia* (With.) Grolle
Anomomarsupella cephalozielloides R.M. Schust. = *Eremonotus myriocarpus* (Carrington) Pearson
Anthelia andina Herzog = *Anthelia juratzkana* (Limpr.) Trevis.
Anthelia julacea (L.) Dumort. subsp. *juratzkana* (Limpr.) Meyl. = *Anthelia juratzkana* (Limpr.) Trevis.
Anthelia nivalis Lindb. = *Anthelia juratzkana* (Limpr.) Trevis.
Anthelia phyllacantha C. Massal. et Carestia = *Cephaloziella phyllacantha* (C. Massal. et Carestia) Müll. Frib.
Anthelia setiformis (Ehrh.) Dum. = *Tetralophozia setiformis* (Ehrh.) Schljakov
Anthoceros bulbiculosus Brot. = *Phaeoceros bulbiculosus* (Brot.) Prosk.
Anthoceros bulbosus Brot. ex Steudel = *Phaeoceros bulbiculosus* (Brot.) Prosk.
Anthoceros caespiticius De Not. = *Anthoceros punctatus* L.
Anthoceros crispulus (Mont.) Douin = *Anthoceros agrestis* Paton
Anthoceros crispulus auct. = *Anthoceros agrestis* Paton
Anthoceros dichotomus Raddi = *Phaeoceros bulbiculosus* (Brot.) Prosk.
Anthoceros husnotii Steph. = *Anthoceros punctatus* L.
Anthoceros laevis L. = *Phaeoceros laevis* (L.) Prosk. subsp. *laevis*
Anthoceros mandonii Steph. = *Anthoceros caucasicus* Steph.
Anthoceros multifidus auct. = *Anthoceros agrestis* Paton
Anthoceros polymorphus Raddi = *Phaeoceros bulbiculosus* (Brot.) Prosk.

- Anthoceros punctatus* auct. = *Anthoceros agrestis* Paton
Anthoceros punctatus L. var. *cavernosus* (Nees) Gott. = *Anthoceros agrestis* Paton
Anthoceros punctatus var. *cavernosus* Gottsche et al. = *Anthoceros agrestis* Paton
Anthoceros punctatus var. *husnotii* (Steph.) Zodda = *Anthoceros punctatus* L.
Anthoceros punctatus var. *multifidus* (L.) Schmiedl ex Swartz = *Anthoceros agrestis* Paton
Anthrocephalus italicus Sassi = *Plagiochasma rupestre* (J.R. Forst. et G. Forst.) Steph.
Antoaria vulgaris Raddi = *Porella platyphylla* (L.) Pfeiff.
Antrocephalus italicus Sassi = *Plagiochasma rupestre* (J.R. Forst. et G. Forst.) Steph.
Aplozia amplexicaulis (Dumort.) Dumort. = *Jungermannia sphaerocarpa* Hook.
Aplozia anomala (Hook.) Warnst. = *Mylia anomala* (Hook.) Gray
Aplozia atrovirens (Dumort.) Dumort. = *Jungermannia atrovirens* Dumort.
Aplozia autumnalis (DC.) Heeg = *Jamesoniella autumnalis* (DC.) Steph.
Aplozia confertissima (Nees) Dumort. = *Jungermannia confertissima* Nees
Aplozia cordifolia Dumort. = *Jungermannia exsertifolia* Steph. subsp. *cordifolia* (Dumort.)
Váňa
Aplozia crenulata (Mitt.) Lindb. = *Jungermannia gracillima* Sm.
Aplozia crenulata var. *gracillima* (Sm.) Heeg = *Jungermannia gracillima* Sm.
Aplozia gracillima (Sm.) Dumort. = *Jungermannia gracillima* Sm.
Aplozia hyalina (Lyell) Dumort. = *Jungermannia hyalina* Lyell
Aplozia lanceolata sensu Dumort. = *Jungermannia leiantha* Grolle
Aplozia lurida (Dumort.) Dumort. = *Jungermannia sphaerocarpa* Hook.
Aplozia nana (Nees) Breidl. = *Jungermannia sphaerocarpa* Hook.
Aplozia oblongifolia (Müll. Frib.) Jörg. = *Jungermannia pumila* With.
Aplozia obovata (Nees) Loeske = *Jungermannia obovata* Nees
Aplozia polaris (Lindb.) Bryhn = *Jungermannia polaris* Lindb.
Aplozia pumila (With.) Dumort. = *Jungermannia pumila* With.
Aplozia riparia (Taylor) Dumort. = *Jungermannia atrovirens* Dumort.
Aplozia scalariformis (Nees) Dumort. = *Jungermannia confertissima* Nees
Aplozia schiffneri Loitl. = *Jungermannia polaris* Lindb.
Aplozia sphaerocarpa (Hook.) Dumort. = *Jungermannia sphaerocarpa* Hook.
Aplozia sphaerocarpoidea (De Not.) Dumort. = *Jungermannia atrovirens* Dumort.
Aplozia tera (Nees) Bernet = *Jungermannia sphaerocarpa* Hook.
Aplozia tristis (Nees) Dumort. = *Jungermannia atrovirens* Dumort.
Aspiromitus madeirensis Steph. = *Anthoceros caucasicus* Steph.
Asterella bonjeanii Trev. = *Asterella lindbergiana* (Corda ex Nees) Arnell
Asterella fragrans (Nees) Trev. = *Asterella saccata* (Wahlenb.) A. Evans
Asterella hemisphaerica (L.) P. Beauv. = *Reboulia hemisphaerica* (L.) Raddi
Asterella ludwigii auct. = *Asterella gracilis* (F. Weber) Underw.
Asterella nana (Lindb.) Mass. = *Asterella gracilis* (F. Weber) Underw.
Asterella pilosa Trev. = *Asterella gracilis* (F. Weber) Underw.
Aytonia rupestris J.R. Forst. et G. Forst. = *Plagiochasma rupestre* (J.R. Forst. et G. Forst.)
Steph.
Barbilophozia baueriana (Schiffn.) Loeske = *Barbilophozia hatcheri* (A. Evans) Loeske
Barbilophozia gracilis (Schleich. ex Steph.) Müll. Frib. = *Barbilophozia attenuata* (Mart.)
Loeske

- Barbilophozia obtusa* (Lindb.) H. Buch = *Lophozia obtusa* (Lindb.) A. Evans
Bazzania deflexa (Mart.) Trevis. = *Bazzania flaccida* (Dumort.) Grolle
Bazzania denudata auct. = *Bazzania flaccida* (Dumort.) Grolle
Bazzania implexa (Nees) Müll. Frib. = *Bazzania flaccida* (Dumort.) Grolle
Bazzania triangularis (Schleich. ex Steudel) Loeske = *Bazzania tricrenata* (Wahlenb.)
Loeske
Bazzania triangularis var. *implexa* (Nees) Zahlbr. = *Bazzania flaccida* (Dumort.) Grolle
Bellincinia montana Raddi = *Porella arboris-vitae* (With.) Grolle
Blepharostoma arachnoideum var. *brevirete* (Bryhn et Kaal.) Frye et L. Clark =
Blepharostoma trichophyllum var. *brevirete* Bryhn et Kaal.
Blepharostoma trichophyllum (L.) Dumort. subsp. *brevirete* (Bryhn et Kaal.) R.M. Schust.
= *Blepharostoma trichophyllum* var. *brevirete* Bryhn et Kaal.
Blepharozia ciliaris (L.) Dumort. = *Ptilidium ciliare* (L.) Hampe
Blepharozia ciliaris var. *wallrothiana* Nees = *Ptilidium pulcherrimum* (G. Weber) Vain.
Blepharozia pulcherrima (G. Weber) Lindb. = *Ptilidium pulcherrimum* (G. Weber) Vain.
Blyttia lyellii (Hook.) Lindb. = *Pallavicinia lyellii* (Hook.) Carruth.
Blyttia lyellii var. *hibernica* (Hook.) Nees = *Moerckia hibernica* (Hook.) Gottsche
Blyttia moerckii Nees = *Moerckia blyttii* (Moerch) Brockm.
Brissocarpus riccioides Bisch. = *Corsinia coriandrina* (Spreng.) Lindb.
Caesia conferta Pears. = *Marsupella brevissima* (Dumort.) Grolle
Calycularia blyttii (Moerch) Steph. = *Moerckia blyttii* (Moerch) Brockm.
Calycularia hibernica (Hook.) Steph. = *Moerckia hibernica* (Hook.) Gottsche
Calypogeia adscendens Warnst. = *Calypogeia muelleriana* (Schiffn.) Müll. Frib.
Calypogeia ericetorum Raddi = *Gongylanthus ericetorum* (Raddi) Nees
Calypogeia flagellifera Raddi = *Gongylanthus ericetorum* (Raddi) Nees
Calypogeia meylanii H. Buch = *Calypogeia integristipula* Steph.
Calypogeia neesiana var. *laxa* Meyl. = *Calypogeia muelleriana* (Schiffn.) Müll. Frib.
Calypogeia paludosa Warnst. = *Calypogeia sphagnicola* (Arnell et J. Perss.) Warnst. et
Loeske
Calypogeia tenuis A. Evans = *Calypogeia sphagnicola* (Arnell et J. Perss.) Warnst. et
Loeske
Calypogeia trichomanis (L.) Corda var. *fissa* Raddi = *Calypogeia fissa* (L.) Raddi
Calypogeia trichomanis auct. = *Calypogeia azurea* Stotler et Crotz
Calypogeia trichomanis var. *suecica* Meyl. = *Calypogeia suecica* (Arnell. et J. Perss.)
Müll. Frib.
Candollea carinata Raddi = *Scapania compacta* (A. Roth) Dumort.
Carpobolus fertilis (Milde) Lehm. = *Notothylas orbicularis* (Schwein.) Sull.
Carpobolus orbicularis Schwein. = *Notothylas orbicularis* (Schwein.) Sull.
Carpobolus valvatum Nees = *Nothothylas orbicularis* (Schwein.) Sull.
Cephalozia affinis Lindb. ex Steph. = *Cephalozia lunulifolia* (Dumort.) Dumort.
Cephalozia albescens (Hook.) Dumort. = *Pleurocladula albescens* (Hook.) Grolle
Cephalozia baueri (Mart.) C. Massal. = *Nowellia curvifolia* (Dicks.) Mitt.
Cephalozia bicuspidata (L.) Dum. var. *alpicola* Mass. et Carest. = *Cephalozia pleniceps*
(Austin) Lindb.
Cephalozia bicuspidata subsp. *ambigua* (C. Massal.) R.M. Schust. = *Cephalozia ambigua*

C. Massal.

- Cephalozia bicuspidata* subsp. *lammersiana* (Huebener) R.M. Schust. = *Cephalozia bicuspidata* (L.) Dumort.
- Cephalozia bicuspidata* var. *lammersiana* (Huebener) Breidl. = *Cephalozia bicuspidata* (L.) Dumort.
- Cephalozia bifida* (Schreb.) Lindb. = *Cephaloziella rubella* (Nees) Warnst.
- Cephalozia borealis* Lindb. = *Cladopodiella francisci* (Hook.) Jörg.
- Cephalozia bryhnii* Kaal. = *Cephaloziella rubella* (Nees) Warnst.
- Cephalozia byssacea* Dum. = *Cephaloziella divaricata* (Sm.) Schiffn.
- Cephalozia compacta* Warnst. = *Cephalozia connivens* (Dicks.) Lindb.
- Cephalozia curvifolia* (Dicks.) Dumort. = *Nowellia curvifolia* (Dicks.) Mitt.
- Cephalozia dentata* (Raddi) Lindb. = *Cephaloziella dentata* (Raddi) Steph.
- Cephalozia divaricata* Dum. = *Cephaloziella divaricata* (Sm.) Schiffn.
- Cephalozia elegans* Heeg = *Cephaloziella elegans* (Heeg) Schiffn.
- Cephalozia fluitans* (Nees) Spruce = *Cladopodiella fluitans* (Nees) H. Buch
- Cephalozia francisci* (Hook.) Dumort. = *Cladopodiella francisci* (Hook.) Jörg.
- Cephalozia helleri* Lindb. = *Anastrophyllum hellerianum* (Nees ex Lindenb.) R.M. Schust.
- Cephalozia integerrima* Lindb. = *Cephaloziella integerrima* (Lindb.) Warnst.
- Cephalozia lammersiana* (Huebener) Spruce = *Cephalozia bicuspidata* (L.) Dumort.
- Cephalozia laxifolia* (Hook.) Lindb. = *Hygrobiella laxifolia* (Hook.) Spruce
- Cephalozia limprichti* Warnst. = *Cephaloziella stellulifera* (Taylor ex Spruce) Schiffn.
- Cephalozia massalongi* Spruce = *Cephaloziella massalongi* (Spruce) Müll. Frib.
- Cephalozia media* Lindb. = *Cephalozia lunulifolia* (Dumort.) Dumort.
- Cephalozia multiflora* Lindb. = *Cephalozia connivens* (Dicks.) Lindb.
- Cephalozia multiflora* Spruce = *Cephalozia lunulifolia* (Dumort.) Dumort.
- Cephalozia myriocarpa* (Carrington) Lindb. = *Eremonotus myriocarpus* (Carrington) Pearson
- Cephalozia notarisiana* Mass. = *Hygrobiella laxifolia* (Hook.) Spruce
- Cephalozia nudis* Lindb. = *Cephalozia lunulifolia* (Dumort.) Dumort.
- Cephalozia pallida* Kaal. = *Cephalozia lunulifolia* (Dumort.) Dumort.
- Cephalozia patula* Steph. = *Cephaloziella stellulifera* (Taylor ex Spruce) Schiffn.
- Cephalozia phyllacantha* Mass. et Carest. = *Cephaloziella phyllacantha* (C. Massal et Carestia) Müll. Frib.
- Cephalozia pleniceps* (Aust.) Lindb. var. *macrantha* K. Müll. = *Cephalozia pleniceps* (Austin) Lindb.
- Cephalozia raddiana* Mass. = *Cephaloziella rubella* (Nees) Warnst.
- Cephalozia reclusa* (Taylor) Dumort. = *Cephalozia catenulata* (Huebener) Lindb.
- Cephalozia serrifolia* Lindb. = *Cephalozia catenulata* (Huebener) Lindb.
- Cephalozia sphagni* (Dicks.) Spruce = *Odontoschisma sphagni* (Dicks.) Dumort.
- Cephalozia symbolica* (Gott.) Breidl. var. *sphagnorum* Mass. = *Cephalozia pleniceps* (Austin) Lindb.
- Cephalozia symbolica* Breidl. = *Cephalozia lunulifolia* (Dumort.) Dumort.
- Cephalozia turneri* Lindb. = *Cephaloziella turneri* (Hook.) Müll. Frib.
- Cephalozia veronensis* Mass. = *Cephaloziella baumgartneri* Schiffn.
- Cephaloziella algeriensis* Trabut = *Cephaloziella baumgartneri* Schiffn.

- Cephaloziella alpina* Douin = *Cephaloziella varians* (Gottsche) Steph.
Cephaloziella arctica Bryhn et Douin = *Cephaloziella varians* (Gottsche) Steph.
Cephaloziella bifidoides Douin = *Cephaloziella rubella* (Nees) Warnst.
Cephaloziella byssacea sensu Schust. non (A. Roth) Warnst. = *Cephaloziella divaricata* (Sm.) Schiffn.
Cephaloziella byssacea var. *polystratosa* R.M. Schust. et Damsh. = *Cephaloziella divaricata* (Sm.) Schiffn.
Cephaloziella carnutensis Douin = *Cephaloziella divaricata* (Sm.) Schiffn.
Cephaloziella compacta (Jörg.) Müll. Frib. = *Cephaloziella massalongi* (Spruce) Müll. Frib.
Cephaloziella divaricata (Sm.) Schiffn. var. *scabra* (M. Howe) S. Arn. = *Cephaloziella divaricata* (Sm.) Schiffn.
Cephaloziella erosa Limpr. = *Cephaloziella hampeana* (Nees) Schiffn.
Cephaloziella francisci (Hook.) Dum. = *Cladopodiella francisci* (Hook.) Jörg.
Cephaloziella gallica Douin = *Cephaloziella hampeana* (Nees) Schiffn.
Cephaloziella gracillima Douin = *Cephaloziella stellulifera* (Taylor ex Spruce) Schiffn.
Cephaloziella limprichti var. *stellulifera* (Taylor) K. Müll. = *Cephaloziella stellulifera* (Taylor ex Spruce) Schiffn.
Cephaloziella limprichti Warnst. = *Cephaloziella stellulifera* (Taylor ex Spruce) Schiffn.
Cephaloziella myriantha (Lindb.) Schiffn. = *Cephaloziella elegans* (Heeg) Schiffn.
Cephaloziella nigrimonasteriensis Douin = *Cephaloziella divaricata* (Sm.) Schiffn.
Cephaloziella piriflora Douin = *Cephaloziella integerrima* (Lindb.) Warnst.
Cephaloziella polystratosa (R.M. Schust. et Damsh.) Konstantinova = *Cephaloziella divaricata* (Sm.) Schiffn.
Cephaloziella pulchella Douin = *Cephaloziella rubella* (Nees) Warnst.
Cephaloziella raddiana (Mass.) Schiffn. = *Cephaloziella rubella* (Nees) Warnst.
Cephaloziella rubella var. *elegans* (Heeg) R.M. Schust. = *Cephaloziella elegans* (Heeg) Schiffn.
Cephaloziella rubella (Nees) Warnst. var. *sullivantii* (Austin) Müll. Frib. = *Cephaloziella rubella* (Nees) Warnst.
Cephaloziella rupestris C.E.O. Jensen = *Cephaloziella divaricata* (Sm.) Schiffn.
Cephaloziella starkei auct. = *Cephaloziella divaricata* (Sm.) Schiffn.
Cephaloziella verrucosa Bryhn et Kaal. = *Cephaloziella varians* (Gottsche) Steph.
Cesia adusta (Nees emend. Limpr.) Lindb. = *Marsupella adusta* (Nees emend. Limpr.) Spruce
Cesia concinnata (Lightf.) Lindb. = *Gymnomitrium concinnum* (Lightf.) Corda
Cesia concinnata S. Gray = *Gymnomitrium concinnum* (Lightf.) Corda
Cesia corallioides (Nees) Carruth. = *Gymnomitrium corallioides* Nees
Cesia revoluta (Nees) Dumort. = *Apomarsupella revoluta* (Nees) R.M. Schust.
Cesia varians (Lindb.) Lindb. = *Marsupella brevissima* (Dumort.) Grolle
Chaetopsis trichophylla (L.) Dumort. = *Blepharostoma trichophyllum* (L.) Dumort. var. *trichophyllum*
Chamaeceros fertilis (Milde) Nees = *Notothylas orbicularis* (Schwein.) Sull.
Chandonanthus setiformis (Ehrh.) Lindb. = *Tetralophozia setiformis* (Ehrh.) Schljakov
Chiloscyphus lophocoleoides Nees = *Chiloscyphus polyanthus* (L.) Corda

- Chiloscyphus polyanthos* var. *fragilis* (A. Roth) Müll. Frib. = *Chiloscyphus polyanthos* (L.) Corda
Chiloscyphus polyanthos var. *rivularis* (Schrad.) Nees = *Chiloscyphus polyanthos* (L.) Corda
Chomiocarpon commutatum (Lindenb.) Lindb. = *Preissia quadrata* (Scop.) Nees
Chomiocarpon quadratum (Scop.) Lindb. = *Preissia quadrata* (Scop.) Nees
Cincinnulus argutus (Nees et Mont.) Dumort. = *Calypogeia arguta* Nees et Mont.
Cincinnulus suecicus (Arnell et J. Perss.) Müll. Frib. = *Calypogeia suecica* (Arnell et J. Perss.) Müll. Frib.
Cladopus francisci (Hook.) Meyl. = *Cladopodiella francisci* (Hook.) Jörg.
Clevea hyalina (Sommerf.) Lindb. = *Athalamia hyalina* (Sommerf.) S. Hatt.
Clevea rousseliana (Mont.) Leitg. = *Athalamia spathysii* (Lindenb.) S. Hatt.
Clevea spathysii (Lindenb.) K. Müll. = *Athalamia spathysii* (Lindenb.) S. Hatt.
Clevea suecica Lindb. = *Athalamia hyalina* (Sommerf.) S. Hatt.
Codonia ralfsii (Wilson) Dumort. = *Petalophyllum ralfsii* (Wilson) Nees et Gottsche
Coleochila anomala (Hook.) Dum. = *Mylia anomala* (Hook.) Gray
Coleochila stillicidiorum (De Not.) Dumort. = *Southbya tophacea* (Spruce) Spruce
Cololejeunea insconspicua (De Not.) C. Massal. = *Cololejeunea minutissima* (Sm.) Schiffn.
Conocephalum hemisphaericum Dumort. = *Preissia quadrata* (Scop.) Nees
Conocephalum officinale Trevis. = *Conocephalum conicum* (L.) Dumort.
Conocephalum trioicum F. Weber = *Conocephalum conicum* (L.) Dumort.
Conocephalus vulgaris De Not. = *Conocephalum conicum* (L.) Dumort.
Cordaea blyttii (Moerch) Corda = *Moerckia blyttii* (Moerch) Brockm.
Cordaea flotoviana Nees = *Moerckia hibernica* (Hook.) Gottsche
Corsinia marchantoides Raddi = *Corsinia coriandrina* (Spreng.) Lindb.
Corsinia reticulata (J.F. Gmel.) Dumort. = *Corsinia coriandrina* (Spreng.) Lindb.
Crossocalyx hellerianus (Nees ex Lindenb.) Meyl. = *Anastrophyllum hellerianum* (Nees ex Lindenb.) R.M. Schust.
Crossogyna autumnalis (DC.) Schljakov = *Jamesoniella autumnalis* (DC.) Steph.
Cyathophora commutata Trevis. = *Preissia quadrata* (Scop.) Nees
Dichiton calyculatum (Durieu et Mont.) Schiffn. = *Cephaloziella calyculata* (Durieu et Mont.) Müll. Frib.
Dichiton gallicum Douin = *Cephaloziella calyculata* (Durieu et Mont.) Müll. Frib.
Dichiton integerrimum (Lindb.) Douin = *Cephaloziella integerrima* (Lindb.) Warnst.
Dichominum cruciatum (L.) Trevis. = *Lunularia cruciata* (L.) Lindb.
Dilaena blyttii (Moerch) Dumort. = *Moerckia blyttii* (Moerch) Brockm.
Dilaena hibernica (Hook.) Dumort. = *Moerckia hibernica* (Hook.) Gottsche
Dilaena lyellii (Hook.) Dum. = *Pallavicinia lyellii* (Hook.) Carruth.
Diplolaena blyttii (Moerch) Nees = *Moerckia blyttii* (Moerch) Brockm.
Diplolaena lyelli fo. *lamellata* Nees = *Petalophyllum ralfsii* (Wilson) Nees et Gottsche
Diplolaena lyellii (Hook.) Dum. = *Pallavicinia lyellii* (Hook.) Carruth.
Diplolaena lyellii var. *hibernica* (Hook.) Nees = *Moerckia hibernica* (Hook.) Gottsche
Diplomitrium blyttii (Moerch) Nees = *Moerckia blyttii* (Moerch) Brockm.
Diplomitrium hibernicum (Hook.) Corda = *Moerckia hibernica* (Hook.) Gottsche

- Diplophylla albicans* (L.) Trevis. = *Diplophyllum albicans* (L.) Dumort.
Diplophylla minuta (Schreb.) Cranz = *Anastrophyllum minutum* (Schreb.) R.M. Schust.
Diplophylla obtusifolia (Hook.) Trevis. = *Diplophyllum obtusifolium* (Hook.) Dumort.
Diplophylla taxifolia (Wahlenb.) Trevis. = *Diplophyllum taxifolium* (Wahlenb.) Dumort.
Diplophyllum apiculatum var. *obtusatum* R.M. Schust. = *Diplophyllum obtusatum* (R.M. Schust.) R.M. Schust.
Diplophyllum scapanioides (C. Massal.) Steph. = *Scapania scapanioides* (C. Massal.) Grolle
Dumortiera irrigua (Taylor) Nees = *Dumortiera hirsuta* (Sw.) Nees
Dumortiera spathysii (Lindenb.) Nees = *Athalamia spathysii* (Lindenb.) S. Hatt.
Duriaea notarisii Bory et Mont. = *Riella notarisii* (Mont.) Mont.
Duvalia pilosa (Hook.) Lindb. = *Mannia pilosa* (Hornem.) Frye et L. Clark
Duvalia rupestris Nees = *Mannia triandra* (Scop.) Grolle
Eucalyx crenulata (Mitt.) Loeske = *Jungermannia gracillima* Sm.
Eucalyx gracillima (Sm.) Loeske = *Jungermannia gracillima* Sm.
Eucalyx hyalinus (Lyell) Carrington in Nees = *Jungermannia hyalina* Lyell
Eucalyx muellerianus (Schiffn.) Müll. Frib. = *Jungermannia hyalina* Lyell
Eucalyx obovata (Nees) Carrington = *Jungermannia obovata* Nees
Eucalyx subellipticus (Lindb. ex Kaal.) Breidl. = *Jungermannia subelliptica* (Lindb. ex Kaal.) Levier
Eulejeunea lamacerina Steph. = *Lejeunea lamacerina* (Steph.) Schiffn.
Eulejeunea serpyllifolia (Dicks.) Spruce = *Lejeunea cavifolia* (Ehrh.) Lindb.
Evansia dentata (Raddi) Douin = *Cephaloziella dentata* (Raddi) Migula
Exormotheca africana Steph. = *Exormotheca pustulosa* Mitt.
Fegatella conica (L.) Corda = *Conocephalum conicum* (L.) Dumort.
Fegatella officinalis Raddi = *Conocephalum conicum* (L.) Dumort.
Fimbriaria africana Mont. = *Asterella africana* (Mont.) A. Evans
Fimbriaria bonjeanii De Not. = *Asterella lindenbergiana* (Corda ex Nees) Arnell
Fimbriaria fragrans Nees = *Asterella saccata* (Wahlenb.) A. Evans
Fimbriaria lindenbergiana Corda ex Nees = *Asterella lindenbergiana* (Corda ex Nees) Arnell
Fimbriaria ludwigii (Schwägr.) Limpr. = *Mannia triandra* (Scop.) Grolle
Fimbriaria ludwigii auct. = *Asterella gracilis* (F. Weber) Underw.
Fimbriaria nana Schleich. = *Asterella gracilis* (F. Weber) Underw.
Fimbriaria pilosa Taylor = *Asterella gracilis* (F. Weber) Underw.
Fimbriaria saccata Wahlenb. = *Asterella saccata* (Wahlenb.) A. Evans
Fimbriaria tenella auct. = *Asterella gracilis* (F. Weber) Underw.
Fossombronia caespitiformis De Not. var. *husnotii* Corb. = *Fossombronia husnotii* Corb.
Fossombronia corbulaeformis Trab. = *Petalophyllum ralfsii* (Wilson) Nees et Gottsche
Fossombronia cristata Lindb. = *Fossombronia wondraczekii* (Corda) Lindb.
Fossombronia dumortieri Huebener et Genth ex Lindb. = *Fossombronia foveolata* Lindb.
Fossombronia intermedia (Corb.) Trab. = *Fossombronia caespitiformis* De Not. ex Rabenh.
Fossombronia pusilla (L.) Nees var. *decipiens* Corb. = *Fossombronia pusilla* (L.) Nees
Fossombronia mauritanica Trab. = *Fossombronia caespitiformis* De Not. ex Rabenh.

- Fossombronia mittenii* Tindall = *Fossombronia wondraczekii* (Corda) Lindb.
Fossombronia verrucosa Lindb. = *Fossombronia caespitiformis* De Not. ex Rabenb.
Fossombronia wondraczekii (Corda) Lindb. var. *loitlesbergeri* (Schiffn.) Chalaud =
 Fossombronia wondraczekii (Corda) Lindb.
Frullania aeolitis Nees = *Frullania riparia* Hampe ex Lehm.
Frullania aeolotis Mont. et Nees var. *aberrans* C. Massal. = *Frullania riparia* Hampe ex
 Lehm.
Frullania calcarifera Steph. = *Frullania tamarisci* (L.) Dumort. var. *tamarisci*
Frullania caucasica Steph. = *Frullania parvistipula* Steph.
Frullania cesatiana De Not. = *Frullania riparia* Hampe ex Lehm.
Frullania cesatiana var. *galatea* Schiffn. = *Frullania riparia* Hampe ex Lehm.
Frullania cleistostoma Schiffn. et Wollny = *Frullania inflata* Gottsche
Frullania davurica auct. europ. = *Frullania jackii* Gottsche
Frullania davurica subsp. *jackii* (Gottsche) S. Hatt. = *Frullania jackii* Gottsche
Frullania dilatata (L.) Dumort. var. *anomala* Corb. = *Frullania dilatata* (L.) Dumort.
Frullania dilatata (L.) Dum. var. *briziana* Mass. = *Frullania dilatata* (L.) Dumort.
Frullania eboracensis subsp. *caucasica* (Steph.) R.M. Schust. = *Frullania parvistipula*
 Steph.
Frullania eboracensis subsp. *parvistipula* (Steph.) R.M. Schust. = *Frullania parvistipula*
 Steph.
Frullania fragilifolia var. *microphylla* Schiffn. = *Frullania parvistipula* Steph.
Frullania fragilifolia var. *parvistipula* (Steph.) Schiffn. = *Frullania parvistipula* Steph.
Frullania funchalensis Gottsche = *Frullania dilatata* (L.) Dumort.
Frullania illyrica Grolle = *Frullania inflata* Gottsche
Frullania inflata subsp. *illyrica* (Grolle) R.M. Schust. = *Frullania inflata* Gottsche
Frullania inflata var. *illyrica* (Grolle) R.M. Schust. = *Frullania inflata* Gottsche
Frullania major Raddi nom. ill. = *Frullania tamarisci* (L.) Dumort. var. *tamarisci*
Frullania maritima Steph. = *Frullania tamarisci* (L.) Dumort. var. *tamarisci*
Frullania nervosa Mont. = *Frullania tamarisci* (L.) Dumort. var. *tamarisci*
Frullania nervosa var. *microcellularis* Müll. Frib. = *Frullania tamarisci* (L.) Dumort. var.
 tamarisci
Frullania sardoa (De Not.) Schiffn. = *Frullania tamarisci* (L.) Dumort. var. *sardoa* De
 Not.
Frullania saxicola Austin = *Frullania inflata* Gottsche
Frullania tenera Lindb. non Spruce = *Frullania parvistipula* Steph.
Frullania willkommii Steph. = *Frullania tamarisci* (L.) Dumort. var. *tamarisci*
Gongylanthus flagelliferus (Raddi) Nees = *Gongylanthus ericetorum* (Raddi) Nees
Grimaldia androgyna Lindb. = *Mannia androgyna* (L.) A. Evans
Grimaldia barbifrons Bischoff = *Mannia fragrans* (Balbis) Frye et L. Clark
Grimaldia carnica Mass. = *Mannia pilosa* (Hornem.) Frye et L. Clark
Grimaldia dichotoma auct. = *Mannia androgyna* (L.) A. Evans
Grimaldia fragrans (Balbis) Corda = *Mannia fragrans* (Balbis) Frye et L. Clark
Grimaldia hemisphaerica (L.) Lindenb. = *Reboulia hemisphaerica* (L.) Raddi
Grimaldia pilosa (Hornem.) Lindb. = *Mannia pilosa* (Hornem.) Frye et L. Clark
Grimaldia punicea Wallr. = *Athalamia hyalina* (Sommerf.) S. Hatt.

- Grimaldia rupestris* (Nees) Lindenb. = *Mannia triandra* (Scop.) Grolle
Grimaldia ventricosa Wallr. = *Reboulia hemisphaerica* (L.) Raddi
Guentheria graveolens Trevis. = *Corsinia coriandrina* (Spreng.) Lindb.
Gymnocolea acutiloba (Schiffn.) Müll. Frib. = *Gymnocolea inflata* (Huds.) Dumort. var. *acutiloba* (Schiffn.) Arnell
Gymnomitrion adustum Nees = *Marsupella adusta* (Nees emend. Limpr.) Spruce
Gymnomitrion alpinum (Gottsche ex Husn.) Schiffn. = *Marsupella alpina* (Gottsche ex Husn.) Bernet
Gymnomitrion cochleare (Lindb.) Müll. Frib. = *Marsupella brevissima* (Dumort.) Grolle
Gymnomitrion commutatum (Limpr.) Schiffn. = *Marsupella commutata* (Limpr.) Bernet
Gymnomitrion condensatum Ångstr. ex C. Hartm. = *Marsupella condensata* (Ångstr. ex C. Hartm.) Kaal.
Gymnomitrion crassifolium Carrington = *Marsupella brevissima* (Dumort.) Grolle
Gymnomitrion huebenerianum (Nees) Dumort. = *Hygrobiella laxifolia* (Hook.) Spruce
Gymnomitrion laxifolium (Hook.) Dumort. = *Hygrobiella laxifolia* (Hook.) Spruce
Gymnomitrion varians (Lindb.) Schiffn. = *Marsupella brevissima* (Dumort.) Grolle
Gymnomitrium adustum Nees = *Marsupella adusta* (Nees emend. Limpr.) Spruce
Gymnomitrium alpinum (Gott.) Schiffn. = *Marsupella alpina* (Gottsche ex Husn.) Bernet
Gymnomitrium commutatum (Limpr.) Schiffn. = *Marsupella commutata* (Limpr.) Bernet
Gymnomitrium confertum Limpr. = *Marsupella brevissima* (Dumort.) Grolle
Gymnomitrium revolutum (Nees) Philib. = *Apomarsupella revoluta* (Nees) R.M. Schust.
Gymnomitrium varians (Lindb.) Schiffn. = *Marsupella brevissima* (Dumort.) Grolle
Haplozia amplexicaulis (Dum.) Dum. = *Jungermannia sphaerocarpa* Hook.
Haplozia atrovirens (Dumort.) Müll. Frib. = *Jungermannia atrovirens* Dumort.
Haplozia autumnalis Heeg = *Jamesoniella autumnalis* (DC.) Steph.
Haplozia breidleri Müll. Frib. = *Jungermannia confertissima* Nees
Haplozia cordifolia (Dumort.) Müll. Frib. = *Jungermannia exsertifolia* Steph. subsp. *cordifolia* (Dumort.) Váňa
Haplozia crenulata (Mitt.) Müll. Frib. = *Jungermannia gracillima* Sm.
Haplozia crenulata var. *gracillima* (Sm.) C.E.O. Jensen = *Jungermannia gracillima* Sm.
Haplozia hyalina (Lyell) Dum. = *Jungermannia hyalina* Lyell
Haplozia lanceolata (Nees) Müll. Frib. = *Jungermannia leiantha* Grolle
Haplozia levieri (Steph.) Müll. Frib. = *Jungermannia confertissima* Nees
Haplozia lurida Dum. = *Jungermannia sphaerocarpa* Hook.
Haplozia muelleriana (Schiffn.) Cas.-Gil = *Jungermannia hyalina* Lyell
Haplozia nigrella (De Not.) Dumort. = *Southbya nigrella* (De Not.) Henriq.
Haplozia oblongifolia Müll. Frib. = *Jungermannia pumila* With.
Haplozia obovata (Nees) Loeske = *Jungermannia obovata* Nees
Haplozia polaris (Lindb.) Müll. Frib. = *Jungermannia polaris* Lindb.
Haplozia pumila (With.) Müll. Frib. = *Jungermannia pumila* With.
Haplozia riparia (Taylor) Müll. Frib. = *Jungermannia atrovirens* Dumort.
Haplozia schiffneri (Loitl.) Müll. Frib. = *Jungermannia polaris* Lindb.
Haplozia schraderi Mart. = *Jamesoniella autumnalis* (DC.) Steph.
Haplozia sphaerocarpa (Hook.) Müll. Frib. = *Jungermannia sphaerocarpa* Hook.
Haplozia sphaerocarpa var. *amplexicaulis* (Dumort.) Müll. Frib. = *Jungermannia sphae-*

- rocarpa* Hook.
Haplzia sphaerocarpa var. *nana* (Nees) Müll. Frib. = *Jungermannia sphaerocarpa* Hook.
Haplzia subelliptica (Lindb. ex Kaal.) Cas.-Gil = *Jungermannia subelliptica* (Lindb. ex Kaal.) Levier
Haplzia tristis (Nees) Müll. Frib. = *Jungermannia atrovirens* Dumort.
Harpalejeunea ovata auct. non (Hook.) Schiffn. = *Harpalejeunea molleri* (Steph.) Grolle
Hepatica conica (L.) Lindb. = *Conocephalum conicum* (L.) Underw.
Herpetium deflexum Nees = *Bazzania tricrenata* (Wahlenb.) Lindb.
Herpetium reptans Nees = *Lepidozia reptans* (L.) Dumort.
Herpetium trilobatum Nees = *Bazzania trilobata* (L.) Gray
Hygrobiella myriocarpa (Carrington.) Spruce = *Eremonotus myriocarpus* (Carrington)
 Pearson
Hygrophila irrigua Taylor = *Dumortiera hirsuta* (Sw.) Nees
Hypenantron lindenbergianum Kuntze = *Asterella lindenbergiana* (Corda ex Nees) Arnell
Isopaches bicrenatus (Schmidel ex Hoffm.) H. Buch = *Lophozia bicrenata* (Schmidel ex Hoffm.) Dumort.
Isopaches decolorans (Limpr.) H. Buch = *Lophozia decolorans* (Limpr.) Steph.
Jamesoniella subapicalis (Nees) Schiffn. = *Jamesoniella autumnalis* (DC.) Steph.
Jungermannia acuta Lindb. = *Leiocolea bantriensis* (Hook.) Jörg.
Jungermannia acutiloba Kaal. non Hook. f. et Taylor = *Gymnocolea inflata* var. *acutiloba* (Schiffn.) Arnell
Jungermannia aequiloba Schwägr. = *Scapania aequiloba* (Schwägr.) Dumort.
Jungermannia albescens Hook. = *Pleurocladula albescens* (Hook.) Grolle
Jungermannia albicans L. = *Diplophyllum albicans* (L.) Dumort.
Jungermannia albicans var. *taxifolia* Nees = *Diplophyllum taxifolium* (Wahlenb.) Dumort.
Jungermannia alicularia De Not. = *Southbya tophacea* (Spruce) Spruce
Jungermannia alpestris auct. = *Lophozia sudetica* (Nees ex Huebener) Grolle
Jungermannia alpestris Schleich. ex F. Weber = *Leiocolea bantriensis* (Hook.) Jörg.
Jungermannia amplexicaulis Dumort. = *Jungermannia sphaerocarpa* Hook.
Jungermannia angulosa Dicks. = *Fossumbronia angulosa* (Dicks.) Raddi
Jungermannia anomala Hook. = *Mylia anomala* (Hook.) Gray
Jungermannia arboris-vitae With. = *Porella arboris-vitae* (With.) Grolle
Jungermannia arenaria Nees = *Lophozia excisa* (Dicks.) Dumort.
Jungermannia asplenoides L. = *Plagiochila asplenoides* (L. emend. Taylor) Dumort.
Jungermannia assimilis Mitt. = *Anastrophyllum assimile* (Mitt.) Steph.
Jungermannia attenuata (Mart.) Lindenb. = *Barbilophozia attenuata* (Mart.) Loeske
Jungermannia attenuata var. *gracilis* Lindenb. = *Barbilophozia attenuata* (Mart.) Loeske
Jungermannia autumnalis DC. = *Jamesoniella autumnalis* (DC.) Steph.
Jungermannia badensis Gottsche = *Leiocolea badensis* (Gottsche) Jörg.
Jungermannia bantriensis Hook. = *Leiocolea bantriensis* (Hook.) Jörg.
Jungermannia bantriensis var. *acuta* Lindb. = *Leiocolea bantriensis* (Hook.) Jörg.
Jungermannia bantriensis var. *muelleri* Lindb. = *Leiocolea bantriensis* (Hook.) Jörg.
Jungermannia barbata Schmidel ex Schreb. = *Barbilophozia barbata* (Schmidel ex Schreb.) Loeske
Jungermannia barbata var. *attenuata* Nees = *Barbilophozia attenuata* (Mart.) Loeske

- Jungermannia barbata* var. *floerkei* Nees = *Barbilophozia floerkei* (F. Weber et D. Mohr Loeske
- Jungermannia barbata* var. *lycopodioides* Nees = *Barbilophozia lycopodioides* (Wallr.) Loeske
- Jungermannia barbata* var. *quinquedentata* Nees = *Tritomaria quinquedentata* (Huds.) H. Buch
- Jungermannia barbata* var. *schreberi* Nees = *Barbilophozia barbata* (Schmidel ex Schreb.) Loeske
- Jungermannia bartlingii* Hampe = *Scapania cuspiduligera* (Nees) Müll. Frib.
- Jungermannia baueri* Mart. = *Nowellia curvifolia* (Dicks.) Mitt.
- Jungermannia baueriana* (Schiffn.) Arnell et C.E.O. Jensen = *Barbilophozia hatcheri* (A. Evans) Loeske
- Jungermannia bicalyculata* Raddi = *Cephalozia bicuspidata* (L.) Dumort.
- Jungermannia bicornis* F. Web. = *Anastrophyllum minutum* (Schreb.) R.M. Schust.
- Jungermannia bicrenata* Schmidel ex Hoffm. = *Lophozia bicrenata* (Schmidel ex Hoffm.) Dumort.
- Jungermannia bicuspidata* L. = *Cephalozia bicuspidata* (L.) Dumort.
- Jungermannia bidentata* L. = *Lophocolea bidentata* (L.) Dumort.
- Jungermannia bifaria* Sw. = *Plagiochila bifaria* (Sw.) Lindenb.
- Jungermannia blasia* Hook. = *Blasia pusilla* L.
- Jungermannia blyttii* Moerch = *Moerckia blyttii* (Moerch) Brockm.
- Jungermannia breidleri* (Müll. Frib.) Gams = *Jungermannia confertissima* Nees
- Jungermannia calyculata* Durieu et Mont. = *Cephaloziella calyculata* (Durieu et Mont.) Müll. Frib.
- Jungermannia calypogeia* Raddi = *Calypogeia fissa* (L.) Raddi
- Jungermannia catenulata* Huebener = *Cephalozia catenulata* (Huebener) Lindb.
- Jungermannia cavifolia* Ehrh. = *Lejeunea cavifolia* (Ehrh.) Lindb.
- Jungermannia chamaedryfolia* With. = *Riccardia chamedryfolia* (With.) Grolle
- Jungermannia ciliaris* L. = *Ptilidium ciliare* (L.) Hampe
- Jungermannia collaris* Nees = *Leiocolea collaris* (Nees) Schljakov
- Jungermannia compacta* A. Roth = *Scapania compacta* (A. Roth) Dumort.
- Jungermannia complanata* L. = *Radula complanata* (L.) Dumort.
- Jungermannia compressa* Hook. = *Nardia compressa* (Hook.) Gray
- Jungermannia concinnata* Lightf. = *Gymnomitrion concinnatum* (Lightf.) Corda
- Jungermannia confervoides* Raddi = *Cephaloziella divaricata* (Sm.) Schiffn.
- Jungermannia connivens* Dicks. = *Cephalozia connivens* (Dicks.) Lindb.
- Jungermannia corcyraea* Nees = *Lophozia turbinata* (Raddi) Steph.
- Jungermannia cordaeana* Huebener = *Porella cordaeana* (Huebener) Moore
- Jungermannia cordifolia* Hook. non Brot. nec Ehrh. ex F. Weber = *Jungermannia exsertifolia* Steph. subsp. *cordifolia* (Dumort.) Váňa
- Jungermannia crenulata* Sm. non Schmidel = *Jungermannia gracillima* Sm.
- Jungermannia crenulata* var. *gracillima* (Sm.) Lindb. = *Jungermannia gracillima* Sm.
- Jungermannia crocata* De Not. = *Lophocolea minor* Nees
- Jungermannia curta* Mart. = *Scapania curta* (Mart.) Dumort.
- Jungermannia curvifolia* Dicks. = *Nowellia curvifolia* (Dicks.) Mitt.

- Jungermannia cuspiduligera* Nees = *Scapania cuspiduligera* (Nees) Müll. Frib.
Jungermannia cylindracea Dumort. = *Lophozia excisa* (Dicks.) Dumort.
Jungermannia decolorans Limpr. = *Lophozia decolorans* (Limpr.) Steph.
Jungermannia deflexa var. β *flaccida* Lindenb. = *Bazzania flaccida* (Dumort.) Grolle
Jungermannia dentata Raddi = *Cephaloziella dentata* (Raddi) Steph.
Jungermannia denudata Nees = *Odontoschisma denudatum* (Mart.) Dumort.
Jungermannia dilatata L. = *Frullania dilatata* (L.) Dumort.
Jungermannia divaricata Sm. = *Cephaloziella divaricata* (Sm.) Schiffn.
Jungermannia emarginata Ehrh. = *Marsupella emarginata* (Ehrh.) Dumort.
Jungermannia emarginata var. *aquatica* Lindenb. = *Marsupella emarginata* (Ehrh.)
 Dumort. var. *aquatica* (Lindenb.) Dumort.
Jungermannia endiviifolia Dicks. = *Pellia endiviifolia* (Dicks.) Dumort.
Jungermannia epiphylla L. = *Pellia epiphylla* (L.) Corda
Jungermannia eucordifolia Schljakov = *Jungermannia exsertifolia* Steph. subsp. *cordifo-*
lia (Dumort.) Váňa
Jungermannia excisa Dicks. = *Lophozia excisa* (Dicks.) Dumort.
Jungermannia exigua Taylor = *Plagiochila exigua* (Taylor) Taylor
Jungermannia exsecta Schrad. = *Tritomaria exsecta* (Schrad.) Schiffn. ex Loeske
Jungermannia exsectiformis Breidl. = *Tritomaria exsectiformis* (Breidl.) Loeske
Jungermannia falcata Raddi = *Diplophyllum albicans* (L.) Dumort.
Jungermannia fennica Gottsche = *Arnelliella fennica* (Gottsche) Lindb.
Jungermannia fissa Scop. = *Calypogeia fissa* (L.) Raddi
Jungermannia fissidentoidea Huebener = *Diplophyllum albicans* (L.) Dumort.
Jungermannia flaccida Huebener = *Jungermannia obovata* Nees
Jungermannia floerkei F. Weber et D. Mohr = *Barbilophozia floerkei* (F. Weber et D.
 Mohr) Loeske
Jungermannia flotoviana Nees = *Harpanthus flotovianus* (Nees) Nees
Jungermannia fluitans Nees = *Cladopodiella fluitans* (Nees) H. Buch
Jungermannia fragilifolia Taylor = *Frullania fragilifolia* (Taylor) Gottsche et al.
Jungermannia fragrans Moris et De Not. = *Lophocolea fragrans* (Moris et De Not.)
 Gottsche et al.
Jungermannia francisci Hook. = *Cladopodiella francisci* (Hook.) Jörg.
Jungermannia funckii F. Weber et D. Mohr = *Marsupella funckii* (F. Weber et D. Mohr)
 Dumort.
Jungermannia furcata L. = *Metzgeria furcata* (L.) Dumort.
Jungermannia gillmanii Austin = *Leiocolea gillmanii* (Austin) A. Evans
Jungermannia gracilis Schleich. ex Steph. = *Barbilophozia attenuata* (Mart.) Loeske
Jungermannia grandiretis Lindb. ex Kaal. = *Lophozia grandiretis* (Lindb. ex Kaal.)
 Schiffn.
Jungermannia graveolens Schrad. = *Geocalyx graveolens* (Schrad.) Nees
Jungermannia grimsulana J.B. Jack ex Gottsche et Rabenh. = *Cephaloziella grimsulana*
 (J.B. Jack ex Gottsche et Rabenh.) Lacout.
Jungermannia guttulata Lindb. et Arnell = *Lophozia longiflora* (Nees) Schiffn.
Jungermannia hampeana Nees = *Cephaloziella hampeana* (Nees) Schiffn.
Jungermannia hatcheri A. Evans = *Barbilophozia hatcheri* (A. Evans) Loeske

- Jungermannia helleriana* Nees ex Lindenb. = *Anastrophyllophllum hellerianum* (Nees ex Lindenb.) R.M. Schust.
- Jungermannia heterocolpos* Thed. ex C. Hartm. = *Leiocolea heterocolpos* (Thed. ex C. Hartm.) H. Buch
- Jungermannia hibernica* Hook. = *Moerckia hibernica* (Hook.) Gottsche
- Jungermannia hoffmannii* Wallr. = *Ptilidium ciliare* (L.) Hampe
- Jungermannia hornschuchiana* Nees = *Leiocolea bantriensis* (Hook.) Jörg.
- Jungermannia incisa* Schrad. = *Lophozia incisa* (Schrad.) Dumort.
- Jungermannia inflata* Huds. = *Gymnocolea inflata* (Huds.) Dumort. var. *inflata*
- Jungermannia intermedia* Lindenb. = *Lophozia excisa* (Dicks.) Dumort.
- Jungermannia interrupta* Nees = *Pedinophyllum interruptum* (Nees) Kaal.
- Jungermannia irrigua* Nees = *Scapania irrigua* (Nees) Nees
- Jungermannia julacea* L. = *Anthelia julacea* (L.) Dumort.
- Jungermannia julacea* var. *clavuligera* Nees = *Anthelia juratzkana* (Limpr.) Trevis.
- Jungermannia juratzkana* Limpr. = *Anthelia juratzkana* (Limpr.) Trevis.
- Jungermannia karl-muelleri* Grolle = *Jungermannia pumila* With.
- Jungermannia kaurinii* Limpr. = *Leiocolea gillmanii* (Austin) A. Evans
- Jungermannia kunzeana* Huebener = *Barbilophozia kunzeana* (Huebener) Müll. Frib.
- Jungermannia laevigata* Schrad. = *Porella arboris-vitae* (With.) Grolle
- Jungermannia lammersiana* Huebener = *Cephalozia bicuspidata* (L.) Dumort.
- Jungermannia lanceolata* auct. sensu Schrad. non L. = *Jungermannia leiantha* Grolle
- Jungermannia lanceolata* L. = *Jungermannia atrovirens* Dumort.
- Jungermannia laurentiana* De Not. = *Leiocolea bantriensis* (Hook.) Jörg.
- Jungermannia laxifolia* Hook. = *Hygrobiella laxifolia* (Hook.) Spruce
- Jungermannia leersii* A. Roth = *Ptilidium ciliare* (L.) Hampe
- Jungermannia leiantha* subsp. *stephanii* (Amakawa) S. Hatt. = *Jungermannia subulata* A. Evans
- Jungermannia levieri* (Steph.) H. Buch, A. Evans et Verd. = *Jungermannia confertissima* Nees
- Jungermannia levigata* Schrad. = *Porella arboris-vitae* (With.) Grolle
- Jungermannia limprichtii* Lindb. = *Lophozia excisa* (Dicks.) Dumort.
- Jungermannia longidens* Lindb. = *Lophozia longidens* (Lindb.) Macoun
- Jungermannia longiflora* Nees = *Lophozia longiflora* (Nees) Schiffn.
- Jungermannia lunulifolia* Dumort. = *Cephalozia lunulifolia* (Dumort.) Dumort.
- Jungermannia lurida* Dumort. = *Jungermannia sphaerocarpa* Hook.
- Jungermannia lycopodioides* Wallr. = *Barbilophozia lycopodioides* (Wallr.) Loeske
- Jungermannia lyellii* Hook. = *Pallavicinia lyellii* (Hook.) Carruth.
- Jungermannia lyonii* Taylor = *Tritomaria quinquedentata* (Huds.) H. Buch
- Jungermannia mackaii* Hook. = *Marchesinia mackaii* (Hook.) Gray
- Jungermannia macounii* Austin = *Cephalozia macounii* (Austin) Austin
- Jungermannia menzelii* Corda = *Cephalozia bicuspidata* (L.) Dumort.
- Jungermannia michauxii* F. Weber = *Anastrophyllophllum michauxii* (F. Weber) H. Buch
- Jungermannia minuta* Schreb. = *Anastrophyllophllum minutum* (Schreb.) R.M. Schust.
- Jungermannia minuta* var. *procera* Nees = *Anastrophyllophllum michauxii* (F. Weber) H. Buch
- Jungermannia minuta* var. *robusta* Mass. et Carest. = *Anastrophyllophllum assimile* (Mitt.)

Steph.

- Jungermannia minutissima* Sm. = *Cololejeunea minutissima* (Sm.) Schiffn.
Jungermannia muelleri Nees ex Lindenb. = *Leiocolea bantriensis* (Hook.) Jörg.
Jungermannia multifida L. = *Riccardia multifida* (L.) Gray
Jungermannia myriocarpa Carrington = *Eremonotus myriocarpus* (Carrington) Pearson
Jungermannia nana Nees = *Jungermannia sphaerocarpa* Hook.
Jungermannia nardiooides Lindb. = *Anastrophylleum assimile* (Mitt.) Steph.
Jungermannia nemorea L. = *Scapania nemorea* (L.) Grolle
Jungermannia nemorosa L. = *Scapania nemorea* (L.) Grolle
Jungermannia neumannii Nees = *Barbilophozia floerkei* (F. Weber et D. Mohr) Loeske
Jungermannia nevicensis Carrington = *Marsupella boeckii* (Austin) Lindb.
Jungermannia nigrella De Not. = *Southbya nigrella* (De Not.) Henriq.
Jungermannia nigricans Lam. = *Frullania tamarisci* (L.) Dumort. var. *tamarisci*
Jungermannia obtusa Lindb. = *Lophozia obtusa* (Lindb.) A. Evans
Jungermannia obtusifolia Hook. = *Diplophyllum obtusifolium* (Hook.) Dumort.
Jungermannia orcadensis Hook. = *Anastrepta orcadensis* (Hook.) Schiffn.
Jungermannia pallescens Ehrh. ex Hoffm. = *Chiloscyphus polyanthos* (L.) Corda var. *pallescens* (Ehrh. ex Hoffm.) Hartm.
Jungermannia palmata Hedw. = *Riccardia palmata* (Hedw.) Carruth.
Jungermannia pinguis L. = *Aneura pinguis* (L.) Dumort.
Jungermannia platyphylla L. = *Porella platyphylla* (L.) Pfeiff.
Jungermannia platyphylloidea Schwein. = *Porella platyphylla* (L.) Pfeiff.
Jungermannia pleniceps Austin = *Cephalozia pleniceps* (Austin) Lindb.
Jungermannia plicata Hartm. = *Barbilophozia kunzeana* (Huebener) Müll. Frib.
Jungermannia polita Nees = *Tritomaria polita* (Nees) Schiffn.
Jungermannia polyanthos L. = *Chiloscyphus polyanthos* (L.) Corda
Jungermannia poreloides Torrey ex Nees = *Plagiochila poreloides* (Torrey ex Nees)
 Lindenb.
Jungermannia porphyroleuca Nees = *Lophozia longiflora* (Nees) Schiffn.
Jungermannia porphyroleuca var. *guttulata* (Lindb. et Arnell) Warnst. = *Lophozia longiflora* (Nees) Schiffn.
Jungermannia pubescens Schrank = *Apometzgeria pubescens* (Schrank) Kuwash.
Jungermannia pulcherrima G. Weber = *Ptilidium pulcherrimum* (G. Weber) Vain.
Jungermannia pulvinata Raddi = *Marsupella emarginata* (Ehrh.) Dumort. var. *emarginata*
Jungermannia pumila subsp. *polaris* (Lindb.) Berggr. = *Jungermannia polaris* Lindb.
Jungermannia pusilla L. = *Fossombronia pusilla* (L.) Nees
Jungermannia quinquedentata Huds. = *Tritomaria quinquedentata* (Huds.) H. Buch
Jungermannia quinquedentata var. *attenuata* Mart. = *Barbilophozia attenuata* (Mart.)
 Loeske
Jungermannia raddiana C. Massal. = *Cephaloziella rubella* (Nees) Warnst.
Jungermannia ralfsii Wilson = *Petalophyllum ralfsii* (Wilson) Nees et Gottsche
Jungermannia reclusa Taylor = *Cephalozia catenulata* (Huebener) Lindb.
Jungermannia reichardtii Gottsche = *Anastrophylleum assimile* (Mitt.) Steph.
Jungermannia reptans L. = *Lepidozia reptans* (L.) Dumort.

- Jungermannia resupinata* Hook. = *Scapania compacta* (A. Roth) Dumort.
Jungermannia resupinata L. = *Scapania undulata* (L.) Dumort.
Jungermannia rigida Wallr. = *Aneura pinguis* (L.) Dumort.
Jungermannia rigidula Hüb. = *Cephalozia bicuspidata* (L.) Dumort.
Jungermannia riparia Taylor = *Jungermannia atrovirens* Dumort.
Jungermannia rosacea Corda = *Scapania curta* (Mart.) Dumort.
Jungermannia rostellata Huebener = *Jungermannia pumila* With.
Jungermannia rubella Nees = *Cephaloziella rubella* (Nees) Warnst.
Jungermannia saxicola Schrad. = *Anastrophyllum saxicola* (Schrad.) R.M. Schust.
Jungermannia scalariformis Nees = *Jungermannia confertissima* Nees
Jungermannia scalaris Hook. = *Nardia scalaris* Gray
Jungermannia scalaris var. *denudata* Mart. = *Odontoschisma denudatum* (Mart.) Dumort.
Jungermannia scalaris var. *minor* Nees = *Nardia geoscyphus* (De Not.) Lindb.
Jungermannia scapanioides C. Massal. = *Scapania scapanioides* (C. Massal.) Grolle
Jungermannia schiffneri (Loitl.) A. Evans = *Jungermannia polaris* Lindb.
Jungermannia schraderi auct. p.m.p. = *Jamesoniella autumnalis* (DC.) Steph.
Jungermannia schraderi Mart. = *Jamesoniella autumnalis* (DC.) Steph.
Jungermannia schreberi Nees = *Barbilophozia barbata* (Schmidel) Loeske
Jungermannia scitula Taylor = *Tritomaria scitula* (Taylor) Jörg.
Jungermannia scutata F. Weber et D. Mohr = *Harpanthus scutatus* (F. Weber et D. Mohr)
 Spruce
Jungermannia serpyllifolia var. *ovata* Hook. = *Harpalejeunea molleri* (Steph.) Grolle
Jungermannia setiformis Ehrh. = *Tetralophozia setiformis* (Ehrh.) Schljakov
Jungermannia sinuata Dicks. = *Riccardia chamedryfolia* (With.) Grolle
Jungermannia socia Nees = *Lophozia excisa* (Dicks.) Dumort.
Jungermannia sphacelata Gieseke ex Lindenb. = *Marsupella sphacelata* (Gieseke ex
 Lindenb.) Dumort.
Jungermannia sphaerocarpoidea De Not. = *Jungermannia atrovirens* Dumort.
Jungermannia sphagni Dicks. = *Odontoschisma sphagni* (Dicks.) Dumort.
Jungermannia sprengelii Mart. = *Calypogeia fissa* (L.) Raddi
Jungermannia starkii Funck = *Cephaloziella divaricata* (Sm.) Schiffn.
Jungermannia stellulifera Taylor ex Spruce = *Cephaloziella stellulifera* (Taylor ex Spruce)
 Schiffn.
Jungermannia stillicidiorum De Not. = *Southbya tophacea* (Spruce) Spruce
Jungermannia stipulacea Hook. = *Harpanthus scutatus* (F. Weber et D. Mohr) Spruce
Jungermannia subalpina Nees = *Scapania subalpina* (Nees) Dumort.
Jungermannia subapicalis Nees = *Jamesoniella autumnalis* (DC.) Steph.
Jungermannia sudetica Nees ex Huebener = *Lophozia sudetica* (Nees ex Huebener) Grolle
Jungermannia sullivanii Austin = *Cephaloziella rubella* (Nees) Warnst.
Jungermannia tamarisci L. = *Frullania tamarisci* (L.) Dumort. var. *tamarisci*
Jungermannia taxifolia Wahlenb. = *Diplophyllum taxifolium* (Wahlenb.) Dumort.
Jungermannia taylorii var. *anomala* Nees = *Mylia anomala* (Hook.) Gray
Jungermannia taylorii Hook. = *Mylia taylorii* (Hook.) Gray
Jungermannia taylorii var. *anomala* (Hook.) Mitt. = *Mylia anomala* (Hook.) Gray
Jungermannia tenerrima Raddi = *Jungermannia gracillima* Sm.

- Jungermannia tersa* Nees = *Jungermannia sphaerocarpa* Hook.
Jungermannia tomentella Ehrh. = *Trichocolea tomentella* (Ehrh.) Dumort.
Jungermannia tophacea Spruce = *Southbya tophacea* (Spruce) Spruce
Jungermannia trichophylla L. = *Blepharostoma trichophyllum* (L.) Dumort. var. *trichophyllum*
Jungermannia tricrenata Wahlenb. = *Bazzania tricrenata* (Wahlenb.) Lindb.
Jungermannia trilobata L. = *Bazzania trilobata* (L.) Gray
Jungermannia tristis Nees = *Jungermannia atrovirens* Dumort.
Jungermannia turbinata Raddi = *Leiocolea turbinata* (Raddi) H. Buch
Jungermannia turneri Hook. = *Cephaloziella turneri* (Hook.) Müll. Frib.
Jungermannia ulicina Taylor = *Lejeunea ulicina* (Taylor) Gottsche et al.
Jungermannia uliginosa Sw. ex Lindenb. = *Scapania uliginosa* (Sw. ex Lindenb.) Dumort.
Jungermannia umbrosa Schrad. = *Scapania umbrosa* (Schrad.) Dumort.
Jungermannia undulata L. = *Scapania undulata* (L.) Dumort.
Jungermannia varians Gottsche = *Cephaloziella varians* (Gottsche) Steph.
Jungermannia ventricosa Dicks. = *Lophozia ventricosa* (Dicks.) Dumort.
Jungermannia ventricosa var. *guttulata* (Lindb. et Arnell) Warnst. = *Lophozia longiflora* (Nees) Schiffn.
Jungermannia ventricosa var. *longidens* Lindb. = *Lophozia longidens* (Lindb.) Macoun
Jungermannia ventricosa var. *porphyroleuca* (Nees) C. Hartm. = *Lophozia longiflora* (Nees) Schiffn.
Jungermannia viticulosa L. = *Saccogyna viticulosa* (L.) Dumort.
Jungermannia wenzelii Nees = *Lophozia wenzelii* (Nees) Steph.
Jungermannia wondraczekii Corda = *Fossombronia wondraczekii* (Corda) Lindb.
Jungermannia zeyheri Huebener = *Jungermannia pumila* With.
Kantia arguta (Nees et Mont.) Lindb. = *Calypogeia arguta* Nees et Mont.
Kantia calypogeia Lindb. = *Calypogeia fissa* (L.) Raddi
Kantia muelleriana Schiffn. = *Calypogeia muelleriana* (Schiffn.) Müll. Frib.
Kantia neesiana (C. Massal. et Carestia) Müll. Frib. = *Calypogeia neesiana* (C. Massal. et Carestia) Müll. Frib.
Kantia sphagnicola Arnell et J. Perss. = *Calypogeia sphagnicola* (Arnell et J. Perss.) Warnst. et Loeske
Kantia sprengelii Pearson = *Calypogeia fissa* (L.) Raddi
Kantia submersa Arnell = *Calypogeia sphagnicola* (Arnell et J. Perss.) Warnst. et Loeske
Kantia suecica Arnell et J. Perss. = *Calypogeia suecica* (Arnell. et J. Perss.) Müll. Frib.
Kantia trichomanis (Dill) B. et Gr. var. *fissa* Lindb. = *Calypogeia fissa* (L.) Raddi
Kantia trichomanis auct. = *Calypogeia azurea* Stotler et Crotz
Kantia trichomanis var. *neesiana* C. Massal. et Carestia = *Calypogeia neesiana* (C. Massal. et Carestia) Müll. Frib.
Leiocolea alpestris (Schleich. ex F. Weber) Isov. = *Leiocolea bantriensis* (Hook.) Jörg.
Leiocolea kaurinii (Limpr.) Jörg. = *Leiocolea gillmanii* (Austin) A. Evans
Leiocolea muelleri (Nees ex Lindenb.) Jörg. = *Leiocolea bantriensis* (Hook.) Jörg.
Leiocolea obtusa (Lindb.) H. Buch = *Lophozia obtusa* (Lindb.) A. Evans
Leioscyphus anomalus (Hook.) Steph. = *Mylia anomala* (Hook.) Gray
Lejeunea azorica Steph. = *Lejeunea lamacerina* (Steph.) Schiffn.

- Lejeunea calcarea* Lib. = *Cololejeunea calcarea* (Lib.) Schiffn.
Lejeunea echinata Taylor = *Cololejeunea calcarea* (Lib.) Schiffn.
Lejeunea inconspicua Raddi = *Cololejeunea minutissima* (Sm.) Schiffn.
Lejeunea insconspicua De Not. = *Cololejeunea minutissima* (Sm.) Schiffn.
Lejeunea lamacerina var. *azorica* (Steph.) Greig-Smith = *Lejeunea lamacerina* (Steph.) Schiffn.
Lejeunea mackayi (Hook.) Spreng. = *Marchesinia mackaii* (Hook.) Gray
Lejeunea minutissima (Sm.) Dum. = *Cololejeunea minutissima* (Sm.) Schiffn.
Lejeunea molleri Steph. = *Harpalejeunea molleri* (Steph.) Grolle
Lejeunea ovata Taylor = *Harpalejeunea molleri* (Steph.) Grolle
Lejeunea planiuscula (Lindb.) H. Buch = *Lejeunea lamacerina* (Steph.) Schiffn.
Lejeunea rossettiana C. Massal. = *Cololejeunea rossettiana* (C. Massal.) Schiffn.
Lejeunea serpyllifolia (Dicks.) Lindb. var. *planiuscula* Lindb. = *Lejeunea lamacerina* (Steph.) Schiffn.
Lejeunea serpyllifolia Lib. = *Lejeunea cavifolia* (Ehrh.) Lindb.
Lejeunea ulicina (Taylor) Gottsche et al. = *Microlejeunea ulicina* (Taylor) A. Evans
Lepidozia sylvatica A. Evans = *Kurzia sylvatica* (A. Evans) Grolle
Lepidozia trichoclados Müll. Frib. = *Kurzia trichoclados* (Müll. Frib.) Grolle
Leptoscyphus anomalus (Hook.) Lindb. = *Mylia anomala* (Hook.) Gray
Leptoscyphus anomalus (Hook.) Mitt. = *Mylia anomala* (Hook.) Gray
Leptoscyphus interruptus (Nees) Mitt. = *Pedinophyllum interruptum* (Nees) Kaal.
Leptoscyphus taylorii (Hook.) Mitt. = *Mylia taylorii* (Hook.) Gray
Lioclæna lanceolata Nees = *Jungermannia leiantha* Grolle
Lioclæna subulata (A. Evans) Schljakov = *Jungermannia subulata* A. Evans
Lophocolea crocata Mich. = *Lophocolea minor* Nees
Lophocolea cuspidata Limpr. = *Lophocolea bidentata* (L.) Dumort.
Lophocolea hookeriana Nees = *Lophocolea bidentata* (L.) Dumort.
Lophocolea vogesiaca Nees = *Harpanthus flotovianus* (Nees) Nees
Lophozia acutiloba Schiffn. = *Gymnocolea inflata* (Huds.) Dumort. var. *acutiloba* (Schiffn.) Arnell
Lophozia alpestris (Schleich. ex F. Weber) A. Evans = *Leiocolea bantriensis* (Hook.) Jörg.
Lophozia alpestris auct. = *Lophozia sudetica* (Nees ex Huebener) Grolle
Lophozia attenuata (Mart.) Dumort. = *Barbilophozia attenuata* (Mart.) Loeske
Lophozia badensis (Gottsche) Schiffn. = *Leiocolea badensis* (Gottsche) Jörg.
Lophozia bantriensis (Hook.) Steph. = *Leiocolea bantriensis* (Hook.) Jörg.
Lophozia barbata (Schmidel ex Schreb.) Dumort. = *Barbilophozia barbata* (Schmidel ex Schreb.) Loeske
Lophozia baueriana Schiffn. = *Barbilophozia hatcheri* (A. Evans) Loeske
Lophozia collaris (Nees) Dumort. = *Leiocolea bantriensis* (Hook.) Jörg.
Lophozia confertifolia Schiffn. = *Lophozia wenzelii* (Nees) Steph.
Lophozia ehrhartiana (F. Web.) Inoue et Steere = *Lophozia ventricosa* (Dicks.) Dumort.
Lophozia ehrhartiana sensu Steere et Inoue = *Lophozia sudetica* (Nees ex Huebener) Grolle
Lophozia elongata (Lindb.) Steph. = *Lophozia excisa* (Dicks.) Dumort.
Lophozia exsecta (Schrad.) Dumort. = *Tritomaria exsecta* (Schrad.) Schiffn. ex Loeske

Lophozia floerkei (F. Weber et D. Mohr) Schiffn. = *Barbilophozia floerkei* (F. Weber et D. Mohr) Loeske

Lophozia gillmanii (Austin) R.M. Schust. = *Leiocolea gillmanii* (Austin) A. Evans

Lophozia gracilis (Schleich. ex Steph.) Steph. = *Barbilophozia attenuata* (Mart.) Loeske
Lophozia gracillima H. Buch = *Lophozia ascendens* (Warnst.) R.M. Schust.

Lophozia guttulata (Lindb. et Arnell) Grolle = *Lophozia longiflora* (Nees) Schiffn.

Lophozia hatcheri (A. Evans) Steph. = *Barbilophozia hatcheri* (A. Evans) Loeske

Lophozia heterocolpos (Thed. ex Hartm.) M. Howe = *Leiocolea heterocolpos* (Thed. ex Hartm.) H. Buch

Lophozia hornschuchiana (Nees) Macoun = *Leiocolea bantriensis* (Hook.) Jörg.

Lophozia incisa (Schrad.) Dumort. subsp. *opacifolia* (Culm. ex Meyl.) R.M. Schust. et Damsh. = *Lophozia opacifolia* Culm. ex Meyl.

Lophozia inflata (Huds.) M. Howe = *Gymnocolea inflata* (Huds.) Dumort. var. *inflata*

Lophozia iremelensis Schljakov = *Lophozia wenzelii* (Nees) Steph.

Lophozia jurensis Meyl. ex Müll. Frib. = *Lophozia excisa* (Dicks.) Dumort.

Lophozia kaurinii (Limpr.) Steph. = *Leiocolea gillmanii* (Austin) A. Evans

Lophozia kiaeri Jörg. = *Lophozia excisa* (Dicks.) Dumort.

Lophozia kunzeana (Huebener) A. Evans = *Barbilophozia kunzeana* (Huebener) Müll. Frib.

Lophozia lycopodioides (Wallr.) Cogn. = *Barbilophozia lycopodioides* (Wallr.) Loeske

Lophozia lyonii (Taylor) Steph. = *Tritomaria quinquedentata* (Huds.) H. Buch

Lophozia minuta (Schreb.) Schiffn. = *Anastrophyllum minutum* (Schreb.) R.M. Schust.

Lophozia muelleri (Nees ex Lindenb.) Dumort. = *Leiocolea bantriensis* (Hook.) Jörg.

Lophozia porphyroleuca (Nees) Schiffn. = *Lophozia longiflora* (Nees) Schiffn.

Lophozia quinquedentata (Huds.) Cogn. = *Tritomaria quinquedentata* (Huds.) H. Buch

Lophozia rufescens Schljakov = *Lophozia sudetica* (Nees ex Huebener) Grolle

Lophozia schreberi (Nees) Boulay = *Barbilophozia barbata* (Schmidel ex Schreb.) Loeske

Lophozia scutata (F. Weber et D. Mohr) Dumort. = *Harpanthus scutatus* (F. Weber et D. Mohr) Spruce

Lophozia turbinata (Raddi) Steph. = *Leiocolea turbinata* (Raddi) H. Buch

Lophozia ventricosa (Dicks.) Dum. var. *porphyroleuca* (Nees) Limpr. = *Lophozia longiflora* (Nees) Schiffn.

Lunularia alpina Nees = *Sauteria alpina* (Nees) Nees

Lunularia michelii Le Jolis = *Lunularia cruciata* (L.) Lindb.

Lunularia vulgaris Mich. = *Lunularia cruciata* (L.) Lindb.

Madotheca cordaeana (Huebener) Dumort. = *Porella cordaeana* (Huebener) Moore

Madotheca dentata Mass. = *Porella cordaeana* (Huebener) Moore

Madotheca jackii Schiffn. = *Porella platyphyllea* (L.) Pfeiff.

Madotheca laevigata (Schrad.) Dumort. = *Porella arboris-vitae* (With.) Grolle

Madotheca obtusata Taylor = *Porella obtusata* (Taylor) Trevis.

Madotheca platyphyllea (L.) Dumort. = *Porella platyphyllea* (L.) Pfeiff.

Madotheca platyphylloidea (Schwein.) Dumort. = *Porella platyphyllea* (L.) Pfeiff.

Madotheca rivularis Nees = *Porella cordaeana* (Huebener) Moore

Madotheca thuja auct. = *Porella obtusata* (Taylor) Trevis.

Madotheca torva De Not. = *Porella obtusata* (Taylor) Trevis.

- Mannia dichotoma* auct. = *Mannia androgyna* (L.) A. Evans
Mannia rupestris (Nees) Frye et L. Clark = *Mannia triandra* (Scop.) Grolle
Marchantia alpestris (Nees) Burgeff = *Marchantia polymorpha* L. subsp. *montivagans* Bischl. et Boisselier
Marchantia androgyna L. = *Mannia androgyna* (L.) A. Evans
Marchantia angustifolia Necker = *Mannia androgyna* (L.) A. Evans
Marchantia aquatica (Nees) Burgeff = *Marchantia polymorpha* L. subsp. *ruderale* Bischl. et Boisselier
Marchantia circumscissa Biv. = *Mannia androgyna* (L.) A. Evans
Marchantia commutata Lindenb. = *Preissia quadrata* (Scop.) Nees
Marchantia conica L. = *Conocephalum conicum* (L.) Dumort.
Marchantia cruciata L. = *Lunularia cruciata* (L.) Lindb.
Marchantia cruciata var. *hyalina* Sommerf. = *Athalamia hyalina* (Sommerf.) S. Hatt.
Marchantia dillenii Le Jolis = *Lunularia cruciata* (L.) Lindb.
Marchantia fragrans Balbis = *Mannia fragrans* (Balbis) Frye et L. Clark
Marchantia glauca Biv. = *Plagiochasma rupestre* (J.R. Forst. et G. Forst.) Steph.
Marchantia gracilis F. Weber = *Asterella gracilis* (F. Weber) Underw.
Marchantia hemisphaerica L. = *Reboulia hemisphaerica* (L.) Raddi
Marchantia hirsuta Sw. = *Dumontiera hirsuta* (Sw.) Nees
Marchantia irrigua (Taylor) Wilson = *Dumontiera hirsuta* (Sw.) Nees
Marchantia pilosa Hornem. = *Mannia pilosa* (Hornem.) Frye et L. Clark
Marchantia polymorpha L. var. *aquatica* Nees = *Marchantia polymorpha* L. subsp. *polymorpha*
Marchantia polymorpha var. *alpestris* Nees = *Marchantia polymorpha* L. subsp. *montivagans* Bischl. et Boisselier
Marchantia quadrata Scop. = *Preissia quadrata* (Scop.) Nees
Marchantia spathysii Lindenb. = *Athalamia spathysii* (Lindenb.) S. Hatt.
Marchantia stellata Scop. = *Marchantia polymorpha* L. subsp. *ruderale* Bischl. et Boisselier
Marchantia triandra Scop. = *Mannia triandra* (Scop.) Grolle
Marchantia umbellata Scop. = *Marchantia polymorpha* L. subsp. *ruderale* Bischl. et Boisselier
Marchantia vittata Raddi = *Marchantia polymorpha* L. subsp. *polymorpha*
Marsupella aemula (Limpr.) Lindb. = *Marsupella condensata* (Ångstr. ex C. Hartm.) Kaal.
Marsupella aquatica (Lindenb.) Schiffn. = *Marsupella emarginata* (Ehrh.) Dumort.
Marsupella badensis Schiffn. = *Marsupella funckii* (F. Weber et D. Mohr) Dumort.
Marsupella capillaris Limpr. = *Marsupella boeckii* (Austin) Lindb.
Marsupella conferta (Limpr.) Spruce = *Marsupella brevissima* (Dumort.) Grolle
Marsupella erythrorhiza Schiffn. = *Marsupella sphacelata* (Gieseke ex Lindenb.) Dumort.
Marsupella filiformis (Lindb.) Lindb. = *Marsupella boeckii* (Austin) Lindb.
Marsupella gracilis (C. Massal. et Carestia) C. Massal. = *Marsupella sprucei* (Limpr.) Bernet
Marsupella hungarica Boros et Vajda = *Marsupella funckii* (F. Weber et D. Mohr) Dumort.
Marsupella joergensenii Schiffn. = *Marsupella sphacelata* (Gieseke ex Lindenb.) Dumort.
Marsupella latifolia (Lindb.) Lindb. = *Marsupella boeckii* (Austin) Lindb.

- Marsupella neglecta* (Limpr.) Steph. = *Marsupella sprucei* (Limpr.) Bernet
Marsupella nevicensis (Carrington) Kaal. = *Marsupella boeckii* (Austin) Lindb.
Marsupella obscura Spruce = *Marsupella adusta* (Nees emend. Limpr.) Spruce
Marsupella pearsonii Schiffn. = *Marsupella emarginata* (Ehrh.) Dumort.
Marsupella pygmaea (Limpr.) Steph. = *Marsupella funckii* (F. Weber et D. Mohr) Dumort.
Marsupella ramosa Müll. Frib. = *Marsupella funckii* (F. Weber et D. Mohr) Dumort.
Marsupella revoluta (Nees) Dumort. = *Apomarsupella revoluta* (Nees) R.M. Schust.
Marsupella robusta Carrington = *Marsupella emarginata* (Ehrh.) Dumort.
Marsupella styriaca (Limpr.) Kaal. = *Marsupella sparsifolia* (Lindb.) Dumort.
Marsupella sullivantii (De Not.) A. Evans = *Marsupella sphacelata* (Gieseke ex Lindenb.)
 Dumort.
Marsupella ustulata (Hüb.) Spruce = *Marsupella emarginata* (Ehrh.) Dumort.
Marsupella ustulata auct. = *Marsupella sprucei* (Limpr.) Bernet
Marsupella ustulata var. *neglecta* (Limpr.) K.M. = *Marsupella sprucei* (Limpr.) Bernet
Marsupella varians (Lindb.) Müll. Frib. = *Marsupella brevissima* (Dumort.) Grolle
Martinellia aequiloba (Schwägr.) Lindb. = *Scapania aequiloba* (Schwägr.) Dumort.
Martinellia apiculata (Spruce) Lindb. = *Scapania apiculata* Spruce
Martinellia aspera (H. et M. Bernet) Möller = *Scapania aspera* H. et M. Bernet
Martinellia calcicola Arnell et J. Perss. = *Scapania calcicola* (Arnell et J. Perss.) Ingham
Martinellia convexa Lindb. = *Scapania umbrosa* (Schrad.) Dumort.
Martinellia crassiretis (Bryhn) Arnell = *Scapania compacta* (A. Roth) Dumort.
Martinellia curta (Mart.) Lindb. = *Scapania curta* (Mart.) Dumort.
Martinellia cuspiduligera (Nees) Arnell = *Scapania cuspiduligera* (Nees) Müll. Frib.
Martinellia gracilis (Lindb.) Lindb. = *Scapania gracilis* Lindb.
Martinellia helvetica (Gottscche) Arnell = *Scapania helvetica* Gottsche
Martinellia mucronata (H. Buch) Arnell et C.E.O. Jensen = *Scapania mucronata* H. Buch
Martinellia nemorosa (Dumort.) Lindb. = *Scapania nemoreo* (L.) Grolle
Martinellia obliqua Arnell = *Scapania uliginosa* (Sw. ex Lindenb.) Dumort.
Martinellia obscura Arnell et C.E.O. Jensen = *Scapania obscura* (Arnell et C.E.O. Jensen)
 Schiffn.
Martinellia paludicola (Loeske et Müll. Frib.) C.E.O. Jensen = *Scapania paludicola*
 Loeske et Müll. Frib.
Martinellia paludosa (Müll. Frib.) Arnell et C.E.O. Jensen = *Scapania paludosa* (Müll.
 Frib.) Müll. Frib.
Martinellia resupinata (Hook.) Lindb. = *Scapania compacta* (A. Roth) Dumort.
Martinellia resupinata (L.) Gray = *Scapania undulata* (L.) Dumort.
Martinellia rosacea (Corda) Lindb. et Arnell = *Scapania curta* (Mart.) Dumort.
Martinellia scandica Arnell et H. Buch = *Scapania scandica* (Arnell et H. Buch) Macv.
Martinellia subalpina (Nees ex Lindenb.) Lindb. = *Scapania subalpina* (Nees) Dumort.
Martinellia uliginosa (Sw. ex Lindenb.) Lindb. = *Scapania uliginosa* (Sw. ex Lindenb.)
 Dumort.
Martinellia umbrosa (Schrad.) Gray = *Scapania umbrosa* (Schrad.) Dumort.
Martinellia undulata (L.) Gray = *Scapania undulata* (L.) Dumort.
Massula capitata (Hook.) Schljakov = *Lophozia capitata* (Hook.) Macoun
Massula grandiretis (Lindb. ex Kaal.) Schljakov = *Lophozia grandiretis* (Lindb. ex Kaal.)

Schiffn.

Massula incisa (Schrad.) Schljakov = *Lophozia incisa* (Schrad.) Dumort.

Massula opacifolia (Culm.) Schljakov = *Lophozia opacifolia* Culm. ex Meyl.

Mastigobryum deflexum (Mart.) Nees = *Bazzania tricrenata* (Wahlenb.) Lindb.

Mastigobryum triangularis (Scheich. ex Steudel) Steph. = *Bazzania tricrenata* (Wahlenb.) Lindb.

Mastigobryum trilobatum (L.) Gottsche et al. = *Bazzania trilobata* (L.) Gray

Mastigobryum trilobatum (L.) Nees = *Bazzania trilobata* (L.) Gray

Mesophylla crenulata (Mitt.) Corb. = *Jungermannia gracillima* Sm.

Mesophylla hyalina (Lyell) Corb. = *Jungermannia hyalina* Lyell

Mesophylla obovata (Nees) Corbière = *Jungermannia obovata* Nees

Mesophylla rotaeana (De Not.) Dumort. = *Nardia scalaris* Gray

Mesophylla scalaris (Gray) Dumort. = *Nardia scalaris* Gray

Metzgeria conjugata Lindb. var. *simplex* (Lorb. ex Müll. Frib.) R.M. Schust. = *Metzgeria conjugata* Lindb.

Metzgeria conjugata Lindb. subsp. *simplex* (Lorb. ex Müll. Frib.) R.M. Schust. = *Metzgeria conjugata* Lindb.

Metzgeria furcata var. *fruticulosa* (Dicks.) Lindb. = *Metzgeria fruticulosa* (Dicks.) A. Evans

Metzgeria glabra Raddi = *Metzgeria furcata* (L.) Dumort.

Metzgeria pubescens (Schrank) Raddi = *Apometzgeria pubescens* (Schrank) Kuwah.

Metzgeria violacea auct. = *Metzgeria fruticulosa* (Dicks.) A. Evans

Microlepidozia sylvatica (A. Evans) Jörg. = *Kurzia sylvatica* (A. Evans) Grolle

Microlepidozia trichoclados (Müll. Frib.) Jörg. = *Kurzia trichoclados* (Müll. Frib.) Grolle

Mnium fissum L. = *Calypogeia fissa* (L.) Raddi

Moerckia flotoviana (Nees) Schiffn. = *Moerckia hibernica* (Hook.) Gottsche

Nardia alpina (Gott.) Trev. = *Marsupella alpina* (Gottsche ex Husn.) H. Buch

Nardia alpina (Gottsche ex Husn.) C. Massal. = *Marsupella alpina* (Gottsche ex Husn.) H. Buch

Nardia boeckii (Austin) Lindb. = *Marsupella boeckii* (Austin) Lindb.

Nardia brevissima (Dumort.) Lindb. = *Marsupella brevissima* (Dumort.) Grolle

Nardia cochlearis Lindb. = *Marsupella brevissima* (Dumort.) Grolle

Nardia commutata (Limpr.) C. Massal. et Carestia = *Marsupella commutata* (Limpr.) Bernet

Nardia crassula Lorb. = *Nardia insecta* Lindb.

Nardia crenulata Lindb. var. *cristulata* (Dum.) Schiffn. = *Jungermannia gracillima* Sm.

Nardia densifolia (Nees) Trev. = *Marsupella emarginata* (Ehrh.) Dumort. var. *emarginata*

Nardia emarginata Gray = *Marsupella emarginata* (Ehrh.) Dumort. var. *emarginata*

Nardia emarginata var. *aquatica* Nees = *Marsupella emarginata* (Ehrh.) Dumort. var. *aquatica* (Lindenb.) Dumort.

Nardia filiformis Lindb. = *Marsupella boeckii* (Austin) Lindb.

Nardia funkii (F. Weber et D. Mohr) Carrington = *Marsupella funkii* (F. Weber et D. Mohr) Dumort.

Nardia geoscyphus var. *insecta* (Lindb.) Frye and L. Clark = *Nardia insecta* Lindb.

Nardia gracilis C. Massal. et Carestia = *Marsupella sprucei* (Limpr.) Bernet

- Nardia gracillima* (Sm.) Lindb. = *Jungermannia gracillima* Sm.
Nardia haematosticta Lindb. = *Nardia geoscyphus* (De Not.) Lindb.
Nardia hyalina (Lyell) Carrington = *Jungermannia hyalina* Lyell
Nardia latifolia Lindb. = *Marsupella boeckii* (Austin) Lindb.
Nardia levieri Steph. = *Jungermannia confertissima* Nees
Nardia muelleriana Schiffn. = *Jungermannia hyalina* Lyell
Nardia obovata (Nees) Lindb. = *Jungermannia obovata* Nees
Nardia obovata var. *minor* Carring. = *Jungermannia subelliptica* (Lindb. ex Kaal.) Levier
Nardia pachyphylla (De Not.) Trev. = *Nardia compressa* (Hook.) Gray
Nardia revoluta (Nees) Lindb. = *Apomarsupella revoluta* (Nees) R.M. Schust.
Nardia robusta (De Not.) Trev. = *Marsupella emarginata* (Ehrh.) Dumort. var. *emarginata*
Nardia silvrettae Douin = *Nardia insecta* Lindb.
Nardia sparsifolia (Lindb.) Lindb. = *Marsupella sparsifolia* (Lindb.) Dumort.
Nardia sphacelata (Gieseke ex Lindenb.) Carrington = *Marsupella sphacelata* (Gieseke ex Lindenb.) Dumort.
Nardia sprucei Limpr. = *Marsupella sprucei* (Limpr.) Bernet
Nardia subelliptica Lindb. ex Kaal. = *Jungermannia subelliptica* (Lindb. ex Kaal.) Levier
Nardia varians Lindb. = *Marsupella brevissima* (Dumort.) Grolle
Neesiella carnica (Mass.) Schiffn. = *Mannia pilosa* (Hornem.) Frye et L. Clark
Neesiella pilosa (Horn.) Schiffn. = *Mannia pilosa* (Hornem.) Frye et L. Clark
Neesiella rupestris Schiffn. = *Mannia triandra* (Scop.) Grolle
Notothylas fertilis Milde = *Notothylas orbicularis* (Schwein.) Sull.
Notothylas valvata (Nees) Sull. = *Notothylas orbicularis* (Schwein.) Sull.
Obtusifolium obtusum (Lindb.) S.W. Arnell = *Lophozia obtusa* (Lindb.) A. Evans
Odontoschisma cavifolium Steph. = *Odontoschisma denudatum* (Mart.) Dumort.
Odontoschisma denudatum (Mart.) Dum. var. *elongatum* Lindb. = *Odontoschisma elongatum* (Lindb.) A. Evans
Odontoschisma denudatum fo. *elongatum* Lindb. = *Odontoschisma elongatum* (Lindb.) A. Evans
Odontoschisma denudatum subsp. *elongatum* (Lindb.) Potemkin = *Odontoschisma elongatum* (Lindb.) A. Evans
Odontoschisma remotifolium Warnst. = *Odontoschisma sphagni* (Dicks.) Dumort.
Odontoschisma sphagni var. *denudatum* (Mart.) C. Massal. et Carestia = *Odontoschisma denudatum* (Mart.) Dumort.
Odontoschisma sphagni var. *macrior* Meyl. = *Odontoschisma denudatum* (Mart.) Dumort.
Odontoschisma tessellatum C.E.O. Jensen = *Odontoschisma macounii* (Austin) Underw.
Orthocaulis attenuatus (Mart.) A. Evans = *Barbilophozia attenuata* (Mart.) Loeske
Orthocaulis floerkei (F. Weber et D. Mohr) H. Buch = *Barbilophozia floerkei* (F. Weber et D. Mohr) Loeske
Orthocaulis gracilis (Schleich. ex Steph.) H. Buch = *Barbilophozia attenuata* (Mart.) Loeske
Orthocaulis kunzeanus (Huebener) H. Buch = *Barbilophozia kunzeana* (Huebener) Müll. Frib.
Otiona crinita Corda = *Reboulia hemisphaerica* (L.) Raddi

Otiona italicica Dum. = *Plagiochasma rupestre* (J.R. Forst. et G. Forst.) Steph.

Otiona rupestris (J.R. Forst.) Dumort. = *Plagiochasma rupestre* (J.R. Forst. et G. Forst.) Steph.

Oxymitra paleacea Bisch. ex Lindenb. = *Oxymitra incrassata* (Brot.) Sérgio et Sim-Sim
Oxymitra pyramidata (Dumort.) Huebener = *Oxymitra incrassata* (Brot.) Sérgio et Sim-Sim

Pallavicinia blyttii (Moerch) Nees = *Moerckia blyttii* (Moerch) Brockm.

Pallavicinia flotovii Lindb. = *Moerckia hibernica* (Hook.) Gottsche

Pallavicinia hibernica (Hook.) Carrington = *Moerckia hibernica* (Hook.) Gottsche

Pedinophyllum pyrenaicum (Spr.) Lindb. var. *interruptum* Schiffn. = *Pedinophyllum interruptum* (Nees) Kaal.

Pedinophyllum pyrenaicum (Spruce) Lindb. = *Pedinophyllum interruptum* (Nees) Kaal.

Pellia borealis Lorb. = *Pellia epiphylla* (L.) Corda

Pellia calycina Nees = *Pellia endiviifolia* (Dicks.) Dumort.

Pellia epiphylla fo. *neesiana* Gottsche = *Pellia neesiana* (Gottsche) Limpr.

Pellia fabbronica auct. = *Pellia endiviifolia* (Dicks.) Dumort.

Pellia fabbronica Raddi = *Pellia endiviifolia* (Dicks.) Dumort.

Peltolepis grandis (Lindb.) Lindb. = *Peltolepis quadrata* (Saut.) Müll. Frib.

Peltolepis sibirica Lindb. = *Peltolepis quadrata* (Saut.) Müll. Frib.

Petalophyllum lamellatum Lindb. = *Petalophyllum ralfsii* (Wilson) Nees et Gottsche

Phaeoceros dichotomus (Raddi) Prosk. = *Phaeoceros bulbiculosus* (Brot.) Prosk.

Phragmicoma mackaii (Hook.) Dumort. = *Marchesinia mackaii* (Hook.) Gray

Physcocolea rossettiana (C. Massal.) Steph. = *Cololejeunea rossettiana* (C. Massal.) Schiffn.

Plagiochasma algericum Steph. = *Plagiochasma rupestre* (J.R. Forst. et G. Forst.) Steph.

Plagiochasma aytonia Lindb. = *Plagiochasma rupestre* (J.R. Forst. et G. Forst.) Steph.

Plagiochasma italicum De Not. = *Plagiochasma rupestre* (J.R. Forst. et G. Forst.) Steph.

Plagiochasma rousseliana Mont. = *Athalamia spathysii* (Lindenb.) S. Hatt.

Plagiochila aequiloba Mont. = *Scapania aequiloba* (Schwägr.) Dumort.

Plagiochila asplenoides var. *humilis* Lindenb. = *Plagiochila poreloides* (Torrey ex Nees) Lindenb.

Plagiochila asplenoides var. *major* Lindenb. = *Plagiochila asplenoides* (L.) emend. Taylor Dumort.

Plagiochila asplenoides var. *minor* Lindenb. = *Plagiochila poreloides* (Torrey ex Nees) Lindenb.

Plagiochila compacta Mont. = *Scapania compacta* (A. Roth) Dumort.

Plagiochila corniculata auct. = *Plagiochila exigua* (Taylor) Taylor

Plagiochila diacantha Taylor ex Steph. = *Plagiochila bifaria* (Sw.) Lindenb.

Plagiochila interrupta (Nees) Dumort. = *Pedinophyllum interruptum* (Nees) Kaal.

Plagiochila killarniensis Pearson = *Plagiochila bifaria* (Sw.) Lindenb.

Plagiochila major (L.) S.W. Arnell = *Plagiochila asplenoides* (L.) emend. Taylor Dumort.

Plagiochila poreloides var. *subarctica* (Jörg.) R.M. Schust. = *Plagiochila poreloides* (Torrey ex Nees) Lindenb.

Plagiochila spinulosa (Dicks.) Dum. var. *tridenticulata* Hook. = *Plagiochila exigua* (Taylor) Taylor

- Plagiochila spinulosa* var. *exigua* Taylor = *Plagiochila exigua* (Taylor) Taylor
Plagiochila spinulosa var. *inermis* Carrington = *Plagiochila bifaria* (Sw.) Lindenb.
Plagiochila spinulosa var. *killarniensis* (Pearson) Macvicar = *Plagiochila bifaria* (Sw.)
Lindenb.
Plagiochila spinulosa var. *macaronesica* P. et V. Allorge = *Plagiochila bifaria* (Sw.)
Lindenb.
Plagiochila stableri Pearson = *Plagiochila exigua* (Taylor) Taylor
Plagiochila tridenticulata auct. = *Plagiochila exigua* (Taylor) Taylor
Plagiochila undulata Mont. = *Scapania undulata* (L.) Dumort.
Plectocolea hyalina (Lyell) Mitt. = *Jungermannia hyalina* Lyell
Plectocolea obovata (Nees) Lindb. = *Jungermannia obovata* Nees
Plectocolea subelliptica (Lindb. ex Kaal.) A. Evans = *Jungermannia subelliptica* (Lindb.
ex Kaal.) Levier
Pleuroclada albescens (Hook.) Spruce = *Pleurocladula albescens* (Hook.) Grolle
Pleuroschisma flaccidum Dumort. = *Bazzania flaccida* (Dumort.) Grolle
Pleuroschisma implexum (Nees) Meyl. = *Bazzania flaccida* (Dumort.) Grolle
Pleuroschisma sphagni (Dicks.) Dumort. = *Odontoschisma sphagni* (Dicks.) Dumort.
Pleuroschisma tricrenata (Wahlenb.) Dumort. = *Bazzania tricrenata* (Walhlebn.) Lindb.
Pleuroschisma trilobatum (L.) Dumort. = *Bazzania trilobata* (L.) Gray
Porella dentata Lindb. = *Porella cordaeana* (Huebener) Moore
Porella laevigata (Schrad.) Pfeiff. = *Porella arboris-vitae* (With.) Grolle
Porella macroloba (Steph.) Hatt. et Inoué = *Porella obtusata* (Taylor) Trevis.
Porella notarisii Trevis. = *Porella platyphylla* (L.) Pfeiff.
Porella platyphylloidea (Schwein.) Lindb. = *Porella platyphylla* (L.) Pfeiff.
Porella poreolloides De Not. = *Porella platyphylla* (L.) Pfeiff.
Porella thuja auct. = *Porella obtusata* (Taylor) Trevis.
Preissia commutata Nees = *Preissia quadrata* (Scop.) Nees
Preissia cucullata Mont. et Nees = *Lunularia cruciata* (L.) Lindb.
Preissia hemispherica Cogn. = *Preissia quadrata* (Scop.) Nees
Prionolobus turneri (Hook.) Schiffn. = *Cephaloziella turneri* (Hook.) Müll. Frib.
Ptilidium ciliare var. *pulcherrimum* (G. Weber) Warnst. = *Ptilidium pulcherrimum* (G.
Weber) Vain.
Ptilidium trichophyllum (L.) Mitt. = *Blepharostoma trichophyllum* (L.) Dumort. var. *tri-*
chophyllum
Radula commutata Gott. = *Radula lindenbergiana* Gottsche et C. Hartm.
Radula germana Jack = *Radula lindenbergiana* Gottsche et C. Hartm.
Radula notarisii Steph. = *Radula complanata* (L.) Dumort.
Radula ovata Jack = *Radula lindenbergiana* Gottsche et C. Hartm.
Reboulia charrieri Douin = *Reboulia hemisphaerica* (L.) Raddi
Reboulia quadrata (Scop.) Bertol. = *Preissia quadrata* (Scop.) Nees
Rhakiocarpus conspersum Corda = *Reboulia hemisphaerica* (L.) Raddi
Riccardia pinguis (L.) S. Gray = *Aneura pinguis* (L.) Dumort.
Riccardia sinuata (Hook.) Trevis. = *Riccardia chamedryfolia* (With.) Grolle
Riccia affinis Milde = *Riccia ciliata* Hoffm.
Riccia aggregata Underw. = *Riccia nigrella* DC.

- Riccia americana* (M. Howe) M. Howe = *Riccia lamellosa* Raddi
Riccia arvensis Austin = *Riccia bifurca* Hoffm.
Riccia atromarginata var. *glabra* Levier ex Müll. Frib. = *Riccia trabutiana* Steph.
Riccia austini Steph. = *Riccia lamellosa* Raddi
Riccia baumgartneri Schiffn. = *Riccia subbifurca* Warnst. ex Croz.
Riccia bavarica Warnst. = *Riccia warnstorffii* Limpr. ex Warnst.
Riccia beckeriana Steph. = *Riccia frostii* Austin
Riccia bischoffii Huebener = *Riccia ciliifera* Link ex Lindenb.
Riccia cana Dur. ex Trab. = *Riccia trichocarpa* M. Howe
Riccia canescens Steph. = *Riccia trichocarpa* M. Howe
Riccia capillata Schmidel = *Ricciocarpos natans* (L.) Corda
Riccia centrifuga Arnell = *Riccia fluitans* L.
Riccia ciliata Raddi = *Riccia michelii* Raddi
Riccia ciliata var. *epilosa* Warnst. = *Riccia ciliata* Hoffm.
Riccia commutata J.B. Jack ex Levier = *Riccia warnstorffii* Limpr. ex Warnst.
Riccia coriandrina Spreng. = *Corsinia coriandrina* (Spreng.) Lindb.
Riccia crinita Taylor = *Riccia trichocarpa* M. Howe
Riccia daslandica S.W. Arnell = *Riccia ciliata* Hoffm.
Riccia dufoureii Nees = *Riccia lamellosa* Raddi
Riccia eudichotoma Bisch. = *Riccia canaliculata* Hoffm.
Riccia fruticulosa Dicks. = *Metzgeria fruticulosa* (Dicks.) A. Evans
Riccia glauca L. var. *subinermis* (Lindb.) Warnst. = *Riccia glauca* L.
Riccia glaucescens Carrington = *Riccia beyrichiana* Hampe ex Lehm. et Lindenb.
Riccia gougetiana Mont. var. *erinacea* Schiffn. = *Riccia gougetiana* Dur. et Mont.
Riccia henriquesii Levier = *Riccia bicarinata* Lindb.
Riccia heyeri Huebener ex Genth = *Riccia perennis* Steph.
Riccia huebeneriana var. *cavernosa* (Hoffm.) Ast = *Riccia cavernosa* Hoffm. emend.
Raddi
Riccia incrassata Brot. = *Oxymitra incrassata* (Brot.) Sérgio et Sim-Sim
Riccia insularis Levier ex Steph. = *Riccia sorocarpa* Bisch.
Riccia intumescens (Bisch.) Heeg = *Riccia ciliata* Hoffm.
Riccia lamellosa var. *americana* M. Howe = *Riccia lamellosa* Raddi
Riccia latzelii Schiffn. = *Riccia ciliifera* Link ex Lindenb.
Riccia lescuriana Austin = *Riccia beyrichiana* Hampe ex Lehm. et Lindenb.
Riccia lesquereuxii Steph. = *Riccia beyrichiana* Hampe ex Lehm. et Lindenb.
Riccia levieri Schiffn. = *Riccia beyrichiana* Hampe ex Lehm. et Lindenb.
Riccia lusitanica Levier ex Steph. = *Riccia bicarinata* Lindb.
Riccia major A. Roth = *Riccia glauca* L.
Riccia microspora Steph. = *Riccia frostii* Austin
Riccia minima L. = *Riccia nigrella* DC.
Riccia minutissima Steph. = *Riccia bifurca* Hoffm.
Riccia montagnei Steph. = *Riccia cavernosa* Hoffm. emend. Raddi
Riccia natans L. = *Ricciocarpos natans* (L.) Corda
Riccia negrillii Gola = *Riccia crystallina* L. emend. Raddi
Riccia palaestina S.W. Arnell = *Riccia frostii* Austin

- Riccia palmata* Lindenb. = *Riccia michelii* Raddi
Riccia panormitana Levier = *Riccia sorocarpa* Bisch.
Riccia paradoxa De Not. = *Riccia michelii* Raddi
Riccia pedemontana Steph. = *Riccia ciliifera* Link ex Lindenb.
Riccia plana Taylor = *Riccia crystallina* L. emend. Raddi
Riccia pseudofrostii Schiffn. ex Müll. Frib. = *Riccia huebeneriana* Lindenb.
Riccia pseudopapillosa Levier ex Steph. = *Riccia papillosa* Moris
Riccia pusilla Warnst. = *Riccia bifurca* Hoffm.
Riccia pyramidata Raddi = *Oxymitra incrassata* (Brot.) Sérgio et Sim-Sim
Riccia raddiana J.B. Jack et Levier = *Riccia sorocarpa* Bisch.
Riccia reticulata J.F. Gmel. = *Corsinia coriandrina* (Spreng.) Lindb.
Riccia ruppinensis Steph. = *Riccia glauca* L.
Riccia sanguinea Kashyap = *Riccia frostii* Austin
Riccia subcrispula Warnst. = *Riccia bifurca* Hoffm.
Riccia subtumida Milde = *Riccia ciliata* Hoffm.
Riccia tenellii Gola = *Riccia cavernosa* Hoffm. emend. Raddi
Riccia teneriffae S.W. Arnell = ? *Riccia canaliculata* Hoffm.
Riccia terracianoi Gola = *Riccia cavernosa* Hoffm. emend. Raddi
Riccia trichophylla Gasp. = *Riccia papillosa* Moris
Riccia tumida Lindenb. = *Riccia michelii* Raddi
Riccia velutina Wilson = *Ricciocarpos natans* (L.) Corda
Riccia venosa A. Roth = *Riccia glauca* L.
Riccia watsonii Austin = *Riccia frostii* Austin
Riccia zachariae Lorb. ex Müll. Frib. = *Riccia gougetiana* Dur. et Mont.
Ricciella fluitans (L.) A. Braun = *Riccia fluitans* L.
Ricciella heyeri Huebener ex Genth = *Riccia canaliculata* Hoffm.
Ricciella huebeneriana Dumort. = *Riccia huebeneriana* Lindenb.
Ricciella rautanenii Steph. = *Riccia cavernosa* Hoffm. emend. Raddi
Riccinia perennis (Steph.) Trabut = *Riccia perennis* Steph.
Ricciocarpos velutinus (Wilson) Steph. = *Ricciocarpos natans* (L.) Corda
Riella battianderi Trab. = *Riella notarisii* (Mont.) Mont.
Riella gallica Balansa = *Riella notarisii* (Mont.) Mont.
Riella reuteri Mont. = *Riella notarisii* (Mont.) Mont.
Roemeria multifida (L.) Raddi = *Riccardia multifida* (L.) Gray
Roemeria palmata Raddi = *Riccardia palmata* (Hedw.) Carruth.
Rupinia italica Trevis. = *Plagiochasma rupestre* (J.R. Forst. et G. Forst.) Steph.
Rupinia rupestris (J.R. Forst. et G. Forst.) Sw. = *Plagiochasma rupestre* (J.R. Forst. et G. Forst.) Steph.
Saccobasis polita (Nees) H. Buch = *Tritomaria polita* (Nees) Schiffn.
Saccogyna graveolens (Schrad.) Lindb. = *Geocalyx graveolens* (Schrad.) Nees
Sarcoscyphus aemulus Limpr. = *Marsupella condensata* (Ångstr. ex C. Hartm.) Kaal.
Sarcoscyphus alpinus Gottsche ex Husn. = *Marsupella alpina* (Gottsche ex Husn.) Bernet
Sarcoscyphus boeckii Austin = *Marsupella boeckii* (Austin) Lindb.
Sarcoscyphus capillaris Limpr. = *Marsupella boeckii* (Austin) Lindb.
Sarcoscyphus commutatus Limpr. = *Marsupella commutata* (Limpr.) Bernet

- Sarcoscyphus confertus* Limpr. = *Marsupella brevissima* (Dumort.) Grolle
Sarcoscyphus densifolius Nees = *Marsupella emarginata* (Ehrh.) Dumort.
Sarcoscyphus ehrhartii Corda = *Marsupella emarginata* (Ehrh.) Dumort.
Sarcoscyphus ehrhartii var. *aquatica* Nees = *Marsupella emarginata* (Ehrh.) Dumort. var.
aquatica (Lindenb.) Dumort.
Sarcoscyphus ehrhartii var. *robustus* De Not. = *Marsupella emarginata* (Ehrh.) Dumort.
Sarcoscyphus emarginatus (Ehrh.) C. Hartm. = *Marsupella emarginata* (Ehrh.) Dumort.
Sarcoscyphus funckii (F. Weber et D. Mohr) Nees = *Marsupella funckii* (F. Weber et D.
 Mohr) Dumort.
Sarcoscyphus muelleri Nees = *Marsupella funckii* (F. Weber et D. Mohr) Dumort.
Sarcoscyphus neglectus Limpr. = *Marsupella sprucei* (Limpr.) Bernet
Sarcoscyphus pygmaeus Limpr. = *Marsupella funckii* (F. Weber et D. Mohr) Dumort.
Sarcoscyphus revolutus Nees = *Apomarsupella revoluta* (Nees) R.M. Schust.
Sarcoscyphus sparsifolius Lindb. = *Marsupella sparsifolia* (Lindb.) Dumort.
Sarcoscyphus sphacelatus (Gieseke ex Lindenb.) Nees = *Marsupella sphacelata* (Gieseke
 ex Lindenb.) Dumort.
Sarcoscyphus sphacelatus Nees = *Marsupella sphacelata* (Gieseke ex Lindenb.) Dumort.
Sarcoscyphus sprucei Limpr. = *Marsupella sprucei* (Limpr.) Bernet
Sarcoscyphus styriacus Limpr. = *Marsupella sparsifolia* (Lindb.) Dumort.
Sarcoscyphus sullivantii De Not. = *Marsupella sphacelata* (Gieseke ex Lindenb.) Dumort.
Sarcoscyphus ustulatus auct. = *Marsupella sprucei* (Limpr.) Bernet
Sauteria grandis Lindb. = *Peltolepis quadrata* (Saut.) Müll. Frib.
Sauteria hyalina (Sommerf.) Lindb. = *Athalamia hyalina* (Sommerf.) S. Hatt.
Sauteria quadrata Saut. = *Peltolepis quadrata* (Saut.) Müll. Frib.
Sauteria seriata Lindb. = *Athalamia hyalina* (Sommerf.) S. Hatt.
Scapania aconiensis De Not. = *Scapania nemorea* (L.) Grolle
Scapania bartlingii (Hampe) Nees = *Scapania cuspiduligera* (Nees) Müll. Frib.
Scapania biroliana Mass. et Carest. = *Scapania compacta* (A. Roth) Dumort.
Scapania buchii Müll. Frib. = *Scapania lingulata* H. Buch
Scapania carestiae De Not. = *Scapania cuspiduligera* (Nees) Müll. Frib.
Scapania carinthiaca var. *massalongi* Müll. Frib. = *Scapania massalongi* (Müll. Frib.)
 Müll. Frib.
Scapania convexa Pearson = *Scapania umbrosa* (Schrad.) Dumort.
Scapania curta (Mart.) Dum. var. *geniculata* K. Müll. = *Scapania helvetica* Gottsche
Scapania curta var. *spinulosa* Mass. = *Scapania massalongi* (Müll. Frib.) Müll. Frib.
Scapania dentata (Dumort.) Dumort. = *Scapania undulata* (L.) Dumort.
Scapania franzoniana De Not. = *Scapania subalpina* (Nees ex Lindenb.) Dumort.
Scapania geniculata C. Massal. = *Scapania helvetica* Gottsche
Scapania glaucocephala (Taylor) Austin = *Scapania scapanioides* (C. Massal.) Grolle
Scapania intermedia (Husn.) Pearson = *Scapania undulata* (L.) Dumort.
Scapania joergensenii Schiffn. = *Scapania nemorea* (L.) Grolle
Scapania microphylla Warnst. = *Scapania lingulata* H. Buch
Scapania microscopica Culm. = *Diplophyllum obtusifolium* (Hook.) Dumort.
Scapania mucronata var. *praetervisa* (Meyl.) H. Buch = *Scapania praetervisa* Meyl.
Scapania nemorea (L.) Grolle subsp. *crassiretis* (Bryhn) Potemkin = *Scapania crassiretis*

Bryhn

- Scapania nemorosa* (L.) Dumort. = *Scapania nemorea* (L.) Grolle
Scapania oakesii Austin = *Scapania undulata* (L.) Dumort.
Scapania obliqua (Arnell) Schiffn. = *Scapania uliginosa* (Sw. ex Lindenb.) Dumort.
Scapania recurva Steph. = *Scapania gracilis* Lindb.
Scapania resupinata (L.) Dumort. = *Scapania undulata* (L.) Dumort.
Scapania rosacea (Corda) Nees = *Scapania curta* (Mart.) Dumort.
Scapania rotundata Warnst. = *Scapania paludicola* Loeske et Müll. Frib.
Scapania tyrolensis Nees = *Scapania aequiloba* (Schwägr.) Dumort.
Scapania undulata var. *paludosa* Müll. Frib. = *Scapania paludosa* (Müll. Frib.) Müll. Frib.
Scapania vexata C. Massal. = *Scapania scapanioides* (C. Massal.) Grolle
Scapaniella carinthiaca (J.B. Jack ex Lindb.) H. Buch = *Scapania carinthiaca* J.B. Jack ex Lindb.
Scapaniella massalongi (Müll. Frib.) H. Buch = *Scapania massalongi* (Müll. Frib.) Müll. Frib.
Schistochilopsis grandiretis (Lindb. ex Kaal.) Konstantinova = *Lophozia grandiretis* (Lindb. ex Kaal..) Schiffn.
Schistochilopsis incisa (Schrad.) Konstantinova = *Lophozia incisa* (Schrad.) Dumort.
Schistochilopsis opacifolia (Culm.) Konstantinova = *Lophozia opacifolia* Culm. ex Meyl.
Solenostoma amplexicaule (Dumort.) Steph. = *Jungermannia sphaerocarpa* Hook.
Solenostoma atrovirens (Dumort.) Müll. Frib. non Steph. = *Jungermannia atrovirens* Dumort.
Solenostoma confertissimum (Nees) Schljakov = *Jungermannia confertissima* Nees
Solenostoma cordifolium (Dumort.) Steph. = *Jungermannia exsertifolia* Steph. subsp. *cordifolia* (Dumort.) Váňa
Solenostoma crenulatum Mitt. = *Jungermannia gracillima* Sm.
Solenostoma gracillimum (Sm.) R.M. Schust. = *Jungermannia gracillima* Sm.
Solenostoma hyalinum (Lyell) Mitt. = *Jungermannia hyalina* Lyell
Solenostoma lanceolatum sensu Steph. = *Jungermannia leiantha* Grolle
Solenostoma levieri (Steph.) Steph. = *Jungermannia confertissima* Nees
Solenostoma oblongifolium (Müll. Frib.) Müll. Frib. = *Jungermannia pumila* With.
Solenostoma obovatum (Nees) C. Massal. = *Jungermannia obovata* Nees
Solenostoma ontariense R.M. Schust. = *Jungermannia hyalina* Lyell
Solenostoma pumilum (With.) Müll. Frib. = *Jungermannia pumila* With.
Solenostoma pusillum var. *vinaceum* R.M. Schust. = *Jungermannia confertissima* Nees
Solenostoma schiffneri (Loitl.) K. Müll. = *Jungermannia polaris* Lindb.
Solenostoma sphaerocarpoideum (De Not.) Paton et Warb. = *Jungermannia atrovirens* Dumort.
Solenostoma sphaerocarpum (Hook.) Steph. = *Jungermannia sphaerocarpa* Hook.
Solenostoma subellipticum (Lindb. ex Kaal.) R.M. Schust. = *Jungermannia subelliptica* (Lindb. ex Kaal.) Levier
Solenostoma triste (Nees) Müll. Frib. = *Jungermannia atrovirens* Dumort.
Southbya alicularia C. Massal. = *Southbya tophacea* (Spruce) Spruce
Southbya fennica Lindb. = *Arnelliella fennica* (Gottscche) Lindb.
Southbya hyalina (Lyell) Husnot = *Jungermannia hyalina* Lyell

- Southbya obovata* (Nees) Lindb. = *Jungermannia obovata* Nees
Southbya stillicidiorum (De Not.) Lindb. = *Southbya tophacea* (Spruce) Spruce
Southbya stillicidiorum (Raddi) Lindb. = *Southbya tophacea* (Spruce) Spruce
Sphaerocarpos californicus Austin = *Sphaerocarpos texanus* Austin
Sphaerocarpos europaeus Lorb. = *Sphaerocarpos texanus* Austin
Sphaerocarpos notarisii Mont. = *Riella notarisii* (Mont.) Mont.
Sphaerocarpos terrestris (Micheli) J.E. Smith = *Sphaerocarpos michelii* Bellardi
Sphagnoecetis communis Nees = *Odontoschisma sphagni* (Dicks.) Dumort.
Sphagnoecetis macounii Austin = *Odontoschisma macounii* (Austin) Underw.
Sphenolobus ascendens Warnst. = *Lophozia ascendens* (Warnst.) R.M. Schust.
Sphenolobus exsectiformis (Breidl.) Steph. = *Tritomaria exsectiformis* (Breidl.) Loeske
Sphenolobus exsectiformis var. *aequiloba* (Culm.) K. Müll. = *Tritomaria scitula* (Taylor)
Jörg.
Sphenolobus exsectus (Schrad.) Steph. = *Tritomaria exsecta* (Schrad.) Schiffn. ex Loeske
Sphenolobus groenlandicus (Nees) Steph. = *Lophozia wenzelii* (Nees) Steph.
Sphenolobus hellerianus (Nees ex Lindenb.) Steph. = *Anastrophyllum hellerianum* (Nees
ex Lindenb.) R.M. Schust.
Sphenolobus michauxii (F. Weber) Steph. = *Anastrophyllum michauxii* (F. Weber) H. Buch
Sphenolobus minutus (Schreb.) Berggr. = *Anastrophyllum minutum* (Schreb.) R.M. Schust.
Sphenolobus politus (Nees) Steph. = *Tritomaria polita* (Nees) Schiffn.
Sphenolobus saxicola (Schrad.) Steph. = *Anastrophyllum saxicola* (Schrad.) R.M. Schust.
Sphenolobus scitulus (Taylor) Steph. = *Tritomaria scitula* (Taylor) Jörg.
Staurophora pulchella Willd. = *Lunularia cruciata* (L.) Lindb.
Strozzia conica (L.) Gray = *Conocephalum conicum* (L.) Dumort.
Strozzia hemisphaerica (L.) Gray = *Reboulia hemisphaerica* (L.) Raddi
Targionia bifurca Nees = *Targionia hypophylla* L.
Targionia convoluta Lindenb. et Gottsche = *Targionia hypophylla* L.
Targionia germanica Corda = *Targionia hypophylla* L.
Targionia hypophylla L. var. *lorbeeriana* (Müll. Frib.) comb. nov. = *Targionia lorbeeriana*
Müll. Frib.
Targionia michelii Raddi = *Targionia hypophylla* L.
Targionia orbicularis Schwein. = *Notothylas orbicularis* (Schwein.) Sull.
Targionia sphaerocarpos Dicks. = *Sphaerocarpos michelii* Bellardi
Telaranea setacea auct. = *Kurzia pauciflora* (Dicks.) Grolle
Telaranea sylvatica (A. Evans) Müll. Frib. = *Kurzia sylvatica* (A. Evans) Grolle
Telaranea trichoclados (Müll. Frib.) Müll. Frib. = *Kurzia trichoclados* (Müll. Frib.) Grolle
Temnomia setiforme (Ehrh.) M. Howe = *Tetralophozia setiformis* (Ehrh.) Schljakov
Tessellina coriandri (Spreng.) Dumort. = *Corsinia coriandrina* (Spreng.) Lindb.
Tessellina pyramidata Dumort. = *Oxymitra incrassata* (Brot.) Sérgio et Sim-Sim
Thedenia blyttii (Moerch) C. Hartm. = *Moerckia blyttii* (Moerch) Brockm.
Trigonanthus curvifolius (Dicks.) Spruce = *Nowellia curvifolia* (Dicks.) Mitt.
Trigonanthus francisci (Hook.) C. Hartm. = *Cladopodiella francisci* (Hook.) Jörg.

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