



Catalogue of the Bryophyte Types in G: The Grimmiaceae

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Source: Candollea, 66(2) : 285-309

Published By: The Conservatory and Botanical Garden of the City of Geneva (CJBG)

URL: <https://doi.org/10.15553/c2011v662a6>

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Catalogue of the bryophyte types in G: the Grimmiaceae

Michelle J. Price & Eva Maier

Abstract

PRICE, M. J. & E. MAIER (2011). Catalogue of the bryophyte types in G: the Grimmiaceae. *Candollea* 66: 285-309. In English, English and French abstracts.

In the bryophyte collection in G a total of 138 types have been located for 97 specific and infraspecific names either described under *Coscinodon* Spreng., *Grimmia* Hedw., *Racomitrium* Brid., *Schistidium* Brid., or later transferred into one of these genera. These represent 63 currently recognised taxa, 58 from the *Grimmiaceae*, two that are now in the *Pottiaceae* and three that are in the *Orthotrichaceae*, *Ptychomitriaceae* and *Seligeriaceae*. Of the 138 types identified 33 are holotypes or lectotypes, 75 are isotypes or isolectotypes, 19 are syntypes or paratypes, 1 is a neotype and 10 are of uncertain designation. Four original specimens for three *nomina nuda* were also located. A previously un-documented original Hedwig specimen for *Trichostomum heterostichum* Hedw. was found recently and details on it are given herein. Newly identified potential type specimens from the Nees von Esenbeck herbarium, for 11 names described in *Bryologia Germanica*, are included. A list of problematic material and types that are cited in the literature as present in G but that were not located in the herbarium has been compiled. This catalogue includes the basionym and current name, protologue type citation, specimen label information, G barcode and typification information for each of the 154 specimens treated.

Key-words

GRIMMIACEAE – *Grimmia* – *Schistidium* – *Racomitrium* – *Coscinodon* – Mosses – Type catalogue

Résumé

PRICE, M. J. & E. MAIER (2011). Un Catalogue des types de bryophytes à G: les Grimmiaceae. *Candollea* 66: 285-309. En anglais, résumés en anglais et français.

La collection de bryophytes de l'herbier G contient un total de 138 échantillons-type correspondant à 97 taxons qui ont été soit décrits dans les genres *Coscinodon* Spreng., *Grimmia* Hedw., *Racomitrium* Brid. ou *Schistidium* Brid., soit transférés subséquentement dans l'un de ces genres. Ces types représentent 63 taxons actuellement reconnus, dont 58 appartiennent à la famille des *Grimmiaceae*, deux à celle des *Pottiaceae* et trois à celles des *Orthotrichaceae*, des *Ptychomitriaceae* et des *Seligeriaceae*. Parmi ces 138 échantillons-type, 33 sont des holotypes ou des lectotypes, 75 sont des isotypes ou des isolectotypes, 19 sont des syntypes ou paratypes, 1 est un néotype et 10 ont une désignation incertaine. Quatre spécimens originaux pour trois *nomina nuda* ont été localisés. L'information sur un spécimen original, auparavant non documenté, de *Trichostomum heterostichum* Hedw. est fournie. Pour 11 noms décrits par Nees von Esenbeck dans *Bryologia Germanica*, des spécimens nouvellement identifiés en provenance de l'herbier de Nees von Esenbeck sont inclus. Une liste de spécimens problématiques, ainsi que de types cités dans la littérature comme étant présents dans l'herbier G, mais qui n'ont pas pu y être localisés, est également fournie. Pour chacun des 154 échantillons traités, ce catalogue comprend le nom actuel, la citation du protologue, les informations présentes sur l'étiquette du spécimen, le numéro barcode de l'herbier G, ainsi que les informations concernant la typification.

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Submitted on January 25, 2011. Accepted on April 14, 2011.

Edited by P. Perret

Introduction

There are an estimated 5000 specimens of *Grimmiaceae* in G originating from Switzerland, Europe and North America as well as from other parts of the world such as Argentina, Australia, Bhutan, Bulgaria, Chile, Ethiopia, Kenya, Peru, Nepal, Syria, Turkey and Uganda. Recent taxonomic work by MAIER (2010) on *Grimmia* Hedw., which incorporated the G collections, revealed that there were more *Grimmia* types than expected within the G collection. Cataloguing efforts were therefore extended to include *Coscinodon* Spreng., *Racomitrium* Brid. and *Schistidium* Brid. A total of 138 types for 97 specific or infraspecific names, either described under *Coscinodon*, *Grimmia*, *Racomitrium*, *Schistidium* or later transferred into one of these genera are now known to be present in G. These 97 names represent 63 currently recognised taxa. For all types basionyms and their current synonyms are listed in Appendix 1.

During the course of this work an original Hedwig herbarium sheet for *Trichostomum heterostichum* Hedw., a name that had previously been lectotypified with non-Hedwig material, was located (Fig. 1). Previously overlooked material from the Nees von Esenbeck herbarium in G was also discovered, representing potential types for 11 names described by Nees and Hornschuch in *Bryologia Germanica* of NEES & al. (1827): *Grimmia affinis* var. *macrocarpa* Nees & Hornsch., *G. affinis* var. *ramosissima* Nees & Hornsch., *G. apocarpa* f. *atrofusca* Nees & Hornsch., *G. apocarpa* var. *bicolor* Nees & Hornsch., *G. apocarpa* var. *longifolia* Nees & Hornsch., *G. apocarpa* var. *nana* Nees & Hornsch., *G. apocarpa* var. *nigroviridis* Nees & Hornsch., *G. apocarpa* var. *tenerrima* Nees & Hornsch., *G. cylindrica* Nees & Hornsch., *G. fusca* Nees & Hornsch., and *G. urceolaris* Nees & Hornsch.

This catalogue presents information on the types deposited in G of *Coscinodon*, *Grimmia*, *Racomitrium*, *Schistidium*, or types that were described under these names but later transferred to genera in other families. The aim of this work is to make information on these specimens more accessible and contribute to the long-term conservation of the G bryophyte collection through the cataloguing, and eventual digitization, of type specimens. This project revealed that G contains, from the 138 catalogued *Grimmiaceae* types, 33 holotypes or lectotypes, 75 isotypes or isolectotypes, 19 syntypes or paratypes, 1 neotype and 10 types that were of uncertain designation as well as four original specimens for three *nomina nuda*.

Catalogue of *Grimmiaceae* types in G

The names associated with the G *Grimmiaceae* types are listed here alphabetically by basionym. The protologue information is given alongside the label information from each type specimen. The designation of the G types (lecto- = lectotype,

holo- = holotype, isolecto- = isolectotype, iso- = isotype, syn- = syntype, para- = paratype) are given and the term “type” is used where the designation is undetermined. Published typifications for names (author, publication year and page number), including the location of the holotype/lectotype, are given. Herbaria acronyms are according to *Index Herbariorum*. The G specimen barcode is provided as an identifier and the current name used for each basionym is listed (see Appendix 1). Author names are abbreviated according to BRUMMITT & POWELL (1992). Publications are abbreviated according to CROSBY (1999) and Taxonomic Literature 2 (STAFLEU & COWAN, 1976-1988). Reference works used included the invaluable *World Synopsis of the Genus Grimmia* of MUÑOZ & PANDO (2000) and a recent treatment of the genus *Grimmia* by MAIER (2010).

1. *Coscinodon humilis* Milde in Bot. Zeitung (Berlin) 22, Beil. 3: 13. 1864.

Type citation. – [Süd-Tirol] s.l.c.

= *Coscinodon cribrosus* (Hedw.) Spruce, fide IGNATOV & AFONINA (1992: 29).

Label information. – “*Grimmia humilis* Milde, Passeyr, Milde.” **Lecto-: G00114122.**

Typification. – MAIER & GEISSLER (1995: 76), lecto-: G.

Comments. – In the introduction by MILDE (1864: 3) the following locality information is given: “Oberhalb von Forst an der Etsch, ½ Stunde nördlich von Meran, zieht sich etwa 200 Fuss über dem Niveau der Etsch, am Abhänge des Marlinger Berges, in der Richtung von Nordwest nach Südwest eine schmale Wasserleitung hin, der sogenannte Marlinger-Waal.” This locality information is presumed to be applicable to the species that he cites in his work.

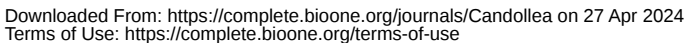
2. *Dicranum aciculare* Hedw., Sp. Musc. Frond.: 135. 1801.

= *Racomitrium aciculare* (Hedw.) Brid., Muscol. Recent. Suppl. 4: 80. 1818.

Type citation. – In Helvetia, Gallia, Carniolia, Saxonia, Thuringia, Hercynia, Anglia, Scotia ad saxa fluviorum montanorum et ad rupes humiditas.

Label information. – “*Dicranum aciculare* St. Crypt. III. p.79. tab 33. *Bryum aciculare* Linn. tenus Poenig ad Muldas, lect.” **Lecto-: G00040271.** See PRICE (2005: 57).

Typification. – BEDNAREK-OCHYRA & OCHYRA (1994: 106), lecto-: G.



3. *Dicranum ovale* Hedw., Sp. Musc. Frond.: 140. 1801.
= ***Grimmia ovalis*** (Hedw.) Lindb. in Acta Soc. Sci. Fenn. 10: 75. 1871.
Type citation. – In rupestribus montosis Saxoniae, (Thuringiae prope Isenacum, in granite montis piniferi Franconiae, Austriae prope Engelhardszell).
Label information. – “*Grimmia commutata* B&S. Specimina ab Hedw. ad iconem *Dicrani ovalis* adhibita.” **Lecto-: G00040349.** See PRICE (2005: 77).
Typification. – GEISSLER & MAIER (1995: 502), lecto-: G.
4. *Dicranum phascoidum* P. Beauv., Prodr. Aethéogam.: 54. 1805.
Type citation. – Cette espèce, qui a été découverte, si je ne me trompe, par M. Dufour, se trouve sur un des murs du bois de Boulogne, près Auteuil.
= ***Grimmia crinita*** Brid., fide MUÑOZ & PANDO (2000: 24).
Label information. – “*Dicranum phascoides* P-B.” **Lecto-: G00042967.**
Typification. – MUÑOZ (2000a: 289), lecto-: G.
5. *Fissidens pulvinatus* Hedw., Sp. Musc. Frond.: 158, tab. 40, fig. 1-3. 1801. = ***Grimmia pulvinata*** (Hedw.) Sm. in Sm. & Sowerby, Engl. Bot.: sub tab. 1728. 1807.
Type citation. – In tectis et muris vulgaris, vere maturans.
Label information. – “*Bryum pulvinatum* α *communis* antheris subrotundis, pedunculis reflexis, foliis piliferis Linn. Spec. pl. 2. p.1586. n.28. Sp. M. 158. t.40 f. 1-3. *Bryum* orbiculare pulvinatum, hirsutie canescens, capsulis immersis Dill. H. Musc 395. t.50. f. 65. [b. *Grimmia gracilis* (illegible word) ab ipso Richardo non differt].” **Lecto-: G00040350.** See PRICE (2005: 102).
Typification. – CAO & VITT (1986: 191), lecto-: G.
Comments. – In HEDWIG (1801: 158) the name “*Fissidens pulvinatus* α *communis*” is indicated in the margin under the epithet “*pulvinatus*” but to avoid nomenclatural confusion it is treated as an illegal name by MUÑOZ & PANDO (2000: 58) and the name *Fissidens pulvinatus* Hedw. is accepted.
6. *Fissidens pulvinatus* var. *africanus* Hedw., Sp. Musc. Frond.: 159, tab. 40, fig. 4-6. 1801.
Type citation. – Ad Cap. B. Spei lecta specimina mihi communicavit O. Swartz.
= ***Grimmia pulvinata*** (Hedw.) Sm., fide MAGILL (1981: 275).
Label information. – “*Fissidens pulvinatus* β *africanus* Spec. M. Ad Cap. bonae spei lecta specimina misit O. Swartz.” **Lecto-: G00040351.** See PRICE (2005: 103).
Typification. – MUÑOZ (1999: 168), lecto-: G.
7. *Grimmia aethiopica* Müll. Hal. in Bot. Zeitung (Berlin) 13: 765. 1855.
Type citation. – 781 - *Schistidium pulvinatum* Br. & Sch. in Musc. Abyss. Schimper. Patria Abyssinia, in rupibus montium Simensium, inde a 9000 pedibus supra mare usque ad 13 000 pedes ascendens: W. Schimper 1838, 6 Januar legit.
= ***Schistidium pulvinatum*** (Hedw.) Brid., fide BREMER (1980a: 104).
Label information. – “Schimper iter Abyssinicum Sectio secunda. 465. *Schistidium pulvinatum* Brid. In rupibus montium Simensium indea 9000 pedibus supra mare U. i. 1842. usque ad 13000 pedes. d. 6 Jun. 1838.” **Isolecto-: G00114203, G00114204.**
Typification. – MUÑOZ & PANDO (2000: 93), lecto-: NY.
8. *Grimmia alpicola* Hedw., Sp. Musc. Frond.: 77, tab. 15, fig. 1-5. 1801 [nom. rej.].
Type citation. – Suecia. O. Swartz. In saxis, ad rivulos alpinos.
= ***Schistidium agassizii*** Sull. & Lesq., fide BREMER (1980b: 2).
Label information. – “*Grimmia alpicola* Spec Musc. p. 77. t. 15. f.1-5. accepta ab O. Swartz.” **Type: G00040295.** See PRICE (2005: 114).
Typification. – BREMER (1980b: 2), type: G (information communicated by Deguchi).
Comments. – Rejected name (St. Louis Code Article 56, Appendix IV, pg. 396). See discussion in BREMER (1980b: 2-3).
9. *Grimmia anodon* var. *sinaitica* Renault & Cardot in Bull. Herb. Boissier 2: 33. 1894.
Type citation. – Sinaï, Djebel Senah. Leg. F. Grote, decemb. 12. 1891.
= ***Grimmia anodon*** Bruch & Schimp., fide MUÑOZ & PANDO (2000: 16).
Label information. – “F. Grote. Herbar. sinaiticum Djebel Senah. *Grimmia anodon* var. *sinaitica* Renault & Cardot in Bull. Herb. Boiss. II (1894). 33. 12 / XII 1891.” **Isolecto-: G00042980.**
Typification. – MUÑOZ & PANDO (2000: 16), lecto-: PC.

10. *Grimmia antillarum* Thér. in Rev. Bryol. Lichénol. 14: 13. 1944.
Type citation. – Santo-Domingo: Cordillera Central, prov. de Azua, Los Vallecitos de Yaque, 2.500 m. (no. 13.630).
 = ***Grimmia longirostris*** Hook., fide MUÑOZ (1998a: 354).
Label information. – “Plantae Indiae Occidentalis No. H 13630. *Grimmia antillarum* Thér. sp. nov. on stones. det. Thér. Hispaniola. Civ. Santo Domingo: Cordillera Central, prov. de Azua, Los Vallecitos de Yaque, common, c. 2500 m. 2. X. 1929. E.L. Ekman.” **Isolecto-: G00042973.**
Typification. – MUÑOZ (1998a: 354), lecto-: PC.
11. *Grimmia apocarpa* Hedw., Sp. Musc. Frond.: 76. 1801.
 = ***Schistidium apocarpum*** (Hedw.) Bruch & Schimp., Bryol. Eur. 3: 99. 1845.
Type citation. – Saxa depressiorum, roridorum locorum praepimis incolit. Lipsiae ad piscinam Lindenthalensem, Gothanam versus Ileburgum, Dresdae ad rivulum Weiseriz ubertim.
Label information. – “*Grimmia apocarpa* Hedw. St. Cr.”
Lecto-: G00040296. See PRICE (2005: 115).
Typification. – BREMER (1980a: 90), lecto-: G.
12. *Grimmia apocarpa* var. *grisea* Nees & Hornsch. in Nees & al., Bryol. Germ. 2(1): 91, tab. 16, fig. 4b. 1827.
Type citation. – Wächst auf Felsen bei Berneck auf dem Fichtelgebirge (Funck!, Laurer!).
 = ***Schistidium apocarpum*** (Hedw.) Bruch & Schimp., fide BREMER (1980a: 92).
Label information. – “Herb. Nees v. Esenb. *Grimmia apocarpa* α b. *grisea*.” **Type: G00282001.**
Typification. – BLOM (1996: 218), lecto-: M.
Comments. – This name is not mentioned in *Index Muscorum* (WILK & al., 1962). BREMER (1980a: 92) cites a type of this name as being in M (Herb. Funck), a specimen that was later used by BLOM (1996) as the lectotype for this name.
13. *Grimmia apocarpa* var. *nigrescens* Molendo in Ber. Naturhist. Vereins Augsburg 18: 146. 1865. = ***Schistidium apocarpum*** var. *nigrescens* (Molendo) Loeske, Laubm. Eur. 1: 29. 1913.
Type citation. – Auf Schieferplatten der a. Region selten: Nebelhorn 6500', Kratzerkoblach 6400', Höfatsplätt 5100'.
Label information. – “*Grimmia apoc. nigrescens* m. Algäuer Alpen: Auf einem Kalkschieferfels der Südseite des Kratzers im Koblach, 63-6400' 1864. L. Molendo.” **Type: G00061667.**
Typification. – None found.
14. *Grimmia apocarpa* var. *pumila* Nees & Hornsch. in Nees & al., Bryol. Germ. 2(1): 111, tab. 18, fig. 4q. 1827.
Type citation. – Beide Formen wachsen auf Felsblöcken der höchsten Alpen, um Heiligenblut (Hsch.), auf dem Wildkrachkogel in der Gastein (Funck!); die var. *pumila* erhielten wir von Herrn Schleicher aus der Schweiz.
 = ***Schistidium confertum*** (Funck) Bruch & Schimp., fide BREMER (1980a: 91).
Label information. – “*Grimmia apocarpa* η *tenerrima* α *pumila*. Herb. Nees von Esenb. Herrn Sturm.” **Type: G000 48200.**
Typification. – BLOM (1996: 167), lecto-: M.
Comments. – BREMER (1980a: 91) indicated the presence of a potential type in M for the name “*Grimmia apocarpa* c. *pumila* Swartz ex Schleicher nom. nud. 1815. p. 33” which was later used as the lectotype for the name “*Grimmia apocarpa* var. *pumila*” by BLOM (1996).
15. *Grimmia apocarpa* var. *stricta* Müll. Hal. in Paris, Index Bryol.: 518. 1896 [nom. nud.].
Type citation. – s.l.c.
 = ***Schistidium apocarpum*** (Hedw.) Bruch & Schimp., fide BREMER (1980a: 94).
Label information. – “Nr. 132. *Grimmia apocarpa* var. *stricta* Rehm. Orange Free State, Kadziberg. s.d., Rehmman s.n.” **Specimens: G00048186, G00048188.**
16. *Grimmia apocaula* DC. in Lam. & DC., Fl. Franç. ed 3, 2: 458. 1805.
Type citation. – Elle croît sur les murs et les pierres.
 = ***Grimmia plagiopodia*** Hedw., fide BLOM (1996: 261).
Label information. – “*Grimmia apocaula* Hoffmann [Hedwig].” **Lecto-: G00042910.**
Typification. – BLOM (1996: 261), lecto-: G.
17. *Grimmia apophysata* Gangulee in Nova Hedwigia 12: 428, tab. 7. 1967.
Type citation. – Kurz 2344 lectus ad Phalut prope Darjeeling ad alt. 3,500 m. die 16.X.1868. et servatus in CAL.
 = ***T rigonodictyon indicum*** Dixon & P. de la Varde in Ann. Cryptog. Exot. 1: 40. 1928. See MAIER (2010: 354).
Label information. – “2344. *Grimmia apophysata* Hpe. Index Bryologicus 1894-1898, p. 519. Sikkim 11000' J. Kurz.” **Iso-: G00042974.**
Typification. – GANGULEE (1967: 428), holo-: CAL.

18. *Grimmia arenaria* Hampe in Linnaea 10: 405. 1836.
Type citation. – In rupibus et saxis arenosis ad arcis pedem Regenstein, aestate fructu maturo.
 = *Grimmia donniana* Sm., fide MAIER (2010: 116).
Label information. – “*Grimmia arenaria* Hpe. ad saxa aren. Regenstein Hercyniae.” **Isolecto-: G00042959**; “*Grimmia arenaria* m Linnaea X 4. curvula Br. & S. bryol. ad rup arenos. d. Regensteins pr Blankenburg Hercyniae Hampe.” **Syn-: G00042960**; “No. 1. *Grimmia arenaria* m trimorphula ad rup arenos. Regenstein Hercyn. Jul. Aug. c.fr. mat 700’ (Hampe 34).” **Syn-: G00042961**; “*Grimmia arenaria* Hamp. (three illegible words) 43 Regenstein a/H 12 März 1843.” **Syn-: G00042962**.
Typification. – MUÑOZ (1998b: 376), lecto-: BM.
19. *Grimmia aspera* Müll. Hal. in Nuovo Giorn. Bot. Ital. ser. 2, 4: 261. 1897.
Type citation. – China interior, prov. Schen-si septentr., Hua-san, sterilis, Aug. 1895.
 = *Grimmia elatior* Bals.-Criv. & De Not., fide CAO & VITT (1986: 201).
Label information. – “Bryotheca E. Levier. *Grimmia aspera* C. Müll. Nuovo Giornale botanico italiano 1897, p. 261. China interior, provincia Schen-si sept. in monte Hua-san 25 Aug. 1895, legit Rev. Jos. Giraldis, determ. Prof. C. Müller sub. no. 1448.” **Isolecto-: G00042956**.
Typification. – CAO & VITT (1986: 201), lecto-: H.
20. *Grimmia benoistii* Thér. in Rev. Bryol. Lichénol. 9: 10, fig. 4. 1936.
Type citation. – Massif du Pichincha, rochers verticaux exposés au Nord, face au Condorguachana, 3,900 m. (no. 3116, 3117, 3114 pp) [leg. R. Benoist].
 = *Grimmia austrofunalis* Müll. Hal., fide MUÑOZ (1999: 127).
Label information. – “*Grimmia Benoistii* Thér. Equateur. Rochers verticaux exposés au Nord, en face du Condorguachana (massif du Pichincha), 3900 m Leg. R. Benoist, 30.10.1930. No. 3116. Det. I. Thériot.” **Isolecto-: G00042970**; *ibidem* “no. 3117. Det. I. Thériot.” **Syn-: G00042971**.
Typification. – MUÑOZ (1999: 127), lecto-: PC.
21. *Grimmia berliniana* Schultz in Syll. Pl. Nov. 2: 132. 1828.
Type citation. – In agro Gottingensi?
 = *Bryoerythrophyllum recurvirostrum* (Hedw.) P. C. Chen, fide WIJK & al. (1962: 375).
Label information. – “*Grimmia berliniana* Schultz (illegible) 1820 Sylloge (illegible). *Grimmia striata* Schrad.” **Type: G00048145**.
Typification. – None found.
22. *Grimmia brachyodon* Austin in Bull. Torrey Bot. Club 6: 45. 1875.
Type citation. – Pl. masc. ignota - *Grimmia montana*, var. Sulliv. & Lesqx. Exsic. Ed. 2, n. 215. pro parte.
 = *Grimmia montana* Bruch & Schimp., fide MAIER (2010: 224).
Label information. – “215. *Grimmia montana* Bryol. Europ. Grimm. Monogr. p. 26, t. 14. var. foliis brevius pilifero-acuminatis, operculo peristomiique dentibus brevioribus, etc. Hab: in rupibus schistosis montis Diablo Californiae (Bolander); etiam in alpebus Sierra Nevada montium (Brewer).” **Isolecto-: G00042924, G00042925, G00042926**.
Typification. – MUÑOZ (1998b: 398), lecto-: FH.
23. *Grimmia brachypus* Müll. Hal. in Nuovo Giorn. Bot. Ital. ser. 2, 4: 129. 1897. = *Racomitrium brachypus* (Müll. Hal.) Paris, Index Bryol.: 1070. 1898.
Type citation. – s.l.c.
Label information. – “*Rhacomitrium brachypus* C. Mull. Bolivia. Prov. Cochabamba, prope Choquecamata, Jun 1889, legit Germain. Det C. Müller sub. No. 1227.” **Type: G000 48196**.
Typification. – None found.
Comments. – Under the description of this taxon in MÜLLER (1897: 129) no locality or collector information is given, although in the introduction to this work he mentions collections by Germain from Choquecamata in Bryotheca E. Levier, information which corresponds to the specimen label.

24. *Grimmia caffra* Müll. Hal. in Hedwigia 38: 118. 1899. = ***Schistidium caffrum*** (Müll. Hal.) Ochyra in Fragm. Florist. Geobot. 43: 105. 1998.
Type citation. – Orange Free State, Witteberge supra Kadziberg: Dr. A. Rehmann, 1875 cum Syrrhopodonte erectiolio.
Label information. – “No. 130. *Grimmia caffra* Rehm. n. sp. Orange Free State: Witteberge supra Kadziberg.” **Type: G00114444.**
Typification. – None found, types in BM, G, L cited in BREMER (1980a: 95).
Comments. – Under the description of this taxon (MÜLLER, 1899: 118) noted that it was described by Rehmann in his *Musci austro-africanis* collection under no. 130. The G specimen was annotated “*Schistidium apocarpum* (Hedw.) Bruch & Schimp.” by Bremer in 1980.

25. *Grimmia cernua* f. *atra* Nees & Hornsch. in Nees & al., Bryol. Germ. 2(1): 178. 1827.
Type citation. – Wächst in kleinen meist runden, lockeren polsterförmigen Räschen auf Felsblöcken und wurde zuerst auf dem Rathhausberg 1816 aufgefunden (Mielichhofer! Hsch.! Funck! Laurer!); später auch auf Zirknitz-Alpe bei Döllach (Laurer!), und auf andern hohen Alpen von Ober-Kärnthen (Funck! Laurer!).
= ***Grimmia torquata*** Drumm., fide MUÑOZ & PANDO (2000: 76).
Label information. – “*Grimmia cernua* β *spiralis* α *atra* Herrn Sturm [Herb. Nees v Esenb.].” **Lecto-: G00042921.**
Typification. – MUÑOZ & PANDO (2000: 76), lecto-: G.

26. *Grimmia cinclidodonte* Müll. Hal. in Bot. Centralbl. 44: 387. 1890. = ***Schistidium cinclidodonteum*** (Müll. Hal.) B. Bremer in Lindbergia 6: 108. 1980.
Type citation. – Washington: Ellensburgh, ad rupes irroratas prope Thorp, I Junius 1888 c. fr. maturis.
Label information. – “*Grimmia cinclidodonte* n. sp. C. Müller. 1 Juni 1888. Thorp b/ Ellenburg, Dr. Julius Röhl. Washington. No. 940.” **Isolecto-: G00053135.**
Typification. – BREMER (1980a: 108), lecto-: H-BR, iso-: G. See also ROBINSON & HERMANN (1964: 170-174).
Comments. – One of the G specimens of this taxon was on loan and was thus not seen for this catalogue.

27. *Grimmia cribrodontia* Herzog in Repert. Spec. Nov. Regni Veg. 41: 287, tab. 235, fig. d-f. 1937. = ***Schistidium cribrodontium*** (Herzog) Ochyra in Acta Bot. Acad. Sci. Hung. 28: 373. 1982.
Type citation. – Africa centralis: Ruwenzori, alpine Stufe, 4650 m, leg I. Hauman VII/VIII, 32 (no. 854).
Label information. – “Exped. Sc. Belge. au Ruwenzori 1952. *Grimmia cribrodontia* [sic] Herz. Type. Ruwenzori, MontStanley 4650- det Herzog, Leg. Hauman VII-1932 – no. 854.” **Iso-: G00042968.**
Typification. – MUÑOZ & PANDO (2000: 93), holo-: JE.

28. *Grimmia cribrosa* Hedw., Sp. Musc. Frond.: 76. 1801. = ***Coscinodon cribrosus*** (Hedw.) Spruce in Ann. Mag. Nat. Hist. ser. 2, 3: 491. 1849.
Type citation. – In petris Goslariae, nec non Hassiae montis Meisner elegantem speciem primi dixerunt Persoon et Schrader.
Label information. – “*Grimmia cribrosa* Hedw. St. Crypt. Vol.III.p.73.t.31. A [a β Hedw. B. a Goslar c. Gogendbrug am Ochsenkopf c. An der Mühle unter der Salbergstraße Schwarzenbg. (illegible word) e Scotia Arnott 1839].” ? **Syn-: G00040083** (see PRICE, 2005: 116); “Herbier Hedwig. *Grimmia cribrosa* Hedw. Goslar, June 99.” ? **Holo-: G00040082.**
Typification. – DEGUCHI (1978: 244), holo-: G.
Comments. – PRICE (2005:116) erroneously noted that there was no type designation for this species. The specimen that has been annotated as the holotype in G by Deguchi [G000 40082] is non-original Hedwig material. The original Hedwig material for this name [G00040083] should be re-examined as it is likely that this herbarium sheet contains the true lectotype material for the name *Grimmia cribrosa* Hedw. (PRICE & MAIER, 2011).

29. *Grimmia dimorphula* Müll. Hal. in Nuovo Giorn. Bot. Ital. ser. 2, 3: 108. 1896.
Type citation. – Prope cacumen montis Iu-kia-po ad saxa, Jun.
= ***Grimmia khasiana*** Mitt., fide DEGUCHI (1980: 259).
Label information. – “Bryotheca E. Levier. *Grimmia* (*Eugrimmia*) *dimorphula* C. Müll. Nuovo Giornale botanico italiano 1896 p. 108. 1898. p. 189. China interior, provincia Schen-si sept. In monte prope Iu-Kia-po 27 Jun. 1894. legit Rev. Jos. Giralaldi. determ. Prof. C. Müller sub. no. 877.” **Isolecto-: G00042948, G00042949.**
Typification. – CAO & VITT (1986: 170), lecto-: H.

30. *Grimmia dissimulata* E. Maier in Candollea 56: 282, figs. 1, 5: 1-3. 2002.
Type citation. – Flora von Zypern. *Grimmia trichophylla* Grev. v. *meridionalis* Schpr. f. *rhacomitrioides*. Bez. Kyrenia, Kalkfelsen am Pass über Lapithos, an der Strasse bei 400 m, 10.V.1972. F. Koppe 10.5.1972(1).
Label information. – “Flora von Zypern *Grimmia trichophylla* Grev. v. *meridionalis* Schpr. f. *rhacomitrioides*. Bez. Kyrenia. Kalkfelsen am Pass über Lapithos an der Strasse bei 400 m. 10. 5. 1972, Koppe (1).” **Iso-: G00042965.**
Typification. – MAIER (2002a: 282), holo-: STU.
31. *Grimmia elatior* var. *squarrefolia* Dixon & Thér. in Hong Kong Naturalist, Suppl. 2: 10. 1933.
Type citation. – Exposed granite rock, 400-500 ft. alt., Amoy I., 8th July, 1931; coll. G. A. C. Herklots (B.8 A, type). Vertical face of rock, ibidem (B.15 B, B.16 B). = *Grimmia pilifera* P. Beauv., fide DEGUCHI (1978: 201).
Label information. – “*Grimmia elatior* Bruch var. nov. *squarrefolia* Dix. & Ther. China, Amoy Island, 450-500 ft. alt., 8 July 1931, G. A. C. Herklots. B.8 A.” **Iso-: G00042909.**
Typification. – DEGUCHI (1978: 201), holo-: BM.
32. *Grimmia funalis* f. *epilifera* J. E. Zetterst. in Revis. Grimm. Scand. 74. 1861 [nom. illeg., homon. post.].
Type citation. – Habitat in Norvegia media multis in locis, præcipue copiose in Dovre prope Kongsvold (ubi Kindberg perpaucâ specimina fructifera legit) et in monte Lauvhøen paroeciæ Lom; in Valders et in Voss eam legit Blytt. = *Grimmia funalis* (Schwägr.) Bruch & Schimp., fide MUÑOZ & PANDO (2000: 30).
Label information. – “*Grimmia funalis* Schwägr. forma epilifera Zetterst. Norvegiæ: Zettersted leg. In rupibus juxta Kongsvol. Alpium Dovensium.” **Isolecto-: G00061665.**
Typification. – MUÑOZ & PANDO (2000: 30), lecto-: S.
33. *Grimmia ganderi* Limpr. in Jahresber. Schles. Ges. Vaterl. Cult. 61: 215. 1884.
Type citation. – Wurde in Tirol bei Innervillgraten an glatten Schieferwänden am Wege nach «Kalchstein» bei 4000 Fuss vom Pfarrer Hieronymus Gander am 15. März 1884 gesammelt.
= *Grimmia donniana* Sm., fide MAIER (2010: 116).
Label information. – “*Grimmia ganderi* Limpr. n. sp. 61. Jahresbericht der schles. Gesellschaft 1884. Tirol: Innervillgraten an Schieferwänden 15/ 3 1884. Gander.” **Isolecto-: G00042963.**
Typification. – MUÑOZ (1998b: 381), lecto-: BP (BP-37547).
34. *Grimmia gracilis* Schwägr., Sp. Musc. Frond., Suppl. 1(1): 98, tab. 23. 1811.
Type citation. – Crescit ad lapides siccos montium et alpium Helvetia et in monte pinifero Franconiae auctore Funckio.
= *Schistidium strictum* (Turner) Mårtensson, fide CAO & VITT (1986: 214).
Label information. – “14 *Grimmia gracilis* S. Frequens ad rupes subalpinas Schleicher.” **Lecto-: G00048231; isolecto-: G00048233, G00048234.**
Typification. – DEGUCHI (1978: 220), lecto-: G.
Comments. – According to *Index Muscorum* (WIJK & al., 1962), the name *Grimmia gracilis* Schleich. ex Schwägr. was replaced by *Grimmia apocarpa* var. *gracilis* Röhl., Deutschl. Fl. (ed. 2), Kryptog. Gew. 3: 47. 1813.
35. *Grimmia incurva* Schwägr., Sp. Musc. Frond., Suppl. 1(1): 90. 1811.
Type citation. – Legi in summis alpiis Carinthiae, Glockner aliisque similibus primaevae, in Sudetum fossis nivalibus sterilem observavit C. Ludwig.
Label information. – “*Grimmia incurva* Schwgr. Glockner.” **Holo-: G00042984.**
Typification. – DEGUCHI (1978: 190), holo-: G.
36. *Grimmia itatiaensis* Broth. in Bull. Herb. Boissier 6: 108. 1898.
Type citation. – Brasilia, Serra Itatiaia, ad rupes, 2100 m. alta, Martio 1894: E. Ule, Coll. No. 1913.
= *Grimmia longirostris* Hook., fide MUÑOZ (1998a: 354).
Label information. – “E. Ule Bryotheca brasiliensis. 124. *Grimmia itatiaensis* Broth n. sp. Serra do Itatiaia, 2100 m., ad rupes, m. Martii 1894. leg. E. Ule [1895].” **Isolecto-: G00042946, G00042947.**
Typification. – MUÑOZ (1998a: 354), lecto-: H-BR.
37. *Grimmia mammillaris* Poech in Lotos 1: 177. 1851.
Type citation. – Gemein bei St. Prokop und Kuchelbad nächst Prag.
= *Grimmia orbicularis* Wilson, fide MUÑOZ & PANDO (2000: 58).
Label information. – “Musc. boh. num. 29. *Grimmia mammillaris* [sic] Poech Bemerk. Laub. in Mspt. Hab: In rupibus calcareis prope “Pragam”. Mat: Vere. - Dur: [perennial] Dr. Poech.” **Lecto-: G00042931.**
Typification. – MUÑOZ & PANDO (2000: 58), lecto-: G.

38. *Grimmia meteorae* C. C. Towns. in Kit Tan, The Davis & Hedge Festschrift: 48., fig. 3. 1989.
Type citation. – Greece. Thessaly: on damp stony bank near the Varlaam Monastery, the Meteora, near Kalabaka, apparently calcareous, 10 May 1987, C. C. Townsend 87/125. E holotype, Herb. Townsend, isotype.
 = *Grimmia nutans* Bruch, fide GREVEN (1995: 98).
Label information. – “*Grimmia meteorae* C.C. Townsend c. fr. Greece: Thessaly; on damp stony bank near the Varlaam Monastery, the Meteora, near Kalabaka, apparently calcareous. 10 May 1987. C.C. Townsend 87/125.” **Iso-: G00042932.**
Typification. – TOWNSEND (1989: 48), holo-: E.
39. *Grimmia microovata* Müll. Hal. in Nuovo Giorn. Bot. Ital. ser. 2, 4: 128. 1897.
Type citation. – Ex habitu *Grimmiae ovatae* Europaeae, sed humilitate atque teneritate pertium omnium jam refugiens. A. Gr. *longirostri* Hook. montis Chimborazo humilitate simili foliis longe pilosis longe differt. Gr. Peruviana Sulliv. caule multo graciliore distincte refugit.
 = *Grimmia longirostris* Hook., fide MUÑOZ (1998a: 354).
Label information. – “Bryotheca E. Levier. *Grimmia micro-ovata* C. Müll. n.sp. (Nuov. Giorn. bot. ital. 1897). Bolivia, prov. Cochabamba, prope Choquecamata. Jun. 1889 legit. Germain det. C. Müller sub. No. 1142.” **Isolecto-: G00042935.**
Typification. – MUÑOZ (1998a: 354), lecto-: JE.
40. *Grimmia montana* var. *abnoba* H. Schmidt in Mitt. Bad. Landesvereins Naturk. Naturschutz Freiburg 2: 121. 1927.
Type citation. – Schauinsland: Gneisfelsen nahe dem höchsten Gipfel und bei den unteren Häusern von Hofsgrund (S).
 = *Grimmia montana* Bruch & Schimp., fide MUÑOZ (1998b: 390).
Label information. – “Bauer, Musci europ. et amer. exsiccati. 1918. *Grimmia montana* Br. eur. nova var. *abnoba* H. Schmidt Frib. Südlicher Schwarzwald: auf sonnigen Felsen nahe dem Gipfel des Schauinsland, um 1200 m s.m. und etwa 400 m tiefer bei Hofsgrund, Nov. 1925, legit Hermann Schmidt.” **Isolecto-: G00042933.**
Typification. – MUÑOZ (1998b: 390), lecto-: JE.
41. *Grimmia montana* var. *idahensis* Renauld & Cardot in Bot. Gaz. 30: 18. 1900.
Type citation. – North Idaho: west end of Lake Pend d’Oreille (J. B. Leiberg, 1892. Ren. & Card., Musci Amer. sept. exsicc. no. 289).
 = *Grimmia montana* Bruch & Schimp., fide MAIER (2010: 226).
Label information. – “No. 289. *Grimmia montana* BS var. *idahensis* Ren. & Card. Idaho: Lac Pend d’Oreille. Leg. J. B. Leiberg, 1892.” **Isolecto-: G00046973.**
Typification. – MUÑOZ (1998b: 398), lecto-: PC.
42. *Grimmia nigricans* DC. in Lam. & DC., Fl. Franç. ed. 3, 2: 459. 1805.
Type citation. – Cette espèce m’a été envoyée des Alpes voisines du Léman: elle a été trouvée dans les Pyrénées, par le C. Dufour, et dans les montagnes d’Auvergne, par le C. Dubois.
 = *Grimmia ovalis* (Hedw.) Lindb., fide MUÑOZ & PANDO (2000: 60).
Label information. – “Grim-ovata Pyrenées.” **Lecto-: G00042927.**
Typification. – MUÑOZ & PANDO (2000: 60), lecto-: G.
43. *Grimmia nigroviridis* Müll. Hal. in Hedwigia 38: 121. 1899.
Type citation. – Prom. bonae spei, Mte. Tabulari et in montibus supra Worcester, Nov. 1875: Dr. A. Rehmann in Musc. austro-afr. No. 139.
 = *Racomitrium lamprocarpum* (Müll. Hal.) A. Jaeger, fide OCHYRA & al. (1988: 240).
Label information. – “139 b. *Grimmia nigro-viridis* C. M. n. sp. In montibus supra Worcester. [Rehmann].” **Isolecto-: G00048210.**
Typification. – DE SLOOVER (1977: 170), lecto-: BM.
44. *Grimmia nigroviridis* var. *robusticula* Müll. Hal. in Hedwigia 38: 121. 1899.
Type citation. Devilspeak: Dr. A. Rehmann, Musc. a. a. No. 139 c.
 = *Racomitrium lamprocarpum* (Müll. Hal.) A. Jaeger, fide OCHYRA & al. (1988: 240).
Label information. – “139 c *Grimmia nigro-viridis* C. M. n. sp. Devilspeak. [A. Rehmann].” **Iso-: G00048199, G000 48201.**
Typification. – OCHYRA & al. (1988: 240), holo-: BM.

45. *Grimmia obliqua* Hornsch. in Flora 2: 84. 1819.
Type citation: Auf Felsenblöcken in den Kärnthner u. Salzburger Alpen und auf dem Heiligenbl. Tauern.
 = ***Grimmia longirostris*** Hook., fide MUÑOZ (1998a: 353).
Label information. – “*Grimmia obliqua* Hornsch.: caule basi fasciculate, apice ramoso fastigiato, foliis erecto-patulis lanceolatis, pilo imposito, capsula alte emersa elliptica operculoque conico-rostellato obliquo. Ex alpp. Salisb. et Carinth. Hornschuch.” **Isolecto-: G00048229**.
Typification. – MUÑOZ (1998a: 353), lecto-: BM.
46. *Grimmia obtusa* Schwägr., Sp. Musc. Frond., Suppl. 1(1): 88, tab. 25. 1811 [nom. illeg., non Brid. 1801.].
Type citation. – Legi in alpe Carinthiae Brennkogel, summum monti Glockner vicina, Augusto frutificantem.
 = ***Grimmia donniana*** Sm., fide DEGUCHI (1978: 181).
Label information. – “Grimm. obtusa. No 33.” **Type ? : G00052458**; [sub-packet 1] “*Grimmia obtusa* (illegible word) Bad Gastein (illegible word) 57.”; [sub-packet 2] “*Grimmia obtusa*.” **Type ? : G00052459**.
Typification. – DEGUCHI (1978: 181), holo-: G.
Comments. – *Grimmia obtusa* was synonymised with *G. donniana* by DEGUCHI (1978: 181), who designated the holotype as being in G, although no information on the specimen label corresponding with this designation was given. Specimen 1 has been determined as *G. donniana* and *G. sessitana* and later as *G. sessitana*. Specimen 2 contains two sub-packets, one with a mixture of *G. donniana* and *G. sessitana* while the other contains *G. sessitana*. Label information given in MUÑOZ & PANDO (2000: 25) “Glockner. Kaulfuss” does not correspond with either of the labels of the specimens in G under this name.
47. *Grimmia obtusolinealis* Müll. Hal. in Flora 73: 484. 1890.
Type citation. – Africa or. trop., monte Kilima-Ndscharo, 3000-4800 m: Dr. Hans Meyer 1889.
 = ***Grimmia ovalis*** (Hedw.) Lindb., fide MAIER (2010: 262).
Label information. – “*Grimmia obtusolinealis* Müll. Hal. isoneotype: Kenya. North Nyeri district: on wet rocks by the Sirimon stream, Mount Kenya, alt. c. 3570 m, 4 April 1975, C. C. Townsend 75/749.” **Iso-: G00047359**.
Typification. – GREVEN (2003: 172), neo-: E.
48. *Grimmia ochyriana* J. Muñoz in Nova Hedwigia 66: 235, fig. 1-11. 1998.
Type citation. – Nepal, Près du camp de base, direction de Lobuje, 5100 m, 31-V-1964, Zimmermann 558 (G-holotype).
 = ***Grimmia atrata*** Hornsch., fide MAIER (2002b: 164).
Label information. – “Expédition scientifique Genevoise au Népal 1952. No 558 31 V 1952 *Grimmia subdoniana* Noguchi Loc. Près du camp de Base; direction de Lobuje. Alt. 5100 m. Leg. A. Zimmermann. Det A. Noguchi.” **Holo-: G00042972**.
Typification. – MUÑOZ (1998c: 235), holo-: G.
49. *Grimmia olneyi* Sull., Musci Hep. U. S. (repr.): 37. 1856.
Type citation. – Rocks, Rhode Island, S. T. Olney.
 = ***Grimmia ovalis*** (Hedw.) Lindb., fide MAIER (2010: 262).
Label information. – “141. *Grimmia olneyi*. Hab. in rupibus maritimis Rhodensis Insulae (cl. S. T. Olney legit).” **Isolecto-: G00053031, G00053039, G00053040**.
Typification. – MUÑOZ & PANDO (2000: 58), lecto-: FH.
50. *Grimmia orbicularis* var. *persica* Schiffn. in Oesterr. Bot. Z. 47: 129. 1897.
Type citation. – Persiae australis prov. Faristan [sic]: in rupestribus calcareis montium ad Schiras. 1650 -1700 m s. m. 25. X. 1892. c. fr. [Bornm. Iter Pers. – turc. Nr. 4448, 4448b.]. – Persiae australis prov. Faristan: Persepolis in decliv. apricis ± 1800 m s. m. 3. XI. 1892; c. fr. [Bornm. Iter Pers. – turc. Nr. 4458]. – Persia borealis: ad Teheran in planitie. ± 1200 m s. m. 31. I. 1892; c. fr. [Bornm. Iter Pers.-turc. Nr. 4452].
 = ***Grimmia orbicularis*** Wilson, fide MUÑOZ (2000b: 101).
Label information. – “J. Bornmüller: Iter Persico-turcicum 1892-93 No. 4448. *Grimmia orbicularis* Bruch var. *persica* Schiffner (var. nov.) Persiae australis prov. Faristan: in rupestribus calcar. montium ad Schiras. 1650-1700 m.s.m. 1892. X. 25. legit et determ. J. Bornmüller.” **Isolecto-: G0004 2928, G00042929, G00042930**.
Typification. – MUÑOZ (2000b: 101), lecto-: JE.

51. *Grimmia ovata* var. *praecox* A. Kern., Fl. Exsicc. Austro-Hungar.: n° 316. 1881 [in sched.].
Type citation. – Tirolia centralis. In saxis schist. ad Trins in valle Gschnitz; 1200 Monts. m. copiose.
 = *Grimmia longirostris* Hook., fide MUÑOZ (1998a: 353).
Label information. – “316. *Grimmia ovata* var. *praecox* [Austria] Tirolia centralis. In saxis schist. ad Trins in valle Gschnitz; 1200 m s.m. copiose. [A. Kerner, No. 316].”
Isolecto-: G00046109, G00046110, G00048225.
Typification. – MUÑOZ (1998a: 353), lecto-: BM.
Comments. – In TROPICOS the reference given is *Laubm. –Fl. Oesterr. –Ung.* 167. 1882.
52. *Grimmia pensilvanica* Schwägr., Sp. Musc. Frond., Suppl. 1(1): 91. 1811.
Type citation. – Lecta in Pensilvaniae rupibus a rev. Mühlenbergio.
 = *Grimmia pilifera* P. Beauv., fide MAIER (2010: 273).
Label information. – “*Grimmia Pensilvanica* Mhlbg. Februar n. 26.” **Lecto-: G00042908**; “*Grimmia Pensilvanica* mihi Arn. 80. rupestris H. fil. e Pensylvania.” **Syn-: G00046170.**
Typification. – CAO & VITT (1986: 144), lectotype ammended by MAIER (2010: 273), lecto-: G (G00042908).
53. *Grimmia pitardii* Corb. in Bull. Soc. Bot. France 56: LVI. 1910. = *Campylostelium pitardii* (Corb.) E. Maier in Candollea 53: 301. 1998.
Type citation. – Tunisie-Sud: sol calcaire, au milieu des rochers humides de l’oued Jir, dans les Matmata, au S de Gabès; alt. 500-600 m.
Label information. – “[195 *Grimmia pitardi* Corb.] Plantae Tunetanae. *Grimmia pitardii*. Corbière. Maturata: Oued Jir, in humidis, II.1907, J. Pitard.” **Iso-: G00113988.**
Typification. – MAIER (1998: 307), holo-: CHE.
54. *Grimmia plagiopodia* Hedw., Sp. Musc. Frond.: 78, tab. 15, fig. 6-13. 1801.
Type citation. – In Saxoniae rupibus detexit Cl. Flügge.
Label information. – “*Grimmia plagiopus* a Hg s. n. b a Flörkio.” **Lecto-: G00040348.** See PRICE (2005: 117).
Typification. – DEGUCHI (1984: 22), holo-: G. MAIER (2010: 282), lecto-: G.
55. *Grimmia pulla* Cardot in Rev. Bryol. 36: 106. 1909.
Type citation. – Etat de Hidalgo: Honey-Station, sur troncs d’arbres, associé à *Zygodon circinatus* Sch., 1907 (n. 10423) [C. G. Pringle].
Label information. – “C. G. Pringle. Plantae Mexicanae. State of Hidalgo. 10423 *Grimmia pulla*, Card n. sp. River ledges, near Honey Station, 7,000 ft. 12, Dec 1907. Det. Cardot.” **Isolecto-: G00042911.**
Typification. – MUÑOZ (1999: 167), lecto-: PC.
56. *Grimmia pulvinata* var. *asphaltita* Renaud & Cardot in Bull. Soc. Roy. Bot. Belgique 33: 118. 1895.
Type citation. – Judée: In deserto lacūs Asphaltitae inter Hebron et Zuweirat-el-Faga (Dr. G. E. Post, 1892. Herb. Boissier).
 = *Grimmia pulvinata* (Hedw.) Sm., fide MUÑOZ & PANDO (2000: 69).
Label information. – “417. Plantae Deserti, Maris Mortui Ex Herb. Postian apud Colleg. Syriens. Protest. Entre Hebron et Zuweirat-el-foga, le 22 août, 1892.” **Isolecto-: G00042912.**
Typification. – MUÑOZ & PANDO (2000: 69), lecto-: PC.
57. *Grimmia recurvata* Hedw., Sp. Musc. Frond.: 75. 1801. = *Seligeria recurvata* (Hedw.) Bruch & Schimp., Bryol. Europ. 2: 12. 1846.
Type citation. – In saxis montis calvariae Clagenfurthi primus detexit rev. Abb. Wulfen. (In Anglia D., in Hercynia Schrader v. Journ. D. Bot. II. P. 58)
Label information. – “*Grimmia recurvata* Hedw. St. Cr. 1. 107. t. 38. ab Abbate Wulfen.” **Holo-: G00040302.** See PRICE (2005: 118).
Typification. – VITT (1976: 257), holo-: G.
58. *Grimmia robusta* Nees & Hornsch., Bryol. Germ. 2(1): 125, tab. 20, fig. 9. 1827.
Type citation. – Wurde von Herrn Funck auf Felsen bei Heiligenblut in Oberkärnthen gesammelt und uns gütigst mitgetheilt.
 = *Schistidium apocarpum* (Hedw.) Bruch & Schimp., fide BREMER (1980a: 93).
Label information. – “*Grimmia robusta*. Herb. Nees v. Esenb.” **Type: G00282003.**
Typification. – Possible type cited as being in M by BREMER (1980a: 93).

59. *Grimmia ryanii* Bryhn in Nyt Mag. Naturvidensk. 34: 73. 1893.
Type citation. – *Grimmia ryani* er opdaget i August 1890 af Fabrikbestyrer Ryan ved Leirungsboden paa Sydsiden af Gjendin i Jotunfjeldene, hvor den er samlet, i rigelige Exemplarer af Ryan og Kaurin saavel i 1890 som i 1891.
 = *Grimmia funalis* (Schwägr.) Bruch & Schimp., fide MUÑOZ & PANDO (2000: 30).
Label information. – “Norvegia, Christians AMontc. fr. *Grimmia Ryani* Limpr. Jotunheimen, prope Leirungsboden in rup. siccis. Alt. metr. 1150. Aug 1890. Chr. Kaurin & E. Ryan.” **Isolecto-: G00042955.**
Typification. – MUÑOZ & PANDO (2000: 30), lecto-: NY.
60. *Grimmia ryanii* f. *tenuis* J. Amann in Bauer, Musci Eur. & Amer. Exsicc.: n° 2215. 1932 [in sched.].
Type citation. – 2115. *Grimmia Ryani* Limpr. forma *tenuis* Am. in sch. Schweiz: Graubünden, an Gneisfelsen vor dem Morteratschgletscher, 1950 m.s.m., mit *Grimmia torquata* und *Holleri*, 10. September 1930 legit J. Amann.
 = *Grimmia funalis* (Schwägr.) Bruch & Schimp., fide MUÑOZ & PANDO (2000: 31).
Label information. – “2115. *Grimmia Ryani* Limpr. forma *tenuis* Am. in sch. Schweiz: Graubünden, an Gneisfelsen vor dem Morteratschgletscher, 1950 m.s.m., mit *Grimmia torquata* und *Holleri*, 10. September 1930 legit J. Amann.” **Isolecto-: G00046113.**
Typification. – MUÑOZ & PANDO (2000: 31), lecto-: MO. See MAIER (2010: 142) for an explanation of the exsiccatae numbers.
61. *Grimmia sciuroides* f. *elongata* Nees & Hornsch. in Nees & al., Bryol. Germ. 2(1): 159, tab. 22, fig. 17c. 1827.
Type citation. – Auf den Kärnthner-Alpen, ohne nähere Bezeichnung des Standortes (Laurer!, Hoppe!).
 = *Grimmia longirostris* Hook., fide MUÑOZ & PANDO (2000: 44).
Label information. – “Herb. Nees v Esenb. *Grimmia sciuroides* δ *laxa* α *elongata*.” **Lecto-: G00042939.**
Typification. – MUÑOZ & PANDO (2000: 44), lecto-: G.
Comments. – The figure is cited in the text (pg. 159) as “e” but is correctly labelled as “c” in the illustration.
62. *Grimmia sciuroides* var. *foliosa* Nees & Hornsch. in Nees & al., Bryol. Germ. 2(1): 158, tab. 22, fig. 17a. 1827.
Type citation. – In der Gastein (Hsch. 1816), bei Döllach (Funck! Laurer!), auf der Pasterze (Laurer! Hoppe!).
 = *Grimmia longirostris* Hook., fide MUÑOZ & PANDO (2000: 44).
Label information. – “Herb. Nees v Esenb. *Grimmia sciuroides* β *foliosa*.” **Lecto-: G00042940.**
Typification. – MUÑOZ & PANDO (2000: 44), lecto-: G.
63. *Grimmia sciuroides* var. *laxa* Nees & Hornsch. in Nees & al., Bryol. Germ. 2(1): 159, tab. 22, fig. 17d. 1827.
Type citation. – Im Anlauf- und Kötschachthal in der Gastein (Funck! Laurer!), bei dem Tauernhaus und am Geschlöss in der Windischmattrey (Laurer! Funck!), auf dem Malnitzer-Tauern (Mielichhofer! Laurer!).
 = *Grimmia longirostris* Hook., fide MUÑOZ & PANDO (2000: 44).
Label information. – “Herb. Nees v Esenb. *Grimmia sciuroides* δ *laxa*.” **Lecto-: G00042941.**
Typification. – MUÑOZ & PANDO (2000: 44), lecto-: G.
64. *Grimmia sciuroides* var. *rigida* Nees & Hornsch. in Nees & al., Bryol. Germ. 2(1): 158, tab. 22, fig. 17b. 1827.
Type citation. – Auf den Alpen um Heiligenblut (Hoppe! Funck! Laurer! Hsch.).
 = *Grimmia longirostris* Hook., fide MUÑOZ & PANDO (2000: 45).
Label information. – “Herb. Nees v Esenb. *Grimmia sciuroides* γ *rigida*.” **Isolecto-: G00042942.**
Typification. – MUÑOZ & PANDO (2000: 45), lecto-: GZU.
65. *Grimmia sessitana* De Not. in Atti Reale Univ. Genova 1: 704. 1869.
Type citation. – In praeruptis infra Hospitium della Valdobbia, in valle Sessitana, legit Carestia.
Label information. – “Erbar. Crittogam. Ital. - Ser. II. 55. *Grimmia sessitana*. Frane alle scaturigini del Vogna, sotto l’ospizio della Valdobbia, in Val Sesia. Carestia.” **Isolecto-: G00052457.**
Typification. – CAO & VITT (1986: 164), lecto-: RO.

66. *Grimmia sinensiapocarpa* Müll. Hal. in Nuovo Giorn. Bot. Ital. ser. 2, 5: 187. 1898. = *Schistidium sinensiapocarpum* (Müll. Hal.) Ochyra in Fragm. Florist. Geobot. 43: 107. 1998.
Type citation. – Bryotheca E. Levier. China interior, prov. Schen-si sept., prope locum «Zu-lu», Oct. 1896 c. fr. deoperculatis; quoque forma liliputana simplicicaulis ibidem.
Label information. – “*Grimmia (Platystoma) sinensi-apocarpa* C. Müll. China interior, provincia Schen-si sept. in loco dicto Zu-lu. 28 Oct. 1896, legit. Rev. Jos. Giraldi, determ. Prof. C. Müller sub N. 2051.” **Iso-: G00046111.**
Typification. – MUÑOZ & PANDO (2000: 91), iso-: PC.
67. *Grimmia stenopyxis* Thér. in Rev. Bryol. Lichénol. 9: 8. 1936.
Type citation. – Base du Pichincha, sur rochers d’andésite, 3.200 m. (No. 3076, 2276) [M. R. Benoist]; Rumipamba, à terre dans les broussailles, 3.000 m (2957) [M. R. Benoist]; Environs de Quito, 2.800 m. (2281) [M. R. Benoist].
= *Grimmia longirostris* Hook., fide MUÑOZ (1998a: 354).
Label information. – “*Grimmia stenopyxis* Thér. Equateur: sur un rocher, base du Pichincha (3200 m) Leg. R. Benoist, 24. 10. 1930 No. 3076. Det. I. Thériot.” **Isolecto-: G00042943**; “*Grimmia stenopyxis* Thér. Equateur: sur rocher d’andésite, Quito. Leg. R. Benoist, 27 mars 1930 No. 2281. Det. I. Thériot.” **Syn-: G00042944.**
Typification. – MUÑOZ (1998a: 354), lecto-: PC.
68. *Grimmia streptophylla* Sull. in U.S. Expl. Exped., Musci: 8, tab. 6B. 1859. = *Schistidium streptophyllum* (Sull.) Herzog in Biblioth. Bot. 87: 52. 1916.
Type citation. – Andes of Peru, near Baños.
Label information. – “Leg. Wilkes, *Grimmia*.” **Iso-: G0011 4436.**
Typification. – BREMER (1980a: 113), holo-: FH.
69. *Grimmia subconferta* Broth. in Symb. Sin. 4: 45. 1929. = *Schistidium subconfertum* (Broth.) Deguchi in J. Sci. Hiroshima Univ., Ser. B, Div. 2, Bot. 16: 240. 1978.
Type citation. – S.: An nassen Schieferfelsen der Hg. St. auf dem Gonschiga sw von Muli gegen Dschungdien, 4650 m, c. sp. 6. VIII. 1915 (7493).
Label information. – “Nr. 7493. *Grimmia subconferta* Broth. sp. nov. [China] Prov. Setschwan austro-occid.: In montis Gonschiga a monasterio Muli ad septentr. pagi Yünnanensis Yungning versus Dschungdien siti regione alpina, ad rupes udas. Substr. schistaceo alt. s. m. ca. 4650 m. Leg. 6 VIII. 1915. Dr. Heinr. Frh. v. Handel-Mazzetti (Diar. Nr. 1353).” **Iso-: G00046108.**
Typification. – DEGUCHI (1978: 240), holo-: H-BR.
70. *Grimmia subdoniana* Nog. in Candollea 19: 175, tab. 2, fig. 1-8. 1964.
Type citation. – Nepal: Moraine, near Lobuje (27°57’, 86°49’), alt. 4870 m, April 2, 1952, Zimmermann 301-type, 304; moraine, near the base camp at Lobuje, alt. 5000 m, April 24, 1952, Zimmermann 325; near the base camp, in the direction of Lobuje, alt. 5100 m, May 31, 1952, Zimmermann 558. = *Grimmia fuscolutea* Hook., fide MAIER (2010: 144).
Label information. – “*Grimmia subdoniana* Nog. Candollea 19: 175 (1964). Nepal. Moraine près de Lobuje, 4870 m. Apr. 2, 1952, coll A. Zimmermann 301a.” **Iso-: G00042950, G00042952, G00042957**; “Expédition scientifique Genevoise au Népal 1952. No. 558, 31 V 1952. *Grimmia subdoniana* Noguchi Loc. Près du camp de base; direction de Lobuje. Alt. 5100 m. Leg. A. Zimmermann.” **Para-: G00042951**; “Expédition scientifique Genevoise au Népal 1952. No 304. 21 IV 1952 *Grimmia subdoniana* Noguchi Loc. Moraine, près de Lobuje. Alt. 4870 m. Leg. A. Zimmermann. Det. A. Noguchi.” **Para-: G00042953**; “Expédition scientifique Genevoise au Népal 1952. No 325 24 IV 1952. *Grimmia subdoniana* Nog. Loc. Moraine droite du camp de Base à Lobuje. Alt. 5000 m. Leg. A. Zimmermann.” **Para-: G00042954.**
Typification. – NOGUCHI (1964: 175), holo-: NICH (365224).
71. *Grimmia subovata* Müll. Hal. in Nuovo Giorn. Bot. Ital. ser. 2, 4: 128. 1897.
Type citation. – Bolivia, prov. Larecaja, Sorata, Ancouma, supra muros de la Hacienda Peñas, reg. alpina, 3700-4000 m. alta, Aprili 1860: G. Mandon.
= *Grimmia longirostris* Hook., fide MUÑOZ (1998a: 354).
Label information. – Specimen 1, “G. Mandon. Plantae Andium Boliviensium. No. 1634. *Grimmia subovata* Schpr. Hab. Prov. Larecaja. Viciniis Sorata, Ancouma, supra muros de la hacienda, Peñas Alt. Reg. subalpina et alpina 3700-4000 m, April 1860.” **Isolecto-: G00042936, G00042937, G00042938.**
Typification. – MUÑOZ (1998a: 354), lecto-: BM.
72. *Grimmia subsulcata* Limpr., Laubm. Deutschl. 1: 757. 1889 [nom. illeg.].
Type citation. – s.l.c.
= *Grimmia sessitana* De Not., see discussion in MAIER (2010: 316, 318).
Label information. – “Steiermark: Speiereben bei Schöder. Glimmerschiefer, 2300 m, 9.VIII.1888, J. Breidler s.n.” **Iso-: G00052460.**
Typification. – MUÑOZ (1998b), holo-: BP. MUÑOZ & PANDO (2000: 98) treated *G. subsulcata* as having the same type as *G. alpestris* var. *microstoma* Bruch & Schimp.

73. *Grimmia tenera* J. E. Zetterst. in Kongl. Svenska Vetenskapsakad. Handl. 13(13): 17. 1876. = ***Schistidium tenerum*** (J. E. Zetterst.) Nyholm, Moss Fl. Fennoscandia. II. Musci: 775. 1969.
Type citation. – In fissures rupium prope mare, sat raro ut videtur: Alten, ad pedem montis Kongshavnsfjellet; Talvig, in montibus juxta Talvigfjord praecipue prope amenm Isbärelfen.
Label information. – “*Grimmia tenera* Zett. nov. spec. Norge, Finmarken, in montibus juxta Talvigfjord. 25/7 1868. J. E. Zetterstedt.” **Isolecto-: G00048192.**
Typification. – BREMER (1980a: 107), lecto-: S.
74. *Grimmia torngakiana* Brassard & Hedd. in Mem. New York Bot. Gard. 45: 216. 1987.
Type citation. – Canada. Labrador: Nachvak Fiord, Minaret Plateau, 58°55'N 64°00'W, 1700 m elevation, turfs on mineral soil in seepage from late snowbeds, 22 Jul 1983, Hedderson 1893.
= ***Grimmia incurva*** Schwägr., fide MUÑOZ & PANDO (2000: 27).
Label information. – “Bryophytes of Labrador, Canada, Salermiut Mountain Range, Torngats. *Grimmia torngakiana* Brassard & Hedderson. Mineral soil in seepage from late snowbeds. Extensive plateau with felsenmeer mantling. Snowbeds restricted to N facing gullies. Occasional seepage areas with *Racomitrium lanuginosum* mats. 1700 m alt. Minuret Plateau. 58°55'N 64°00'W' Leg. et Det. Terry A. Hedderson 1892. July 22-24 1983.” **Para-: G00042983.**
Typification. – BRASSARD & HEDDERSON (1987: 216), holo-: NFLD (no. 1893).
75. *Grimmia torta* Nees & Hornsch. in Nees & al., Bryol. Germ. 2(1): 179, tab. 24, fig. 24. 1827.
Type citation. – [Austria] Wächst auf Felsblöcken der höchsten Alpen, auf dem Rathhausberg in der Gastein (Laurer!, Funck!, Hrsch.), auf der Gösnitz-Alpe (Hrsch.), auf dem Naßfelder-Tauern (Funck! Laurer!), in der Nähe des Rauriser Tauernhauses (Laurer!), in den Schweizer Alpen (Fr. Nees v. Esenb.).
= ***Anoetangium aestivum*** (Hedw.) Mitt., fide MAIER (2010: 332).
Label information. – “*Grimmia?* torquata mihi ex alpius” (second label) “*Grimmia torquata* Herrn Sturm. Herb. Nees v. Esenb.” **Lecto-: G00113898.**
Typification. – MUÑOZ & PANDO (2000: 76), lecto-: G. See comments in MAIER (2010: 332).
76. *Grimmia trichophylla* var. *vivariensis* Husnot, Musci Gallicae 18: n° 861. 1897 [nom. nud.].
Type citation. – (from Exsiccata label) “861. *Grimmia trichophylla* Grev. var. *vivariensis*. Sur des pierres volcaniques à Lasbastide. (Ardèche). Mai 1892. Philibert.”
= ***Grimmia lisae*** De Not. **syn. nov.**
Label information. – “861. *Grimmia trichophylla* Grev. var. *vivariensis*. Sur des pierres volcaniques à Lasbastide. (Ardèche). Mai 1892. Philibert.” **Specimen: G00046107.**
Comments. – MUÑOZ & PANDO (2000: 80) indicated that original material was present in FH.
77. *Grimmia zahlbruckneri* Garov., Bryol. Austr. Excurs.: 26. 1840.
Type citation. – No specific locality but with «Austrio Impericum» given in the title of the work.
= ***Grimmia donniana*** Sm., fide MAIER (2010: 116).
Label information. – “*Grimmia zahlbruckneri* Gav. In Mont-Lineone ad rupes leg. Garov. (*Gr. curvula* Br. et Sch.).” **Lecto-: G00042964.**
Typification. – MAIER (2010: 116), lecto-: G.
78. *Guembelia abyssinica* Müll. Hal., Syn. Musc. Frond. 1: 772. 1849. = ***Grimmia abyssinica*** (Müll. Hal.) Mitt. in J. Proc. Linn. Soc., Bot. 7: 152. 1864.
Type citation. – Abyssinia, monte alpestri Silke, 18 Febr. 1840: W. Schimper.
Label information. – “Schimperi iter Abyssinicum, Sectio secunda. 435. *Grimmia abyssinica* Bruch & Schimp. In siccis ad rupes inde a limitibus arborem (sic) et fructicum usque ad cacumen montis Silke. d. 18 Febr. 1840 (U. i. 1842)” **Isolecto-: G00042975, G00042976, G00042977, G00042978, G00042979.**
Typification. – MUÑOZ & PANDO (2000: 32), lecto-: MO.
79. *Guembelia tenella* Müll. Hal. in Bot. Centralbl. 44: 388. 1890.
Type citation. – Idaho, Coeur d’Alene (sic), 6 Aug. 1888. Dr. Röhl cum fructibus vetustis legit.
= ***Grimmia montana*** Bruch & Schimp., fide JONES (1933: 29).
Label information. – “1153. *Grimmia tenella* C. Müller n.sp. 6 Aug. 1888 Coeur d’Alène Dr. Julius Röhl. Idaho.” **Lecto-: G00042934.**
Typification. – MUÑOZ (1998b: 390), lecto-: G.

80. *Hedwigia nervosa* P. Beauv., Prodr. Aethéogam.: 60. 1805. = *Schistidium nervosum* (P. Beauv.) Brid., Bryol. Univ. 1: 123. 1826.
Type citation. – Cette mousse m’a été envoyée depuis long-temps par Dickson... Angleterre.
 = *Schistidium strictum* (Turn.) Mårtensson, fide OCHYRA (1989: 101).
Label information. – “*Hedwigia nervosa* P. B. differ de l’a[noectangium]. ciliatum par les feuilles lanceolées marquées d’une côte très sensible, et privées de poil. Envoyée de Londres par M. Dickson.” **Holo-: G00114445.**
Typification. – BLOM (1996: 34), holo-: G.
Comments. – PALISOT DE BEAUVOIS (1805) described the taxon as follows: “C’est la seule de son genre dont les feuilles soient garnies d’une côte, ou du moins dont la côte soit aussi forte et aussi apparente.” The label citation for the G specimen given in OCHYRA (1989: 101), and recopied by BLOM (1996: 34), is incorrect (see above for corrected text).
81. *Pterigynandrum ramondii* DC. in Lam. & DC., Fl. Franç. ed. 3, 2: 462. 1805. = *Grimmia ramondii* (DC.) Margad. in Lindbergia 1: 128. 1972.
Type citation. – Cette belle mousse a été découverte dans les Pyrénées, par le C. Ramond, qui le premier a remarqué ses caractères distinctifs.
Label information. – “*Pterigynandrum Ramondii* fl. fr. *Trichostomum patens* ex Arnott 1825. *Grimmia* Pyrenées Ramond.” **Lecto-: G00046112.**
Typification. – MUÑOZ & PANDO (2000: 71), lecto-: B (the lectotype specimen was not found in B and MAIER (2010: 306, 312) indicated that the lectotype was from G and that the “B” was likely a misprint for G in the previous publication).
82. *Racomitrium cataractarum* Brid., Bryol. Univ. 1: 776. 1826.
Type citation. – In Hercynia Suevica superiore ad cataractas rivulosque in saxis perpetuo roridis caespitose habitat. Diligentissimus Braun detexit et communicavit.
 = *Racomitrium aquaticum* (Schrader) Brid., fide MÜLLER (1849: 800 under “*Grimmia aquatica* C. Müll.”).
Label information. – “*Dryptodon cataractarum* Br. S. Cataracta Geroldsau in Silva nigra Braun ad Brid.” **Iso-: G001 28741.**
Typification. – BEDNAREK-UCHYRA (2006: 111), holo-: B-Bridel.
83. *Racomitrium dicarpum* Broth. in Symb. Sin. 4: 47. 1929.
Type citation. – NW-Y.: Schieferfelsen der Hg. St. im birm. Mons. unter dem Doker-la in der Mekong-Salwin-Schiedekette, 28°15’, 4225m, c. sp. 17.IX. 1915 (8067) [Handel-Mazzetti].
 = *Racomitrium himalayanum* (Mitt.) A. Jaeger, fide FRISVOLL (1988: 191).
Label information. – “Nr. 8067. *Rhacomitrium dicarpum* Broth. sp. nova. Prov. Yunnan bor. –occid.: Ad confines Tibeticas sub jugo Doker-la, 28°15’, in regionis alpinae rupibus. Substr. Schistacco, alt. s. m. ca. 4225 m. Leg. 17. IX. 1915. Dr. Heinr. Frh. v. Handel-Mazzetti (Diar. Nr. 1499).” **Isolecto-: G00048208.**
Typification. – FRISVOLL (1988: 191), lecto-: H-BR.
84. *Racomitrium elongatum* Frisvoll in Gunneria 41: 74, figs. 1: a, 2: e, 5-6, 9: b, 10: a, 12: a, 16: c, 18: a, c-d, 20: b, 23, 26, 38: a-b, 45: c, 49: c, 50. 1983.
Type citation. – Norway. Sør-Trøndelag: Skaun, Djupsjøåsen ca. 500 m SE of the cottage, sloping rock in front of a fen soak, 31. V. 1982. Frisvoll s.n. (TRH).
Label information. – “*Racomitrium elongatum* Frisvoll. sp. nov. Norvegia: Sør-Trøndelag: Skaun. Kbl. 1521 I. UTM NR 56 15. alt. 360 m. loc. Djupsjøåsen, ca. 500 m SE of cottage. Hab. Sloping rock in front of fen soak. 31. 5. 1982. leg. Arne A. Frisvoll.” **Iso-: G00114448.**
Typification. – FRISVOLL (1983: 74), holo-: TRH.
85. *Racomitrium javanicum* var. *brachyphyllum* Cardot & P. de la Varde in Rev. Bryol. 50: 17. 1923.
Type citation. – [Madeira] no specific locality information given in protologue.
 = *Racomitrium subsecundum* (Hook. & Grev. ex Harv.) Mitt., fide FRISVOLL (1988: 208).
Label information. – “No. 30. *Rhacomitrium javanicum* Dozy + Molk. var. *brachyphyllum* Card. et P. de la V. v. nova. Loc. Kodaikanal Pacubas Torrent. Alt. 2300 m. Leg. G. F et G. R.” **Isolecto-: G00048209.**
Typification. – FRISVOLL (1988: 208), lecto-: PC.
Comments. – The original description of this taxon by Cardot & Potier de la Varde in POTIER DE LA VARDE (1923) does not cite a specific specimen as the type of this name.

86. *Racomitrium javanicum* var. *incanum* Broth. in Symb. Sin. 4: 46. 1929.
Type citation. – NW-Y.: Im birm. Mons. Im Wald unter dem Doker-la an der tibetischen Grenze (8031). S.: Lungdschu-schan bei Huili (967). Lose-schan s von Ningyüen, massenhaft (1446). Tschahungnyotscha jenseits des Yalung n von Yenyüen, 28°15' (2664). Hieher wohl auch die Notzien vom Passe Döko sw Muli und im birm. Mons. Auf sandigen Wiesenmoorboden beim See im Hintergrund des Doyon-lumba in der Mekong-Salwin-Kette, massenhaft. [Handel-Mazzetti].
 = *Racomitrium subsecundum* (Harv.) Mitt., fide FRISVOLL (1988: 208).
Label information. – “8031. *Racomitrium javanicum* Dz. et Mbr. var *incanum* Broth. Prov. Yünnan bor. –occid.: Ad confines Tibeticas sub jugo Doker-la, 28° 15', in regionis frigide temperatae saxis in silva. Substr. granitico. alt. s. m. ca. 3600-3700 m. Leg. 16. IX. 1915. Dr. Heinr. Frh. v. Handel-Mazzetti. (Diar. Nr. 1491).” **Isolecto-: G00048194.**
Typification. – FRISVOLL (1988: 208), lecto-: H-BR.
87. *Racomitrium subheterostichum* A. Jaeger in Ber. Thätigk. St. Gallischen Naturwiss. Ges. 1872/73: 95. 1874 [nom. nud.].
Type citation. – Asia, Sikkim-Himalaya 9-10,000' (S. Kurz Nr. 2263).
 = *Racomitrium subsecundum* (Harv.) Mitt., fide FRISVOLL (1988: 207).
Label information. – “2263. *Racomitrium subheterostichum* CM. Sikkim 9-10000' S. Kurz.” **Specimen: G0048224.**
88. *Schistidium agassizii* Sull. & Lesq. in Sull., Musci Hep. U.S. (repr.): 104. 1856.
Type citation. – Wet rocks, northern shore of Lake Superior, Agassiz [Musc. Bor. –Amer., No. 137].
Label information. – “137. *Schistidium agassizii* (n. sp). Priori affine, densius caespitosum, nigrescente-nitidum; foliis angustioribus longius linguaeformibus apice obtusidentatis, perichaetio elongato exserto facile distinguendum. A. Sch. maritime foliis obtusis appressis nec crispulis distat. Hab. ad rupes irriguas Lacus Superioris (cl. Agassiz legit).” **Isolecto-: G00114197, G00114198, G00114440.**
Typification. – BREMER (1980b: 2), lecto-: FH, isolecto-: G.
89. *Schistidium bryhnii* I. Hagen in Kongel. Norske Vidensk. Selsk. Skr. (Trondheim) 1897(2): 6. 1898. = *Schistidium apocarpum* var. *bryhnii* (I. Hagen) Loeske, Laubm. Eur. 1: 36. 1913.
Type citation. – Habitat ad rupes apricas porphyraceas nec non ad lapides saxaque porphyracea delapsa inordinate aggregata totorum laterum meridionalis occidentaliisque jugi montis Bragernesåsen oppidi Drammen ab altitudine ca. 30 m. supra mare usque ad cacumen (280 m.), ubi immensa copia crescens fructusque vetustos gerens mense augusti 1894 detexit iterumque 8/5 1896 fructibus aliis operculatis calyptraisque aliis deoperculatis instructum legit. N. Bryhn, qui mecum nomine *Schistidii conferti* communicavit.
Label information. – “Schistidium Bryhnii Hagen – Spec. orig.! Norvegia Buskerudsamt, Bragernesåsen opp. Drammen. – 8/5 1896. leg. Bryhn. comm. Hagen.” **Syn-: G00128739, G00114443.**
Typification. – BREMER (1980a: 94), lecto-: TRH.
90. *Schistidium spinosum* H. H. Blom & Lüth in Lindbergia 27: 122. 2002.
Type citation. – Holotype: Germany. Baden-Württemberg, Black Forest, Yachtal by Elzach, rock quarry facing Schneider-bauernhof, 600 m a.s.l., 14.XII. 1998. leg. M. Lüth. 2368 (STU). Isotypes G, TRH.
Label information. – “*Schistidium spinosum* Blom & Lüth spec. nov. LINDBERGIA 27: 122-126, Lund 2002. Isotypus! Deutschland, Baden-Württemberg, Schwarzwald. Yachtal bei Elzach, Vorderer Zinken Steinbruch gegenüber Schneiderbauernhof, unterer, stillgelegter Teil offener und sonniger, angesprengter Granitfels TK7814NO, 600m. leg. M. Lüth 14 Dezember 1998.” **Iso-: G00114202.**
Typification. – BLOM & LÜTH (2002: 122), holo-: STU.
91. *Trichostomum affine* F. Weber & D. Mohr., Bot. Taschenb.: 127. 1807. = *Racomitrium affine* (F. Weber & D. Mohr) Lindb. in Acta Soc. Sci. Fenn. 10: 552. 1875.
Type citation. – Hae duae forte posthac merid. Germ.
Label information. – “Apotheker in Bex. [III. 18. trichost. affine S] ?dorf am 25 May 1803.” **Syn-: G00048244;** “*Trichostomum affine* T. heterostich ex Arnott. Ms. Schleicher.” **Syn-: G00048247;** “*Trichostomum affine* S. In valle Servan. T. heterostich ex Arnott.” **Syn-: G00048246;** “*Trichost. affine* Schl. 810.” **Syn-: G00048245;** “18 ~~Trichostomum affine S.~~ *Trichostomum affine* S. (Schl.) Lindb. (Dill) Brid. In vallée de Servan. *Racomitrium fasciculare*.” **Syn-: G00048248.**
Typification. – FRISVOLL (1984: 302), lecto-: LAU, syn-: G, G-Hedw./Schwaegr., G-DC.
Comments. – In specimen 1, the label has been cut and it is impossible to read what precedes “dorf”. The indication contained in the [] is not in the same hand as the label itself.

92. *Trichostomum arcuatum* DC. in Lam. & DC., Fl. Franç. ed. 3, 5: 218. 1815.
Type citation. – Il croît sur les pierres et les rochers. Il a été trouvé dans les Alpes par M. Schleicher; dans les Cévennes, par M. Grateloup.
 = ***Grimmia elatior*** Bals.-Criv. & De Not., fide MAIER (2010: 123).
Label information. – “*Dicranum arcuatum* Schl. *Trichostomum patens* β Schw. *Trichostomum arcuatum* DC ms Schleicher 51. P. DC. *Dicranum arcuatum Trichost. patens* var. ex. Arnott.” **Lecto-: G00042958.**
Typification. – MAIER (2010: 123), lecto-: G (see comments in MAIER, 2010: 126).
93. *Trichostomum canadense* Michx., Fl. Bor.-Amer. 2: 296. 1803.
Type citation. – Hab: In pinetis Canadae.
 = ***Racomitrium microcarpon*** (Hedw.) Brid., fide FRISVOLL (1984: 308).
Label information. – “*Trichostomum canadense* Mx. Snz”. **Lecto-: G00048230.**
Typification. – FRISVOLL (1984: 308), lecto-: G.
94. *Trichostomum canescens* Hedw., Sp. Musc. Frond.: 111. 1801. = ***Racomitrium canescens*** (Hedw.) Brid., Muscol. Recent. Suppl. 4: 78. 1818.
Type citation. – Lata grege inhabitat loca elatiora, aprica, arenosa, siccitate sterilia, maxime montosarum regionum Europae.
Label information. – “*Trichostomum canescens* (illegible word) 1797’.” **Neo-: G00040272.** See PRICE (2005: 338).
Typification. – FRISVOLL (1983: 108), neo-: G.
Comments. – The designated neotype material originates from the Duby-Boissier herbarium and is composed of a cut out label and some plants that have been mounted directly on to a typical herbarium sheet from that collection. Two original Hedwig herbarium sheets for this taxon were seen by Frisvoll in 1982 [G00048235, G00048236] but were not considered by him in the type designation (FRISVOLL, 1983: 108, 111-117). These original specimens should be re-examined.
95. *Trichostomum decipiens* Schultz, Prodr. Fl. Starg. Suppl.: 70. 1819. = ***Grimmia decipiens*** (Schultz) Lindb. in Hartm., Handb. Skand. Fl. ed. 8: 386. 1861.
Type citation. – Habitat ad saxa granitosa rarius. - ad pagum Gevezien an der Landstrasse. Junio c. operculo.
Label information. – “*Trichostomum decipiens* (mihi) *Tr. pulvinatum* subdecumbens fastigiato-ramosum; foliis recurvato-patentibus lanceolatis complicatis acutis, acumine piliformi (breviore); sporangio e seta arcuata (brevi) immerso. Ad saxa granitosa Duc. Megapol. = Stargard Junio caps. operc. ad deoperculat.” **Lecto-: G00042966.**
Typification. – GEISLER & MAIER (1995: 499), lecto-: G.
96. *Trichostomum funale* Schwägr., Sp. Musc. Frond., Suppl. 1(1): 150. 37. 1811. = ***Grimmia funalis*** (Schwägr.) Bruch & Schimp., Bryol. Eur. 25-28, *Grimmia*: 17. 1845.
Type citation. – Legit in subalpinis Sudeticis C. Ludwig, aestate fructiferum.
Label information. – “*Trichostomum funale* Suppl 1. 150 t. 37. Um die Schneekoppe Lg ex parte.” **Lecto-: G00046106.**
Typification. – GEISLER & MAIER (1995: 500), lecto-: G.
97. *Trichostomum heterostichum* Hedw., Sp. Musc. Frond.: 109. 1801. = ***Racomitrium heterostichum*** (Hedw.) Brid., Muscol. Recent. Suppl. 4: 79. 1818.
Type citation. – Locis saxosis, lapidosis, montanarum regionum Germaniae.
Label information. – “*Trichostomum heterostichum* Hedw. Musc. St. Vol. II. t.25.”, “E Herb. Patriae e ducata Megapolitana.” **Lecto-: G00040274.** See PRICE (2005: 343). “*Bryum hypnoides* Linn. ex rupe nach Erwenschlag (?)enet Chemnitz.” **Syn-: G00040275.**
Typification. – FRISVOLL (1984: 305), lecto-: G.
Comments. – The designated lectotype type material originates from the Duby-Boissier herbarium and is composed of three sections that have been cut out and mounted on a typical herbarium sheet from that herbarium. The small element at the bottom “ex. Herb. Patriae e ducata Megapolitana,” contrary to the indications of G. Colomb-Duplan, is in the hand of Hedwig. An original Hedwig sheet is present in G for this taxon, see Fig. 1 [G00048237]. This herbarium sheet is labelled “*Trichostomum heterostichum* Hedw. St. Crypt. II. p. 70. t. 25. [b. alopercurum Brid.² Schx.¹ hb.³] versus Tschopa(illegible) in Sax. lectus” which corresponds with the locality information given in HEDWIG (1789: 71), where this taxon was first described. FRISVOLL (1984: 305) states that the G specimens seen by him are listed by their “reference number” but the numbers given correspond to G loan numbers and have nothing to do with the referencing or identification of specimens in G.

98. *Trichostomum lanuginosum* Hedw., Sp. Musc. Frond.: 109. 1801. = *Racomitrium lanuginosum* (Hedw.) Brid., Muscol. Recent. Suppl. 4: 79. 1818.

Type citation. – Montana, arida, arenosa, lapidosa loca; (maxime in frustis granitis montium subalpinorum, Bructeri, Sudetum.).

Label information. – “*Trichostomum lanuginosum* Hedw. St. Crypt. Vol. III. p.3. t.2.” **Lecto-: G00040358**; “*Bryum hypnoides* α Linn a Dr. Ehrhart.” **Syn-: G00040359**. See PRICE (2005: 344).

Typification. – FRISVOLL (1986: 83), lecto-: G. Erroneously noted in PRICE (2005: 344) as “type in G”.

99. *Trichostomum microcarpon* Hedw., Sp. Musc. Frond.: 112, tab. 23, fig. 8-12: b-c. 1801. = *Racomitrium microcarpum* (Hedw.) Brid., Muscol. Recent. Suppl. 4: 79. 1818.

Type citation. – Locus alpestris, praesertim in fissuris rupium Angliae, Helvetiae, Sudetum auf der Schneekoppe (Austriae, Clagenfurthi, in granite Bructeri et Franconiae montis piniferi. S.).

Label information. – “*Trichostomum microcarpon* Spec. Musc. p.112. t. 23. f. 1-5 e Sudeticum Schneekuppe intrafissures rupium Ludwig hortus.” **Lecto-: G00040276**. See PRICE (2005: 345).

Typification. – FRISVOLL (1984: 308), lecto-: G.

100. *Trichostomum pulvinatum* var. *alpestris* F. Weber & D. Mohr, Bot. Taschenbuch: 110. 1807. = *Grimmia alpestris* (F. Weber & D. Mohr) Schleich., Cat. Pl. Helv. ed. 2: 29. 1808.

Type citation. – *Grimmia alpestris* Schleich. Cent. 2. n. 13 (in monte *Sylvia* ad rupes a Schleichero lecta) et *Dicr. piliferum* ej. l. c. 4. n. 12. (in calidiorr. Vallesiae ad saxa inventum....In subalp., in rup. (in summo Bruct. ipsi legimus).

Label information. – “*Grimmia alpestris*. Schl. *donniana* W et M. sudetica Schw. l. p. 82. [a. p. DC.]” “*Grimmia alpestris* [Schleicher].” “13 *Grimmia alpestris* S. in M. Sylvio ad rupes. [m. Schleicher.]” **Isolecto-: G00042915**.

Typification. – MUÑOZ (1997: 518), lecto-: BM.

Comments. – The isoelectotype material cited here was previously used as the lectotype of *Grimmia sudetica* Schwägr. by GEISSLER & MAIER (1995: 503).

Possible types for Nees and Hornschuch names described in *Bryologia Germanica*

The Christian Gottfried Daniel Nees von Esenbeck (1776-1858) herbarium collection was split up after his death. The Nees collections came to G as part of the Duby herbarium that was purchased by William Barbey for the Boissier herbarium (BRIQUET, 1940). Nees bryophyte specimens may also be found in B (mosses, some of which are preserved in herb. Bridel), E, L, PC (hepatics), S (hepatics) and W (hepatics). FRAHM (2009) discusses the life and major bryological works of Nees, including the publication of *Bryologia Germanica* (see also MARGADANT, 1968: 188-189).

101. *Grimmia affinis* var. *macrocarpa* Nees & Hornsch. in Nees & al., Bryol. Germ. 2(1): 145, tab. 21, fig. 13c. 1827.

Type citation. – ... die var γ wächst auf verwitterten Urgebirgsfelsen in der Gastein (Funck!).

Label information. – “*Grimmia affinis* γ *macrocarpa* Herb. Nees v. Esenb.” **Type: G00282011**.

Typification. – None found.

102. *Grimmia affinis* var. *ramosissima* Nees & Hornsch. in Nees & al., Bryol. Germ. 2(1): 144, tab. 21, fig. 13b. 1827.

Type citation. – ... die var β wächst auf den genannten höchsten Alpen um Heiligenblut, aber immer höher als α, z. B. am Fuße der Leiterköpfe auf der Pasterze, bei dem sogenannten Schlaflerloch auf der Leiteralpe, dem Malnitzer-Tauern u.s.w. (Hsch.).

Label information. – “*Grimmia affinis* β *ramosissima*. Herb. Nees v. Esenb.” **Type: G00282010**.

Typification. – None found.

103. *Grimmia apocarpa* f. *atrofusca* Nees & Hornsch. in Nees & al., Bryol. Germ. 2(1): 99, tab. 17, fig. 4i. 1827.

Type citation. – Wächst mehr auf hohen Alpen, auf den Voggesen (Nestler!), auf den Schweizergebirgen (Schleicher!, Fr. Nees v. Esenb!), am Fuße des Geisberges bei Salzburg (Laurer!), auf dem Rathhausberg in der Gastein und auf den Alpen um Heiligenblut (Laurer!, Hsch.).

Label information. – “*Grimmia apocarpa* γ *gracilis* α *atrofusca*. Herb. Nees v. Esenb.” **Type: G00282012**.

Typification. – None found.

Comments. – Described as “*Grimmia apocarpa* γ *gracilis* α *atrofusca*.” It is mentioned in *Index Muscorum* (WILK & al., 1962) alongside the later homonym “*atrofusca* (Schimp.) Husn., Musc. Gall. 123. 1886 (*Grimmia*, 1876) *hom. illeg.* [non G. a. subvar. *atrofusca* Nees & Hornsch., 1827].”

104. *Grimmia apocarpa* var. *bicolor* Nees & Hornsch. in Nees & al., Bryol. Germ. 2(1): 94, tab. 17, fig. 4f. 1827.
Type citation. – Wächst auf Steinen bei der Kasereck-Capelle auf dem Heiligenbluter-Tauern (Funck!), auf Kalkfelsen auf den Voggesen (Nestler!).
 = *Schistidium apocarpum* (Hedw.) Bruch & Schimp., fide BREMER (1980a: 92).
Label information. – “Herb. Nees v. Esenb. *Grimmia apocarpa* α (illeg. symbol) *bicolor*.” **Type: G00282004.**
Typification. – None found, types not seen by BREMER (1980a: 92).
Comments. – Described as “*Grimmia apocarpa* α *bicolor*” in Nees & Hornschuch. Name not in *Index Muscorum* (WIJK & al., 1962).
105. *Grimmia apocarpa* var. *longifolia* Nees & Hornsch. in Nees & al., Bryol. Germ. 2(1): 91, tab. 16, fig. 4c. 1827.
Type citation. – Wächst auf den Salzburger-Alpen (Laurer!) bei Erlangen (Maerker!).
 = *Schistidium apocarpum* (Hedw.) Bruch & Schimp., fide BREMER (1980a: 92).
Label information. – “*Grimmia apocarpa* α *longifolia*. Herrn Sturm. Herb. Nees v. Esenb.” **Type: G00282005.**
Typification. – None found, types not seen by BREMER (1980a: 92).
Comments. – Name not in *Index Muscorum* (WIJK & al., 1962).
106. *Grimmia apocarpa* var. *nana* Nees & Hornsch. in Nees & al., Bryol. Germ. 2(1): 112, tab. 19, fig. 4s. 1927.
Type citation. – Wächst auf Felsenblöcken, die auf der Alpe Pasterze am Glockner herumliegen (Hsch.).
 = *Schistidium apocarpum* (Hedw.) Bruch & Schimp., fide BREMER (1980a: 92).
Label information. – “Herb. Nees von Esenb. *Grimmia apocarpa* τ *nana*.” **Type: G00048206.**
Typification. – None found, types not seen by BREMER (1980a: 92).
107. *Grimmia apocarpa* var. *nigroviridis* Nees & Hornsch. in Nees & al., Bryol. Germ. 2(1): 111, tab. 19, fig. 4r. 1827.
Type citation. – Wächst auf höchsten Alpen um Heiligenblut, z. B. bei der Salmshöhe am Glockner, auf Gösnitz- und Leiter-Alpe auf verwittertem Glimmerschiefer.
 = *Schistidium apocarpum* (Hedw.) Bruch & Schimp., fide BREMER (1980a: 92).
Label information. – “Herb. Nees von Esenb. *Grimmia apocarpa* δ *nigro-viridis*.” **Type: G00048204.**
Typification. – None found.
108. *Grimmia apocarpa* var. *tenerrima* Nees & Hornsch. in Nees & al., Bryol. Germ. 2(1): 110, tab. 18, fig. 4p. 1827.
Type citation. – Beide Formen wachsen auf Felsblöcken der höchsten Alpen, um Heiligenblut (Hsch.), auf dem Wildkrachkogel in der Gastein (Funck!); die var. *pumila* erhielten wir von Herrn Schleicher aus der Schweiz.
 = *Schistidium apocarpum* (Hedw.) Bruch & Schimp., fide BREMER (1980a: 92).
Label information. – “*Grimmia apocarpa* η *tenerrima*. Herrn Sturm. Herb. Nees von Esenb.” **Type: G00048202.**
Typification. – None found.
109. *Grimmia cylindrica* Nees & Hornsch. in Nees & al., Bryol. Germ. 2(1): 161, tab. 23, fig. 18. 1827.
Type citation. – Wächst auf kiesigen und sandigen Stellen im Anlaufthal bei Böckstein in der Gastein (Funck!).
 = *Grimmia ovalis* (Hedw.) Lindb., fide WIJK & al. (1962: 381).
Label information. – “Herb. V. Esenb. *Grimmia cylindrica*.” **Type: G00282009.**
Typification. – None found.
110. *Grimmia fusca* Nees & Hornsch. in Nees & al., Bryol. Germ. 2(1): 120, tab. 19, fig. 7. 1827.
Type citation. – Wächst auf Felsblöcken auf den Alpen Salzburgs (Laurer! Hsch.).
 = *Schistidium apocarpum* (Hedw.) Bruch & Schimp., fide BREMER (1980a: 93).
Label information. – “*Grimmia fusca*. Herb. Nees v. Esenb.” **Type: G00282006.**
Typification. – None found, type cited as not seen by BREMER (1980a: 93).

111. *Grimmia urceolaris* Nees & Hornsch. in Nees & al., Bryol. Germ. 2(1): 121, tab. 19, fig. 8. 1827.
Type citation. – Wächst auf feuchten Kalkfelsen in der Schweiz (Schleicher!).
 = *Schistidium apocarpum* (Hedw.) Bruch & Schimp., fide BREMER (1980a: 93).
Label information. – “*Grimmia urceolaris* Herb. Nees v. Esenb.” **Type: G00282008.**
Typification. – None found, type cited as not seen by BREMER (1980a: 93).

Cited types not found in G

Four types that are cited in the literature as being in G were not located in the collection.

112. *Schistidium crassipilum* H. H. Blom in Bryophyt. Biblioth. 49: 224, fig. 90. 1996.
 Isotype cited as being in G – specimen not found.
113. *Schistidium elegantulum* H. H. Blom in Bryophyt. Biblioth. 49: 233, fig. 93. 1996.
 Isotype cited as being in G – specimen not found.
114. *Schistidium elegantulum* subsp. *wilsonii* H. H. Blom in Bryophyt. Biblioth. 49: 239, fig. 96. 1996.
 Isotype cited as being in G – specimen not found.
115. *Schistidium trichodon* var. *nutans* H. H. Blom in Bryophyt. Biblioth. 49: 70, fig. 13. 1996.
 Isotype cited as being in G – specimen not found.

Problematic material

Two Hedwig moss names lack original material in G and have been typified using material from other herbaria.

116. *Gymnostomum pulvinatum* Hedw., Sp. Musc. Frond.: 36, tab. 3, fig. 1-7. 1801.
Type citation. – “Ad pagum Reinhausen, prope Goettingam, legit misitque Hoffmann & Persoon.”
 = *Schistidium pulvinatum* (Hedw.) Brid., Muscol. Recent. Suppl. 4: 21. 1818.
Label information. – Original Hedwig specimen not present in G, see PRICE (2005: 376).
Typification. – OCHYRA (1989: 91), lecto-: LE-Mertens.

117. *Trichostomum fasciculare* Hedw., Sp. Musc. Frond.: 110. 1801. = *Racomitrium fasciculare* (Hedw.) Brid., Muscol. Recent. Suppl. 4: 80. 1818.
Type citation. – “Habitat ad saxa in Bructero, Achtermannshoehe aliisque Hercyniae montibus.”
Label information. – “*Trichostomum fasciculare* e rupibus Brucht. Schw.” G00040273.
Typification. – BEDNAREK-OCHYRA & OCHYRA (2005: 1070), lecto-: [icon] “Dillenius (1741): f. 28 on pl. 47,” epi-: OXF-Dillenius.
Comments. – The specimen in G originates from the Duby-Boissier herbarium and is composed of a cut out label and some plants that have been glued onto a typical herbarium sheet from the Duby-Boissier herbarium. The handwriting on the label is of two origins. The word “fasciculare” has been written by Schwägrichen whereas the rest is by an unknown hand.

Acknowledgements

This project was supported by Conservatoire et Jardin botaniques de la Ville de Genève (G). We would like to thank Paola Emery for her patient and thorough help in locating some of the literature sources needed for this work and Philippe Clerc for translating the French abstract. We would like to thank Patrick Perret for reviewing this work.

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Appendix 1. – List of basionyms of the *G* types in the Grimmiaceae, or published as a Grimmiaceae, listed with their current synonymy.

<i>Coscinodon humilis</i> Milde	= <i>Coscinodon cribrosus</i> (Hedw.) Spruce
<i>Dicranum aciculare</i> Hedw.	= <i>Racomitrium aciculare</i> (Hedw.) Brid.
<i>Dicranum ovale</i> Hedw.	= <i>Grimmia ovalis</i> (Hedw.) Lindb.
<i>Dicranum phascoidum</i> P. Beauv.	= <i>Grimmia crinita</i> Brid.
<i>Fissidens pulvinatus</i> Hedw.	= <i>Grimmia pulvinata</i> (Hedw.) Sm.
<i>Fissidens pulvinatus</i> var. <i>africanus</i> Hedw.	= <i>Grimmia pulvinata</i> (Hedw.) Sm.
<i>Grimmia aethiopica</i> Müll. Hal.	= <i>Schistidium pulvinatum</i> (Hedw.) Brid.
<i>Grimmia affinis</i> var. <i>macrocarpa</i> Nees & Hornsch.	
<i>Grimmia affinis</i> var. <i>ramosissima</i> Nees & Hornsch.	
<i>Grimmia alpicola</i> Hedw.	= <i>Schistidium agassizii</i> Sull. & Lesq.
<i>Grimmia anodon</i> var. <i>sinaitica</i> Renaud & Cardot	= <i>Grimmia anodon</i> Bruch & Schimp.
<i>Grimmia antillarum</i> Thér.	= <i>Grimmia longirostris</i> Hook.
<i>Grimmia apocarpa</i> f. <i>atrofusca</i> Nees & Hornsch.	
<i>Grimmia apocarpa</i> Hedw.	= <i>Schistidium apocarpum</i> (Hedw.) Bruch & Schimp.
<i>Grimmia apocarpa</i> var. <i>bicolor</i> Nees & Hornsch.	= <i>Schistidium apocarpum</i> (Hedw.) Bruch & Schimp.
<i>Grimmia apocarpa</i> var. <i>grisea</i> Nees & Hornsch.	= <i>Schistidium apocarpum</i> (Hedw.) Bruch & Schimp.
<i>Grimmia apocarpa</i> var. <i>longifolia</i> Nees & Hornsch.	= <i>Schistidium apocarpum</i> (Hedw.) Bruch & Schimp.
<i>Grimmia apocarpa</i> var. <i>nana</i> Nees & Hornsch.	= <i>Schistidium apocarpum</i> (Hedw.) Bruch & Schimp.
<i>Grimmia apocarpa</i> var. <i>nigrescens</i> Molendo	= <i>Schistidium apocarpum</i> var. <i>nigrescens</i> (Molendo) Loeske
<i>Grimmia apocarpa</i> var. <i>nigroviridis</i> Nees & Hornsch.	= <i>Schistidium apocarpum</i> (Hedw.) Bruch & Schimp.
<i>Grimmia apocarpa</i> var. <i>pumila</i> Nees & Hornsch.	= <i>Schistidium confertum</i> (Funct.) Bruch & Schimp.
<i>Grimmia apocarpa</i> var. <i>stricta</i> Müll. Hal. [nom. nud.]	= <i>Schistidium apocarpum</i> (Hedw.) Bruch & Schimp.
<i>Grimmia apocarpa</i> var. <i>tenerrima</i> Nees & Hornsch.	= <i>Schistidium apocarpum</i> (Hedw.) Bruch & Schimp.
<i>Grimmia apocaula</i> DC.	= <i>Grimmia plagiopodia</i> Hedw.
<i>Grimmia apophysata</i> Gangulee	= <i>Trigonodictyon indicum</i> Dixon & P. de la Varde
<i>Grimmia arenaria</i> Hampe	= <i>Grimmia donniana</i> Sm.
<i>Grimmia aspera</i> Müll. Hal.	= <i>Grimmia elatior</i> Bals.-Criv. & De Not.
<i>Grimmia benoistii</i> Thér.	= <i>Grimmia austrofunalis</i> Müll. Hal.
<i>Grimmia berliniana</i> Schultz	= <i>Bryoerythrophyllum recurvirostrum</i> (Hedw.) P. C. Chen
<i>Grimmia brachyodon</i> Austin	= <i>Grimmia montana</i> Bruch & Schimp.
<i>Grimmia brachypus</i> Müll. Hal.	= <i>Racomitrium brachypus</i> (Müll. Hal.) Paris
<i>Grimmia caffra</i> Müll. Hal.	= <i>Schistidium caffrum</i> (Müll. Hal.) Ochyra
<i>Grimmia cernua</i> f. <i>atra</i> Nees & Hornsch.	= <i>Grimmia torquata</i> Drumm.
<i>Grimmia cinclidodonteia</i> Müll. Hal.	= <i>Schistidium cinclidodonteum</i> (Müll. Hal.) B. Bremer
<i>Grimmia cribrodontia</i> Herzog	= <i>Schistidium cribrodontium</i> (Herzog) Ochyra
<i>Grimmia cribrosa</i> Hedw.	= <i>Coscinodon cribrosus</i> (Hedw.) Spruce
<i>Grimmia cylindrica</i> Nees & Hornsch.	= <i>Grimmia ovalis</i> (Hedw.) Lindb.
<i>Grimmia dimorphula</i> Müll. Hal.	= <i>Grimmia khasiana</i> Mitt.
<i>Grimmia dissimulata</i> E. Maier	
<i>Grimmia elatior</i> var. <i>squarriifolia</i> Dixon & Thér.	= <i>Grimmia pilifera</i> P. Beauv.
<i>Grimmia funalis</i> f. <i>epilifera</i> J.E. Zetterst.	= <i>Grimmia funalis</i> (Schwägr.) Bruch & Schimp.
<i>Grimmia fusca</i> Nees & Hornsch.	= <i>Schistidium apocarpum</i> (Hedw.) Bruch & Schimp.
<i>Grimmia ganderi</i> Limpr.	= <i>Grimmia donniana</i> Sm.
<i>Grimmia gracilis</i> Schleich.	= <i>Schistidium strictum</i> (Turner) Loeske ex Mårtensson
<i>Grimmia incurva</i> Schwägr.	
<i>Grimmia itatiaensis</i> Broth.	= <i>Grimmia longirostris</i> Hook.
<i>Grimmia mammillaris</i> Poech	= <i>Grimmia orbicularis</i> Wilson
<i>Grimmia meteorae</i> C. C. Towns.	= <i>Grimmia nutans</i> Bruch

<i>Grimmia microovata</i> Müll. Hal.	= <i>Grimmia longirostris</i> Hook.
<i>Grimmia montana</i> var. <i>abnoba</i> H. Schmidt	= <i>Grimmia montana</i> Bruch & Schimp.
<i>Grimmia montana</i> var. <i>idahensis</i> Renauld & Cardot	= <i>Grimmia montana</i> Bruch & Schimp.
<i>Grimmia nigricans</i> DC.	= <i>Grimmia ovalis</i> (Hedw.) Lindb.
<i>Grimmia nigroviridis</i> Müll. Hal.	= <i>Racomitrium lamprocarpum</i> (Müll. Hal.) A. Jaeger
<i>Grimmia nigroviridis</i> var. <i>robusticula</i> Müll. Hal.	= <i>Racomitrium lamprocarpum</i> (Müll. Hal.) A. Jaeger
<i>Grimmia obliqua</i> Hornsch.	= <i>Grimmia longirostris</i> Hook.
<i>Grimmia obtusa</i> Schwägr.	= <i>Grimmia donniana</i> Sm.
<i>Grimmia obtusolinealis</i> Müll. Hal.	= <i>Grimmia ovalis</i> (Hedw.) Lindb.
<i>Grimmia ochyriana</i> J. Muñoz	= <i>Grimmia atrata</i> Hornsch.
<i>Grimmia olneyi</i> Sull.	= <i>Grimmia ovalis</i> (Hedw.) Lindb.
<i>Grimmia orbicularis</i> var. <i>persica</i> Schiffn.	= <i>Grimmia orbicularis</i> Wilson
<i>Grimmia ovata</i> var. <i>praecox</i> A. Kern.	= <i>Grimmia longirostris</i> Hook.
<i>Grimmia pensilvanica</i> Schwägr.	= <i>Grimmia pilifera</i> P. Beauv.
<i>Grimmia pitardii</i> Corb.	= <i>Campylostelium pitardii</i> (Corb.) E. Maier
<i>Grimmia plagiopodia</i> Hedw.	
<i>Grimmia pulla</i> Cardot	
<i>Grimmia pulvinata</i> var. <i>asphaltita</i> Renauld & Cardot	= <i>Grimmia pulvinata</i> (Hedw.) Sm.
<i>Grimmia recurvata</i> Hedw.	= <i>Seligeria recurvata</i> (Hedw.) Bruch & Schimp.
<i>Grimmia robusta</i> Nees & Hornsch.	= <i>Schistidium apocarpum</i> (Hedw.) Bruch & Schimp.
<i>Grimmia ryanii</i> Bryhn	= <i>Grimmia funalis</i> (Schwägr.) Bruch & Schimp.
<i>Grimmia ryanii</i> f. <i>tenuis</i> J. Amann	= <i>Grimmia funalis</i> (Schwägr.) Bruch & Schimp.
<i>Grimmia sciuroides</i> f. <i>elongata</i> Nees & Hornsch.	= <i>Grimmia longirostris</i> Hook.
<i>Grimmia sciuroides</i> var. <i>foliosa</i> Nees & Hornsch.	= <i>Grimmia longirostris</i> Hook.
<i>Grimmia sciuroides</i> var. <i>laxa</i> Nees & Hornsch.	= <i>Grimmia longirostris</i> Hook.
<i>Grimmia sciuroides</i> var. <i>rigida</i> Nees & Hornsch.	= <i>Grimmia longirostris</i> Hook.
<i>Grimmia sessitana</i> De Not.	
<i>Grimmia sinensiapocarpa</i> Müll. Hal.	= <i>Schistidium sinensiapocarpum</i> (Müll. Hal.) Ochyra
<i>Grimmia stenopyxis</i> Thér.	= <i>Grimmia longirostris</i> Hook.
<i>Grimmia streptophylla</i> Sull.	= <i>Schistidium streptophyllum</i> (Sull.) Herzog
<i>Grimmia subconferta</i> Broth.	= <i>Schistidium subconfertum</i> (Broth.) Deguchi
<i>Grimmia subdoniana</i> Nog.	= <i>Grimmia fuscolutea</i> Hook.
<i>Grimmia subovata</i> Müll. Hal.	= <i>Grimmia longirostris</i> Hook.
<i>Grimmia subsulcata</i> Limpr.	= <i>Grimmia sessitana</i> De Not.
<i>Grimmia tenera</i> J. E. Zetterst.	= <i>Schistidium tenerum</i> (J. E. Zetterst.) Nyholm
<i>Grimmia torngakiana</i> Brassard & Hedd.	= <i>Grimmia incurva</i> Schwägr.
<i>Grimmia torta</i> Nees & Hornsch.	= <i>Anoetangium aestivum</i> (Hedw.) Mitt.
<i>Grimmia trichophylla</i> var. <i>vivariensis</i> Husnot [nom. nud.]	= <i>Grimmia lisae</i> De Not.
<i>Grimmia urceolaris</i> Nees & Hornsch.	= <i>Schistidium apocarpum</i> (Hedw.) Bruch & Schimp.
<i>Grimmia zahlbruckneri</i> Garov.	= <i>Grimmia donniana</i> Sm.
<i>Guembelia abyssinica</i> Müll. Hal.	= <i>Grimmia abyssinica</i> Müll. Hal.
<i>Guembelia tenella</i> Müll. Hal.	= <i>Grimmia montana</i> Bruch & Schimp.
<i>Hedwigia nervosa</i> P. Beauv.	= <i>Schistidium strictum</i> (Turn.) Mårtensson
<i>Pterigynandrum ramondii</i> DC.	= <i>Grimmia ramondii</i> (DC.) Margad.
<i>Racomitrium cataractarum</i> Brid.	= <i>Racomitrium aquaticum</i> (Schräd.) Brid.
<i>Racomitrium dicarpum</i> Broth.	= <i>Racomitrium himalayanum</i> (Mitt.) A. Jaeger
<i>Racomitrium elongatum</i> Frisvoll	
<i>Racomitrium javanicum</i> var. <i>brachyphyllum</i> Cardot & P. de la Varde	= <i>Racomitrium subsecundum</i> (Harv.) Mitt.
<i>Racomitrium javanicum</i> var. <i>incanum</i> Broth.	= <i>Racomitrium subsecundum</i> (Harv.) Mitt.
<i>Racomitrium subheterostichum</i> A. Jaeger [nom. nud.]	= <i>Racomitrium subsecundum</i> (Harv.) Mitt.
<i>Schistidium agassizii</i> Sull. & Lesq.	
<i>Schistidium bryhnii</i> I. Hagen	= <i>Schistidium apocarpum</i> var. <i>bryhnii</i> (I. Hagen) Loeske

<i>Schistidium spinosum</i> H. H. Blom & Lüth	
<i>Trichostomum affine</i> F. Weber & D. Mohr	≡ <i>Racomitrium affine</i> (F. Weber & D. Mohr) Lindb.
<i>Trichostomum arcuatum</i> DC.	= <i>Grimmia elatior</i> Bals.-Criv. & De Not.
<i>Trichostomum canadense</i> Michx.	= <i>Racomitrium microcarpon</i> (Hedw.) Brid.
<i>Trichostomum canescens</i> Hedw.	≡ <i>Racomitrium canescens</i> (Hedw.) Brid.
<i>Trichostomum decipiens</i> Schultz	≡ <i>Grimmia decipiens</i> (Schultz) Lindb.
<i>Trichostomum funale</i> Schwägr.	≡ <i>Grimmia funalis</i> (Schwägr.) Bruch & Schimp.
<i>Trichostomum heterostichum</i> Hedw.	≡ <i>Racomitrium heterostichum</i> (Hedw.) Brid.
<i>Trichostomum lanuginosum</i> Hedw.	≡ <i>Racomitrium lanuginosum</i> (Hedw.) Brid.
<i>Trichostomum microcarpon</i> Hedw.	≡ <i>Racomitrium microcarpum</i> (Hedw.) Brid.
<i>Trichostomum pulvinatum</i> var. <i>alpestris</i> F. Weber & D. Mohr	≡ <i>Grimmia alpestris</i> (F. Weber & D. Mohr) Schleich.