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# Type material in the Herbarium of the Martin-Luther-University Halle-Wittenberg (HAL)

## Bryophyta: Species described by G. E. L. Hampe, C. F. Hornschuch, J. K. (C.) A. F. W. Müller (Müll. Hal.), etc.

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**Abstract:** BRAUN, U. 2006: Type material in the Herbarium of the Martin-Luther-University Halle-Wittenberg (HAL). Bryophyta: Species described by G. E. L. Hampe, C. F. Hornschuch, J. K. (C.) A. F. W. Müller (Müll. Hal.), etc. *Schlechtendalia* **14**: 25–31.

Some old, separately deposited fascicles with bryophytes belonging to the herbarium of D. F. L. von Schlechtendal have recently been examined. Type collections as well as some authentic specimens, which may be types, have been sorted out and are listed in this paper. Most of the types belong to species described by G. E. L. Hampe, C. F. Hornschuch, and J. K. (C.) A. F. W. Müller (Müll. Hal.).

**Zusammenfassung:** BRAUN, U. 2006: Typusmaterial des Herbariums der Martin-Luther-Universität Halle-Wittenberg (HAL). Bryophyta: Arten beschrieben von G. E. L. Hampe, C. F. Hornschuch, J. K. (C.) A. F. W. Müller (Müll. Hal.), etc. *Schlechtendalia* **14**: 25–31.

Einige alte, getrennt aufbewahrte Faszikel mit Moosen, die zum Herbarium von D. F. L. von Schlechtendal gehören, sind unlängst untersucht worden. Typusmaterial und authentische Kollektionen, die Typen sein könnten, wurden aussortiert und werden in der vorliegenden Arbeit aufgelistet. Die meisten Typen gehören zu Arten, die von G. E. L. Hampe, C. F. Hornschuch und J. K. (C.) A. F. W. Müller (Müll. Hal.) beschrieben worden sind.

**Key words:** Mosses, types, HAL.

In the Herbarium of the Institute of Geobotany and Botanical Garden of the Martin-Luther-University, Halle-Wittenberg (HAL), Germany, about 80.000 bryophyte collections, including 50.000–55.000 specimens of herbarium K. Koppe, are housed. BRAUN & STORDEUR (2001) listed some type collections of bryophytes deposited at HAL. Recently some separate fascicles, not included in the general bryophyte herbarium of HAL, containing exotic mosses from Asia, Australia, South Africa, Mexico, Caribbean islands and South America, have been examined, and type collections as well as potential types have been sorted out. The fascicles, pertaining to the herbarium of D. F. L. von Schlechtendal, have been almost untreated since 1866, when Schlechtendal passed away. The bryologist J. K. (C.) A. F. W. Müller (Müll. Hal.), a self-made scientist, was a practicing pharmacist in various parts of Germany until 1843, but from then on he worked at Halle (Saale), closely connected with D. F. L. von Schlechtendal. He published numerous publications on mosses, including his famous “Synopsis Muscorum Frondosorum” (MÜLLER 1848–49, 1850–51). Müller’s herbarium and types were acquired by the herbarium in Berlin (now B) in 1899 and destroyed during World War II in 1943. Müller sent numerous duplicates to his friend K. Schliephacke, now deposited at the herbarium in Jena (JE) [STAFLEU & COWAN

1981]. However, numerous types and other collections treated by Müller were also preserved in Schlechtendal's herbarium (now at HAL). Müller examined mosses of Schlechtendal's herbarium and used these collections for the preparation of his various publications, and he probably added duplicates of his own herbarium, which is not mentioned in STAFLEU & COWAN (1981).

Schlechtendal's herbarium also contains types of species described by G. E. L. Hampe (Hampe's original bryophyte herbarium is housed at BM, see STAFLEU & COWAN 1979), C. F. Hornschuch (original herbarium at B, mainly destroyed during Ward War II, STAFLEU & COWAN 1979) and various other authors.

The following list comprises type collections of species described by Hampe, Hornschuch, Müller and some additional authors. In a second list, unpublished herbarium names and possible type collections (status not yet clear) are cited.

### List of types

*Antitricha cuspidata* Nees, *Linnaea* 19: 681 (1847); Typus: Mexico, Aschenborn; HAL 60 B.

*Astomum pappeanum* Müll. Hal., *Syn. musc. frond.* 1 (1): 15 (1848); Typus: South Africa, Prom. bon. spei, near Zwellendam, K. Pappe; HAL 61 B.

*Barbula xanthocarpa* Müll. Hal., *Linnaea* 17: 581 "1843" (1844); Typus: South Africa, Prom. bon. spei, C.F. Ecklon; HAL: 62 B.

*Bartramia intertexta* Schimp. ex Müll. Hal., *Syn. musc. frond.* 1 (4): 503 (1849), nom. illeg.; Typus: Mexico, 1831-39, C. Ehrenberg (1276); HAL 63 B.

*Bartramia pabstiana* Müll. Hal., *Syn. musc. frond.* 1 (4): 486 (1849); Typus: Brazil, St. Catharina, C. Pabst; HAL 64 B.

*Brachymenum julaceum* Hornsch., *Linnaea* 15: 133 (1841); Typus: South Africa, C. b. sp., J.F. Drège; HAL 65 B.

*Brachysteleum crispatum* var. (β) *brachycarpum* Hornsch., *Linnaea* 15: 126 (1841); Typus: South Africa, Prom. bon. spei, C.F. Ecklon; Typus: HAL 66 B.

*Bryum spectabile* Müll. Hal., *Syn. musc. frond.* 2 (9/10): 583 (1851); Typus: Costa Rica, 1847, A.S. Oersted; HAL 67 B.

*Campyloopsis cubensis* Sulliv., *Proc. Am. Acad. Arts Sci.* 5: 278 (1861); Typus: Cuba, Musci Cubenses 39; HAL 68 B.

*Catharinea javanica* Hampe, *Icon. musc.* 3: Tab. 22 (1844); Typus: Java, in cacumine montis Sindoro, Apr., F. Junghun; HAL 69 B.

*Conomitrium capense* Müll. Hal., *Syn. musc. frond.* 2 (9/10): 524 (1851); Typus: South Africa, Prom. b. sp., J.F. Drège No. 9379 b; HAL 70 B.

*Cryphaea patens* Hornsch. ex Müll. Hal., *Linnaea* 18: 679 (1845); Typus: Mexico, 1831-39, C. Ehrenberg; HAL 49 B.

*Dendropogon rufescens* Schimp., *Bot. Zeitung* 1: 381 (1843); Typus: Mexico, 1831-39, C. Ehrenberg; HAL 71 B.

***Dicranum bicolor*** Hornsch. ex Müll. Hal., Syn. musc. frond. 1 (3): 392 (1848); Typus: Australia, Nova Hollandia, F.W. Sieber 9; HAL 72 B.

***Dicranum dicarpum*** Hornsch., (in Sieber, Musc. Nov. Holl. 10), Nees, Syst. veg. 4 (2): 322 (1827); Typus: Australia, Nova Hollandia, F.W. Sieber; HAL 73 B.

***Dicranum brachyphyllum*** Hornsch., Syst. veg. 4 (2): 322 (1827); Typus: Australia, Nova Hollandia, F.W. Sieber; HAL 74 B.

***Dicranum macrophyllum*** Kunze ex Müll. Hal., Syn. musc. frond. 1 (3): 402 (1848); Typus: Chile, Poeppig, Pl. Chil. III, 231; HAL 75 B.

***Dicranum macropus*** Kunze ex Müll. Hal., Linnaea 18: 690 (1845); Typus: Chile, Poeppig 47; Typus HAL 76 B.

***Dicranum pudicum*** Hornsch. ex Müll. Hal., Syn. musc. frond. 1 (3): 407 (1848); Typus: Australia, Nova Hollandia, F.W. Sieber 24; HAL 77 B.

***Dicranum sieberianum*** Hornsch., Syst. veg. 4 (2): 322 (1827); Typus: Australia, Nova Hollandia, F.W. Sieber; HAL 78 B.

***Dicranum tenuirostre*** Kunze ex Schwägr., Sp. mus. fron. suppl. 4: T. 308 (1842); Typus: Chile, Poeppig, Pl. Chil. III, 230; HAL 79 B.

***Fissidens fasciculatus*** Hornsch., Linnaea 15: 155 (1841); Typus: South Africa, C. b. spei, C.L.P. Zeyher, Cap. 498; HAL 80 B.

***Fissidens glaucescens*** Hornsch., Linnaea 15: 154 (1841); Typus: South Africa, Prom. b. spei, Tafelberg, C.F. Ecklon; HAL 81 B.

***Fissidens rufescens*** Hornsch., Linnaea 15: 153 (1841); Typus: South Africa, Prom. b. spei, Tafelberg, C.F. Ecklon; HAL 82 B.

***Holomitrium wrightii*** Sull., Proc. Am. Acad. Arts Sci. 5: 279 (1861); Typus: Cuba, Musci Cubenses 42; HAL 83 B.

***Hookeria cupressiformis*** Müll. Hal., Syn. musc. frond. 2 (7/8): 215 (1851); Typus: Trinidad, 1847, Crüger; HAL 84 B.

***Hookeria varians*** Sull., Proc. Am. Acad. Arts Sci. 5: 285 (1861); Typus: Cuba, Musci Cubenses 88; HAL 85 B.

***Hypnum curvicolium*** Müll. Hal., Syn. musc. frond. 2 (9/10): 684 (1851); Typus: Brazil, St. Catharina, C. Pabst; HAL 86 B.

***Hypnum dregei*** Müll. Hal., Syn. musc. frond. 2 (7/8): 311 (1851); Typus: South Africa, Prom. b. spei, near Zwellendam, K. Pappe; HAL 87 B.

***Hypnum gueinzii*** [Hampe] var.  $\beta$  *prostrata* Müll. Hal., Syn. musc. frond. 2 (7/8): 311 (1851); Typus: South Africa, Prom. b. spei, near Zwellendam, K. Pappe; HAL 88 B.

***Hypnum muricola*** (*muricolum*) Müll. Hal., Syn. musc. frond. 2 (7/8): 492 (1851); Typus: Brazil, St. Catharina, 1847, C. Pabst; HAL 89 B.

***Hypnum schistocalyx*** Müll. Hal., Syn. musc. frond. 2 (9/10): 691 (1851); Typus: Nicaragua, ad Matagalpa, Dec. 1847, A.S. Oerstad; HAL 90 B.

***Hypnum thelistegum*** Müll. Hal., Syn. musc. frond. 2 (7/8): 269 (1851); Typus: Brazil, St. Catharina, C. Pabst; HAL 91 B.

*Hypnum versicolor* Hornsch. ex Müll. Hal., Syn. musc. frond. 2 (7/8): 494 (1851); Typus: South Africa, Prom. b. spei, J.L. Mundt & C. Maire; HAL 92 B.

*Hypopterygium incrassatolimbatum* Müll. Hal., Syn. musc. frond. 2 (6): 8 (1850); Typus: Brazil, St. Catharina, 1847, C. Pabst; HAL 93 B.

*Leptotheca wrightii* Sull., Proc. Am. Acad. Arts Sci. 5: 281 (1861); Typus: Cuba, Musci Cubenses 53; HAL 94 B.

*Leptotrichum kunzeanum* Müll. Hal., Bot. Zeitung 5: 806 (1847) [*Weisia tenuis* Kunze, in herb.]; Typus: Chile, Poeppig, Coll. Pl. Chil. 230; HAL 95 B.

*Leskea remotifolia* Müll. Hal., Linnaea 19: 216 (1848) [*Neckera remotifolia* Hornsch., nom. nud.; *Neckera remotifolia* (Müll. Hal.) Müll. Hal.]; Typus: Mexico, F. Deppe & C.J.W. Schiede; HAL 116 B.

*Leucobryum robustum* Sull., Proc. Am. Acad. Arts Sci. 5: 279 (1861); Typus: Cuba, Musci Cubensis 44; HAL 96 B.

*Macomitrium dregei* Hornsch., Linnaea 15: 131 (1841); Typus: South Africa, C. b. sp., J.F. Drège; HAL 97 B.

*Macomitrium guatemalense* Müll. Hal., Syn. musc. frond. 2 (9/10): 644 (1851); Typus: Guatemala, H. Kegel com.; HAL 98 B.

*Macomitrium perrottetii* Müll. Hal., Syn. musc. frond. 1 (5): 721 (1849); Typus: India, Montes Neelgheerienses, B. Schmid; HAL 99 B.

*Macomitrium regnellii* Hampe in Müll. Hal., Syn. musc. frond. 1 (5): 738 (1849); Typus: Brazil, ad Caldas, Minas Geraës, A.F. Regnell; HAL 100 B.

*Macomitrium secundum* Müll. Hal., Bot. Zeitung 14: 420 (1856); Typus: South Africa, Prom. b. spei, Distr. Uitenhagen (prope Ado), Sept. 1829, K. Pappe (C.F. Ecklon); HAL 101 B.

*Neckera africana* Müll. Hal., Syn. musc. frond. 2 (6): 137 (1850); Typus: South Africa, Prom. b. spei, Olifantshoek, C.F. Ecklon; HAL 102 B.

*Neckera cumingii* Müll. Hal., Syn. musc. frond. 2 (6): 132 (1850); Typus: Chile, pr. urbem Valdivia, Novbr. 1850; HAL 104 B.

*Neckera cylindricaulis* Müll. Hal., Syn. musc. frond. 2 (6): 100 (1850); Typus: Venezuela, Cumbre de Caracas, H. Wagner; HAL 105 B.

*Neckera deppei* Hornsch. ex Müll. Hal., Syn. musc. frond. 2 (6): 136 (1850); Typus: Mexico, F. Deppe & C.J.W. Schiede 1087; HAL 103/1 B [= *Pterigynandrum seriatum* Hornsch., Linnaea 6: 62 (1831), nom. nud.; Linnaea 19: 217 (1846), nom. inval.]; Typus: Mexico, prope Jalapam, F. Deppe & C.J.W. Schiede 1080; HAL 103/2 B].

*Neckera dregei* Hornsch., Linnaea 15: 139 (1841); Typus: South Africa, C. b. sp., J.F. Drège; HAL 106 B.

*Neckera ehrenbergii* Müll. Hal., Syn. musc. frond. 2 (6): 51 (1850); Typus: Mexico, 1831–39, C. Ehrenberg; HAL 107 B.

*Neckera kegeliana* Müll. Hal., Bot. Zeitung 16: 165 (1858); Typus: India, Bombay, Elphinston; HAL 108 B.

*Neckera longipes* Müll. Hal., Syn. musc. frond. 2 (6): 123 (1850); Typus: Trinidad, 'Uracaga', H. Crüger; HAL 109 B.

*Neckera macropelma* Müll. Hal., Syn. musc. frond. 2 (6): 104 (1850); Typus: India, Neelgheeri, B. Schmid (Missionarius); HAL 110 B.

*Neckera moritzii* Hampe, Linnaea 20: 91 (1847); Typus: Columbia, Tovar, 1845, K. Moritz; HAL 111 B.

*Neckera pabstiana* Müll. Hal., Bot. Zeitung 13: 766 (1855); Typus: Brazil, St. Catharina, 1851, C. Pabst; HAL 112 B.

*Neckera pandurifolia* (*panduraefolia*) Müll. Hal., Bot. Zeitung 13: 767 (1855); Typus: South Africa, Prom. bon. spei, 1823, C.L.P. Zeyher; HAL 113 B.

*Neckera procumbens* Müll. Hal., Syn. musc. frond. 2 (6): 80 (1850); Typus: India, Bombay, Elphinstone; HAL 114 B.

*Neckera quinquefaria* Müll. Hal., Syn. musc. frond. 2 (6): 124 (1850); Typus: Trinidad, H. Crüger; HAL 115/1 B; Paramaribo, H. Kegel; HAL 115/2 B.

*Neckera remotifolia* Hornsch., Linnaea 6: 63 (1831), nom. nud. (see *Leskea remotifolia* Müll. Hal.).

*Neckera turgescens* Müll. Hal., Syn. musc. frond. 2 (6): 131 (1850); Typus: Mexico, 1831–39, C. Ehrenberg; HAL 117 B.

*Orthotrichum elegans* Hornsch., in Musc. Sieb. 21 (non Schwägr.) [*Macromitrium brevipes* Müll. Hal.]; Typus: Trinidad, 1822, F.W. Sieber 21 (leg. F. Wrbn); HAL 118 B.

*Pilotrichum cochlearifolium* Müll. Hal., Linnaea 17: 599 (1844); Typus, Mexico, 1831–39, Ehrenberg; HAL 119 B.

*Pilotrichum decurrens* Müll. Hal., Syn. musc. frond. 2 (6): 172 (1850); Typus: Mexico, 1831–39, C. Ehrenberg; HAL 50 B.

*Pilotrichum nigrescens* Hornsch., in Müll. Hal., Syn. musc. frond. 2 (6): 135 (1850), pro syn. *Neckera nigrescens*; Australia, Nova Hollandia, F.W. Sieber 14; HAL 120 B.

*Pogonatum cubense* Sull., Proc. Am. Acad. Arts Sci. 5: 281 (1861); Typus: Cuba, Musci Cubenses 57; HAL 121 B.

*Polytrichum oligodus* Kunze ex Müll. Hal., Syn. musc. frond. 1 (2): 206 (1848); Typus: Chile, Poeppig, Coll. Pl. Chil. I, 271; HAL 122 B.

*Pterogonium productum* Hornsch., Linnaea 15: 138 (1841); Typus: South Africa, Cape, J.L. Mundt & C. Maire; HAL 123 B.

*Schlotheimia pabstiana* Müll. Hal., Bot. Zeitung 13: 764 (1855); Typus: Brazil, St. Catharina, 1851, C. Pabst; HAL 124 B.

*Spiridens reinwardtii* Nees, Nova Acta Phys.-Med. Acad. Caes. Leop.-Carol. Nat. Cur. 11 (1): 143 (1823); Typus: Java, C.G.C. Reinwardt; HAL 125 B.

### Possible types and unpublished names

*Angstroemia pabstiana* Müll. Hal., in herb.; Brazil, St. Catharina, C. Pabst; HAL 126 B.

*Bartramia baueri* Müll. Hal., in herb.; USA, California, 'Mission bei S. Francisco', H.N. Bolander; HAL 128 B.

*Bryum littorale* Hampe, in herb.; USA, California, S. Francisco, ‘an der Bai’, H.N. Bolander (?); HAL 129 B.

*Bryum pabstianum* Müll. Hal., Bot. Zeitung 13: 751 (1855); ? Typus: Brazil, St. Catharina, 1849, C. Pabst; HAL 130 B. Notes: In the protologue ‘1847’ is given as date (the present collection is, at least, topotype material).

*Campylopus incrassatus* Kunze, Linnaea 18: 686 (1845); ? Typus: Chile, Poeppig 40 (Diar. 612); HAL 131 B.

*Cleistostoma elegans* Bruch, in Index Bryol., Ed. Sec., 1: 348 (1904), nom. inval. (pro syn.); ? Typus: Mexico, Oaxacan, W.F. von Karwinski; HAL 132 B.

*Conomitrium semilimbatum* Schlieph., in herb.; Brazil, St. Catharina, C. Pabst; HAL 133 B.

*Dicranum areniculatum* Müll. Hal., in herb.; Brazil, St. Catharina, C. Pabst; HAL 134 B.

*Dicranum blumii* Nees, Nova Acta Phys.-Med. Acad. Caes. Leop.-Carol. Nat. Cur. 11 (1): 131 (1823); ? Typus: Java, C.L. Blume; HAL 135 B.

*Fissidens asterodontium* ‘sp. nov.’, in herb.; Brazil, 1846, C. Pabst 228; HAL 136 B.

*Fissidens exiguus* Sull., Musc. Allegh.: 182 [Schedae 44] (1846); ? Typus: USA, Ohio, 41, Sullivant; HAL 137 B.

*Fissidens minutulus* Sull., Musc. Allegh.: 183 [Schedae 44] (1846); ? Typus: USA, Ohio, 26, Sullivant; HAL 138 B.

*Fissidens obtusissimus* ‘sp. nov.’, in herb.; Columbia, K. Moritz 54; HAL 139 B [? *Fissidens leptophyllus* f. *obtusissimus* Florsch., Fl. Suriname 6 (1): 52, F. 13: h (1964); *Fissidens obtusissimus* (Florsch.) Pursell].

*Fissidens pseudobryoides* Schlieph., Bot. Zeitung 13: 424 (1855); ? Typus: Brazil (‘Brasilien’); HAL 140 B. Notes: The protologue is given as ‘Ins. St. Catharina, C. Pabst, Martio-Majo 1847, No. 319’. The present collection at HAL is probably type material, but details are not given on the label.

*Hookeria hypnoica* Müll. Hal., in herb.; Brazil, St. Catharina, C. Pabst; HAL 141 B.

*Hypnum ampullaceum* Lorenz, in herb.; In sylvis montis Guadeloupe; HAL 142 B.

*Hypnum flagellans* Müll. Hal., in herb.; Brazil, St. Catharina, C. Pabst; HAL 143 B.

*Hypnum mosmannianum* Müll. Hal., in herb.; Australia felix, F. Müller; HAL 144 B.

*Hypnum semirevolutum* Müll. Hal., Bot. Zeitung 13: 784 (1855); ? Typus: South Africa, Prom. b. spei, J.L. Mundt; HAL 145 B. Notes: In the protologue ‘Prom. bon. spei, Ecklon, Gueinzus’ is given.

*Macromitrium cylindricum* Hornsch., in herb.; Brazil (‘Brasilia’); HAL 146 B.

*Neckera imbricata* Hornsch., in herb. [*Neckera rigida* Müll. Hal.]; Mexico; HAL 147 B. Notes: Syntype of *Neckera rigida*?

*Neckera rigida* Müll. Hal., see *Neckera imbricata*.

*Pleuridium bolanderi* Müll. Hal. ex A. Jaeger, Ber. Thätigkeit St. Gallischen Naturwiss. Ges. 1868–69: 91 (1869) [*Astomum bolanderi* (Müll. Hal. ex A. Jaeger) Müll. Hall.]; ? Typus: USA, California, S. Francisco, H.N. Bolander; HAL 127 B.

*Polytrichum humboldtianum* Hampe, Verh. Zool.-Bot. Ges. Wien 21: 384 (1871); ? Typus: Costa Rica, C. Hoffmann; HAL 148 B.

*Schlotheimia pulchella* Hornsch., Horae Phys. Berol.: 61, F. 12 (1820); ? Typus: South Africa, Prom. bon. spei; HAL 149 B.

*Weisia pabstiana* Müll. Hal., in herb.; Brazil, St. Catharina, C. Pabst; HAL 150 B.

## Literature

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