

The Types and Original Specimens of Published Names of Mosses Preserved in the Herbarium of Singapore Botanic Gardens (SING)

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Abstract

A total of 51 types and original specimens of published names of mosses, mostly collected from West Malesia, are preserved at the herbarium of Singapore Botanic Gardens (SING). Information about the locality, collector and collector's number, date of collection, nomenclatural status, and the currently accepted name, for each of the types and original specimens are presented.

Introduction

The well known herbarium of Singapore Botanic Gardens (SING) has a small, less known and little used collections of bryophytes. The specimens were collected mainly from Peninsular Malaya, Singapore, Sabah formerly British North Borneo and Sarawak. The entire bryophyte collections consist of about 10,000 packets, of which 51 are types and original material of published names of moss taxa. In addition, there are 13 moss specimens with unpublished herbarium names and marked as new species by the eminent English muscologist, Mr. H. N. Dixon, who also identified many of the moss collections at SING. Furthermore, a nearly equal number of specimens were indicated to be types of various hepatic taxa. The information on the hepatic types at SING will be dealt with in a separate report.

In preparing the list of moss types kept at SING, I have endeavored to confirm the nomenclatural status of all the specimens marked as types. Because many of the new species were described by Dixon, the holotypes are, presumably, with The Natural History Museum in London (BM) where the herbarium of Dixon was relocated after his death in 1944. The duplicate specimens at SING, even though represented by a larger quantity in several instances, can only be the isotypes or isoparatypes. It is interesting to note

that some type packets at SING include handwritten field data not published in the species' protologue.

I also include in the present listing original materials of a handful of *nomina nuda* inadvertently published by Dixon based on the moss collections at SING. Often, this original material is needed to elucidate the intent of the author or to resolve the taxonomic enigma of a "nomen nudum". Some have subsequently been shown to represent distinct species.

Lastly, to help users of the type collections at SING, I have indicated the currently accepted name as a note under the binomial of the moss taxon concerned.

Catalogue of Species

Acroporium macroturgidum Dix.

[Isotype] Malaysia, Pahang, G. Tahan, 28 Aug 1928, *RE Holttum 20920*.

Acroporium surculare Dix.

[Isolectotype] Malaysia, Perak, Bidor Road, Tapah, Nov 1908, *HN Ridley 153*.

Note: Recombined as *Isocladiella surcularis* (Dix.) B.C. Tan and H. Mohamed, the name of this species was lectotypified by Tan and Mohamed (1990).

Breutelia kinabaluensis Dix.

[Isotype] Malaysia, Sabah, Mt. Kinabalu, 9000 ft, 16 Nov 1931, *RE Holttum 25337*.

Calymperes carrii Dix.

[Isotype] Papua New Guinea, Kanosia, Feb 1935, *CE Carr 11473*.

Note: This taxon was treated as a synonym of *Calymperes crassinerve* (Mitt.) Jaeg. in Reese *et al.* (1986). The isotype was distributed as a number of *Musci Selecti et Critici*, Ser. III, 1936.

Chionoloma latifolium Dix.

[Isotype] Malaysia, Langkawi, Pulau Dayang Bunting, 23 Aug 1925, *RE Holttum 15130*.

Cladopodanthus microcarpus Dix.

[Isotype] Malaysia, Sarawak, Mt. Dulit, Ulu Koyan, 22-25 Sep 1932, *PW Richards M2034*.

Clastobryella asperrima Dix.

[Isotype] Malaysia, Sabah, Mt. Kinabalu, Pakka, 15 Nov 1931, *RE Holttum* 25646.

Dicranoloma angustifrondeum Dix.

[Isotype] Malaysia, Sabah, Tenompok, 4000 ft, 17 Jun 1925, *CM Enriquez* 18111.

Note: A synonym of *Dicranoloma braunii* (Dozy & Molk.) Par. (Tan 1989).

Dicranoloma brevicapsularis Dix.

[Isotype] Malaysia, Pahang, G. Tahan, 12 Jun 1922, *Mohd. Haniff Nur* 7915a.

Note: A synonym of *Dicranoloma billarderi* (Brid. Ex Anon.) Par. (Tan 1989).

Dicranoloma euryloma Dix.

[Isotype] Malaysia, Sabah, Mt. Kinabalu, Tenompok, Lumu-Lumu, 12 Nov 1931, *RE Holttum* 25633.

[Isoparatype] Malaysia, Sarawak, Mt. Dulit, Ulu Koyan, 15 Sep 1932, *PW Richards* M1853.

Note: A synonym of *Dicranoloma assimile* (Hampe) Ren. (Tan 1989).

Diphyscium rhynchophorum Dix.

[Isotype] Malaysia, Sarawak, Mt. Dulit, Ulu Koyan, 15 Sep 1932, *PW Richards* M1868.

Note: The specimen bears the annotation of M. Manuel in 1978 as an isotype. According to Hyvönen (1989a), this species is a synonym of *Diphyscium loriae* C. Muell.

Distichophyllum sinuosulum Dix.

[Isotype] Malaysia, Perak, Birch's Hill, 3 Mar 1924, *IH Burkill* 12606.

Note: A synonym of *Distichophyllum cirratum* Ren. & Card. (Mohamed and Robinson 1991).

Endotrichella formosa Dix., *nom. nud.*

[Original material] Malaysia, Pahang, Kota Gelanggi, 4 Aug 1929, *MR Henderson* 22405.

Note: A synonym of *Garovaglia elegans* (Dozy & Molk.) Bosch & Sande Lac. (Mohamed and Tan 1988).

Fissidens albolimbatus Dix.

[Isotype] Malaysia, Sarawak, Long Kapa, Mt. Dulit, Ulu Tinjar, 31 Aug 1932, *PW Richards M1587*.

Note: A synonym of *Fissidens ceylonensis* Dozy & Molk. *vide* Tan and Iwatsuki (1989).

Fissidens pachyphyllus Dix.

[Isotype] Malaysia, Sarawak, Mt. Dulit, Ulu Koyan, 22 Sep 1932, *PW Richards M2039*.

Fissidens perpellucidus Dix.

[Isoparatype] Malaysia, Sarawak, Mt. Dulit, Ulu Tinjar, 29 Aug 1932, *PW Richards M1589*.

Note: A synonym of *Fissidens pallidus* Hook. f. & Wils. *vide* Tan and Iwatsuki (1989).

Forsstroemia rigida Dix.

[Isotype] Papua New Guinea, above Port Moresby, Boridi, Nov 1935, *CE Carr I3559*.

Note: The specimen was distributed as a number of *Musci Selecti et Critici*, Ser. V, 1938. The species was synonymized with *Neolindbergia vitiensis* (Bartr.) Enroth by Akiyama *et al.* (1991) who also reported the Carr specimen at BM as the lectotype. However, only one specimen (*Carr I3559*) was mentioned in the protologue (Dixon 1943), so there is no need for lectotypification.

Hypnodendron copelandii Broth. var. *latifolium* Dix.

[Holotype] Malaysia, Sabah, Mt. Kinabalu, Lamu-Lamu, 5000 ft, 18 Jun 1925, *CM Enriquez 18146*.

Note: In the protologue, Dixon (1935: 96) indicated the holotype of his new variety to be at SING. The specimen was annotated by A. Touw in December of 1968 as *Hypnodendron diversifolium* Broth. & Geh. (Touw 1971).

Hypnodendron wrayi Broth. ex Dix., *nom. nud.*

[Original material] Malaysia, Perak, G. Batu Puteh, 4500 ft, *L Wray Jr. 301*.

Note: Specimen annotated by A. Touw in December of 1968 as *Hypnodendron diversifolium* Broth. & Geh. (Touw 1971).

Leptodontium kinabaluense Dix.

[Isotype] Malaysia, Sabah, Mt. Kinabalu, 13,400 ft, 14 Nov 1931, *RE Holttum 25685*.

[Isoparatype] Ibid, *RE Holttum* 25688.

Note: A synonym of *Leptodontium flexifolium* (Dicks.) Hampe (Zander 1993).

Leptodontiopsis orientalis Dix.

[Isotype] Malaysia, Sabah, Mt. Kinabalu, 1,500 ft, 14 Nov 1931, *RE Holttum* 25668.

[Isoparatype] Ibid, *RE Holttum* 25689.

Mastopoma papillatum Dix., *nom. nud.*

[Original material] Malaysia, Kelantan, G. Sitong, 2600 ft, 6 Mar 1924, *Mohd. Haniff Nur* 12234.

Note: The name was published invalidly by Dixon in 1926.

Macromitrium ochraceoides Dix.

[Isotype] Malaysia, Sabah, Mt. Kinabalu, between Kamborangah and Pakka, 7,200-10,200 ft, 13 Nov 1931, *RE Holttum* 25481.

[Isoparatype] Ibid, below Pakka, 10,200 ft, 15 Nov 1931, *RE Holttum* 25663.

Piloecium acroporioides Dix.

[Isotype] Malaysia, Sarawak, Marudi (Claudetown), 300 m, Nov 1932, *PW Richards* M2672.

Pogonatum euryphyllum Dix.

[Isotype] Malaysia, Sabah, Mt. Kinabalu, near Kamborangah, 7,200 ft, 13 Nov 1931, *RE Holttum* 25644.

[Isoparatype] Ibid, Tenompok, 4,700 ft, 11 Nov 1931, *RE Holttum* 25344.

Note: A synonym of *Pogonatum cirratum* (Sw.) Brid. ssp. *macrophyllum* (Dozy & Molk.) Hyvönen (Hyvönen 1989b).

Pseudoracelopus borneensis Dix.

[Isotype] Malaysia, Sabah, Bettolan, near Sandakan, 21 Aug 1927, *CB Kloss* 19171.

Note: A synonym of *Pogonatum iwatsukii* Touw (Touw 1986).

Rhaphidostegium complanatum Dix., *nom. nud.*

[Original material] Malaysia, Perak, Padang Rengas reservoir, 18 Jan 1925, *Mohd. Haniff Nur* 14981.

Note: The name was published invalidly by Dixon in 1926.

Rhaphidostichum aquaticum Dix.

[Isotype] Malaysia, Sarawak, G. Matang, 500 ft, 22 Jan 1930, *RE Holttum* 23165.

Note: The species is now known as *Papillidiopsis aquaticum* (Dix.) Buck and B.C. Tan.

Sclerohypnum riparium Dix.

[Isotype] Malaysia, Pahang, Tahan River, 24 Aug 1928, *RE Holttum* 20089.

Note: The species is now known as *Sclerohypnum littorale* (Hampe) B.C. Tan (Tan 1991).

Sphagnum cuspidatum C. Muell. var. *trengganuense* A. Johnson

[Holotype] Malaysia, Trengganu, G. Padang, 4,000 ft, Jun 1937, *Moysey and Kiah* 31023.

Note: Eddy (1977) listed this trinomial under the synonymy of *Sphagnum cuspidatum* Hoffm. subsp. *subrecurvum* (Warnst.) Eddy.

Sphagnum flaccidifolium Dix. ex A. Johnson

[Holotype] Malaysia, Selangor, Telok Forest Reserve, 7th Milestone Klang, *Carrick* 500.

[Paratypes] Malaysia, Selangor, Telok Panglima Garang, May 1933, *RE Holttum* 28317; Indonesia, Sumatra, near Palan Borae, 24 Feb 1933, *RE Holttum* 28127.

Note: Annotated by A. Eddy in 1968 as *Sphagnum subrecurvum* var. The taxon is subsequently treated by Eddy (1977) as *Sphagnum cuspidatum* Hoffm. ssp. *subrecurvum* (Warnst.) Eddy var. *flaccidifolium* (A. Johnson) Eddy.

Sphagnum holttumii Dix. ex A. Johnson

[Holotype] Malaysia, Pahang, G. Tahan, 5,000 ft, 30 Aug 1928, *RE Holttum* 20906.

[Paratypes] Malaysia, Pahang, G. Tahan, ca 5,000 ft, 30 Aug 1928, *RE Holttum* 20908; *ibid*, ca 6,000 ft, 31 Aug 1928, *RE Holttum* 20909; *ibid*, 6,000 ft, 31 Aug 1928, *RE Holttum* 20910; *ibid*, 3500-4500 ft, 28 Aug 1928, *RE Holttum* 20916; Cameron Highlands. 4800 ft, 1 Apr 1930, *RE Holttum* 23300; Johore, G. Pantai, 1600 ft, 9 Jun 1930, *EJH Corner* 23207.

Note: All the above mentioned specimens bear the unpublished herbarium name, *Sphagnum kedahense* Dix. The species is treated as a synonym of *Sphagnum perichaetiale* Hampe (Eddy 1977).

Sphagnum roseotinctum A. Johnson

[Holotype] Malaysia, Kelantan State, G. Sitong, 2,600 ft, 6 Mar 1924, *Mohd. Haniff Nur* 12244.

Note: The specimen was first reported by Dixon in 1926 as *Sphagnum kelantanense*, a *nomen nudum*. Johnson (1958) described it as a new species

and Eddy (1977) reduced it to one of the many synonyms of *Sphagnum perichaetiale* Hampe. In the protologue (Johnson 1958), two paratype specimens of *S. roseotinctum* collected by Spare (no. 1439 and 1430) were mentioned, but I cannot find these two specimens at SING at present.

Stephanodictyon borneensis Dix.

[Isotype] Malaysia, Sabah, Mt. Kinabalu, Lobang, 19 Nov 1931, *RE Holttum* 25637.

Note: The genus was combined with *Trichostomum* by Zander (1993) and the species is now known as *T. borneensis* (Dix.) Zand.

Symphyodon complanatus Dix.

[Isotype] India, Assam, watershed of Egar to Serpo, 5500 ft, 23 Jan 1912, *IH Burkill* 36208 (ex Herb. Hort. Bot. Calcuttensis).

Syrrhopodon perakensis Dix.

[Isotype] Malaysia, Perak, Lumut, Dindings, 1896, *HN Ridley* 449.

Note: Annotated by H. Mohamed in September of 1983 as *Syrrhopodon fallax* Lac., a synonym of *Syrrhopodon aristifolius* Mitt. As a synonym, this taxon was not mentioned by Mohamed and Reese (1985) in their taxonomic revision of the genus for Malaysia and adjacent regions.

Taxithelium bilobatum Dix.

[Isotype] Malaysia, Perak, Bujang, Malacca, 1891, *HN Ridley* 739.

Note: The species is now known as *Glossadelphus bilobatus* (Dix.) Broth. The isotype packet at SING has the collection number written as *Holttum* 739, probably an error. In the protologue, the holotype was indicated to be at Mitten Herbarium (Dixon 1924)

Tayloria borneensis Dix.

[Isotype] Malaysia, Sabah, Tenompok, 11 Nov 1931, *RE Holttum* 25329.

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