

TYPIFICATIONS OF SOME FERNS AND LYCOPHYTES FROM INDIAN

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Abstract: Names of one species of lycophyte and three species of ferns are typified to stabilize their nomenclature. Neotype is selected for *Phlegmariurus nilagiricus*. Nomenclature and typification are corrected for *Bolbitis terminans*. Since types specimens were not clearly annotated as from same gatherings, second step lectotypes are selected for *Polypodiodes wattii* and *Christiopteris tricuspidis*.

Key words: Ferns, India, Lectotype, Lycophytes, Neotype, New combination.

1. Introduction

As a continuation of my revision on Indian ferns and lycophytes, here I select types for names of three ferns and one lycophytes species. Typification is essential to fix and continue unambiguous application of the botanical name (McNeill et al. 2012).

2. Typifications

2.1. *Phlegmariurus nilagiricus* (Spring) A.R. Field & Bostock, *PhytoKeys* 20: 44. 2013. (Lycopodiaceae)
Lycopodium nilagiricum Spring, Bull. Acad. Roy. Sci. Belgique, Cl. Sci. 8: 517. 1841.

Neotype (designated here): India. Tamil Nadu: Nilgiri District, Pakasura Hills, 2066 m, 7 December 1957, K.M. Sebastine 4799 (CAL!).

Note: During ongoing revision of family Lycopodiaceae in India (Mazumdar & Mukhopadhyay, 2014; Mazumdar, 2015a, b), I searched for type and original material of *Phlegmariurus nilagiricus*, a species endemic in South India (Dixit, 1987).

Spring (1841) first described this species citing locality mountain of Nilgiri without any collector's name. Later Spring (1843) cited collection of George Samuel Perottet from Nilgiri as "*Hab. In montibus Nilagiricis Peninsulae Indiae orientalis: Perottet* (H. Deless.)."

Perottet's plant collection was acquired by Benjamin Delessert and later said to be preserved in G (Lasègue, 1845; Stafleu, 1970; Stafleu and Cowan, 1976). But this specimen was not traced in G (Dr. Michelle J. Price, pers. comm., 2014).

Dixit (1987) saw a photograph of the specimen "Herbarium Hookerianum, 1867, Gardner 68" located in Kew Herbarium (K) and cited it as "Type" of *P. nilagiricus*, which is acceptable as neotype (McNeill et al., 2012, Art. 7.10). But this photograph ("B.S.I. Neg. 1941") was not traced in CAL (Central National Herbarium, Howrah) and this specimen was not located in K (Laura Pearce, pers. comm. 2016). To fix the application of this name I select a specimen in CAL, collected from type locality Nilgiri hills as neotype.

2.2. *Bolbitis subcrenata* (Hook. & Grev.) Ching subsp. *terminans* (Wall.) Mazumdar comb. et stat. nov. (Dryopteridaceae)

Acrostichum terminans Wall., Numer. List n. 2168. 1830. *Poecilopteris terminans* (Wall.) T. Moore, Index Fil. (T. Moore) 15. 1857. *Poecilopteris terminans* (Wall.) Bedd., Ferns S. India t. 203. 1863. [nom. illeg.]. *Bolbitis terminans* (Wall.) Gandhi & Fraser-Jenk., Indian Fern J. 32(1-2): 184. 2015.

Lectotype (designated here): Rhede tot Drakestein, *Hortus Indicus Malabaricus* 12: t. 10, 1703 [icon]. Epitype (designated here): India. Wallich Cat. No. 2168 (K001115356, Isoepitypes K001115357, K001115358 images!).

Note: I first discovered that *Acrostichum terminans* Wall. is actually a valid name (not *nomen nudum*) having priority over currently used name *Bolbitis subcrenatoides* Fraser-Jenk., a fern endemic in South India

(Hennipman, 1977). Gandhi & Fraser-Jenkins (2015) published the combination *Bolbitis terminans* (Wall.) Gandhi & Fraser-Jenk. without my consent. Wallich (1830) in the protologue mentioned “Reed. Mal. XII t. 19” and directly provided reference to Rhede tot Drakestein’s (1703) pre-Linnaean name “Panna Mara-Maravara” which was published with description and illustration and *Acrostichum terminans* is a legitimate name (McNeill et al., 2012, Art. 38.1)

Hennipman (1977) cited “*Acrostichum terminans* Wall., Cat. (1830) no. 2168, nom. nud. Type: Wallich 2168 (Wight leg.), South India, Courtallum (K, herb. Wallich; iso in K, herb. Hooker).” Gandhi & Fraser-Jenkins (2015) accepted Hennipman’s type citation as valid lectotypification (McNeill et al. 2012, Art. 7.10).

However, as this name is solely validated by description and illustration published by Rhede tot Drakestein in “*Hortus Indicus Malabaricus*” (1703: 39, t. 19) those are ‘original material’ (McNeill et al. 2012, Art. 9.3, Note 3) and a Wallich specimen is not acceptable as lectotype. Following McNeill et al. (2012, Art. 7.7, Ex. 9), I select “t. 19” from *Hortus Indicus Malabaricus* as lectotype and Wallich specimen (Catalogue no. 2168) in Herb. Wallich from K as epitype.

Since difference between *Bolbitis terminans* and *Bolbitis subcrenata* (Hook. & Grev.) Ching is too minor, former is treated here as subspecies of the latter.

2.3. *Polypodiodes wattii* (Bedd.) Ching, *Acta Phytotax. Sin.* 16(4): 27. 1978. (Polypodiaceae)

Polypodium niponicum Mett. var. *wattii* Bedd., Journ. of Bot. 235. 1888.

First step lectotype (designated by Rödl-Linder, 1990): *Watt* 5852, Manipur, Koupura, 1300-2000 m alt. (B, P). Second step lectotype (designated here). India. Manipur: Koupura, 1300-2000 m, 1882-2, *G. Watt* 5852 (P00624735, isoelectotypes B200088393, B200088394, P00624736 images!).

Note: Rödl-Linder (1990) mentioned specimens of *Polypodiodes wattii* in P and B as isotypes; and thus performed first step lectotypification. Here it is further reduced to single specimen.

2.4. *Christiopteris tricuspis* (Hook.) Christ, *J. Bot.* 21: 273. 1908. (Polypodiaceae)

Acrostichum tricuspe Hook., Sp. Fil. 5. 272 t. 304. 1864.

First step lectotype (designated by Hovenkamp, 1998): *Atkinson s.n.* (K). Second step lectotype (designated here): India, Sikkim, *W. Atkinson s.n.* (K000959645, isoelectotype K000959644 images!).

Note: Hovenkamp (1998) mentioned Atkinson specimen at K as type that he did not see. From two specimens at K, K000959645 is selected as second step lectotype that better depict features of this species.

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