Nomenclatural changes in Indian ferns

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Abstract: *Based on morphological and phylogenetic data nomenclatural changes are suggested for Amphineuron immersum, Thelypteris tenera, Cyclosorus procerus (Thelypteridaceae) and Vittaria microlepis (Pteridaceae). Lectotype is selected for Vittaria microlepis.*

Key words: *fern, India, lectotype, new combination, Pteridaceae, Thelypteridaceae.*

1. Introduction

Accumulation of new research data necessitates changes of nomenclature of Indian ferns for better reflection of their phylogenetic relationships. Here nomenclatures changes are made for three species of Thelypteridaceae and one species of Pteridaceae.

2. New combinations

2.1. Thelypteridaceae

Generic concept of Thelypteridaceae has undergone drastic changes, varied from single genus to 32 genera globally. Single large genus *Thelypteris* Schmidel s.l. and five-genus concept of Smith (1990) are no longer acceptable (He & Zhang, 2012; PPG I, 2016). Holttum's (1982) multi-genus concept based on careful study of morphology is acceptable and stable. Following this concept three nomenclatural changes are made for Indian species.

Nomenclature Committee for Vascular Plants recommended "*Amphineuron* Holttum, Blumea 19: 45 (1971), Thelypteridaceae, fern", as a later homonym of "*Amphineurion* (A. DC.) Pichon, Bull. Soc. Bot. France 95: 215 (1948), Apocynaceae, angiosperm" (Brummit, 2007). Roux (2009) erected the genus *Amblovenatum* J.P.Roux replacing *Amphineuron* nom. illeg.

2.1.1. *Amblovenatum immersum* (Blume) Mazumdar *comb. nov.*

Aspidium immersum Blume, Enum. Pl. Javae 2: 156. 1828. *Amphineuron immersum* (Blume) Holttum, in B.K.Nayar & S.Kaur, Companion Beddome's Handb. Ferns Brit. India 203. 1974. *Cyclosorus immersus* (Blume) S. Linds., Edinburgh J. Bot. 66(2): 359. 2009. Type: Indonesia. *C.L. Blume s.n.* (L not seen, K000548430 image!).

2.1.2. *Trigonospora tenera* (Roxb.) Mazumdar *comb. nov.*

Polypodium tenerum Roxb., Calcutta J. Nat. Hist. 4: 490. 1844. *Thelypteris tenera* (Roxb.) C.V.Morton ex Fraser-Jenk., Taxon. Revis. Indian Subcontinental Pteridophytes 418. 2008. Neotype (designated by Fraser-Jenkins, 2008): Bangladesh. Chittagong: *J. Schott s.n.*, ex Herb. Beddome (BM001044536 image!).

2.1.3. *Christella procera* (D.Don) Mazumdar *comb. nov.*

Nephrodium procerum D.Don Prodr. Fl. Nepal. 6. 1825. [26 Jan-1 Feb 1825]. *Thelypteris procera* (D.Don) Fraser-Jenk., Taxon. Revis. Indian Subcontinental Pteridophytes 183. 2008 [27 Nov 2008]. *Cyclosorus procerus* (D.Don) S.Linds. & D.J.Middleton, Nordic J. Bot. 30(3): 308. 2012 [20 Jun 2012]. Lectotype (designated by Fraser-Jenkins, 2008): Nepal. 1819, *N. Wallich* (BM not seen).

2.2. Pteridaceae

Crane et al. (1995) and Crane (1997) separated *Haplopteris* C.Presl from *Vittaria* Sm. (s.l.) as natural group distinguishable by funnel-shaped paraphyses and distichous phyllotaxy (Zhang, 2003) and this treatment is widely accepted (see Smith et al. 2006, 2008; Christenhusz et al., 2011; Christenhusz & Chase, 2014; PPG I, 2016). *Vittaria*

microlepis Hieron., an endemic species in Sri Lanka (Sledge, 1982) and South India (Manickam, 1995) is formally transferred to *Haplopteris*.

From the syntypes stated in the protologue by Hieronymus (1915) specimen at B (original material) is selected as lectotype.

2.2.1. *Haplopteris microlepis* (Hieron.) Mazumdar *comb. nov.*

Vittaria microlepis Hieron., Hedwigia 57. 202. 1915. Lectotype (designated here): Sri Lanka ["Ceylon"], *Walker 119*, Herb. G. Mettenius com. Meissner (B200085396 Image!).

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