

NOMENCLATRURAL CHANGES IN THE PTERIDOPHYTIC FLORA OF UPPER GANGETIC PLAIN

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Abstract: This papers deals with the nomenclatural changes of some ferns and fern-allies in the *Pteridophytic Flora of Upper Gangetic Plain*.

Key words: Nomenclature, Pteridophytic Flora, Upper Gangetic Plain.

INTRODUCTION

N.P.Chowdhury published an account of the *Pteridophytic Flora of the Upper Gangetic Plain* in 1973 and described about 72 species of mostly tropical ferns and fern allies spread over nearly 27 genera and 18 families occurring up to 2500ft. The flora included the detailed description of families, genera and species along with keys to the genera and species with their ecology and distribution in India and the world. The entire work was based on the study of herbarium specimens deposited in the Indian herbaria by the earlier workers from the Upper Gangetic Plain. Some excellent black and white photographs of some species of *Psilotum* Sw., *Equisetum* L., *Selaginella* P.Beauv., *Isoetes* L. and *Marsilea* L. have also been provided. Overall, this flora contains all relevant information related to the genera and species and still stands a useful reference flora for the identification of the ferns and fern- allies of the Upper Gangetic Plain in India.

Nomenclature used by him in his flora was quite relevant at the time of its publication. But in recent years, the nomenclature and taxonomy of ferns and fern-allies have undergone radical changes. Therefore, the nomenclature of some of them have become outdated due to recent taxonomic researches all over the world. This flora may still be found useful, if the nomenclature of some the species is corrected and updated. Therefore an attempt has been made here to provide the correct nomenclature of only those species whose names have undergone nomenclatural changes in recent years. However the nomenclature of remainder species still remains unchanged.

The nomenclatural changes recorded in this are based on published literature as well as our own studies (Dixit 1984; Khullar 1994, 2000; Chandra 2000 and others). The various species included in this paper are listed strictly in the order as they were published in the *Pteridophytic Flora of the Upper Gangetic Plain*. The name used in this flora is given in italics along with family name as used by him without any original citation and it is followed by the modern correct name printed in bold letters along with original citation, followed by basionym, if any, under each

species, which is given in italics and no synonyms are given. However, in few cases, particularly in family Polypodiaceae and Thelypteridaceae, one more synonym has been provided as sometimes they are being used a valid name by some authors. However, no comments on the taxonomy of these ferns and fern-allies have been discussed at present and this paper simply aims to provide correct validly published names against the those incorrectly published names which are not accepted by modern pteridologists during these days and this has been done in order to bring the nomenclature of these species up to date in the *Pteridophytic Flora of Upper Gangetic Plain*.

DESCRIPTION

Family: Equisetaceae

Equisetum diffusum D.Don var. *pseudoarvense* Eaton
Equisetum diffusum D.Don, Prodr. Fl. Nepal.:19(1824)

Equisetum diffusum D.Don var. *ramosum* Milde
Equisetum diffusum D.Don, Prodr. Fl. Nepal.:19(1824)

Equisetum maximum Lam.
Equisetum diffusum D.Don, Prodr. Fl. Nepal.:19(1824).

Equisetum debile Roxb. ex Vaucher
Equisetum ramosissimum Desf., Fl. Atlant. 2:398(1800).

Equisetum debile Roxb. ex Vaucher var. *nudum* Milde
Equisetum ramosissimum Desf., Fl. Atlant. 2:398(1800).

Note: *E. diffusum* var. *pseudoarvense*, *E. diffusum* var. *ramosum*, *E. maximum*, *E. debile* var. *nudum* have been mistakenly reported by Chowdhury(1973). These species and varieties do not occur in Indian territory at present. Therefore, their equivalent correct names have been provided above as *E. diffusum* and *E. ramosissimum* (two commonly and abundantly growing species in India).

Family: Lygodiaceae

Lygodium pinnatifidum Sw.
Lygodium salicifolium C.Presl., Suppl. Tent. Pterid.:102 (1845).

Lygodium scandens (L.) Sw.

Lygodium microphyllum (Cav.) R.Br., Prodr. Fl. Nov. Holl.:162(1810). *Ugenia microphylla* Cav., Icon. Descr. 6(2):76. t. 595. f. 2(1801).

Family: Marsileaceae

Marsilea minuta L. var. *minuta*

Marsilea minuta L., Mant. Pl.:308 (1771).

Marsilea minuta L. var. *major* Haines

Marsilea minuta L., Mant. Pl.:308 (1771)

Marsilea major (Haines) N.P.Chowdhury

Marsilea minuta L., Mant. Pl.:308 (1771)

Family: Salviniaceae

Salvinia natans Hoffm.

Salvinia molesta Mitch., Brit. Fern Gaz.10:251(1972).

Family: Azollaceae

Azolla pinnata R.Br.

Azolla pinnata R.Br. subsp. *asiatica* R.M.K. Saunders & K. Fowler, Bot. J. Linn. Soc. **109** (3): 349 (1992).

Family: Adiantaceae

Pteris longifolia L.

Pteris vittata L., Sp. Pl.2:1074 (1753).

Cheilanthes farinosa Kaulf.

Cheilanthes bicolor (Roxb.in Griff.) Griff. ex Fras.-Jenk., Pakistan Syst.5(1-2):94(1991). *Pteris bicolor* Roxb. in Griff., Calc. J. Nat. Hist. 4:507(1814).

Cheilanthes farinosa Kaulf. var. *albomarginata* (Clarke)C.Chr.

Cheilanthes albomarginata C.B.Clarke, Trans. Linn. Sc. Lond.II (Bot.)1:456.t.52(1880).

Cheilanthes farinosa Kaulf. var. *anceps* (Blanf.)C.Chr.

Cheilanthes anceps Blanf., J. Simla Nat. Hist.:25(1886).

Actiniopteris australis (L.f.) Link

Actiniopteris radiata (Sw.) Link, Fil. Sp.: 80(1841).

Asplenium radiatum Sw. in Schrad., J. Bot. 1800(2): 50 (1801).

Onychium multisectum Henders.

Onychium cryptogrammoides Christ in Lecomte Not. Syst.1:52(1911). *Onychium multisectum* (C.B.Clarke) Panigrahi & S. Singh, Ferns & Fern-Allies Arunachal Pradesh 1: 622 (2005).

Adiantum caudatum L.

Adiantum incisum Forssk., Fl. Aegypt.-Arab.:187(1775).

Family: Aspleniaceae

Ceterach dalhousiae (Hook.)C.Chr.

Asplenium dalhousiae Hook., Icon. Fil.:t.105(1837).

Family: Aspidiaceae

Polystichum aculeatum (L.) Schott

Polystichum discretum (D.Don) J.Smith, J. Bot. 3: 413(1841). *Aspidium discretum* D.Don, Prodr. Fl. Nepal.:4(1824).

Dryopteris subpubescens (Bl.)C.Chr.

Thelypteris subpubescens (Blume) K. Iwats., Mem. Coll. Sci. Univ. Kyoto B31 (3): 173 (1965). *Dryopteris subpubescens* Bl., Enum. Pl. Jav.: 149 (1828). *Christella subpubescens* (Blume) Holttum, Webbia 30: 193 (1976).

Dryopteris molliuscula (Wall.)C.Chr.

Thelypteris molliuscula (Kuhn) K.Iwats. in Hara, Fl. Eastern Him.: 484(1966). *Aspidium molliusculum* Kuhn, Bot. Zeit. 1868:41(1868). *Christella molliuscula* (Kuhn) Holttum in Nayar & Kaur, Companion to Beddome's Handb. Ferns Bri.India:205(1974).

Dryopteris arida (D.Don) Ktze.

Thelypteris arida (D.Don) C.V.Morton, Amer. Fern J. 49:113(1959). *Aspidium aridum* D.Don, Prodr. Fl. Nepal.:4(1824). *Christella arida* (D.Don) Holttum in Nayar & Kaur, Companion to Beddome's Handb.Ferns Brit. India: 206(1974).

Dryopteris maximum (Haines) Raizada & Chowdhury

Thelypteris arida (D.Don) C.V.Morton, Amer. Fern J. 49:113(1959). *Aspidium aridum* D. Don, Prodr. Fl. Nepal.:4(1824). *Christella arida* (D.Don) Holttum in Nayar & Kaur, Companion to Beddome's Handb. Ferns Brit. India: 206 (1974).

Dryopteris papilio (Hope)C.Chr.

Thelypteris papilio (C.Hope) K.Iwats., Mem. Coll. Sci. Univ. Kyoto (Bot.) 31:175(1966). *Nephrodium papilio* C.Hope, J. Bombay Nat. Hist. Soc.12: 625 (1899);14: 747(1903). *Christella papilio* (C.Hope) Holttum in Nayar & Kaur, Companion to Beddome's Handb. Ferns Brit. India: 208(1974).

Dropteris moulmeinsis (Bedd.)C.Chr.

Thelypteris nudata (Roxb. in Griff.) C.V.Morton, Contrib. U.S. Nat. Herb 38:352(1974). *Polypodium nudatum* Roxb. in Griff., Calc. J. Nat. Hist. 4:491(1844). *Pronephrum nudatum* (Roxb.in Griff.) Holttum, Blumea 20:111(1972).

Dryopteris calcarata (Bl.) O.Ktze.

Thelypteris calcarata (Blume) Ching, Bull. Fan Mem. Inst. Biol. (Bot.) 6:288 (1936). *Aspidium calcaratum* Blume,Enum. Pl.Jav.:159(1828). *Trigonospora calcarata* (Bl.) Holttum, Reinwardtia 8: 506 (1974).

Dryopteris crenata (Forssk.)O.Ktze.

Hypodematium crenatum (Forssk.) Kuhn in Deck., Reis. Bot. 3:37(1879) subsp. *crenatum*. *Polypodium crenatum* Forssk., Fl.Aegypt. Arab.:185(1775).

Dryopteris repens (Hope) C.Chr.

Thelypteris molliuscula (Kuhn) K.Iwats. in Hara Fl. Eastern Him.:484(1966). *Aspidium molliusculum* Kuhn, Bot. Zeit. 1868:41(1868). *Pseudocyclosorus canus* (Baker)

Holtum & Grimes, Kew Bull. 34:509(1979). *Nephrodium canum* Baker, Syn. Fil.: 267 (1867).

Tectaria macrodonta (Fée)C.Chr.

Tectaria coadunata (Wall. ex J.Smith) C.Chr., Contrib. U.S.Nat.Herb.26:331(1933). *Sagenia coadunata* Wall. ex J. Sm. in Hooker, J.Bot. 4:184(1841).

Goniopteris vivipara (Raddi) Brack.

Thelypteris prolifera (Retz.) C.Reed, Phytologia 17:306 (1968). *Hemionitis prolifera* Retz., Obs. Bot. 6:36(1791). *Ampelopteris prolifera* (Retz.) Copel., Gen. Fil.:144(1947).

Family: Polypodiaceae

Polypodium loriforme Wall.

Lepisorus loriformis (Wall.ex Mett.) Ching, Bull.Fan Mem. Inst. Biol. (Bot.) 4:81(1933). *Polypodium loriforme* Wall. ex Mett., Abh. Senck.Naturf. Ges. (Frankfurt) 2:92(1857). *Pleopeltis loriformis* (Wall. ex Mett.) Alston & Bonner, Candollea 15:20891956).

Polypodium nudum (Hook.)O.Ktze.

Lepisorus nudus (Hook.)Ching, Bull. Fan Mem. Inst. Biol. (Bot.) 4:83(1933). *Pleopeltis nuda* Hook., Exot. Pl. 1:t.63(1823). *Polypodium nudum* (Hook.) Kunze, Linnaea 23:281 (1850).

Polypodium ellipticum Thunb.

Colysis elliptica (Thunb.) Ching, Ching, Bull. Fan Mem. Inst. Biol. (Bot.) 4:333(1933). *Polypodium ellipticum* Thunb., Fl. Jap.:335(1784).

Cyclophorus adnascens (Sw.)Desv.

Pyrrosia lanceolata (L.) Farwell, Amer. Midl. Nat. 12: 245 (1931). *Polypodium lanceolatum* L., Sp. Pl. 2:1082 (1753). *Polypodium adnascens* Sw., Syn. Fil.:25, 222 (1806).

Cyclophorus stigmatosus (Sw.)Desv.

Pyrrosia stigmatosa (Sw.)Ching, Bull. Chin. Bot. Soc.1:67(1935). *Polypodium stigmatosum* Sw. in Schrad., J.

Bot. 1800(2):23(1801). *Cyclosorus stigmatosus* (Sw.)C.Chr., Index Fil.:201 (1906).

Cyclophorus flocculosus (D.Don)C.Chr.

Pyrrosia flocculosa (D.Don) Ching, Bull. Chin. Bot. Soc. 1: 66 (1935). *Polypodium flocculosum* D.Don, Prodr. Fl. Nepal.: 1 (1824).

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