

## New combinations for some hybrids in the fern family Thelypteridaceae

Jaideep Mazumdar

*Department of Biological Sciences, Burdwan Town School, Burdwan-713101, India (e-mail: jaideepmazumdar10@gmail.com)*

*Received 5 Aug. 2013, final version received 14 Aug. 2013, accepted 27 Aug. 2013*

Mazumdar, J. 2013: New combinations for some hybrids in the fern family Thelypteridaceae. — *Ann. Bot. Fennici* 50: 398–400.

For the preparation of a revised and updated *Index of Thelypteridaceae* contemporary names for all species and hybrids in the family are essentially required. Following the recent generic concept in Thelypteridaceae new names are proposed for 18 hybrids.

During the revision of *Index of Thelypteridaceae* I noticed that contemporary names for some hybrids in the family are not available. Although hybrids have no floristic significance (Fraser-Jenkins 2008a: 515) their names should reflect their phylogenetic relationships.

At present all the species in Thelypteridaceae are placed under the genera *Cyclosorus*, *Macrothelypteris*, *Phegopteris*, *Pseudophegopteris* and *Thelypteris*, and this treatment is accepted in a recent fern classification (Rothfels *et al.* 2012).

Following the recent generic concept in Thelypteridaceae, 18 nomenclatural changes are proposed below. Data on the distribution and names of the parents of the hybrids are also mentioned. To avoid nomenclatural conflicts and unavailability of recent nomenclatural combinations for parent species of hybrids, old names are maintained and recent names for genera are provided in brackets.

***Cyclosorus* × *dentaridus*** (Fraser-Jenk.) J. Mazumdar, *comb. nova*

*Thelypteris* × *dentarida* Fraser-Jenk., Taxon. Revis. Indian

Subcontinental Pteridophytes: 189. 2008. — HYBRID PARENTAGE: *Thelypteris* (*Cyclosorus*) *dentata* × *Thelypteris* (*Cyclosorus*) *arida*. — DISTRIBUTION: India (West Bengal).

***Cyclosorus* × *erubescirolicus*** (W.C. Shieh & J.L. Tsai) J. Mazumdar, *comb. nova*

*Thelypteris* × *erubescirolica* W.C. Shieh & J.L. Tsai, J. Sci. Engin. (Nation. Chung-Hsing Univ.) 24: 7. 1987. — HYBRID PARENTAGE: *Thelypteris* (*Cyclosorus*) *erubescens* × *Thelypteris* (*Cyclosorus*) *esquirolii*. — DISTRIBUTION: Taiwan.

***Cyclosorus* × *gogoi*** (Fraser-Jenk.) J. Mazumdar, *comb. nova*

*Thelypteris* × *gogoi* Fraser-Jenk., New Sp. Syndr. Indian Pteridol.: 248. 1997. — HYBRID PARENTAGE: *Thelypteris* (*Cyclosorus*) *appendiculoides* × *Thelypteris* (*Cyclosorus*) *triphylla*. — DISTRIBUTION: India (Assam).

***Cyclosorus* × *gorkhalensis*** (Fraser-Jenk.) J. Mazumdar, *comb. nova*

*Thelypteris* × *gorkhalensis* Fraser-Jenk., Taxon. Revis. Indian Subcontinental Pteridophytes 187. 2008. — HYBRID PARENTAGE: *Thelypteris* (*Cyclosorus*) *arida* × *Thelypteris* (*Cyclosorus*) *clarkei*. — DISTRIBUTION: Nepal.

***Cyclosorus* × *holttumianus*** J. Mazumdar, *nom. nov.*

× *Christmatopteris holttumii* Quansah & D. S. Edwards, Kew Bull. 41(4): 805. 1986, *non Cyclosorus holttumii* Sarn. Singh & Panigrahi, Ferns Fern-Allies Arunachal Pradesh 2: 682. 2005. — HYBRID PARENTAGE: *Christella* (*Cyclosorus*) *dentata* × *Pneumatopteris* (*Cyclosorus*) *afra*. — DISTRIBUTION: Ghana, Sierra Leone, Liberia, Nigeria, Cameroun.

***Cyclosorus* × *inexpectatus*** (Fraser-Jenk.) J. Mazumdar, *comb. nova*

*Thelypteris* × *inexpectata* Fraser-Jenk., Taxon. Revis. Indian Subcontinental Pteridophytes 190. 2008. — HYBRID PARENTAGE: *Thelypteris* (*Cyclosorus*) *evoluta* × *Thelypteris* (*Cyclosorus*) *dentata*. — DISTRIBUTION: India (West Bengal).

***Cyclosorus* × *jaculodentatus*** (Fraser-Jenk.) J. Mazumdar, *comb. nova*

*Thelypteris* × *jaculodentata* Fraser-Jenk., Taxon. Revis. Indian Subcontinental Pteridophytes: 189. 2008. — HYBRID PARENTAGE: *Thelypteris* (*Cyclosorus*) *dentata* × *Thelypteris* (*Cyclosorus*) *jaculosa*. — DISTRIBUTION: Nepal.

***Cyclosorus* × *kumaunica*** (Holttum) J. Mazumdar, *comb. nova*

*Christella kumaunica* Holttum, Kew Bull. 31(2): 318. 1976. — *Thelypteris* × *kumaunica* (Holttum) Fraser-Jenk., New Sp. Syndr. Indian Pteridol. 263. 1997. — HYBRID PARENTAGE: *Thelypteris* (*Cyclosorus*) *arida* × probably *Thelypteris* (*Cyclosorus*) *procera* (Fraser-Jenkins 2008a: 594). — DISTRIBUTION: Gorkha Dist, W. C. Nepal (Fraser-Jenkins 2008b), Uttarakhand (Kumaon), India (Chandra *et al.* 2008).

***Cyclosorus* × *lindheimeri*** (C. Chr.) J. Mazumdar, *comb. nova*

*Dryopteris normalis* var. *lindheimeri* C. Chr., Kongel. Danske Vidensk. Selsk. Skr., Naturvidensk. Math. Afd. ser. 7, 10(2): 182. 1913. — *Thelypteris* × *lindheimeri* (C. Chr.) Wherry, Amer. Fern J. 54: 145. 1964. — HYBRID PARENTAGE: *Thelypteris* (*Cyclosorus*) *augescens* × *Thelypteris* (*Cyclosorus*) *normalis*. — DISTRIBUTION: USA (Pennsylvania).

***Cyclosorus* × *linii*** (Fraser-Jenk.) J. Mazumdar, *comb. nova*

*Thelypteris* × *linii* Fraser-Jenk., New Sp. Syndr. Indian Pteridol. 260. 1997. — HYBRID PARENTAGE: *Thelypteris* (*Cyclosorus*) *clarkei* × *Thelypteris* (*Cyclosorus*) *dentata*. — DISTRIBUTION: Nepal.

***Cyclosorus* × *nareshii*** (Fraser-Jenk.) J. Mazumdar, *comb. nova*

*Thelypteris* × *nareshii* Fraser-Jenk., New Sp. Syndr. Indian Pteridol. 322. 1997. — HYBRID PARENTAGE: *Thelypteris* (*Cyclosorus*) *appendiculoides* × *Thelypteris* (*Cyclosorus*) *dentata*. — DISTRIBUTION: Nepal.

***Cyclosorus* × *nepalensis*** (Fraser-Jenk.) J. Mazumdar, *comb. nova*

*Thelypteris* × *nepalensis* Fraser-Jenk., Taxon. Revis. Indian Subcontinental Pteridophytes 188. 2008. — HYBRID PARENTAGE: *Thelypteris* (*Cyclosorus*) *dentata* × *Thelypteris* (*Cyclosorus*) *penangiana*. — DISTRIBUTION: Nepal.

***Cyclosorus* × *papilioides*** (Fraser-Jenk.) J. Mazumdar, *comb. nova*

*Thelypteris* × *papilioides* Fraser-Jenk., Taxon. Revis. Indian Subcontinental Pteridophytes: 191. 2008. — HYBRID PARENTAGE: *Thelypteris* (*Cyclosorus*) *papilio* × *Thelypteris* (*Cyclosorus*) *procera*. — DISTRIBUTION: Nepal.

***Cyclosorus* × *parahispidulus*** (Fraser-Jenk.) J. Mazumdar, *comb. nova*

*Thelypteris* × *parahispidula* Fraser-Jenk., New Sp. Syndr. Indian Pteridol.: 262. 1997. — HYBRID PARENTAGE: *Thelypteris* (*Cyclosorus*) *hispidula* × *Thelypteris* (*Cyclosorus*) *parasitica*. — DISTRIBUTION: Sri Lanka.

***Cyclosorus* × *tabaquitensis*** (Jermy & T.G. Walker) J. Mazumdar, *comb. nova*

*Goniopteris* × *tabaquitensis* Jermy & T.G. Walker, Bull. Brit. Mus. (Nat. Hist.), Bot. 13(2): 264. 1985. — *Thelypteris* × *tabaquitensis* (Jermy & T.G. Walker) C.D. Adams & Baksh.-Com., Fern Gaz. 16(1–2): 75. 2000. — HYBRID PARENTAGE: *Goniopteris* (*Cyclosorus*) *paucijuga* × *Goniopteris* (*Cyclosorus*) *tetragona*. — DISTRIBUTION: Trinidad.

***Cyclosorus* × *varievenulosus*** (Viane) J. Mazumdar, *comb. nova*

*Thelypteris* × *varievenulosa* Viane, Bull. Soc. Roy. Bot. Belgique 118(1): 49. 1985. — *Christella* × *varievenulosa* (Viane) J. P. Roux, Strelitzia 23: 204. 2009. — HYBRID PARENTAGE: *Thelypteris* (*Cyclosorus*) *afra* × *Thelypteris* (*Cyclosorus*) *hispidula*. — DISTRIBUTION: Ivory Coast.

***Cyclosorus* × *wildemanii*** (Christ) J. Mazumdar, *comb. nova*

*Dryopteris wildemanii* Christ, Ann. Mus. Congo Belge, Bot.

sér. 5, 3[1]: 35. 1909. — *Thelypteris* × *wildemanii* (Christ) Viane, Bull. Soc. Roy. Bot. Belgique 118(1): 54. 1985. — *Christella* × *wildemanii* (Christ) J.P. Roux, Strelitzia 23: 204. 2009. — HYBRID PARENTAGE: *Thelypteris* (*Cyclosorus*) *afra* × a member of *Christella* (*Cyclosorus*) sect. *Pelazoneuron* (Viane 1985). — DISTRIBUTION: Zaïre.

***Pseudophegopteris* × *kashmiriana*** (Fraser-Jenk.) J. Mazumdar, *comb. nova*

*Thelypteris* × *kashmiriana* Fraser-Jenk., Taxon. Revis. Indian Subcontinental Pteridophytes: 200. 2008. — HYBRID PARENTAGE: *Thelypteris* (*Pseudophegopteris*) *pyrrhorhachis* subsp. *laterepens* × *Thelypteris* (*Pseudophegopteris*) *levingei*. — DISTRIBUTION: India (Jammu-Kashmir).

## References

- Chandra, S., Fraser-Jenkins, C. R., Kumari, A. & Srivastava, A. 2008: A summary of the status of threatened pteridophytes of India. — *Taiwania* 53: 170–209.
- Fraser-Jenkins, C. R. 2008a: *Taxonomic revision of three hundred Indian subcontinental pteridophytes with a revised census-list* — Bishen Singh Mahendra Pal Singh, Dehra Dun.
- Fraser-Jenkins, C. R. 2008b: Endemics and pseudo-endemics in relation to the distribution patterns of Indian pteridophytes. — *Taiwania* 53: 264–292.
- Rothfels, C. J., Sundue, M. A., Kuo, L.-Y., Larsson, A., Kato, M., Schuettpelz, E. & Pryer, K. M. 2012: A revised family-level classification for eupolypod II ferns (Polypodiidae: Polypodiales). — *Taxon* 61: 515–533.
- Viane, R. L. L. 1985: A new species and a new hybrid of *Thelypteris* (pteridophyta) from the Ivory Coast. — *Bulletin de la Societe Royal Botanique de Belgique* 118: 41–56.