

## SHORT COMMUNICATION

# NEOTYPIFICATION OF *DRYOPTERIS REDACTOPINNATA* (DRYOPTERIDACEAE)

Jaideep Mazumdar<sup>1</sup> and Brijesh Kumar<sup>2</sup>

<sup>1</sup>Department of Biological Sciences, Burdwan Town School, Burdwan-713101, India.

<sup>2</sup>Botanical Survey of India, NRC, 192-Kaulagarh Road, Dehradun-248195, India.

Email: jaideepmazumdar10@gmail.com, brijesh\_bsi@rediffmail.com

### ABSTRACT

Type specimens of *Dryopteris redactopinnata* (Dryopteridaceae) were not located and to fix the application of this name a neotype was selected.

**KEYWORDS:** *Dryopteris redactopinnata*, Dryopteridaceae; neotype; typification; Western Himalayas.

### Introduction

*Dryopteris redactopinnata* Soumen K. Basu & Panigrahi (Dryopteridaceae) is a common terrestrial fern. It prefers shady and moist forests and forms a shuttle-cock like structure at high altitude in Western Himalayas (Khullar, 2000; Joshi *et al.*, 2009). *Dryopteris redactopinnata* was first described by Panigrahi and Basu (1980) based on collection of botanist George Alexander Gammie (1864-1935) (Burkill, 1962) from Kashmir in Western Himalayas.

When we tried to locate type specimens of *Dryopteris redactopinnata*, we came across contradictory information in published literature. Fraser-Jenkins (1989) claimed that all the specimens cited in the protologue, except for the holotype and isotype, belonged to different species that he saw them in Central National Herbarium, Howrah (CAL).

Fraser-Jenkins (2013) claimed "type now hidden at CAL, but photographed previously by the author". Fraser-Jenkins *et al.* (2015: 27) mentioned "The type with its broad brown scales and many fibrils, which I studied in detail and identified in CAL now appears to be lost there." Later Fraser-Jenkins *et al.* (2018)

claimed "The type collection, studied by CRFJ in the 1980s, is now temporarily lost at CAL as it has been taken away without permission to another Indian/Bengali herbarium by an unethical visiting botanist with an interest in the species".

Despite our extensive search in CAL and other herbaria we were unable to locate the type specimens. For nomenclatural stability of this species a neotype is selected from same phytogeographical region, that is, Western Himalayas.

### Neotypification

*Dryopteris redactopinnata* Soumen K. Basu & Panigrahi, Indian J. Forest. 3(3): 270 (-271; figs, 3, 6). 1980 [30 Sep 1980]. Type: India, Kashmir, Gulmarg, 7000ft (2135 m), 21 July 1891, *G.A. Gammie* (Holotype CAL 16268, Isotype CAL 16267 lost). Neotype (designated here): India. Uttarakhand: Chamoli District, Choptahill road, In moist forest, 29.8.1978, *G. Panigrahi & B.M. Wadhwa 65473* (BSD!, Fig. 1).

*Dryopteris tsangpoensis* Ching, Fl. Xizang. 1: 250. 1983. Type: Tibet, Kongbo province, valley above Tse, Tsangpo valley, 10500 ft, 4 June 1938, *F. Ludlow, G. Sherriff & G. Taylor 4650* (PE, BM not seen).

Received 20 December 2018 | Accepted 15 March 2019 | Published online 20 March 2019

Citation: J. Mazumdar and B. Kumar. 2019. *Neotypification of Dryopteris redactopinnata (Dryopteridaceae)*. NeBIO 10(1): 32-34

### Acknowledgements

We are grateful to Dr. P. Singh, Director, Botanical Survey of India, Kolkata and Dr. Kumar Ambrish, Scientist-D & Head of office, BSI, Northern Regional Centre, Dehra Dun for providing necessary facilities.

Copyright © Mazumdar & Kumar. 2019. NECEER, Imphal allows unrestricted use, reproduction, and distribution of this article in any medium by adequate credit to the author(s) and the source of publication.

**NeBIO**, *An International Journal of Environment and Biodiversity*

Official publication of North East Centre for Environmental Education (NECEER), Imphal | ISSN 2278-2281 (Online), 0976-3597 (Print) | www.nebio.in



Figure 1. Neotype of *Dryopteris redactopinnata* Soumen K. Basu & Panigrahi (*G. Panigrahi & B.M. Wadhwa 65473*, BSD). © The Director, Botanical Survey of India.

*Dryopteris pseudofibrillosa* Ching, Fl. Xizang.1: 252. 1983. Type: Tibet, Mainling, 3000 m, *Tibet Medicinal Herb. 3911* (PE00044579, PE00044580 images seen).

*D. redactopinnata* is closely resembles with *D. wallichiana* (Spreng.) Hyl. and *D. xanthomelas* (Christ) C.Ch. But it differs from *D. wallichiana* in having narrow fronds, broader scales on the stipe, scale colour, texture coriaceous, lamina fibrillose, and gradually reduced lower pinnae. While from *D. xanthomelas* it differs in having long fronds and brown scales and with less fibrils.

**Distribution:** INDIA: Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand; WRLD: Bhutan, China, Nepal, Pakistan, Taiwan (Fraser-Jenkins *et al.*, 2018).

**Additional specimens examined:** India. Himachal Pradesh: *B.M. Wadhwa & K.P. Janardhanan 53188* (BSD); Uttarakhand: Garhwal, Bhuna, 3300 m, 4.10.1963, *U.C. Bhattacharyya 30993* (BSD); Uttarakhand: Tehri Garhwal district, on way to Masar Tal, 9.2010, *P. Joshi & B. Kumar* (BSD).

## References

- Burkill, I.H. 1962. Chapters on the History of Botany in India. IV. The Royal Gardens at Kew begin to guide the direction of Botany in India. *Journal of the Bombay Natural History Society* 59(2): 335-359.
- Fraser-Jenkins, C.R. 1989. A monograph of the genus *Dryopteris* (Pteridophyta: Dryopteridaceae) in the Indian subcontinent. *Bulletin of the British Museum (Natural History) Botany* 18: 323–477.
- Fraser-Jenkins, C.R. 2013. Ferns and allies of the Far-West Indo-Himalaya (Afghanistan, Pakistan and Kashmir) and Iran – Revised checklists, classification and phytogeography. *Indian Fern Journal* 30: 161–191.
- Fraser-Jenkins, C.R., Gandhi, K.N. and Kholia, B.S. 2018. *An Annotated Checklist of Indian Pteridophytes, Part-2 (Woodsiaceae to Dryopteridaceae)*. Bishen Singh Mahendra Pal Singh, Dehra Dun.
- Joshi, P., Pande, H.C. and Pande, P.C. 2009. *Ferns of central Himalaya-I (Chamoli and Rudraprayag)*. Bishen Singh Mahendra Pal Singh, Dehra Dun (India).
- Khullar, S.P. 2000. *An illustrated Fern Flora of West Himalaya*, Vol II. International Book distributors, Dehra Dun.
- Panigrahi, G. and Basu, S.K. 1980. Three species of *Dryopteris* Adans. (Aspidiaceae) from India reinterpreted. *Indian Journal of Forestry* 3: 266-271.

