

29. *ATHYRIUM NEPHRODIOIDES* (BAKER) CHRIST (ATHYRIACEAE: PTERIDOPHYTA):
AN ADDITION TO THE FERN FLORA OF INDIA

Dixit (1984) enumerated the total species of ferns and fern-allies of present day political boundary of India, together with their distribution in India and world, and reported 67 families belonging to 191 genera spread over more than 1000 species. Recently, Chandra (2000) further attempted to compile the total ferns of India primarily based on previous records and enumerated 34 families, 144 genera and more than 1100 species from India with a note on their distribution in India and the world. Khullar (2000) has published an illustrated fern flora of the western Himalaya and he too has not mentioned its occurrence in the western Himalaya. It is interesting to note that these authors, together with many others, have not recorded *Athyrium nephrodioides* from India so far. It is being reported for the first time from India and forms an interesting addition to the Indian fern flora.

A brief description, ecology and distribution in India and the world are provided in this paper along with voucher specimens examined by Fraser-Jenkins in India and abroad.

Athyrium nephrodioides (Baker) Christ, Bull. Soc. Bot. Franc. 52, Mem. 1:47 (1905).

Asplenium nephrodioides Baker, J. Bot. Lond. 1887: 170 (1887). *Athyrium tibeticum* Ching in C.Y. Wu Fl. Xizangica 1: 137 (1983). *Athyrium stenopodum* Ching & S.K. Wu in C.Y. Wu Fl. Xizangica 1: 137 (1983).

Rhizome upright, thick, often branching to form a small clump, surrounded by many old, pale, widened stipe bases. Stipe short, bearing somewhat scattered, mid-or reddish-brown, twisted scales, becoming slightly dense at base, terete, but widened and flattened at its base, stipe and rachis pale or stramineous. Fronds \pm delicate, bipinnatifid. Lamina narrowly lanceolate with an acuminate apex and tapering markedly to an attenuated, very narrow base, widest above the middle, herbaceous; pinnae many, \pm short, elongated triangular-lanceolate, or \pm linear, with narrow acute apices, shallowly to deeply pinnatifidly-lobed, the basal acroscopic pinna lobe

often longer than the rest, lowest pinnae becoming \pm distant and slightly reduced; pinna lobes crowded, \pm triangular, unlobed or only very shallowly lobed at the margins, their apices rounded-pointed, bearing short, acute teeth at the margins and particularly at the apex. Sori borne half-way between the pinna-lobe midrib and margin, often becoming confluent when ripe, small, oval or elongated, indusiate; indusia small, thin, soon shrivelling. Spores small, bean-shaped, \pm smooth, with some minute papillae, non-perisporiate.

This species is very close in frond morphology to *Athyrium rupicola* (Edgew. ex Hope) C. Chr., but differs from it in its lamina being more markedly tapering and the pinnae less deeply lobed, with the pinna-lobes hardly lobed and by its non-perisporiate spores.

Ecology: Grows at high altitudes in the main Himalayan ranges between c. 2700 and 3500 m altitudes on steep, rocky slopes, among boulders or screes in open places or among bushes and small shrubs.

Specimens examined: Sikkim (S. S. Bir 2242, 2245, 4998 PAN! & 2254 K!); Kumaon: Pithoragarh district, above Budhi in Kali valley J.F. Duthie, s.n. K!); Arunachal Pradesh (Tawang, Kameng), A.K. Baishya 90493 Assam!). All det. by Fraser-Jenkins.

Distribution: INDIA (Uttaranchal, Sikkim, Arunachal Pradesh), E. Nepal, Bhutan, Myanmar, S.E. Tibet, S.W. and C. China (Yunnan, Szechuan, Hupeh and Kansu).

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30. *DEPARIA ACUTA* (CHING) FRAS.-JENK. (ATHYRIACEAE: PTERIDOPHYTA):
A NEW RECORD FOR KUMAON HIMALAYA

While compiling the pteridophytic flora of Uttaranchal, a few specimens of the genus *Deparia* Hook. & Grev. (Athyriaceae) were collected from Pindari glacier areas in Kumaon Himalaya and these specimens were lying with some

common species of *Deparia* in our Herbarium. After a detailed study of these specimens, they turned out to be *Deparia acuta* (Ching) Fras.-Jenk. This tentative identification was later confirmed by Fraser-Jenkins. A perusal of recently



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