ASPLENIUM × GERMANICUM AUCT., A FERN HYBRID, RARE IN INDIA

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ABSTRACT

Asplenium × germanicum auct., a rare and little known taxon in Indian flora, is reported from Kashmir and described as there is no standard description available in the published form.

Asplenium × germanicum auct., a hybrid of the putative parents Asplenium septentrionale (L.) Hoffm. and A. trichomanes L., was first described as a species, A. germanicum by Weis from Germany in 1770 (Pl. Crypt. Fl. Gott., 299). Subsequently it is reported by others from different parts of Europe (Janchen, 1963; Defilipps, 1972; Diels, 1902; Crabbe et al., 1964; Henderson, 1965; Tosco, 1973), where both the parents occur in close association. Though its hybrid nature was first recognised by Murbeck in 1892, the taxon continued to be recorded for long as A. germanicum (Christensen, 1906, 1933; Heilbronn, 1910; Fomin, 1934). A. breynii Retz. or A. alternifolium Wulf (Koch, 1857), and sometimes confused with A. heufleri Reich. From India Beddome (1892) reported it from Kashmir, followed by Hope (1900) from Kishenganga Valley (Kashmir) and Stewart (no date, but before Hope's collection—vide Hope, 1900) from Ravi and Chenab basin, Chamba, Punjab. Hope believed that the taxon was very rare in Kashmir Valley and its occurrence was sometimes recorded on information only. Stewart (1945) who collected it from Pahalgam, Kashmir recorded it as "one of the rarest of Kashmir plants." Ever since Stewart the taxon has not been collected from anywhere in India.

In 1983 we collected a few specimens of Asplenium × germanicum from Tulian Lake base, ca 12 Km., north-east of Pahalgam; both the putative parents A. septentrionale and A. trichomanes are also abundant in the area. In view of its rarity and since no detailed description is available in literature, the taxon is described here. The specimens are deposited in Calcutta Herbarium (CAL).

Asplenium × germanicum auct. Crabbe,


Plants forming small scattered dark brown or reddish black patches on crest of boulders. Rhizome short, thick apparently formed by the remains of old stipites scarcely palaecaceous, densely rooting. Stipe densely tufted, rusty-red to blackish at base, dull greenish above, 8-14 cm long, slender. Root fibrous, long and branched, rusty

Plate I: Figs. 1-4: 1. Asplenium trichomanes: spore in distal view showing perine foldings. 2. A. septentrionale: spore in distal view. 3-4. A. × germanicum (hybrid): 3, spore in proximal view showing aperture and surface. 4, spore in optical cross section showing exine and perine folds. Magnification: ×1000.
brown. Leaves coriaceous to subcoriaceous, dull green, sub-bipinnate in the basal half but simply pinnate upwards. Pinnae 7-10 × 2-5 mm, oblong to oblanceolate, loose, alternate, pointing upwards, short-perioloed, apex rounded, irregularly lobed or segmented, segment cuneiform to linear cuneiform; veins obscure, sub-paraleil. Sori linear, 2-3 in each pinna, when mature covering the whole breadth but falling short of the base of the pinnae, indusia covered by a flap having margin entire (Figs. 1, 2 & 3). Spore plano-convex (lat.), ovate-oblong (polar); size, 29 × 43 × 31 μ. Exine deep brown in colour, 2 μ thick; perine highly wrinkled into irregular folds and spinulose, perine protruding about 4 μ from exine surface. The spores are similar to those of the parents in size and ornamentation. Most of the sporangia of the hybrid are sterile, very few are detected having spores (Plate 1: figs. 1, 2, 3 & 4).

Habitat: Growing in the crest of rock boulders in exposed areas.


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