Lal Ji SINGHA, Brijesh KUMARB, Bhupendra Singh KHOLIAB,*, and Pushpesh JOSHIB: Diplazium proliferum: An Addition to the Indian Pteridophytic Flora from Little Andaman

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Summary: A double sorus lady fern Diplazium proliferum (Lam.) Thouars is reported here as an addition to the Indian pteridophytic flora from Little Andaman (Andaman & Nicobar Islands). A brief note on its taxonomy and distribution is presented along with its diagnostic characters for easy identification.

The Athyrioid fern genus Diplazium Sw. is represented by about 400 species (Kato 1977, 1990) mainly growing in tropical and subtropical rain forest, however, a few species also extended to the temperate and subalpine regions of the Himalayas and cold climate of Eurasia. Taxonomically the genus is very complex and poorly understood. The characters of distinction and taxonomic delimitation between Diplazium and related genera (Diplazium Sw., Deparia Hook. & Grev., Allantodia R. Br., Diplaziopsis C. Chr., Callipteris Bory, Dictyodroma Ching, Hemidictyum C. Presl., Cornopteris Nakai etc.) are well characterized (Kato 1977, Praptosuwiryo et al. 2007). The recent molecular studies (Liu et al. 2011, Rothfels et al. 2012) are also applied to understand the generic concept of Diplazium and allied genera. The majority of the taxa of the genus Diplazium are distributed in Malesian countries where about 300 species are thought to occur (Roos 1995, Praptosuwiryo et al. 2007). Hence, it is postulated here that Southeast Asia is one of the centers of diversification for Diplazium. Recently, Fraser-Jenkins (2008) scrutinized the Indian species of Diplazium and enumerated 40 taxa from India. During the plant collection tour to Little Andaman of the Andaman and Nicobar Islands in April 2012, a few interesting plants of Diplazium were collected by one of the author (LJS) from Little Andaman. Voucher specimens are housed at Herbarium Botanical Survey of India, Andaman & Nicobar Regional Centre (PBL). The living material was also collected for ex-situ conservation in Dhanikhari Experimental Garden of Botanical Survey of India, Andaman and Nicobar Regional Center near Port Blair, Andaman, also exhibits the same sub-terminal rooting bud. On scrutiny of the literature and critical examination the identity of plant was confirmed as Diplazium proliferum (Lam.) Thouars, hitherto unreported from Indian Territory by previous workers (Beddome 1883, Kurz 1870, 1876, Prain 1891, Balakrishnan 1980, 1982, Chakraborty 1983, Parkinson 1923, Nayar and Kaur 1974, Dixit 1984, Chandra 2000, Ellis 1987, Dixit and Sinha 2001). Hence, this collection is found to be an addition to the pteridophytic flora of India and reported here.

Taxonomic treatment

Diplazium proliferum (Lam.) Thouars, Esquisse Fl. Tristan D’Acugna 35 (1808).

Asplenium proliferum Lam., Encycl. 2: 307 (1786).

Callipteris prolifera (Lam.) Bory, Voy. Iles Afrique 1: 283 (1804).

Athyrium accedens (Blume) Milde, Bot. Zeit. 353 (1870).


Rhizome erect, arborescent or sub-arborescent, scaly at apex; stipe 30–70 cm long, dull brown, scaly when young, glabrous and smooth on ageing, sometimes with short protuberances near base; frond tufted on rhizome, oblong-lanceolate, 80–130 cm long, glabrous, simple pinnate; pinnae 10–15 pairs, sessile, lanceolate, 30–50 × 15–20 cm, truncate at base, apex acute, broadly shallowly lobed down the edges or sometimes toothed, often bulbiferous in their axile towards the terminal part, bulbils scaly at base; rachises and costae glabrous; veins 6–9 pairs, spreading or erectopatent, parallel, distinct, distant from costa, basal veinlets of adjacent lobes anastomosing and producing series of costal areoles; sori linear, along the veinlets, often throughout their length, indusiate, indusia linear, persistent (Fig. 1).

In Asia Diplazium proliferum is separated as an independent species “D. accedens Blume” by some researchers (Holttum 1954, Piggott and Piggott 1988). In the present communication following Copeland (1947) authors synonymized D. accedens under D. proliferum. This treatment is also accepted in Tropicos (http://www.tropicos.org) and Plant List (http://www.theplantlist.org).


Ecology and habitat: A mesophyte or lithophyte. Prefers shady and humid places or grows near streams.

Distribution: Africa, Mauritius & Rodriguez, Malaysia, Indonesia, Peninsular Thailand, the Philippines, Polynesia to Queensland, Spread through the tropics of the old world.

Notes: In general appearance the plant is similar to juvenile or once-pinnate precociously fertile forms of the vegetable fern Diplazium esculentum (Retz.) Sw. but with many sub-terminal rooting gemmae on rachis are characteristic feature of this species. However, the mature fertile fronds of Diplazium esculentum are 2-pinnate and without rachis gemmae. These rooting buds also give the appearance of the common thelypteroid fern Ampelopteris prolifera (Retz.) Copel. [= Thelypteris prolifera (Retz.) C. F. Reed]. Hence due to these similarities it is often overlooked by taxonomists. A nomenclatural note on this species is also given by Holttum (1955). The occurrence of this species in Africa in west, Sri Lanka, Malaysia, Indonesia, Thailand, Philippines and pacific islands in Oceania (Baker 1877, Johns 1991) also strengthen that the Andaman and Nicobar Islands are within the normal ranges of its distribution.

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References
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