

Full Length Article

***Nephrolepis undulate*: a new distributional record of Western Ghats, India**

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ABSTRACT

The genus *Nephrolepis* Schott was studied from Maharashtra. A *Nephrolepis undulate* (Afzel.) J. Sm. was collected from Western Ghats of Maharashtra and reported as a new record for Western Ghats, India. Its description, photographs and identification key was given.

Key words: *Nephrolepis undulate*, sword fern, epiphytes, AOO.

INTRODUCTION

The genus *Nephrolepis* is commonly known as “sword fern” having ca. 30 species evergreen or semi-evergreen, either terrestrial or epiphytic species, distributed in tropical to subtropical regions around the world (Mickel and Beitel, 1988). In India 08 species had been listed by Dixit (1984). However, the nomenclature, identity and distribution of each species is still to be confirmed (Manickum and Irudayaraj, 1992). Fraser – Jenkins (2008) listed 6 species, excluding several cultivars, some of which are occasionally adventive in India. However, the Maharashtra has 2 species viz. *N. cordifolia* (L.) Presl. and *N. exaltata* (L.) Schott (Naik 2006). During present survey 3 species were collected and described. Out of these two species viz. *N. cordifolia* (L.) Presl. and *N. exaltata* (L.) Schott was cultivated under the gardens in the Kolhapur, Malvan, Panhala, Ratnagiri, Radhanagiri, Mahabaleshwar and Patan whereas one *N. undulate* (Afzel.) J.Sm., was epiphytic on the angiosperms viz. *Ficus benghalensis*, *Mangifera Indica*, *Terminalia* sp. and *Anacardium occidentale*.

TAXONOMY DESCRIPTION

Key to Species:

1a. Plant terrestrial 2

1b. Plant epiphytic ***N. undulata***
2a. Plants bearing tubers; veins usually once forked
N. cordifolia
2b. Plants without tubers; veins usually forked
twice ***N. exaltata***

Nephrolepis undulata (Afzel.) J.Sm., Bot. Mag. 72: 35 (1845); *Aspidium undulatum* Afzel in Sw., Schrader J. Bot. 1800: 32 (1801). *Nephrolepis tuberosa* (Bory) C.Presl var. *undulata* (Afzel) Kuhn, Filic. Afr.: 156 (1868). *Nephrolepis cordifolia* (L.) C.Presl var. *undulata* (Afzel) C.Chr., Index Fil. 453, 455 (1906). *Nephrolepis delicatula* (Decne.) Pic.-Serm., Webbia 23: 181 (1968). *Nephrodium delicatulum* Decne. in Jacquem., Voy. Inde 4: 178, t. 179 (1844).

Plant epiphyte or lithophyte; rhizome short, erect, scaly, bearing wiry slender roots and stolons and tubers; scales 1 – 2 mm broad, pale brown, soft membranous; frond 20 – 40 cm long, 4 – 6 cm broad, unipinnate; stipes 05 - 10 cm long, stramineous, scaly; laminae 10 – 20 cm long, 4 – 6 cm broad, linear-lanceolate, pinnate; rachis green, grooved on upper surface, minutely scaly above; pinnae 30 – 50 pairs, 2 – 3 cm long, 0.3 – 0.5 mm broad, middle ones larger, gradually narrowing from base to acute apex, falcate near apex,

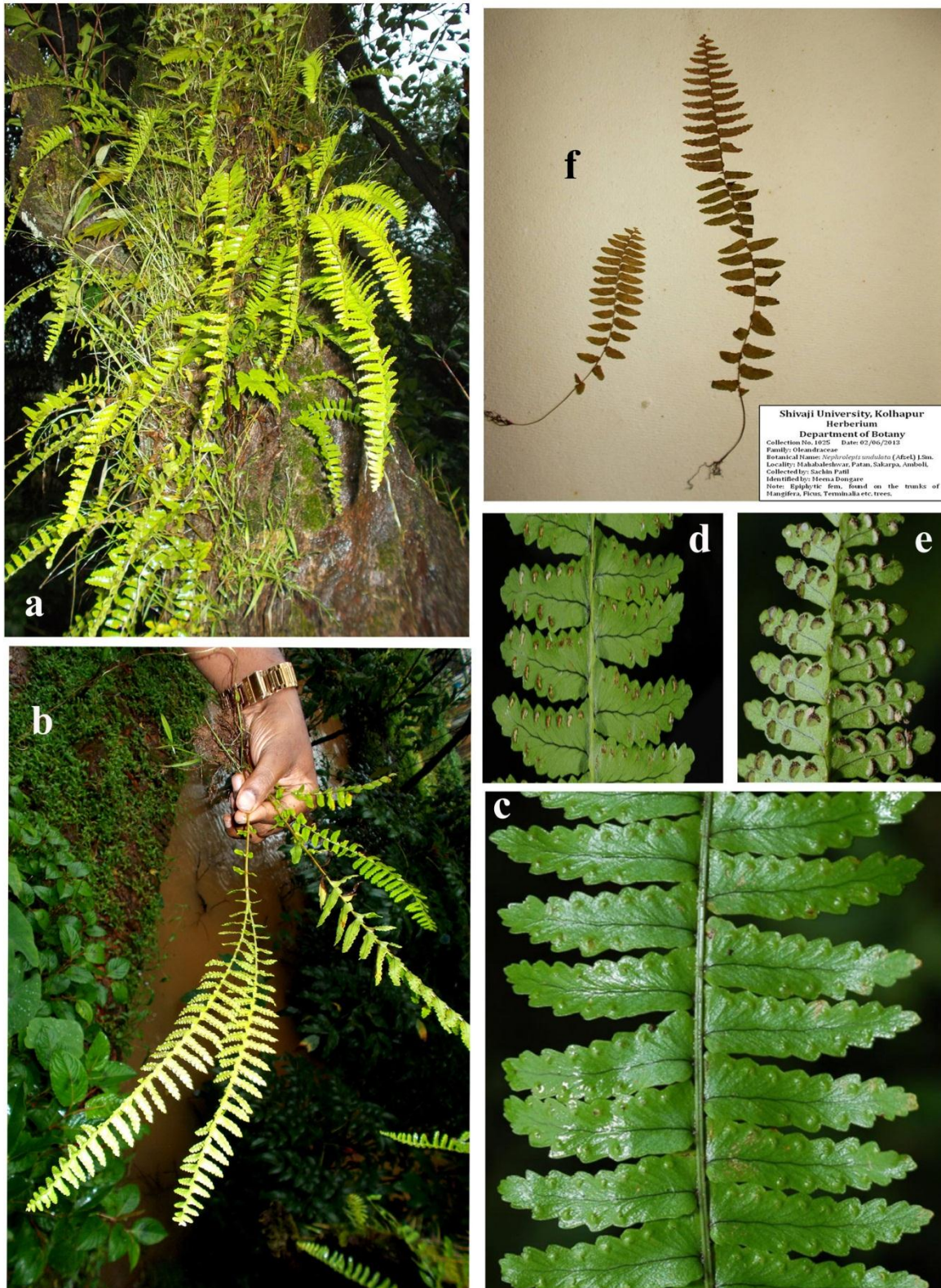


Fig. 1 a & b: Habit of *Nephrolepis undulata* (Afzel.) J. Sm., c: enlarged pinnae, d & e: pinnae with sori, f: Herbarium specimen

dimidiate at lower base, distinctly auricled and embracing the rachis at anterior base, crenate at margin, herbaceous; *veins* forked; *sori* submarginal, arranged in one row; *indusia* 1.3 mm broad, broadly reniform.

DISTRIBUTION: World – India, China, Thailand, Mexico, Costa Rica, Panama, Colombia, Venezuela, Ecuador, Galapagos, Zambia, Zimbabwe, Madagascar, Uganda, Kenya, Tanzania, Senegal, Guinea, Ghana, Nigeria, Cameroon, Angola, Burundi, Ethiopia, Sudan.

India – Maharashtra, Karnataka, Kerala, Tamil Nadu.

Maharashtra – Satara, Kolhapur, Sindhudurg, Ratnagiri.

PHENOLOGY: *Reproductive phase* August-September.

CONSERVATION STATUS. *Nephrolepis undulata* is constrained to the ghats sections of Satara, Ratnagiri, Sindhudurg and Kolhapur districts in Maharashtra state, India. A population of about only 40 – 50 individuals was found at each locality. The area of occupancy (AOO) is 15 km². However, in future it may be incidental that there may be

declining in its area of occupancy and population. Hence it is considered as threatened species (IUCN 2001).

ECOLOGY: Epiphytic on angiospermic plants viz. *Ficus*, *Mangifera*, *Terminalia* and *Anacardium* species.

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How to Cite this Article:

Sachin Patil and Meena Dongare, 2014. *Nephrolepis undulate*: a new distributional record of Western Ghats, India. *Biosci. Disc.*, 5(1):82-84.