
***Cheilanthes Bicolor* (Roxb.) Fraser Jenkins (Sinopteridaceae - Pteridophyta): A New Record to the Fern Flora of Uttar Pradesh**

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Abstract: *The genus Cheilanthes Swartz is a tropical and warm temperate genus. Cheilanthes bicolor is reported from many places in India and the present collection from Dudhwa National park is the first report of this species from Uttar Pradesh.*

Keywords: *New record, Sinopteridaceae, Cheilanthes bicolor, Uttar Pradesh*

1. INTRODUCTION

The genus *Cheilanthes* Swartz is a tropical and warm temperate genus. The genus *Cheilanthes* is with about 180 to 200 species worldwide (Jamir & Rao, 1988; Gurung, 1986, Nayer, 1962). About 26 species are found in India (Dixit, 1984) and about 13 species from Kumaon (Pande & Pande, 2003). *Cheilanthes bicolor* is a common fern present throughout India. In India it is reported from several localities like Sikkim, Darjeeling hills, Arunachal Pradesh, South and Central India - Rajasthan and Madhya Pradesh (Chandra, 2000; Khullar, 1994). The present collection of *Cheilanthes bicolor* from the Dudhwa National park is first time for Uttar Pradesh and hence is the new record for the flora of Uttar Pradesh. The study area Uttar Pradesh is at the foot hills of the Himalayas bounded by Nepal on the North, Uttarakhand on the North-East, Himachal Pradesh on the North- West, Haryana on the West, Rajasthan on the South-West, Madhya Pradesh on the South & South-West & Bihar on the East. They are situated between 23°52' N & 31°28'N Latitudes and 77°30'E and 84°39'E Longitude.

2. DESCRIPTION

Rhizome short erect, apex scaly; scales dark brown, bicolorous (central region dark brown, margin pale), lanceolate, margin entire, apex acute. Stipe length variable generally longer than the lamina, (13) -20- 30 cm long, dark brownish – black, thick, diameter 0.1 cm, glossy, scaly, scales generally restricted to stipe base, or running up to some distance on it or on the entire stipe, bicolorous, sometimes nearly concolorous, linear - lanceolate, margin entire, apex acute, deciduous; rachis glossy, glabrous. Lamina 1-2 pinnate, length variable, 9 – 20 cm long, 5 – 10cm broad, deltate lanceolate or lanceolate, pentagonal, or narrow lanceolate, texture sub-coriaceous, lower surface farinose, farina whitish or greenish white, upper surface glabrous; pinnae c 10 pairs, 2-5 cm long, 2.0-3.5 cm broad, alternate, or sub-opposite, sessile, margin lobe to the costa; lobes (or pinnules) 0.8- 1.4 cm long, 0.2-0.3 cm broad, obtuse or acute, forwardly directed, margin deeply lobed to the costa (or lamina 2- pinnate), basiscopic lobes longer than the acroscopic ones, basal basiscopic lobes (or pinnules) divergent, or parallel to the stipe, largest 3.0-4.0 cm long, 0.5-0.8 cm broad, margin lobed ½ or almost to the costule into regular narrow lobes; veins pinnate, 3-4 pairs in each lobe, simple or forked; costae and costules glabrous. Sori indusiate, marginal; indusial light- brown, broad, margin shallowly and irregularly crenate and toothed, continuous and discontinuous. Spores dark brown, 42.0-49.0 x 45.5-52.5µm, globose to tetrahedral, perinate, perine smooth, or finely crenate. The reticulate thickening at the spore margin appears as small flap- like protuberances.

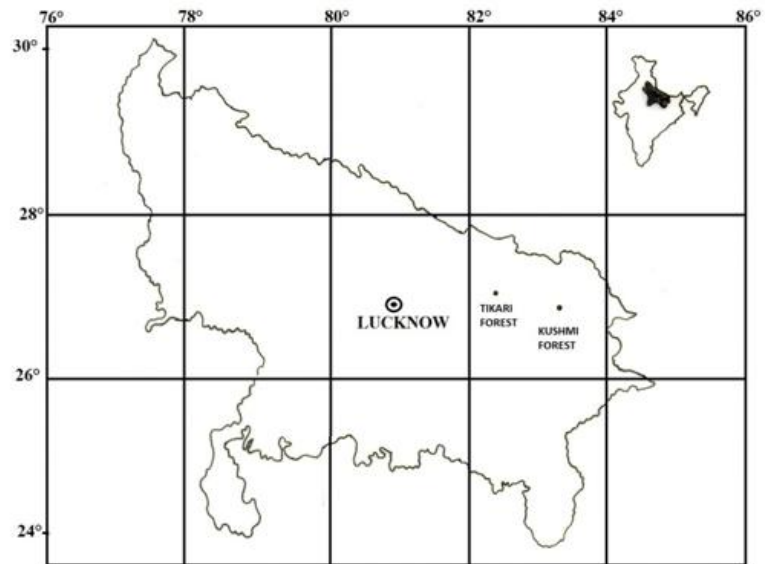


Fig1. Map of the study area – Uttar Pradesh



Fig2. Habit of *Cheliantes bicolor* (Roxb.)

a. Frond of *Cheliantes bicolor* (Roxb.)

b. Portion of the pinna enlarged showing venation and sori arrangement.

c. Rhizome scale

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d. Outline and Cellular diagram of Scale.

e. Portion of the pinnule enlarged showing venation and sori arrangement.

f & g. Spores showing reticulate thickening.

3. SPECIMENS EXAMINED

Cheilanthes bicolor: Dudhwa national park 16-10-2012, 150m **562**; All specimens are deposited at the centre of plant species Biology, Department of Botany, St. Andrew's college (PG) Gorakhpur.

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