TAXONOMIC OBSERVATIONS OF THE FAMILY TECTARIACEAE FROM DEHRADUN DISTRICT, UTTARAKHAND

*Chhaya Singh¹, Brijesh kumar² and Himanshu Diwedi²

¹Life Sciences Department, SGRRTS,
Dehradun, India
²BSI, Dehradun

*Author for Correspondence

ABSTRACT
This manuscript deals with the taxonomic observations of Tectariaceae represented by single genus and single species in the study area. Along with taxonomic studies information relating to habitat and distribution is also provided along with it micrographic illustrations of the species is also provided. This is the first detailed account of the family Tectariaceae from Garhwal Himalaya.

Keywords: Taxonomic studies, Tectariaceae, Micrographic illustrations Garhwal Himalaya

INTRODUCTION:
Tectariaceae is a family of Leptosporangiate ferns in the order Polypodiales. The buckler fern family comprises 10 genera and 173 species world-wide, of which Tectaria is by far the largest. In 1990, Karl U. Kramer and coauthors treated Pleocnemia and 7 of the currently recognized genera as a subfamily of Dryopteridaceae. In 2006, in a revision of fern classification, Tectariaceae was an accepted family. Tectariaceae commonly occurring worldwide but is most diverse in tropical regions. Most species are terrestrial or grow on rocks. It is characterized by the sori are round and often covered with a membranous protective flap of tissue called an indusium. The spores are bean-shaped (bilateral).

FAMILY: TECTARIACEAE
A genus with 173 species in world; 24 species in India; 02 species from Uttarakhand; 1 species observed in the study area.


Aspidium coadunatum Wall. ex Hook. & Grev., Icon Filic., t.202, 1831.
Indian Journal of Plant Sciences ISSN: 2319–3824(Online)
An Open Access, Online International Journal Available at http://www.cibtech.org/jps.htm

Research Article


Rhizome short, creeping, horizontal, apex densely scaly; scales yellowish-brown, delicate, concolorous, ovate- acuminate, base cordate, short apex, margin with 2-4 celled glandular hairs. Fronds large, 0.5-1m long, pinnatifid. Stipe tufted, green when young, turns brownish at maturity, chestnut-brown, sparsely hairy, scaly base, upper glabrous; scales ovate, yellowish-brown, margin fibrilllose or smooth, apex acuminate shortly. Lamina deltoid, bipinnatifid, 45-60cm x 25-35cm, delicate, leathery, shining green, both surfaces hairy; hair 2-5celled, uniseriate; pinnae 8-11 pairs, petiolated, lanceolate, base heart-shaped, basal pairs largest in size, acuminate, margin lobed, deeply dissected into 4-10 jugate lobe; lobes broad-rounded, oblique, ventral side densely pubescent, 11-25 pairs, apex rounded. Veins anastomosing, veins also hairy; 2-4 series of areolae, areolae containing veinlets, costa and costule distinct, veinlets ending into knob like endings. Sori large, round, in two rows between the main vein, on the reticulated veins or at the apex of free veinlets; indusium large, fugacious, round-reniform, margin undulating, smooth; sporangium 12-14 celled, annulus vertical. Spores yellowish-brown, perisporiate, 45-51.5µm x 35-46µm, perinate, perine with irregular margin. Figure 1

Figure 1: Tectaria coadunate (J. Smith) C. Chr. A. Plant B. Rhizome scale B<sub>1</sub> Magnified part of scale C. Stipe scale C<sub>1</sub> Magnified part of Scale D. Hair E. Pinna showing venation F. Margin of pinna showing hair G. Fertile pinna H. Magnified part of sori I. Sporangia J. Spores


Earlier Record from the study area: Robber’s cave, Dehradun, 51(BSD), Chhaya Singh & H.C.Pande.

© Copyright 2014 | Centre for Info Bio Technology (CIBTech)
Habitat: Common, on edges of forests, shaded rocks along roadside, along streamlets, roadsides, in semi-exposed but moist sites, 1000-2500m.

Distribution: INDIA (Foothills of West and East Himalaya, East and South India); Uttarakhand: (Dehradun, Bageshwar, Chamoli, Rudraprayag, Uttarkashi, Nanital); WORLD: ASIA (BHUTAN, CHINA, MALAYA, MALAY PENNINSULA, MYANMAR, NEPAL, SRI LANKA).

ACKNOWLEDGMENT
The authors are grateful to Dr Srivatava Head-in-charge BSI, Dehradun for providing facilities, Dr. HC Pande Scientist-D, BSI, Dehradun and Dr.P.C. Pande Head, Botany Department, Kumaon University, S.S.J. Campus, Almora for support and encouragement

REFERENCE
Chandra S (2000). The Ferns of India (Enumeration, Synonyms of Distribution) (International Book distributors, Dehra Dun (India)).

Dixit RD and Kumar R (2002). Pteridophytes of Uttaranchal (A Check list) (Bishen Singh Mahendra Pal Singh, Dehra Dun (India)).


© Copyright 2014 | Centre for Info Bio Technology (CIBTech)