

**EXTENDED DISTRIBUTION FOR A RARE FERN *TECTARIA*
MULTICAUDATA IN PENINSULAR INDIA**

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ABSTRACT

During revisionary work on the genus *Tectaria* from India, the authors came across an uncommon species collected at Panhala fort, Kolhapur District of Maharashtra state, India. After critical observation and detailed study of its morphology, it was identified as *T. multicaudata* which is a new distributional extension for peninsular India. Its distribution and conservation status are given along with a table of comparative morphology with allied species.

INTRODUCTION

Tectaria Cav. is one of the most diverse genera belonging to the family Tectariaceae¹, and was previously treated in the family Dryopteridaceae. About 200 species are accepted world-wide, of which 27 species (of which two are adventive) and one hybrid are recorded from India (Fraser-Jenkins et al., 2020). The diversity of pteridophytes in south India has been studied by many researchers (Beddome, 1883; Blatter & D'Almeida, 1922; Dixit, 1984; Mahabale, 1987; Manickam & Irudayaraj, 1992; Patil et al., 2009; Ding, 2013; Patil, 2014; Patil et al., 2019) and nine species of *Tectaria* had been reported for south India. Subsequently, Patil et al. (2014) collected *T. fuscipes* from different forest regions of Karnataka, determined by Fraser-Jenkins and reported it as a new distributional record for the Western Ghats and peninsular India. Later “*An Annotated Checklist of Indian Pteridophytes Part-2 (Woodsiaceae to Dryopteridaceae)*” was published by Fraser-Jenkins et al., (2018) and accepted the occurrence of *T. polymorpha* in south India whereas the occurrence of *T. fuscipes* in south India was omitted by mistake.

Recently an unexpected species of *Tectaria* was collected from Panhala Fort area, Maharashtra, and is identified here as *T. multicaudata* (C.B. Clarke) Ching. This species was previously known in India only from the North-East in the Eastern Himalaya. The present paper reports the extended distribution of *T. multicaudata* to western peninsular India.

Taxonomic description:

Tectaria multicaudata (C.B. Clarke) Ching, Sinensia 2: 20. 1931.

Holotype: Bangladesh, Sylhet, 250 ft., 30.11.1872, C.B. Clarke 18427C, K.

Plant terrestrial, large sized herb, c. 40–80 cm tall; *rhizome* thick, horizontal and creeping with leaves arising at the apex, scaly and with persistent leaf-bases; *scales* fuscous-brown, lanceolate, apex acuminate, base cordate-rounded, entire; *fronds* subdimorphic to dimorphic, fertile fronds having slightly narrower lobes and sterile ones with wider, laxer

lobes; *stipe* c. 20–45 cm, more or less length as the lamina, stout, fuscous-brown when mature, bearing dense, bicolorous scales at the base, extending to over two thirds of the stipe-length, becoming slightly smaller, narrower and gradually more scattered; *lamina* 15-25 cm long, sparsely scaly at young, deltate, yellow-green, bipinnate-tripinnatifid, sparsely hairy, bearing 5–7 pairs of pinnae, terminal 2–3 pinnae adnate, opposite-subopposite; pinnae bearing 10–15 adnate pairs of pinnules, apex long acuminate, herbaceous, pinnatifid to broadly winged along costae and forming falcate-lanceolate lobes; *veins* anastomosing with or without included veinlets, costa and costules areole present without included veinlets; *sori* indusiate, in 2 rows; *indusia* changing from green to brown with age, large, rounded, membranous, entire, persistent (see Figure 1).

Distribution: World: Bangladesh, India, Malaysia, Myanmar, Nepal and Thailand.
India: Arunachal Pradesh, Assam, Maharashtra, Meghalaya and Sikkim.
Maharashtra: Kolhapur District.

Conservation Status: *T. multicaudata* is known so far only from a single locality at Panhala (Kolhapur District). A single population of about 10–20 individuals was found at the locality. Other forested areas of the state are yet to be explored thoroughly and more floristic explorations are needed to determine and document the full range of distribution in the State.

Specimens Examined: India, Maharashtra, Kolhapur Dt., Panhala, alt. 800 m, 13/08/2018. *S. M. Patil & K. S. Rajput* 3036, BARO; Tripura, North Tripura Dt., Churaibari, alt. 600 m, 18/06/2011, *A. Benniamin* 28203, 22886, 26424, 14687, ARUN.

DISCUSSION

Tectaria multicaudata has recently been segregated from the related *T. griffithii* (Baker).C.Chr. (Dong, et al., 2013) on the basis of frond type, stipe scales, pinnae phyllotaxy and venation. In *T. multicaudata* the fronds are not coarsely dissected; the stipe scaly up to rachis; it has opposite to subopposite phyllotaxy; and costal and costular areoles are present whereas in *T. griffithii* the fronds are coarsely dissected; the stipe scaly at the base only; it has alternate to-subopposite phyllotaxy; and costal and costular areoles are absent which differentiate the *T. multicaudata* and *T. griffithii*. The present authors agree with the species delimitation given by Dong et al. (2013).

We also observed that many herbarium specimens deposited in ARUN have costal and costular areoles and belong to *T. multicaudata*. It was also observed that many herbarium specimens deposited in ARUN, Itanagar have costal and costular areoles, hence all are treated as *T. multicaudata*.

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Figure 1. A. Habit of *Tectaria multicaudata*, B. venation pattern of *T. multicaudata*, C. venation pattern of *T. griffithii*, D. enlarged pinnae, E. photograph of herbarium specimen submitted by A. Benniamin to ARUN herbarium. Scale bar: C = 5 mm, D = 5 mm

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