

## **COLURA ACROLOBA (LEJEUNEACEAE, MARCHANTIOPHYTA) FROM WESTERN GHATS OF KERALA, INDIA**

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*Colura acroloba* (Prantl) Jovet-Ast an interesting species rare in India, having a unique leaf morphology, characterised by club shaped leaf lobule, which ends in a sac is reported for the first time from the Western Ghats of Kerala.

Key words: *Colura*, Kerala, Lejeuneaceae, new record, Western Ghats

### INTRODUCTION

*Colura* (Dumort.) Dumort. is a large genus of the family Lejeuneaceae, with 86 species distributed in the tropical and subtropical regions of the world (Gradstein 2020, Grolle and Zhu 2002, Pócs 2019, Sangrattanasert *et al.* 2019a, Söderström *et al.* 2016). It is characterised by having strongly bilobed underleaves and tubular to cylindrical leaf lobules that often distally end in a sac with valve and a pore (Frey and Stech 2009, Sangrattanasert *et al.* 2019b, Zhu and So 2001). The knowledge base on the genus *Colura* in India had improved a lot in the recent period with the account of Singh *et al.* (2020). They confirmed the occurrence of eight species in India, namely *C. acroloba* (Prantl) Jovet-Ast, *C. ari* (Steph.) Steph., *C. calyptrifolia* (Hook.) Dumort., *C. conica* (Sande Lac.) K. I. Goebel, *C. leratii* (Steph.) Steph., *C. pluridentata* Jovet-Ast., *C. tenuicornis* (A. Evans) Steph. and *C. corynophora* (Nees, Lindenb. et Gottsche) Trevis.

Earlier this genus was known in the Western Ghats of Southern India by two species, *viz.*, *Colura calyptrifolia* and *C. leratii* (Singh *et al.* 2020). A detailed morpho-anatomical examination of the recent collections of bryophytes from the tropical rain forests of Gavi of Indian State of Kerala revealed one of the samples as *Colura acroloba*. In India it is so far known only from the Andaman and Nicobar Islands, Mizoram, Arunachal Pradesh and Tripura (Singh *et al.* 2020). Hence the present collection from the Kerala state turned as a new record of its extended distribution in the Western Ghats of Southern India.

## DESCRIPTION OF SPECIES

***Colura acroloba* (Prantl) Jovet-Ast**Rev. Bryol. Lichenol. 22: 297 (1953); Singh S. K. *et al.*,

Cryptogamie, Bryol. 41(10): 111–129 (2020)

(Fig. 1)

Plants small and prostrate, pale yellowish green, 5–8 mm long, 1.06–2.03 mm wide with leaves, irregularly branched; stem 69–72  $\mu\text{m}$  in diameter, in cross section suborbicular in outline, 3 sub-quadrangular-polygonal medullary cells are surrounded by 7 sub-quadrangular cortical cells, rhizoids numerous at the base of the under-leaves; leaves contiguous-distant, obliquely-widely spreading from stem, lobes 0.78–0.80 mm long, 0.47–0.57 mm wide, dorsal margin arched, ventral margin nearly straight; marginal leaf cells towards apex subquadrate- rectangular,  $22\text{--}35 \times 17\text{--}37 \mu\text{m}$ ; median leaf cells hexagonal- polygonal,  $22\text{--}45 \times 21\text{--}34 \mu\text{m}$ , basal cells slightly elongated,  $34\text{--}53 \times 26\text{--}45 \mu\text{m}$ , leaf cells thick walled with cordate- nodulose trigones, 9–12 oil bodies per cell; lobule club shaped with a globose apex, tubular lobule wider towards sac, sac inflated, v-shaped underleaves, 0.19–0.21 mm long, deeply bilobed, sinus wider, 7–10 cells long, 2–4 cells wide at base, apex terminating in a single cell, margin entire. Gemmae present on the leaf lobe, discoid. Androecia and gynoecia are not seen.

Habitat: Follicolous, growing on angiosperm leaves in association with *Drepanolejeunea pentadactyla* (Mont.) Steph. at an altitude of 1000 m.

Specimens examined: India, Kerala, Pathanamthitta District, Gavi, (1000 m), 31.10.2021, Rajesh K. P. 16862, 16863 (ZGC).

Distribution: India [Andaman & Nicobar Islands, Mizoram, Arunachal Pradesh, Tripura (Singh and Kumar 2016, Singh *et al.* 2020)], Cambodia, China, Fiji, Indonesia, Malaysia, New Caledonia, Papua New Guinea, Philippines, Samoa, Sri Lanka, Taiwan, Thailand, Vietnam, Australia (Bakalin and Van Sinh 2016, Chuah-Petiot 2011, Grolle and Piippo 1984, Lai *et al.* 2008, Long and Rubasinghe 2014, McCarthy 2006, Piippo 1990, Söderström *et al.* 2010, 2011, Tan and Engel 1986, Thouvenot *et al.* 2011, Tixier 1979, 1980, Wang *et al.* 2011, Zhu and So 2001).

## DISCUSSION

*Colura acroloba* is similar to *Colura corynophora* in the leaf lobe morphology, presence of cordate-nodulose trigones and intermediate thickening of the cells. *C. acroloba* differs from *C. corynophora* in their leaf lobule structure. *C. acroloba* has club-shaped lobules ending in an inflated sac which is equally long as the leaf, but the leaf lobule of *C. corynophora* are usually reduced and

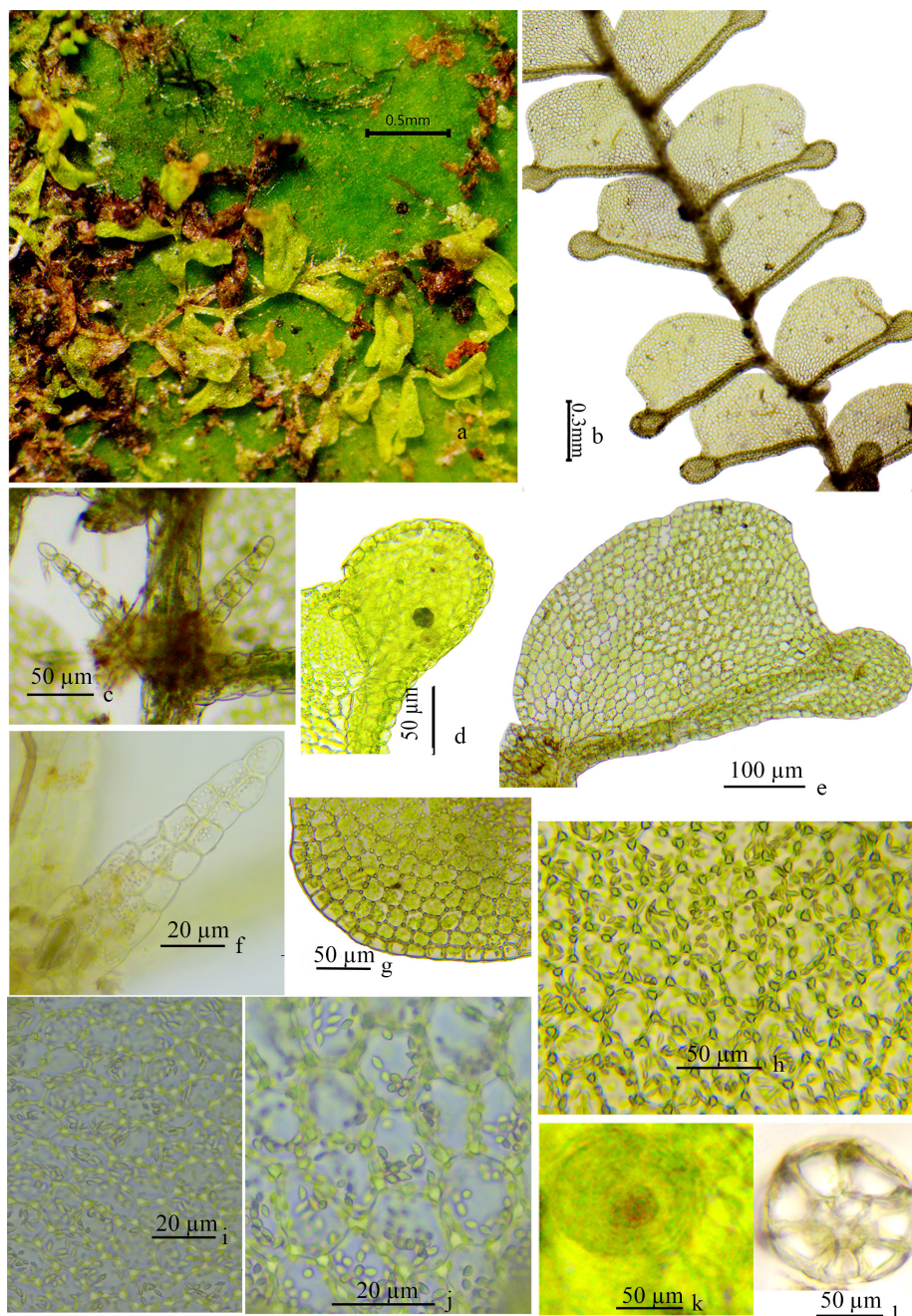


Fig. 1. *C. acroloba* (Prantl) Jovet-Ast – a = habit; b = a portion of plant ventral view; c and f = underleaves; d = lobule sac; e = leaf with lobule; g = leaf margin cells; h = leaf median cells; i = leaf basal cells; j = oil bodies; k = gemma; l = cross section of stem

ending well below the leaf lobe. *C. acroloba* also resembles *C. leratii* in under leaf morphology. Lobes of under leaves are uniseriate and 2-3 cells wide at base in *C. leratii*. But *C. leratii* have dentate leaf margin in contrast to *C. acroloba* which has entire leaf margin. *C. acroloba* is mostly epiphyllous, growing in association with other Lejeuneaceae species.

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