

Recollection of *Exacum petiolare* (Gentianaceae) and *Mitreola petiolata* (Loganiaceae) from Nallamalais, Andhra Pradesh, India

Byalla Sadasivaiah^{1*} and Thammineni Pullaiah²

Two rare species namely, *Exacum petiolare* Griesb. and *Mitreola petiolata* (J.F. Gmelin) Torrey & A. Gray, were recollected after a lapse of 50 years from the forests of Nallamalais of Andhra Pradesh, India.

Introduction

As a part of floristic inventory in Nallamalais during 2010, we collected curious specimens of *Exacum petiolare* Griesb. and *Mitreola petiolata* (J.F. Gmelin) Torrey & A. Gray. A thorough perusal of literature on the flora of Andhra Pradesh and Eastern Ghats (Ellis, 1990; Pullaiah and Ali Moulali, 1997; Pullaiah *et al.*, 2011) revealed that the former species was collected by Ellis from Nallamalais and by Subbarao from Visakhapatnam forests (Pullaiah and Ali Moulali). The latter species was collected only by Ellis in Nallamalais. Despite of explorations in the forest areas of Andhra Pradesh over the past five decades by different research groups these plants have not been reported. Further, during our study, we could able to locate 5-10 individuals of both the species. The present collections of both the species are about 40 - 70 km away from the earlier collection sites by Ellis.

The collected species of *Exacum* (Gentianaceae) was treated as a variety of *Exacum pedunculatum* L., by Trimen and Cramer treated this as a species in his revised Handbook of Flora of Ceylon (Pullaiah *et al.*, 2011). The genus comprising 4 species in Andhra Pradesh, of which, *E. pedunculatum* is found commonly in moist localities of the forests and rarely in wet areas, especially edges of canals in Agricultural lands throughout the state. *E. bicolor* and *E. tetragonum* are found rarely in East Godavari, Srikakulam and Visakhapatnam districts. *E. petiolare* was found only in two localities of Andhra Pradesh, namely Sileru (Visakhapatnam district) and Gundlabrahmeswaram (Kurnool district) forests.

The genus *Mitreola* L., is placed under family Loganiaceae by classical scientists and by Leeuwenberg (1980). Mitreolaceae, as a separate family erected by Watson and Dallwitz, (1992), but retained it, to Loganiaceae

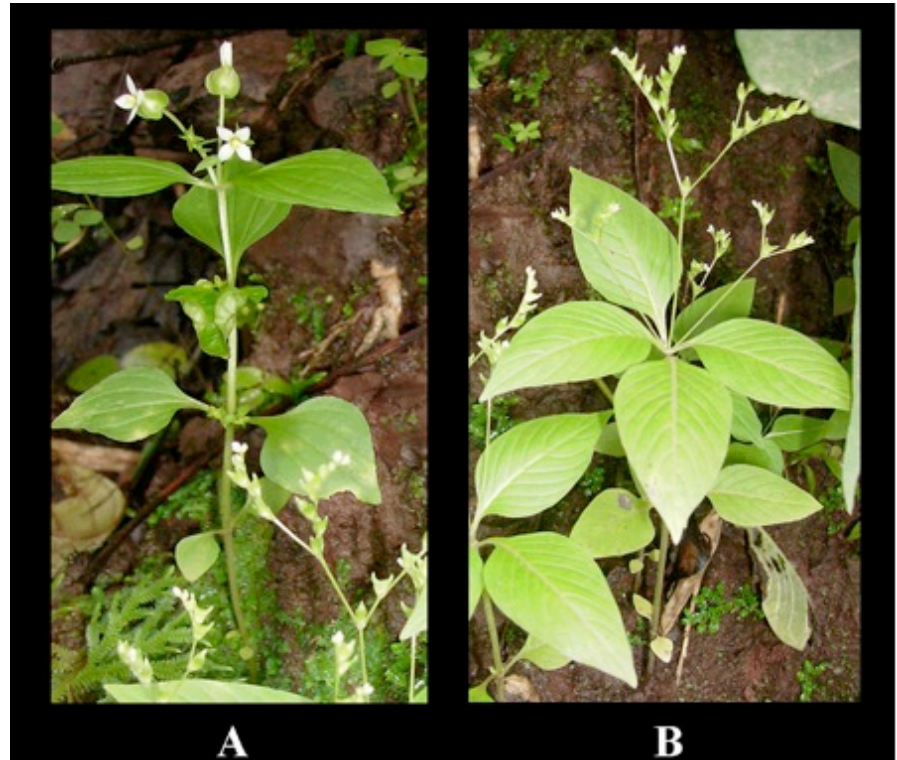


Plate 1 A. *Exacum petiolare*. B. *Mitreola petiolata*

(s.s) (Struwe *et al.*, 1994; Rao and Prasanna, 2010). The generic names, *Mitreola* L. and *Cynoctonum* Gmel., are the two confused names on the same of Loganiaceae (Qi-Xia Ma *et al.*, 2010). *Mitreola* was a valid generic name confirmed by Nelson (1980). The genus *Mitreola* is comprised of about 13 species, which are distributed throughout Asia, Oceania, America and Africa (Qi-Xia Ma *et al.*, 2010).

Exacum petiolare Griseb., in DC., Prodr. 9: 46. 1845; Fl. Brit. India 4: 98. 1883; Fl. Pres. Madras 2: 874.1923. *E. carinatum* Roxb., Fl. Ind. 1: 415. 1820. (Plate 1 A)

Annual, erect, glabrous herb, to 30cm tall. Stems quadrangular, branchlets narrowly winged. Petiole to 2cm long; lamina ovate, 3-6 × 1.5-3.5cm, membranous, base decurrent, margin entire, apex acuminate, 5-ribbed, glabrous both sides. Inflorescence axillary, terminal cymes or solitary; peduncles to 3.5cm, pedicels to 2.5cm; bracts foliaceous. Calyx broadly winged, wings decurrent on the pedicel, nerved, 4-lobed, green. Corolla 4-lobed, lobes lanceolate, pale

blue or white. Stamens 4, inserted at the throat of the corolla. Capsules subglobose, 0.4 × 0.3cm, smooth; seeds minute, numerous.

Flowering & Fruiting:
October - December.

Ecology:
Rare in moist localities of cutting edges of hills and in hill slopes.

Distribution:
Endemic to India and Sri Lanka.

India:
Bihar, Karnataka, Kerala, Madhya Pradesh and Tamil Nadu.

Andhra Pradesh:
Kurnool and Visakhapatnam districts.

¹²Department of Botany, Sri Krishnadevaraya University, Anantapur, Andhra Pradesh- 515 055. Email: ¹chumsada@gmail.com (*corresponding author), ²pullaiah.thammineni@gmail.com

Representative specimen:

Rollapenta Ghat Road, Kurnool district, *B. Sadasivaiah*, 43802 (SKU); Gundlabrahmeswaram, Kurnool district, *J.L. Ellis*, 22193 (MH); Near Sileru, Visakhapatnam district, *G.V. Subbarao*, 42713 (MH).

Mitreola petiolata (J.F. Gmelin) Torrey & A. Gray, Fl. N. Amer. 2: 45.1841; Fl. Nall. 2: 256. 1990. *Cynoctonum petiolatum* J.F. Gmelin, Syst. Nat. ed. 13, 443. 1790. *C. mitreola* (L.) Britton, in Mem. Torrey Bot. Club 5: 258. 1894. *Ophiorhiza mitreola* L., Sp. Pl. 150. 1753. *Mitreola oldenlandioides* Wall. ex DC., Prodr. 9: 9. 1845. Fl. Brit. India 4: 79. 1883; Fl. Pres. Madras 2: 863. 1923. (Plate 1 B)

Annual, erect, glabrous herb, to 50cm tall. Stems quadrangular, branchlets narrowly winged. Stipules interpetiolar, triangle, 1-2mm. Petiole 1-2cm long; lamina ovate-elliptic or elliptic-lanceolate, 2-9 × 1-3.5cm, membranous-papery, base cuneate, margin entire, apex acuminate, lateral nerves 8-10 pairs. Inflorescence terminal and axillary, dichotomous, scorpioid cyme. Flowers many, minute. Calyx 5-lobed, ovate-triangular, green. Corolla 5-lobed, narrowly ovate, white. Stamens 5, inserted at base of the corolla tube. Capsules unilateral, 0.5 × 0.3cm, 2-horned; seeds 25-30, ellipsoid, concave on 1 side, smooth.

Flowering & Fruiting:
May-October.

Ecology:
Rare in moist localities of cutting edges of hills.

Distribution:
SE United States, Central and Tropical South America, South & SE Asia.

India:
Bihar, Kumaon, Madhya Pradesh, Nagaland, Orissa, Sikkim and Western Peninsula.

Andhra Pradesh:
Kurnool district.

Representative specimen:
Rollapenta Ghat Road, Kurnool district, *B. Sadasivaiah*, 43801 (SKU); Chelama, Kurnool district, *J.L. Ellis*, 17978 (MH).

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