

***Calyptocarpus vialis* Less. (Asteraceae) – A new record for Kerala, India**

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Abstract: *Calyptocarpus vialis* Less (Asteraceae) collected from Kasaragod district for the first time in Kerala. The detailed description, up-to-date nomenclature, ecological notes and photographs of this species have been presented.

India received many exotic weeds, ever since the Portuguese settlement in India. A vast majority of these, later got naturalized and now appear to be native flora, while a few have overtaken the native flora either completely or altering the native ecosystems. The genus *Calyptocarpus* Less. of the tribe Heliantheae (Asteraceae) is of tropical and subtropical origin, native of South America, Mexico and West Indies with three species distributed from Texas to Guatemala (Mabberley 2008). But it has already become an invasive weed (Peng & Kao 1984) and is getting distributed to new localities all over the world. It was first reported as a new record for India by Ahuja & Pataskar (1969) from Poona of Maharashtra. Later its presence from Uttar Pradesh (Naithani & Chandra 1989), Maharashtra and Uttar Pradesh (Chowdhery 1995), North-West Himalaya (Mangotra & Bhellum 1998), Karnataka (Hebbar *et al.* 2002; Rao & Sagar 2010), Gorakhpur and Kushinagar (Kanchan *et al.* 2008), Rajasthan (Meena, 2010) was also reported. During recent floristic explorations in Kasaragod District of Kerala, the first author came across a species with cushion-like habit and conspicuously dotted with small yellow capitula. Detailed examination of the specimen and literature revealed its identity as *Calyptocarpus vialis* Less., hitherto not recorded from Kerala (Nayar *et al.* 2006; Sasidharan, 2011). Brief description, up to date nomenclature, ecological notes and photographs of this species are provided to facilitate its identification.

***Calyptocarpus vialis* Less. (Fig. 1 – 3)** in Syn. Gen. Comp. 221. 1832 & in Linnaea 8: 269. 1834; DC. Prodr. 5: 630. 1839; Peng & Kao in Bot. Bull. Acad. Sin. 25: 172. 1984. *Synedrella vialis* (Less.) A. Gray in Proc. Amer. Acad. Arts 17: 217. 1882; Ahuja & Pataskar in Ind. For. 95: 267. 1969; Rao *et al.*, Fl. India Enum. Asteraceae 74. 1988; Naithani & Chandra in J.



Fig. 1 - Habit



Fig. 2 - Head



Fig. 3 - Herbarium

Bombay. Nat. His. Soc. 86: 272. 1989; Chowdhery in Hajra *et al.*, Fl. India 12: 415. 1995; Mangotra & Bhellum in Ind. J. For. 20: 178. 1998; Shirodkar & Lakshminarasimhan in Singh *et al.*, Fl. Maharashtra State 2: 245. 2001; Hebbar *et al.*, in Ind. For. 128: 461. 2002; Kanchan *et al.*, in J. Econ. Taxon. Bot. 32: 610. 2008; Meena in J. Econ. Taxon. Bot. 34: 614. 2010; Rao & Sagar in J. Econ. Taxon. Bot. 34: 870. 2010.

Annual herbs, decumbent or prostrate, branched from base, spreading, scabrid-hairy, rooting at lower nodes.

Stems prostrate, terete, greenish, pubescent. Leaves simple, opposite, ovate-lanceolate, acute, cuneate to attenuate at base, serrate, 3–4 × 2–3.1 cm, hairy on both the surfaces, 3-nerved from the base; petiole ciliate, narrowly winged on upper parts. Heads heterogamous, yellow, axillary, solitary, sessile, sometimes two, one of them pedunculate. Involucral bracts 4;

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outer herbaceous, green, ovoid or oblong-lanceolate, shortly hairy, ciliate along margins, each up to 7 × 4 mm; inner hyaline, linear-lanceolate, paleaceous, 5 × 1 mm, merging into paleae of the receptacle. Ray florets ligulate, 4–9, fertile, female. Calyx modified into two awns, pubescent, 1–5 mm long. Corolla yellow, ligulate, 2–4-lobed, 4–6.5 × 0.7–1.2 mm; tube white. Style bifid. Achenes dorsally compressed, narrowly winged, light brown, crowned with 2 spines. Disc florets 3–7, hermaphrodite, tubular. Corolla 2.3–3.7 mm long, throat yellow, slightly longer and wider than the whitish tube; limb 4-fid at the apex; lobes ovate-deltoid, densely papillose within. Anthers black; pollen yellowish. Style bifid; branches emergent. Ovary with a single basal ovule; stigma deeply 2-lobed, glandular and hairy. Achenes dorsally compressed, crowned with 2 spines; spines half the length of achenes, shortly hairy.

Specimen examined: 14. iii. 2011, Kambar, Kasaragod District, Kerala, India, *K. S. Prasad*, 02703 (SSC – Sir Syed College Herbarium, Taliparamba, Kannur).

Flowering and Fruiting: Throughout the year.

Habitat: Grows in patches in moist shady places.

Distribution: Native of South America, Mexico and West Indies. In India found in Maharashtra, Uttar Pradesh, Uttaranchal, Karnataka, North-West Himalaya and Rajasthan. Recorded for the first time from Kerala.

Notes: This species is well known as an invasive weed. Its massive spread and invasive nature is very clear from the fact that within 7–8 years after its introduction to Bangalore, it has now become the only dominant ground cover, forming carpet-like patches in moist shaded places (Rao & Sagar 2010). Due to its invasive nature, high adaption for vegetative as well as sexual reproduction and are not grazed by cattle there is an urgent need for initiation of curative steps to check the spread of this invasive species to newer areas and to conserve the native flora.

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REFERENCES

- Ahuja, K.K. & R.D. Pataskar (1969).** *Synedrella vialis* (Less.) A. Gray: A new record for India. *Indian Forester* 95: 267.
- Chowdhery, H.J. (1995).** Tribe Heliantheae, pp. 415. In: Hajra, P. K., R. R. Rao, D. K. Singh & B. P. Uniyal (eds.). *Flora of India*, Vol 12. Botanical Survey of India, Calcutta.
- Hebbar, S.S., V.H. Harsha, G.R. Hegde & V. Shripathi (2002).** Record of *Synedrella vialis* (Asteraceae) and *Passiflora suberosa* (Passifloraceae) from Dharwad, Karnataka. *Indian Forester* 128 (4): 461–464.
- Kanchan, L., S. Mishra & S. Narain (2008).** Notes on occurrence of *Synedrella vialis* (Less.) A. Gray in Uttar Pradesh, India. *J. Econ. Taxon. Bot.* 32 (3): 610–612.
- Mabberley, D.J. (2008).** *Mabberley's Plant-Book: A Portable Dictionary of Plants, Their Classification and Uses*, 3rd edition. Cambridge University Press, U. K, 119pp.
- Mangotra, R. & B.L. Bhellum (1998).** Genus *Synedrella* Gaertner – A new record of naturalized taxon for the flora of North-West Himalaya. *Indian Journal of Forestry* 20 (3): 178.
- Meena, K.L. (2010).** *Synedrella vialis* (Less.) A. Gray: A new record to the flora of Rajasthan. *J. Econ. Taxon. Bot.* 34 (3): 614–618.
- Naithani, H.B. & S. Chandra (1989).** *Synedrella vialis* (Less) A. Gray: a new record for Uttar Pradesh, India. *J. Bombay. Nat. Hist. Soc.* 86 (2): 272–273.
- Nayar, T.S., A.R. Beegam, K.V. Mohanan & G. Rajkumar (2006).** *Flowering plants of Kerala*. Tropical Botanic Garden and Research Institute, Palode, Thiruvananthapuram.
- Peng, C.I. & M.T. Kao (1984).** *Calyptocarpus vialis* Less. (Asteraceae), a newly naturalized weed in Taiwan. *Bot. Bull. Academia Sinica* 25: 171–176.
- Rao, R.R. & K. Sagar (2010).** *Synedrella vialis* (Less.) A Gray (Asteraceae) – Another new invasive weed to South India. *J. Econ. Taxon. Bot.* 34 (4): 869–872.
- Sasidharan, N. (2011).** *Flowering plants of Kerala*, Ver 2.0. Kerala Forest Research Institute, Peechi.