

COTULA AUSTRALIS (SIEB. EX SPRENG.) HOOK. F. (ASTERACEAE)-
NEW TO MADHYA PRADESH

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A B S T R A C T

Cotula australis (Sieb. ex Spreng.) Hook. f. known to occur in the hills of Himachal Pradesh (Kullu and Manali), South India (Nilgiri and Pulney hills), hills of West Bengal (Darjeeling) and Delhi plains, has now been recorded from Pali Birsinghpur in district Shahdol of Madhya Pradesh. This species is also known from Uttar Pradesh, Meghalaya and Arunachal Pradesh. The present report of this species from Madhya Pradesh shows its extended distribution to this area revealing the first report as new record for this state.

INTRODUCTION

A survey tour has been undertaken to the forest area of Binauda Pump Storage Scheme site about 25 km. far from the township of Pali Birsinghpur to assess the floristic diversity, rare, abundance and dominant floristic elements and other ecological aspect in connection with the Environmental assessment of the proposed Binauda Pump Storage Scheme for the generation of 4 × 150 MW electricity.

Cotula australis is growing in the moist rocky crevices along the tributary of the river Binauda in mixed evergreen forest. This area falls under the submergence area of the lower reservoir of the proposed Binauda Pump Storage Scheme at Pali Birsinghpur in district-Shahdol.

Genus *Cotula* L. is represented by 75 species in temperate and tropical climate of the world (Naithani 1995). Four species are known from India. Hooker (1881) described three species viz., *C. anthemoides* L., *C. aurea* L. and *C. hemispherica* Wall. from plains, ascending to the height of 800 m. Gamble (1921) reported *C. australis* from the Nilgiri and Pulney hills of Travancore and also mentioned it as an "escape from the Australia". Vaid and Naithani

in the year 1970 reported its extended distribution from hills of South India to North-Western and Eastern Himalayas. Subsequently Dakshini and Vijayaraghavan (1970) reported its occurrence from Delhi growing in sandy damp places in the university area and also from Lodi Gardens. Recently Shukla (1993) in Flora of Madhya Pradesh Vol. I have dealt family Asteraceae in which the genus *Cotula* L. has not been included so far.

Several field exploration trips have been conducted to the different forest areas of Madhya Pradesh but this plant could not be collected till today most probably due to its small size herb, pubescent, pinnatisect leaves, minute flowers but very well distinct from *Coronopus didymus* (L.) Sm. in having smaller leaves, flowers in solitary head, involucre bracts, naked receptacle and fruits are achenes.

Rao *et al.* (1988) mentioned *Cotula anthemoides* L. from Madhya Pradesh (without any locality) and its adjoining states. The detailed scrutiny of the literature and herbarium reveals that the genus *Cotula* L. is not represented in the herbarium of Botanical Survey of India, Central Circle, Allahabad (BSA).

Hence, *C. australis* has been reported as a new addition to the Flora of Madhya Pradesh. A nomenclatural citation and brief description alongwith the ecology and notes have been given.

Cotula australis (Sieb. ex Spreng.) Hook. f., Bot. Antarch. Voy. 2(1): 128. 1852 et Handb. New Zealand Fl. 1:128. 1853; Dakshini & Vijayaraghavan in Ind. Forester 96(1): 24.1970; Vaid & Naithani in Ind. Forester 96(6): 426. 1970; Naithani in Hajra *et al.* in Fl. India 12: 54.1995. *Anacyclus australis* Sieb. ex Spreng. in Linnaeus Syst. Veg. (ed. 16) 3: 497.1826.

Annual herb, procumbent or ascending, diffusely branched *ca* 20 cm tall, branches slender, spreading, glabrous or covered with long hairs. Leaves 1-3.5 × 0.5-1 cm, pinnatisect, segments oblong-linear, entire, acute or apiculate. Heads solitary or terminal on long filiform branches, 3-4 mm in diam. Involucral bracts 2-seriate, outer ovate-oblong, obtuse scarious at margins; inner narrow oblong. Receptacle naked. Outer floret 2-3 seriate, female. Corolla absent. Disc florets few, bisexual, tubular, limb-4-toothed at the apex, sessile. Achenes of ray florets flat, obovate, glandular, with broad thick winged, those of disc florets much smaller, hardly winged. Pappus absent.

Fl. & Fr. : Oct. Feb.

Distrib. : India (North-Western and Eastern Himalayas) : Himachal Pradesh, Uttar Pradesh, Madhya Pradesh, Meghalaya, West Bengal, Tamil Nadu and Kerala; China ; Australia; Western Asia; S. Africa; Canary Island; Sri Lanka.

Ecol. : Native of Australia and New Zealand. It grows in moist rocky crevices in mixed evergreen forest at the alt. of *ca* 550 m.

Exsicc. : Madhya Pradesh : Shahdol, Pali Birsinghpur, Binauda Pump Storage Scheme site, 16.12.1995, *ca* 550 m, alt., S. K. Srivastava 46750 (BSA).

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