

Acanthospermum australe (Asteraceae) – A new distributional record for India

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Abstract

Acanthospermum australe (Loefl.) Kuntze is reported here for the first time for India from Karnataka. A detailed description, photograph and relevant notes are provided for easy identification.

Keywords: *Acanthospermum australe*, Asteraceae, India, New Record

Introduction

Acanthospermum Schrank (Asteraceae–Heliantheae) is represented by 8 species (Blake, 1921; Mabberley, 2008), distributed mostly in tropical to warm temperate regions of New World and also introduced in Old World. In India, it is represented by only one species, namely, *A. hispidum* (Karthikeyan *et al.*, 2009).

During the recent survey of weed flora in the agricultural fields of Bengaluru and its surrounding areas, few specimens of an *Acanthospermum* were collected. On critical examination with literature the specimens were identified as *A. australe* (Loefl.) Kuntze, a species hitherto not been recorded in Indian floras, hence reported here as a new record for India.

Raizada & Sharma (1962), Singh (1973) and Goel & Singh (1976) reported *A. australe* as a new record to upper Gangetic plains, Kumaon hills and Punjab region respectively, but the description given by them neither matches with our specimen nor the description of *A. australe*. However, their description exactly matches with that of *A. hispidum* DC. *Acanthospermum australe* differs from *A. hispidum* by having prostrate habit, stem that is not dichotomously branched, cylindrical fruits and absence of two apical divergent spines. They treated *A. hispidum* as a synonym of *A. australe* but these two species are recognised as two distinct (Blake, 1921; Mabberley, 2008; The Plant List, 2010) and can easily be distinguished based on characters given

above. Karthikeyan *et al.* (2009) have listed only *A. hispidum* and treated *A. australe* sensu auct. mult. non (Loefl.) Kuntze as its synonym, which unambiguously denotes misidentification of the latter. A key to identify and distinguish *A. australe* from *A. hispidum* is given below:

1. Plant procumbent; cypsela linear, 7 – 9 mm long, slightly compressed, strongly 5 – 7-ribbed; terminal spines 0
A. australe Fig. 1a – k
1. Plant erect; cypsela triangular, 2 – 6 mm long, strongly compressed, obscurely 3-ribbed; terminal spines 2
A. hispidum Fig. 1l – n

Acanthospermum australe (Loefl.) Kuntze, Revis. Gen. Pl. 1: 303. 1891, non Raizada & V.S. Sharma, Indian Forester 88: 357. 1962; V. Singh, Curr. Sci. 42: 68. 1973; Goel & H. Singh, J. Bombay Nat. Hist. Soc. 75: 240. 1976. *Melampodium australe* Loefl., Iter Hispan.: 268. 1758.

Herbs, stem procumbent, to 60 cm long, often rooting at nodes, pubescent with short appressed hairs. Leaves rhombic-ovate to triangular, 1.3 – 3.7 × 0.7 – 3.2 cm, cuneate at base, irregularly dentate-serrate above, entire below at margins, acute to obtuse at apex, sparsely hairy, conspicuously glandular-dotted beneath; petioles 3 – 15 mm long. Heads heterogamous, solitary, axillary, 6 – 7 mm in diam. in anthesis and 1.5 – 2 cm in fruit; peduncles up to

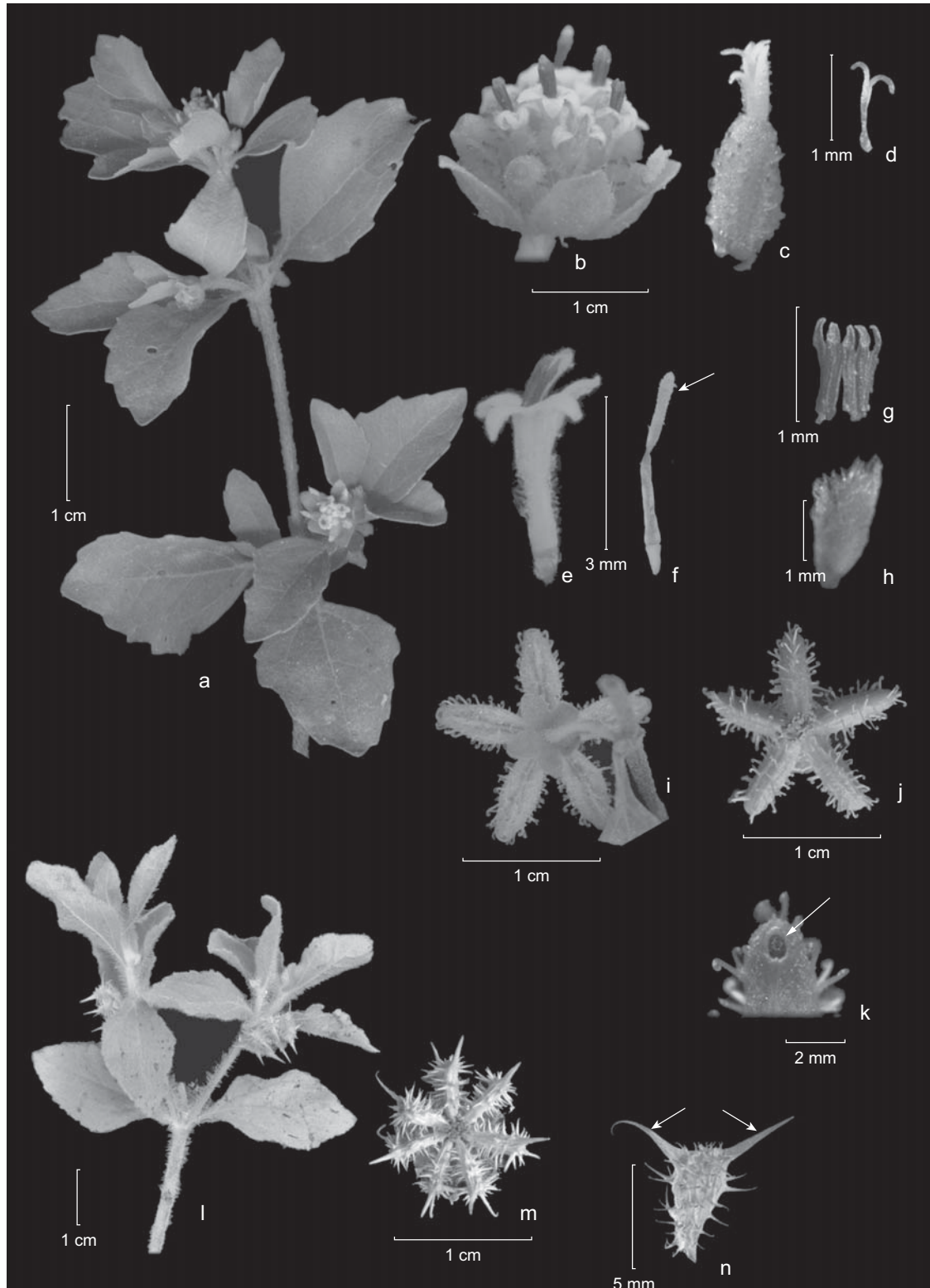


Fig. 1. *Acanthospermum australe* (Loefl.) Kuntze: a. Habit; b. Inflorescence; c. Ray floret with phyllaries enclosed; d. Style and stigma of ray floret; e. Disk floret; f. Style and stigma of disk floret; g. Anthers; h. Palea, flattened and viewed from back; i, j. Inflorescence – Dorsal and ventral views; k. Apex of fruit showing dorsal orifice; l – n. Habit, inflorescence and single fruit showing apical divergent spines of *A. hispidum* DC. respectively.

1.5 cm long, deflexed in fruit. Outer phyllaries 5, herbaceous, elliptic to ovate, 3–4 mm long, ciliate, sparsely pilose on the back, 3-nerved; inner phyllaries as many as ray florets and closely enveloping them, enlarged in fruits; receptacle small, convex; paleas membranous, subtending the disk florets, persistent. Pistillate ray florets 5–8, c. 1 mm long, densely stipitate-glandular, fused with enlarged inner phyllaries; corolla ligulate, tridenticulate, yellowish; tube as long as or shorter than the limb; style divided. Staminate disk florets 10–12, c. 2.5 mm long, pilose at base, glandular above, yellowish white; tube cylindrical, c. 1 mm long; anthers cordate-sagittate at base; pistilodes with undivided style. Cypselas obliquely ellipsoid-fusiform, 7–9 mm long, slightly compressed with open orifice at the obtuse apex, densely glandular, 5–7-ribbed; ribs bearing 1 or 2 rows of hooked prickles of 1–2 mm long; terminal spines absent.

Flowering & Fruiting: Throughout the year; peak in July–November.

Habitat: Crop fields especially in red sandy loam soils.

Distribution: It is a native of South America and widely distributed in southern parts of North America, southern parts of Africa, Madagascar, southern China and eastern parts of Australia.

Specimens examined: INDIA, Karnataka, Bengaluru Urban district, GKVK Campus (13° 04' 43" N, 77° 34' 17" E), 16.12.2009, C. Haleshi 1215; Bengaluru International Airport (13° 12' 33" N, 77° 42' 24" E), 5.8.2011, A.N. Sringeswara 196 (UASB).

Notes: *Acanthospermum australe* is native to South America and the period of its introduction to India is unknown. Probably, it might have been introduced through experimental seeds. Though this species is reported to have some medicinal properties like antibiotic (Sánchez *et al.*, 2009), antioxidant (Desmarchelier *et al.*, 1997), antifertility (Arenas & Azorero, 1977) and antitumor (Mirandola *et al.*, 2002), it is fast becoming a problematic weed with profuse root system and is spreading fast in the crop fields such as ragi, maize and pulses especially in sandy loam soils. It needs immediate attention with proper control measures and it is not grazed by animals probably due to its scabrous leaves and prickly fruits.

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