



SHORT COMMUNICATION

Securidaca L. (Polygalaceae): A New Generic Record To The Flora Of Andhra Pradesh, India

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Abstract

The genus *Securidaca* L., is reported here as a new record for the flora of Andhra Pradesh. Detailed description, location map, ecological information and photographs are provided for its easy identification.

Keywords: Alluri Sitharama Raju district, Andhra Pradesh, Eastern Ghats, Flora, *Securidaca*.

Introduction

The Polygalaceae family showcases a broad distribution, with its members spanning various regions across the America and Africa. This family encompasses a diverse array of plant forms, including trees, shrubs, herbs, and woody climbers, comprising approximately 21 genera and around 900 taxa (Chadat, 1980; Banerjee, 1993; Eriksen, 1993; Eriksen & Persson, 2006). In India, the representation of the Polygalaceae includes four genera, namely *Epirixanthes* Blume, *Polygala* L., *Salomonina* Lour., and *Securidaca* L. The genus *Securidaca* was first defined by Linnaeus in 1754, using specimens from the America. Its distinctive features include a keel with or without a small fringed crest, eight stamens with fused filaments at the base, and a fruit divided into two compartments, each winged. The genus includes 80

species distributed throughout the tropics, predominantly in Australia, with only one species found in India (Willis, 1973). *Securidaca inappendiculata* Hassk. was first collected by Bakar in 1933 from the riverbank of Beaufort at mile 18, situated at an altitude of 200 meters above sea level (amsl), and deposited under *Securidaca tavoyana* Wall. ex A.W. Benn. Subsequently, a fossil leaf of *S. inappendiculata* was discovered from the Siwalik sediments of Seria Naka at the Indo-Nepal border in the Balrampur district of Uttar Pradesh (Prasad *et al.*, 1997). In the present study, we document *Securidaca inappendiculata*, a large woody climber thriving in the moist deciduous forests of Alluri Sitharama Raju district in Andhra Pradesh as a new generic addition to the flora of Andhra Pradesh (Fig. 1).

Material and Methods

While exploring the flora of Alluri Sitharama Raju district, Andhra Pradesh, five mature individuals of a *Securidaca* species were observed in Akumamidikota Beat, Pullangi Section, Maredumilli Range, Alluri Division. Few specimens were collected from the existing populations by the first author. The voucher specimens were studied critically and identified as *Securidaca inappendiculata*. The identification was further confirmed by matching the specimens with electronic images (CAL0000207583, CAL0000207584) are available at Indian Virtual Herbarium of Botanical Survey of India (https://ivh.bsi.gov.in/phanerogams/general/collection/en?search_bar=Securidaca+inappendiculata&selection) and also the review of pertinent literature (Pullaiah & Chennaiah, 1997; Reddy *et al.*, 2008) revealed that this genus had not been previously reported from the Andhra Pradesh. Therefore, this discovery marks a new addition to the flora

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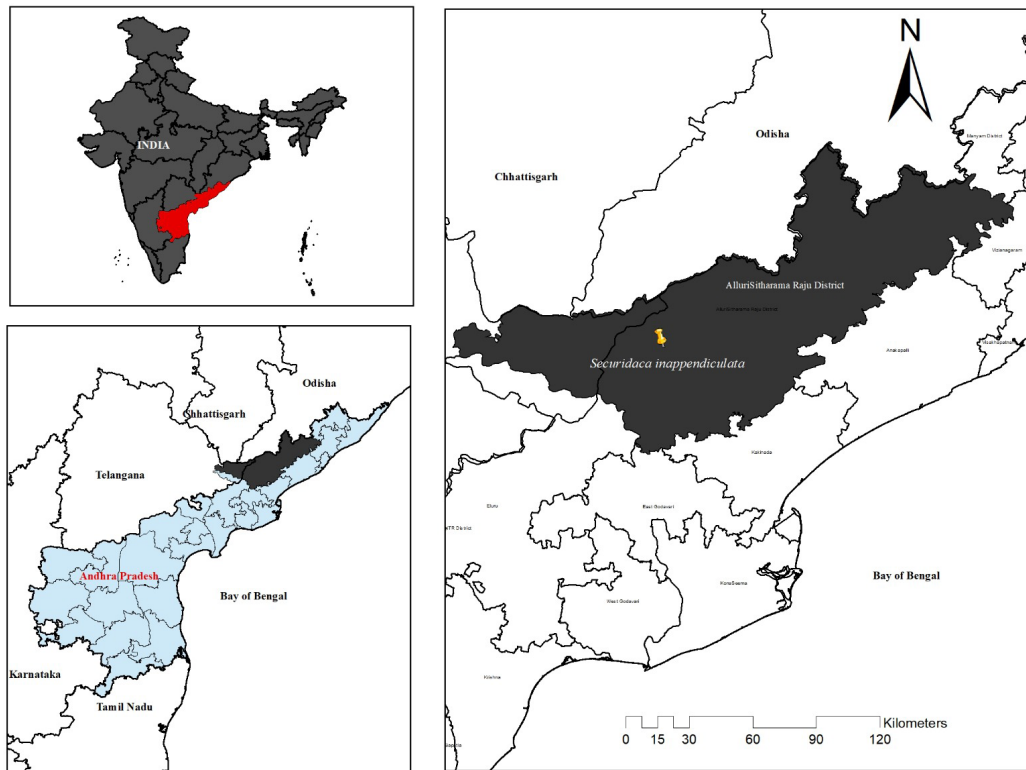


Fig. 1: Map showing the location of *Securidaca inappendiculata* Hassk. in Alluri Sitarama Raju District, Andhra Pradesh

of the Andhra Pradesh in terms of genus representation. A detailed description, location map, notes, and accompanying photographs have been provided to aid in the identification of this species. Voucher specimens have been deposited at the Botanical Survey of India, Deccan Regional Centre (BSID), Hyderabad, Telangana.

Observations and Results

Taxonomic Treatment

Securidaca inappendiculata Hassk., Pl. Jav. Rar.:295. 1848. *Securidaca bracteata* A.W.Benn. in J.D.Hooker, Fl. Brit. India 1: 208. 1872. *Securidaca tavoyana* Wall. ex A.W.Benn. in J.D.Hooker, Fl. Brit. India 1: 208. 1872.

Description

Robust woody climbers, to 6 m high, with dark brown stem, young branches pink, fibres strong, silky; branchlets slightly puberulous. Leaves elliptic, obovate, oblong or oblanceolate; cuneate at base, entire along margin, cuspidate or abruptly acuminate at apex, 6.8 – 14.3 × 4 – 7.5 cm long, coriaceous, glabrous and deep green above, puberulous and pale beneath; midvein pinkish, raised abaxially, impressed adaxially, lateral nerves 10–12 pairs, oblique; petioles 5–7 mm long. Panicles terminal or axillary, 13–15 cm. Flowers 10–20 cm long, sub corymbose panicles; pedicels filiform, 2–5 mm long, lower pedicels longer than upper, up to 15 mm

long; bracts ovate, caducous, minute, hairy, outer sepals 3, ovate-elliptic to rounded, slightly oblique at base, ca 3 × 2 mm, ciliate; inner wing sepals 2, elliptic, patent, alternate at base, rounded at apex, concave, 5–6 × 3–5 mm. Petals 3; middle petal 5–6 mm long, keeled, crested; lateral petals 2, adnate at base to keel, truncate. Stamens 8, 4–5 mm long. Ovary sessile, sub globose, 2 mm long; style ca. 5 mm long, geniculately bent at top; stigma bilobed. Samara globose; 6 – 10 × 1.5–2.5 cm long, strongly corrugate; wings oblique, entire, oblong to obovate, straight on one side, rounded or obtuse at apex, rugose, closely strongly arcuate-nerved; seeds suborbicular, compressed, ca 7 mm long. (Fig. 2).

Habitat and Ecology

During our field visit, we observed five matured individuals growing along the banks of a small stream adjacent to the roadside, found in association with *Macaranga peltata* (Roxb.) Müll.Arg., *Sida acuta* Burm.f., *Lantana camara* L., *Sida rhombifolia* subsp. *rhombifolia*, *Dioscorea* sp., and *Ipomoea* sp.

Phenology

August – October.

Global Distribution

India, Nepal, Bhutan, Bangladesh, Myanmar, Vietnam, China, Malaysia, Thailand, Indonesia, Cambodia, Laos, Philippines.



Fig. 2: *Securidaca inappendiculata* Hassk., A – Habitat; B, C, D, & E – Leaf both sides and closeup of leaf lower surface and stem portion; F – Flowering twig; G & H – Inflorescence and flower closeup; I – Anthers; J – Ovary; K – Fruiting twig.

Distribution in India

West Bengal, Uttar Pradesh, Assam, Tripura, Meghalaya and Orissa. Present report from Andhra Pradesh (Alluri Sitharama Raju District).

Specimens Examined

INDIA: Eastern Ghats, Andhra Pradesh, Alluri Sitharama Raju district, Alluri Division, Maredumilli Range, Pullangi Section, Akumamidikota Beat, Latitude: 17.716444° N; Longitude: 81.769361° E at 534 mt. Jimmy Carter. P 6693; 02.09.2023 (BSID).

Additional specimens examined: *Securidaca cumingii* Hassk. ex Miq. Cuming, H. Philippines. MNHN P P02547029. *Securidaca inappendiculata* Hassk. Zollinger H Indonesia. Botany L 0016592 and Indian virtual Herbarium (IVH) BSI, CAL0000207583, CAL0000207584).

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