



RESEARCH ARTICLE

Sida elongata Blume (Malvaceae): An addition to the Flora of Karnataka State, India

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Abstract

The present collection represents a rarely encountered taxon of the genus *Sida* L. that is poorly represented in herbarium records. It is an annual, erect herb or undershrub reaching up to 1 m in height and is characterized by campanulate, yellowish flowers. The present study documents the recollection of this taxon from Nidasoshi, Belagavi district, Karnataka, India, thereby constituting a new and confirmed distributional record and an addition to the flora of Karnataka State. Detailed morphological description, habitat information and photographic documentation are provided to facilitate accurate identification. This record extends the known geographical range of the taxon and underscores the existing gaps in knowledge regarding its distribution and occurrence. The study further emphasizes the need for intensive floristic and botanical surveys to improve understanding of the status and distribution of *Sida elongata* in Karnataka.

Keywords: Malvaceae, *Sida*, new record, Karnataka, India

Introduction

The *Sida* L. is one of the largest genera of the family Malvaceae Juss. and was validly established by Linnaeus in

Species Plantarum (1753). Species of *Sida* are predominantly distributed in tropical and subtropical regions of the world, occupying a wide range of habitats, with major centers of diversity in the New World tropics and Australia (Mabberley 2017). Several species of the genus are of significant medicinal value and are widely used in traditional systems of medicine (Jiménez-Ferrer *et al.* 2025).

In India, *Sida* is represented by approximately 23 species, as documented in various floristic and taxonomic studies (Sivarajan and Pradeep 1996, Tambde *et al.* 2016, 2020; Ettickal Sukumaran *et al.* 2021). While some species are common and widely distributed, others are rarely collected and remain poorly represented in herbarium collections, resulting in limited attention in floristic accounts.

Sida elongata has been sporadically reported from a few states in India. The earliest collections were from Kerala (Mathew and Sivarajan, 1983, Bharati 2016). Subsequently, the species was reported from Thenmalai MPCA, Tiruvannamalai district, Tamil Nadu, in 2015, occurring in the Eastern and Western Ghats at an elevation of approximately 1000 m above sea level (Balachandran *et al.* 2015). Additional records are known from Aurangabad, Kolhapur, and Nanded districts of Maharashtra (Tambde *et al.* 2016), and more recently from Madhya Pradesh (Lohit and Wagh, 2023). Although *S. elongata* is listed for Karnataka in The Flora of Peninsular India, the record lacks authentic collection details and collector information, and consequently, confirmed recent collections from the state have been absent.

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In Karnataka, eight species of *Sida* have been reported to date (Saldanha and Ramesh, 1984). The present study documents the recollection of *Sida elongata* from Nidasoshi, Belagavi district, and earlier from the Karnatak University campus, Dharwad, Karnataka, India (Kunnur and Kotresha 2012). These records confirm the occurrence of the species in the state and provide a verified addition to the flora of Karnataka. This contribution clarifies the distributional status of the taxon and highlights the importance of continued floristic surveys for documenting rare and under-collected species. A brief taxonomic description, along with taxonomic notes and photographic documentation, is provided to facilitate accurate identification

Material and Methods

Fresh specimens were collected from their natural habitats and processed following standard herbarium preparation procedures (Rao and Sharma 1990). Identification of the specimens was carried out using relevant taxonomic literature (Paul and Nayar 1988, Paul 1993; Tambde *et al.* 2016, 2020). Photographs were taken using a Nikon DX40 digital camera. The voucher specimens were deposited in the Herbarium (HSJPN), Department of Botany, S.N.J.P.S.N.M.S. Trust's Computer Application, Science and Commerce Degree College, Nidasoshi, Hukkeri, Belagavi, Karnataka, India.

Observations

Sida elongata Blume, Bijdr. Fl. Ned. Ind.: 76 1825. *Sida elongata* Blume var. *balica* (Miq.) Borss. Waalk., Blumea 14: 182. 1966; Paul and Nayar in Nayar *et al.* (eds.), Fasc. Fl. India 19: 208. 1988; Paul in Sharma *et al.* (eds.), Fl. India 3: 285. 1993; Sivar. & Pradeep, Malv. South. Penins. India 270. 1996. *S. balica* Miq., Fl. Ned. Ind. 1(2): 141. 1858. Figure 1.

Erect annual herbs or undershrubs, 50–100 cm high. Stem pilose, bearing a mixture of stellate and simple hairs. Leaves simple, alternate; petioles 0.5–3 cm long; lamina broadly ovate to orbicular or ovate-lanceolate, up to 10 × 8 cm, base cordate, apex acute to acuminate, margins irregularly crenate, dentate or serrate; stipules linear-lanceolate, 4 × 1 mm. Flowers axillary, solitary or sometimes arranged in diffuse panicle inflorescences; pedicels 1–2.5 cm long. Calyx campanulate, membranous, ca. 6 × 4 mm, densely hairy, 5-lobed; lobes lanceolate to triangular, 3-nerved. Corolla yellow to yellowish orange or orange-yellow, obovate; lobes ca. 4.5–6.5 × 3.0–5.0 mm. Staminal column, pubescent hairy, 1.5–3.5 mm long; styles 5; stigmas capitate. Fruit a schizocarp, enclosed within the persistent calyx, ca. 4 mm long; mericarps 5, ca. 3 × 3 mm, hairy, with reticulation on the upper surface and a short 2-fid hairy beak at the apex. Seeds ca. 2 mm long, trigonous, brown to brownish black, smooth, shiny, glabrous or with hilum glabrous to minutely hairy.

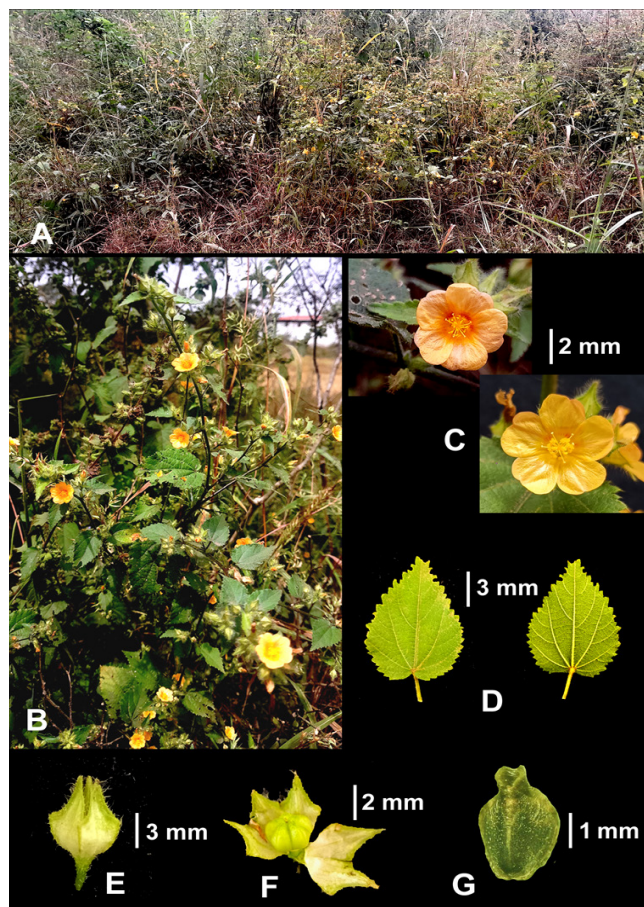


Figure 1: *Sida elongata* Blume.; **A.** Habitat, **B.** Habit, **C.** Close view of flower, **D.** Abaxial and adaxial surface of leaf, **E.** Schizocarp, enclosed within the persistent calyx, **F.** Dissected schizocarp showing 5 mericarps, **G.** Mericarp. (Photograph by Dr. Sidanand V. Kambhar)

Flowering and Fruiting

September to November.

Distribution

World- Java, Sunda Islands (Indonesia) and Malesia; India – Maharashtra, Karnataka, Tamil Nadu, Kerala, Madhya Pradesh.

Ecology

It grows in sandy loam soil, distributed in India and lesser Sunda island. Associate species are *Apluda mutica* L., *Cenchrus ciliaris* L., *Cymbopogon martini* (Roxb.) Will. Watson, *Dalbergia sissoo* Roxb. ex DC., *Indigofera colutea* (Burm.f.) Merr., *Mesosphaerum suaveolens* (L.) Kuntze, *Parasopubia delphiniifolia* (L.) H.-P. Hofm. & Eb. Fisch., *Stylosanthes fruticosa* (Retz.) Alston and *Trichodesma indicum* (L.) Sm.

Specimen examined

INDIA, Karnataka, Belagavi, Nidasoshi, 16-10-2025, Manjula S Bhave & Sidanand V. Kambhar 145 (HSJPN!). GPS location- 16.296955° N, 74.529516° E

Discussion

The present study confirms the occurrence of *Sida elongata* Blume in Karnataka state of India based on recent and authenticated collections from Nidasoshi, Belagavi district, and earlier records from the Karnatak University campus, Dharwad. Although the species was previously listed for Karnataka in *The Flora of Peninsular India*, the absence of voucher specimens, collection numbers, and collector details rendered its presence in the state uncertain. The current collections, supported by deposited herbarium specimens, provide concrete evidence and validate the distribution of *S. elongata* in Karnataka.

Morphologically, the examined specimens closely conform to the diagnostic characters described for *S. elongata*, particularly in having glands on the abaxial surface of leaves and glandular hairs on the calyx lobes. These characters are shared with *S. mysorensis*; however, the presence of distinct pubescent hairs on the staminal column clearly distinguishes *S. elongata* from allied taxa *Sida mysorensis* Wight & Arn. Such characters have been emphasized as taxonomically significant in earlier treatments of the genus (Sivarajan and Pradeep 1996, Tambde *et al.* 2016).

The sporadic and discontinuous distribution of *S. elongata* across different states of India suggests that the

Table 1: Diagnostic morphological characters separating *Sida elongata* and *S. mysorensis*.

Character	<i>Sida elongata</i>	<i>Sida mysorensis</i>
Habit	Erect annual herbs or undershrubs, 50–100 cm high	Annual or perennial herbs or undershrubs, much-branched, odorous, ca. 90 cm high
Stem	Pilose, with a mixture of stellate and simple hairs	Densely pubescent with minute stellate hairs, gland-tipped hairs and long patent simple hairs
Stem nature	Non-viscid	Glandular, aromatic
Leaves	Broadly ovate to orbicular or ovate-lanceolate, up to 10 × 8 cm	Ovate, occasionally upper leaves oblong or orbicular, 1.5–8 × 1–7 cm
Leaf margin	Irregularly crenate, dentate or serrate	Serrate to crenate
Leaf indumentum	Hairy	Stellate and gland-tipped hairs on both surfaces, denser beneath
Leaf venation	5–9 nerved	5–11 nerved from base
Petiole	0.5–3 cm long	1–7 cm long
Stipules	Linear-lanceolate, 4 × 1 mm	Filiform, ca. 6 mm long, hairy
Inflorescence	Solitary flowers or diffuse panicles	Flowers solitary initially, later forming condensed racemes or panicles
Pedicel length	1–2.5 cm	3–20 mm
Calyx size	ca. 6 × 4 mm	5–10 × 3–4 mm
Calyx shape	Campanulate, membranous	Widely campanulate
Calyx lobes	Lanceolate to triangular, 3-nerved	Deltoid, acute to acuminate, connate up to middle
Calyx indumentum	Densely hairy	Pubescent with stellate and long simple hairs outside; glabrous inside except margins
Corolla colour	Yellow to yellowish-orange or orange-yellow	Yellow
Corolla size	4.5–6.5 × 3–5 mm	5–20 mm across
Corolla shape	Obovate	Ob lanceolate to obtriangular
Staminal column	Pubescent, 1.5–3.5 mm long	ca. 4 mm long, glabrous
Styles	5, free	ca. 4 mm long, connate up to middle
Fruit type	Schizocarp enclosed within persistent calyx	Schizocarp
Fruit size	ca. 4 mm long	Mericarps 2.5–3 mm long
Mericaip shape	Nearly rounded, hairy, reticulate above	Tetrahedral with rounded angles
Mericaip surface	Hairy with reticulation on upper surface	Glabrous to sparsely hairy
Mericaip apex	Short 2-fid hairy beak	Acute with short hairy apex
Seed shape	Trigonous	Ovoid to obtriangular
Seed colour	Brown to brownish-black	Brown-black
Seed surface	Smooth, shiny, glabrous or hilum minutely hairy	Glabrous

species is either genuinely rare or under-collected due to its habitat specificity and morphological resemblance to other congeners. The present record extends the confirmed distribution of the species within the Peninsular Indian region and highlights the floristic affinity of the Belagavi region with adjacent parts of the Western and Eastern Ghats. The associated vegetation observed at the collection site further supports the species' preference for open habitats with sandy loam soils.

The recollection of *S. elongata* in Karnataka underscores the importance of continued field-based floristic surveys and critical taxonomic evaluation of historical records. Such efforts are essential for refining species distributions, updating regional floras, and improving our understanding of plant diversity and conservation priorities.

Conclusion

The present study provides a verified and well-documented record of *Sida elongata* Blume from Karnataka, India, thereby confirming its occurrence in the state and adding a reliable entry to the flora of Karnataka. Detailed morphological observations, comparison with allied taxa (Table 1), and deposition of voucher specimens strengthen the taxonomic identity of the species. This contribution not only clarifies the distributional status of *S. elongata* in Peninsular India but also emphasizes the need for systematic floristic exploration to document rare and poorly known plant taxa. Continued surveys and herbarium-based studies will play a crucial role in updating floristic inventories and supporting biodiversity conservation efforts.

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