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The genus *Sida* has 150–200 species distributed widely in tropical and subtropical regions of the world (Willis 1973). Eighteen species are known to occur in India (Sivarajan & Pradeep 1994). Nine species of *Sida* occur in Tamil Nadu, along with two subspecies (Daniel & Umamaheshwari 2001). *S. fryxellii* Sivar. & Pradeep is endemic to Kerala (Sivarajan & Pradeep 1990). *Sida ravii* Sivad. & Anil Kumar is endemic to peninsular India (Sivadasan & Kumar 1996).

The genus *Sida* consists of annual or perennial herbs or undershrubs with axillary flowers either solitary, or in clusters by the development of axillary buds or raceme or panicles by replacement of the upper leaves. Epicalyx is absent. Corolla is rotate, connate below and adnate to the staminal column. Staminal column is shorter than the petals. Carpels are 5–14, uniovulate. Fruits are schizocarps, globular to oblate and depressed. Mericarps are more or less trigonous, muticous or with the two awns at apex. Seeds are ovoid-oblong to reniform.

Sida spp. also show a wide range of morphological variability (Fryxell 1978 & 1985). The characters of *Sida ravii* showed close relationship to *Sida acuta* Burm.f. and *Sida spinosa* L. (Table 1). Fryxell (1985, 1988, 1997) revised Indian Malvaceae which is followed in the revised

SIDA RAVII SIVAD. & ANIL KUMAR (MALVACEAE) A NEW RECORD FROM TAMILNADU, INDIA

N. Dhatchanamoorthy¹, P. Raja², S. Soosairaj³ & A. Kala⁴

^{1,2,4} Research Scholar, ³ Assistant Professor, Department of Botany, St. Joseph's College, Tiruchirappalli, Tamil Nadu 620002, India

¹ dhatcha@gmail.com, ² raja.plantbiology@gmail.com, ³ pspsoosai@yahoo.in (corresponding author), ⁴ akalabot7@yahoo.in

Flora of India (Paul 1993). Sivarajan & Pradeep (1994) stated that the genus *Sida* was a difficult group and several authors had attempted sub-generic classification of the genus. Based on the number of carpels and seeds per carpel, De Candolle (1824) recognized three sections in *Sida*, namely, *Malvinda* Medik. *Abutiloides* Kunth. & Medik. and *Abutilon* Kunth.

Pachchaimalai is situated in Tiruchirappalli District in the southern Eastern Ghats of Tamil Nadu and lies between 11°16'28.320"N & 78°38'02.742"E. The Pachchaimalai Hills with altitude ranging from 700–1200 m shows a subtropical climate with temperatures varying from 25–31 °C and the annual rainfall ranging from 800–900 mm. The Pachchaimalai is floristically rich by virtue of its geographical location, varied forest types, different bio-climatic features, soil and topography. Pachchaimalai



DATA DEFICIENT	LEAST CONCERN	NEAR THREATENED	VULNERABLE	ENDANGERED	CRITICALLY ENDANGERED	EXTINCT IN THE WILD	EXTINCT
DD	LC	NT	VU	EN	CR	EW	EX

Sida ravii



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is rich in vegetation and also socio-religiously important and approximately 350 ethnobotanical medicinal plants used by indigenous people are present here.

During field exploration (2012–2014) at Pachchaimalai, the authors collected specimens of an interesting species of *Sida*. A critical examination of the specimens revealed its identity as *Sida ravii*. The identity of the species was further confirmed with published literature (Fryxell 1978). This species has so far not been collected from Tamil Nadu. Hence, the present collection is the first report and is an addition to the flora of Tamil Nadu. Voucher specimens are deposited at the Department herbarium, St. Joseph's College, Tiruchirappalli. A detailed description, nomenclature and other relevant information are provided for the easy identification of *Sida ravii* and a table of differentiation from the close resembling species *S. acuta*, and *S. spinosa*.

Sida ravii

Sivad. & Anil Kumar, Willdenowia 25: 651. 1996.

Erect, profusely branched undershrubs, up to 1.5m high; branchlets subterete, stellate-hairy. Leaves alternate, ovate-lanceolate, oblong-elliptic or lanceolate, 2–7 x 1–4 cm, cordate-rounded at base, crenate, serrate at margin, acute at apex, sparsely stellate-pubescent or glabrescent; 6–8 pair of main lateral nerves, basally 5-nerved at base. Petioles terete, 5–15 mm long, slightly thickened below. Stipules 2, linear, 5–7 mm long. Flowers axillary, 1–3 flowered; pedicel erect, terete, bent upwards, 1–3 cm long.

Calyx 5-lobed, campanulate, articulate near calyx base; lobe deltoid, ca. 5mm long, acuminate at apex, faintly 10-nerved, glabrous inside. Corolla 5-lobed, rotate, 15–20 cm across; petals 5, obliquely obovate, 10–12 mm long, shallowly emarginated at apex, simple hairy. Staminal tube cylindrical, 3–4.2 mm long; filament filiform, ca. 1.5mm long, glabrous. Ovary ovoid, ca. 2mm long; 5-loculed; ovules two per cell; style filiform, 2–3.5 mm long, glabrous; stigma capitate. Schizocarp subglobose, ca. 7mm long; mericarps 8–10 or 12, radially compressed, reticulately ribbed beneath, divergent, mucronate at apex, glabrous or stellate-hairy; seeds 1–2 per cell, subreniform, 1.5mm long, glabrous, brownish-black (Fig. 1).

Specimens examined: SJCOT1218, 19.xi.2012, Tiruchirappalli District: On way to Ramanathapuram from Turaiyur (Pachchaimalai), 759m, coll. S. Soosairaj (Fig. 2; Image 1).

Flowering & Fruiting: July–December.

Habitat: Rare, along roadsides and cultivated lands, at about 750m altitude. Found associated with *Senna tora*, *Sida acuta*, *Sida cordifolia*, *Solanum americanum* and *Vernonia anthelmintica*.

Distribution: India; Kerala and Tamil Nadu (Pachchaimalai)

Remarks: In India, *Sida ravii* is reported to occur in the Western Ghats, Kerala (Kumar et al. 2005). However, there are no authentic specimens from any of the southern states in the Madras Herbarium (MH) and it is not reported in any of the floras pertaining to the Western Ghats and Eastern Ghats (Haines 1924;

Table 1. Species that is closely related to *Sida acuta* and *Sida spinosa*

	<i>Sida ravii</i> Sivad. & Anil Kumar	<i>Sida acuta</i> Burm.f.	<i>Sida spinosa</i> L.
1	Undershrub, up to 1.5m high	Undershrub, up to 70cm high	Spiny undershrub, up to 1m high
2	Leaves ovate-lanceolate, oblong-elliptic or lanceolate, serrate at margin	Lower leaves rhomboid-elliptic and upper leaves, linear to lanceolate, coarsely remotely serrate at margin	Leaves oblong-elliptic or obovate, serrate at margin
3	Petioles 5–15 mm long	Petioles 2–6 mm long, minute stellate hairy	Petioles 2–25 mm long, glabrescent
4	Stipules 2, linear, 5–7 mm long	Stipules linear-filiform, 2–12 mm long	Stipules linear, 1–2.5 mm long
5	Flowers solitary, 1–3 in axillary node	Flowers solitary 2–3 in axillary node	Flowers solitary, 2–5 in axillary node
6	Pedicel erect, bent upwards, 1–3 cm long	Pedicel 3–12 mm long pubescent	Pedicel 2–8 mm long
7	Calyx 5mm across, accrescent	Calyx 5–6 mm across campanulate slightly accrescent	Calyx 3–5 mm across, campanulate
8	Corolla 15–20 cm across, petals as equal as the calyx lobe	Corolla 8–10 mm across; petals as long as the calyx lobes	Corolla 5–8 mm across
9	Staminal column 3–4.2 mm long	Staminal column ca. 4mm long, glandular hairy	Staminal column 2–2.6 mm long, glabrous
10	Mericarps 8–10 or 12, radially, 3–5 mm long, compressed, with 2 awns at apex	Mericarps 4–10 ca. 4mm long, as long as the calyx, with 2 awns at apex 1.5mm long	Mericarps 5, trigonous, 2–3 mm long, with 2 awns at apex, 1.5mm long
11	Seeds subreniform, 1.5mm long, glabrous, brownish-black.	Seeds ovoid, ca. 2mm long dark brown, glabrous except for the short hairs	Seeds ovoid, 1.5mm long, glabrescent, brownish black

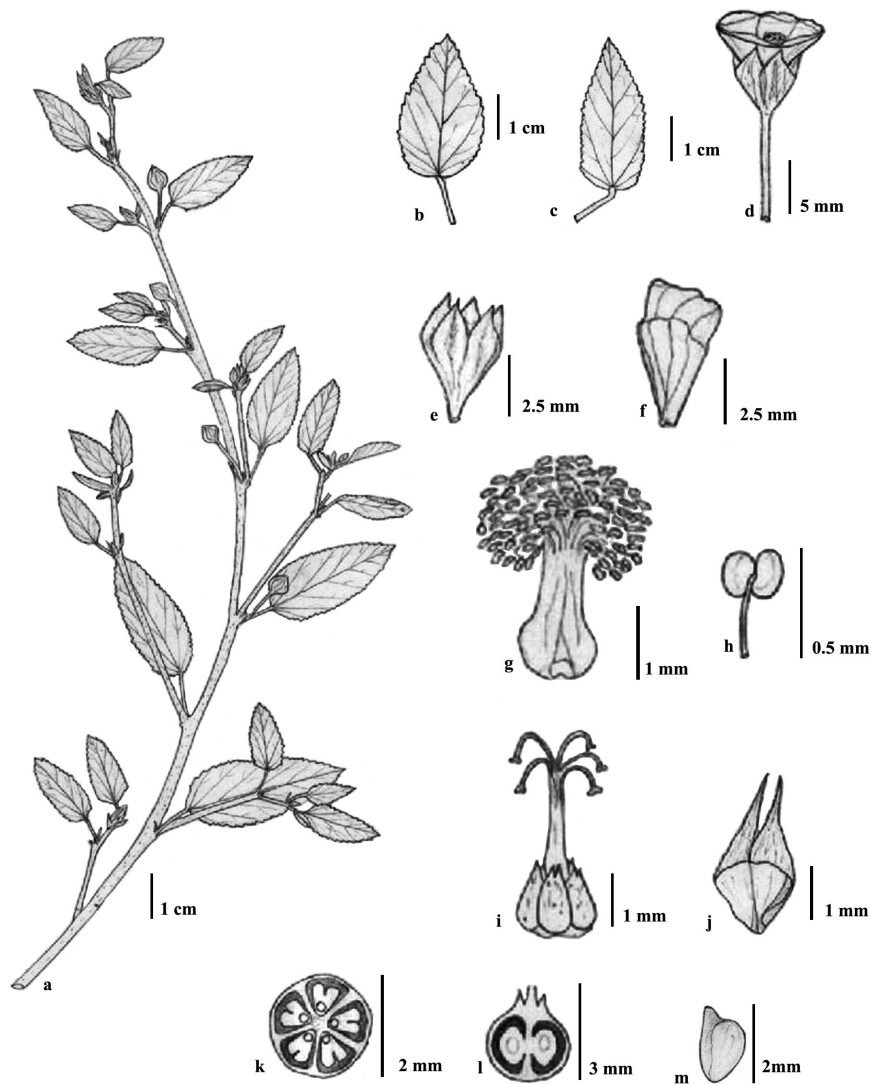


Figure 1. *Sida ravii*. a - Habit; b&c - Leaf; d - Flower; e - Calyx; f - Corolla; g - Staminal Column; h - Stamen; i - Pistil; j&k - Ovary t.s & l.s.; l - Mericarp; m - Seed

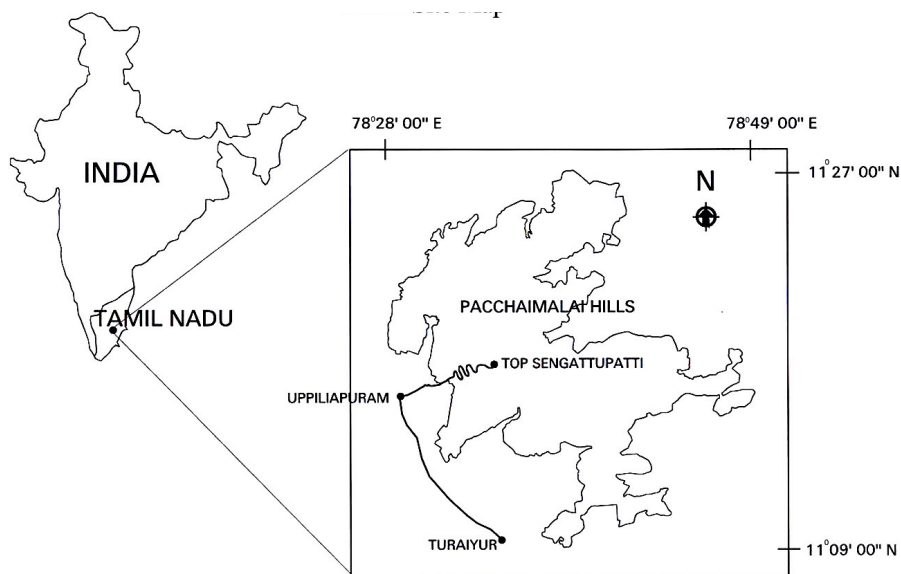


Figure 2. Study area

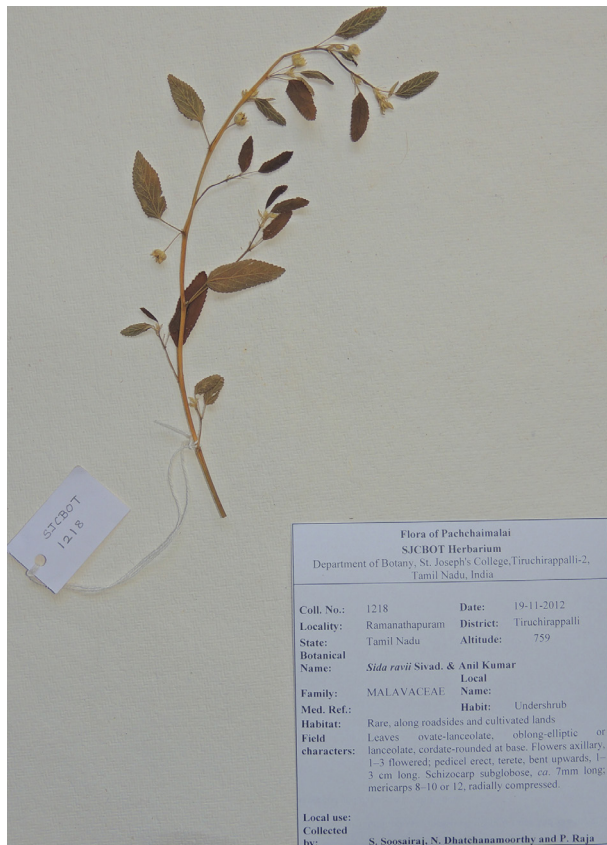


Image 1. Herbarium of *Sida ravii*

Fyson 1932; Mooney 1950; Gamble 1957; Narasimhan 1991; Matthew 1983, 1999; Pullaiah & Moulali 1997; Pallithanam 2001; Manickam et al. 2003; Murugesan 2006; Nayar et al. 2006; Pullaiah & Karuppusamy 2008). We found *Sida ravii* to be rarely distributed in the Eastern Ghats of Tamil Nadu. Probably it is spread from Kerala State as the Tapioca stem cuttings are purchased for cultivation.

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