

# Two new additions to the flora of South India from Manjeera Wildlife Sanctuary, Telangana

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## मंजीरा वन्य जीव अभयारण्य, तेलंगाणा से दक्षिण भारत के फ्लोरा के लिए दो नवीन संकलन

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### सारांश

मंजीरा वन्य जीव अभयारण्य, तेलंगाणा से दो पादप जातियों यथा., ऐबुटिलोन बाइडेंटेटम होचस्ट एक्स ए. रिच. (मालवेसी) एवं मिमुलस स्ट्रिक्टस बेन्थ. (फ्रिमेसी) को नवीन संकलन के रूप में दक्षिण भारत के फ्लोरा में शामिल किया गया है।

### ABSTRACT

Two plant species viz., *Abutilon bidentatum* Hochst. ex A.Rich. (Malvaceae) and *Mimulus strictus* Benth. (Phrymaceae) are reported here as additions to the flora of South India from the Manjeera Wildlife Sanctuary, Telangana.

**Keywords:** *Abutilon bidentatum*, Malvaceae, *Mimulus strictus*, Phrymaceae, Sangareddy, Wetlands, Wildlife Sanctuary

### INTRODUCTION

Manjeera Wildlife Sanctuary is a fresh water ecosystem with an area of 20 sq km located in Sangareddy District of Telangana, India (17°57'52"N 78°02'22"E). The man-made reservoir was notified as wildlife sanctuary on 20<sup>th</sup> May 1978 to conserve marsh crocodiles, fresh water terrapins and other water birds. The Sanctuary is located 50 km northwest of Hyderabad and serves as a drinking water source for the twin cities (Prasad & al., 2012). The riverine ecosystem has many small islets viz., Puttigadda, Bapangadda, Sangamadda, Karnamgadda, which harbor good vegetation and the extensive marshy fringes act as nesting sites for water birds.

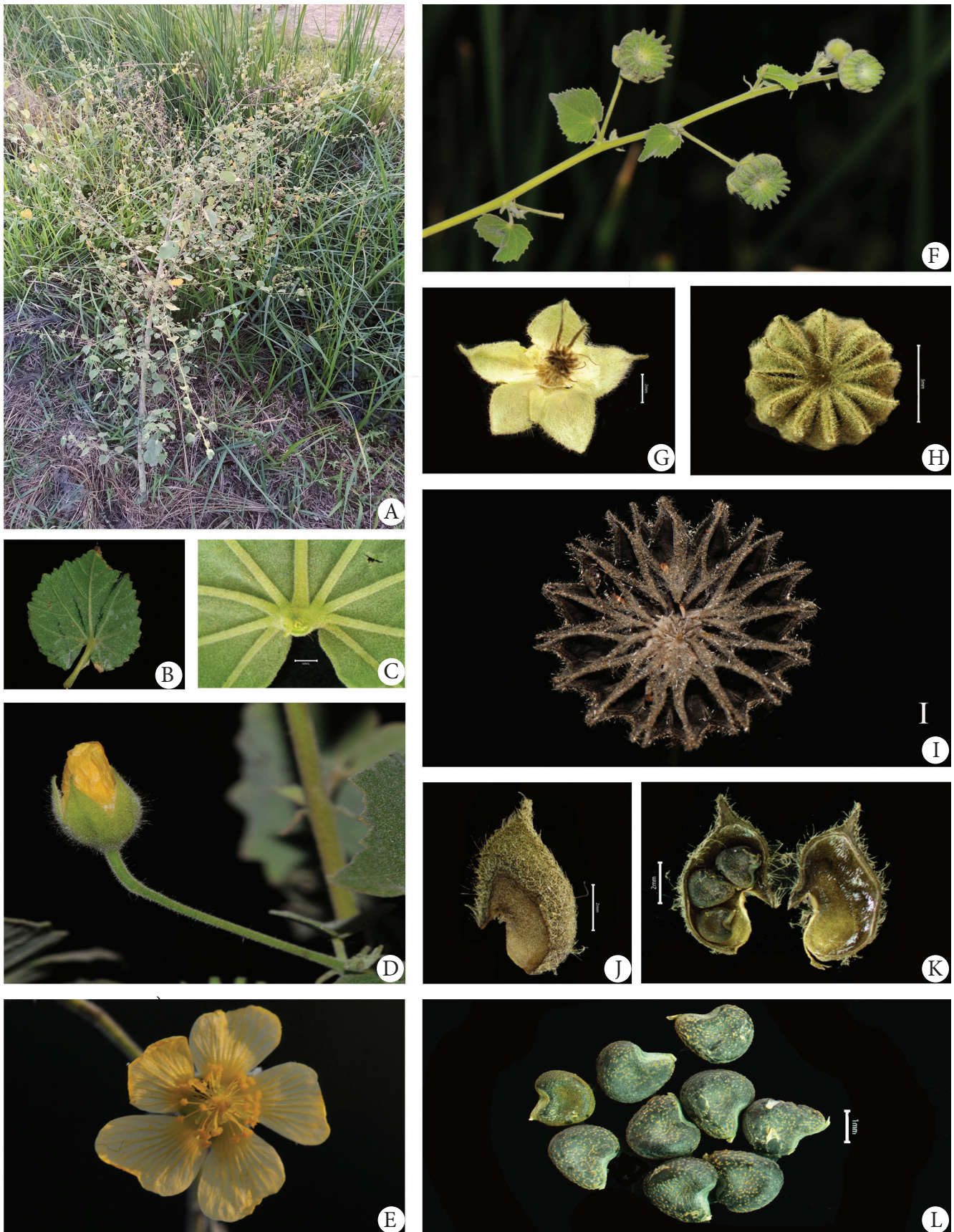
While exploring the floristic wealth of Manjeera Wildlife Sanctuary, the authors have collected two interesting species viz., *Abutilon bidentatum* Hochst. ex A.Rich. (Malvaceae) and *Mimulus strictus* Benth. (Phrymaceae) along the banks of Manjeera river as well as the nearby paddy fields. On critical studies on these specimens with relevant literature revealed that, both the species are not

reported from South India. *Abutilon bidentatum* Hochst. ex A.Rich. is a medium sized undershrub distributed from Tropical Africa, S. Arabian Peninsula, Pakistan and northern part of India particularly Delhi, Gujarat, Maharashtra, Punjab and Rajasthan states (Paul, 1993). *Mimulus strictus* Benth. is known from Bangladesh, Myanmar, Nepal, Pakistan, Vietnam and northern part of India viz., Western Himalaya, Odisha, Punjab and West Bengal (Hook. f., 1884; Saxena & Brahmam, 1995). Hence, both the species are reported here as additions to the flora of south India. A detailed description and photo plates for both the species are provided to facilitate easy identification.

### TAXONOMIC TREATMENT

***Abutilon bidentatum*** Hochst. ex A.Rich., Tent. Fl. Abyss. 1: 68. 1847; Masters in Hook.f., Fl. Brit. India 1: 326. 1874; T.K. Paul, Fl. India 3: 261, t. 70. 1993. (**Fig.1.**)

Medium sized undershrub, up to 1.5 m high; stem terete, pale brown, stellate pubescent, mixed with weak simple



**Fig. 1.** *Abutilon bidentatum* Hochst. ex A.Rich.: A. Habit; B. Leaf; C. Leaf basal area of lower surface showing veins; D. Flower bud; E. Flower; F. Fruiting branch; G. Calyx; H-I. Capsule; J. Mericarp; K. Mericarp-open; L. Seeds



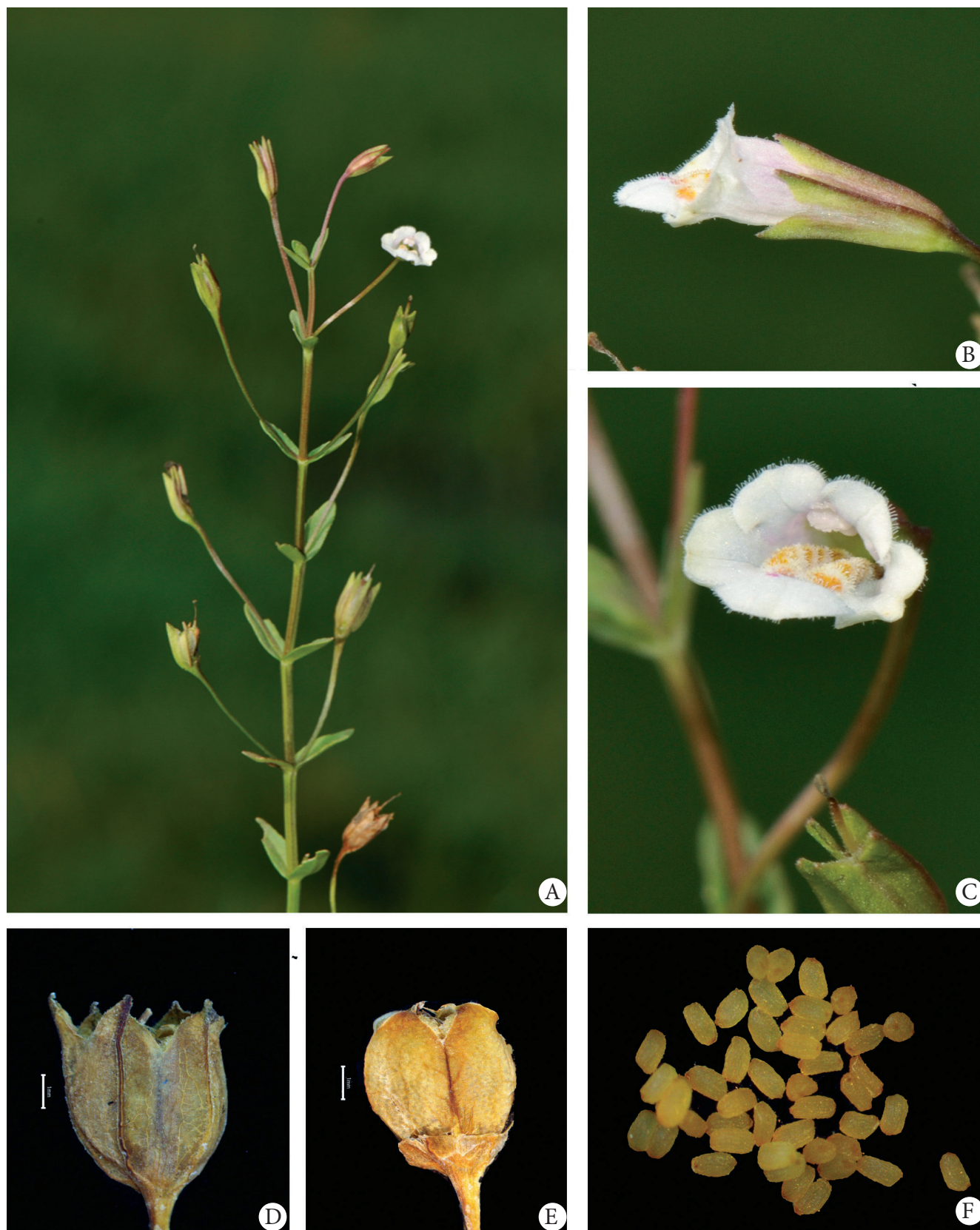


Fig. 2. *Mimulus strictus* Benth.: A. Habit; B. Flower – side view; C. Flower – top view; D. Capsule included in calyx; E. Capsule; F. Seeds

spreading hairs. Leaves simple, alternate, broadly ovate, 2–5.5 × 1–5 cm, deeply cordate at base, acute to acuminate at apex, serrate, stellate tomentose and velvety on both sides; lateral nerves 3–4 pairs on either sides, flabellate, 1–2 pairs ascending from base; petiole 1–4.5 cm long, stellate tomentose mixed with weak, simple, spreading hairs; stipules linear, up to 5 mm long. Flowers yellow, axillary, solitary; pedicels 1–3.5 cm long, articulate and geniculate above the middle. Calyx 5-lobed, up to 6 mm long, densely pubescent on both sides; lobes ovate-lanceolate, acuminate, c. 4 mm long. Corolla pale yellow c. 1.3 cm across; petals obovate, c. 8 × 4.5 mm. Staminal column up to 2 mm long, stellate pubescent. Fruit c. 1 × 1.5 cm; mericarps 12–6, at maturity spreading stellately separating after dehiscent, c. 8 × 5 mm, acuminate at apex; awn 1 mm long, stellate pubescent towards the margin. Seeds 3, reniform, c. 2 mm across, brown with short projections.

**Flowering & Fruiting:** Throughout the year.

**Habitat:** Uncommon along the riverbanks and paddy fields.

**Distribution:** INDIA: Delhi, Gujarat, Maharashtra, Punjab and Rajasthan; TROPICAL AFRICA, S. ARABIAN PENINSULA AND PAKISTAN.

**Specimens examined:** Telangana, Sangareddy district, Manjeera Wildlife Sanctuary, Puttipally, 13.12.2019, L. Rasingam & J. Swamy 011145 (BSID); Minpur, 09.06.2021, L. Rasingam & J. Swamy 011220 (BSID).

**Note:** This species is closely related to *A. indicum* but differs by its small sized flowers and fruits and less number of mericarps.

**Mimulus strictus** Benth., Scroph. Ind. 28. 1835; Pennell, Acad. Nat. Sci. Philad. Monogr. 5: 32. 1943; Saxena & Brahmam, Fl. Orissa 2: 1262. 1995. *M. gracilis* auct. non. R.Br., Hook.f., Fl. Brit. India 4: 259. 1884; Grant, Ann. Missouri. Bot. Gard. 11: 134. 1924. (Fig. 2)

Perennial herb, upto 40 cm high; stem erect, simple or branched from near the base, quadrangular, the angles winged. Leaves sessile, opposite, linear-oblong or lanceolate, 10–30 × 3–6 mm, clasping at the broad base or subauriculate, entire to denticulate, obtuse at apex, 1-nerved. Flowers axillary, solitary, white; pedicels up to 2 cm long. Calyx tubular, 6 mm long; tube up to 5 mm long; teeth deltoid-lanceolate, c. 1 mm long, ciliate. Corolla white with yellow throat, c. 12 mm long; tube and throat broad, exserted, lobes broad, nearly

truncate, ciliate, upper lip erect and much shorter than the spreading lower lip, throat nearly closed by the prominent hairy palate. Stamens didynamous, included; filaments thickened along the lower part. Style glabrous, included, with a persistent tubercular enlargement at the base; stigma lobes broadly rounded, laciniate. Capsule oblong, c. 5 × 3.5 mm, included; seeds oblong, reticulate, minute, light brown.

**Flowering & Fruiting:** November–March.

**Habitat:** Rare along the riverbanks and paddy fields.

**Distribution:** INDIA: Bihar, Odisha, Punjab, West Bengal and Western Himalaya; BANGLADESH, MYANMAR, NEPAL, PAKISTAN AND VIETNAM.

**Specimens examined:** Telangana, Sangareddy district, Manjeera Wildlife Sanctuary, Pulkal, 25.02.2021, L. Rasingam & J. Swamy 011242 (BSID).

**Notes:** *Mimulus gracilis* R.Br. is an Australian species often confused with the *Mimulus strictus*, but the later species has short pedicels (up to 3 cm long) with white flowers, whereas the former species has long pedicels (4–6 cm long) with violet, purple or blue flowers.

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