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Cover: Mixed media illustration of a Blue bird and Sunbird. © Lakshmi Niranjana.



Medicago monantha (Fabaceae) and *Euphorbia jodhpurensis* (Euphorbiaceae) as new additions to the flora of Maharashtra State, India

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Abbreviations: BLAT—Blatter Herbarium, St. Xavier's College (Autonomous), Mumbai, Maharashtra 400001 | BSJO—Botanical Survey of India, Arid Zone Circle, Jodhpur, Rajasthan, India | CAL—Botanical Survey of India, Central National Herbarium, Howrah, West Bengal, India | LE—The Komarov Botanical Institute of RAS, Saint Petersburg, Russia.

During the recent (2019–2022) botanical survey of Daund Tehsil in Pune District of Maharashtra State, two plant specimens belonging to the genera *Medicago* L. and *Euphorbia* L. were collected. On the thorough scrutiny of the literature (Bentham 1839; Trautvetter 1840; Baker 1879; Hooker 1890; Blatter & Hallberg 1920; Ali 1977; Purohit et al. 2019), they have been identified as *Medicago monantha* (C.A. Mey.) Trautv. (1840, Fabaceae) and *Euphorbia jodhpurensis* Blatt. & Hallb. (1920, Euphorbiaceae), which were hitherto not reported from the Maharashtra State. The herbarium specimens (Image 1B & 1C) of the plant species reported herein are deposited at the Blatter Herbarium (BLAT), St. Xavier's College (Autonomous), Mumbai. The detailed descriptions, distribution, and photographs of both species are provided herein for their easy identification.

Systematic treatment

Fabaceae

Medicago monantha (C.A. Mey.) Trautv., Index Seminum [Kiev] 1840: vi, adnot. No. 4. 1840; Mishra et al., Indian J. Plant Sci. 4(3): 70. 2015; Mishra et al., Int. J. Herb. Med. 3(4): 11. 2015; Mishra et al., Indian J. Plant Sci. 4(4): 92. 2015; Pandey et al., J. Med. Plants Stud. 5(5): 53. 2017; Kaur et al., J. Threat. Taxa 9(8): 10556. 2017; Sanjappa & Ambrish in Dar & Khuroo, Biodivers. Himal.: Jammu & Kashmir State: 640. 2020; Sharma, Int. J. Innov. Res. Sci. Eng. 11(5): 6098. 2022; Sharma, Int. J. Innov. Res. Sci. Eng. 11(7): 9623. 2022; Choudhary et al., Int. Res. J. Modern. Eng. Technol. Sci. 5(8): 565–569. 2023. *Trigonella monantha* C.A. Mey., Verz. Pfl. Casp. Meer.: 137. 1831. *Trigonella polyceratia* auct. non. L. (1753): Baker in Hook. f., Fl. Brit. India 2: 87. 1879; Duthie, Fl. Gangetic Plain 1(1): 209. 1903; Bamber, Pl. Punjab.: 554. 1916; Babu, Herb. Fl. Dehradun: 168. 1977; Sharma & Dhakre, Fl. Agra Distr.: 96. 1995. *Trigonella incisa* Royle ex Benth., Ill. Bot. Himal. Mts.: 197. 1839; Aitchison, Cat. Pl. Punjab and Sindh: 38. 1869; Maheshwari, Fl. Delhi: 115. 1963; Nair, Rec. Bot. Surv. India 12(1): 101. 1978; Sanjappa, Legumes of India: 265. 1992; Bhellum

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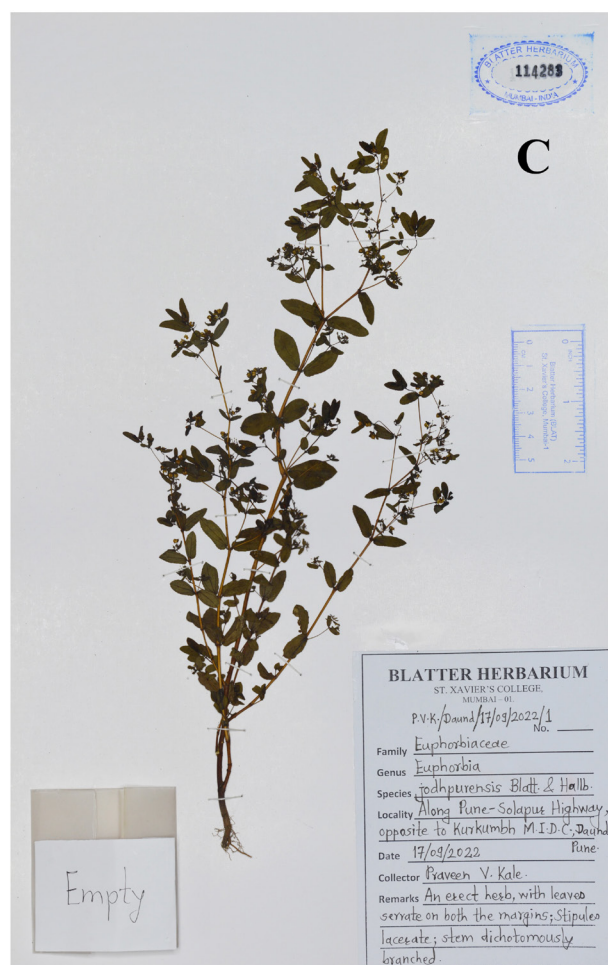
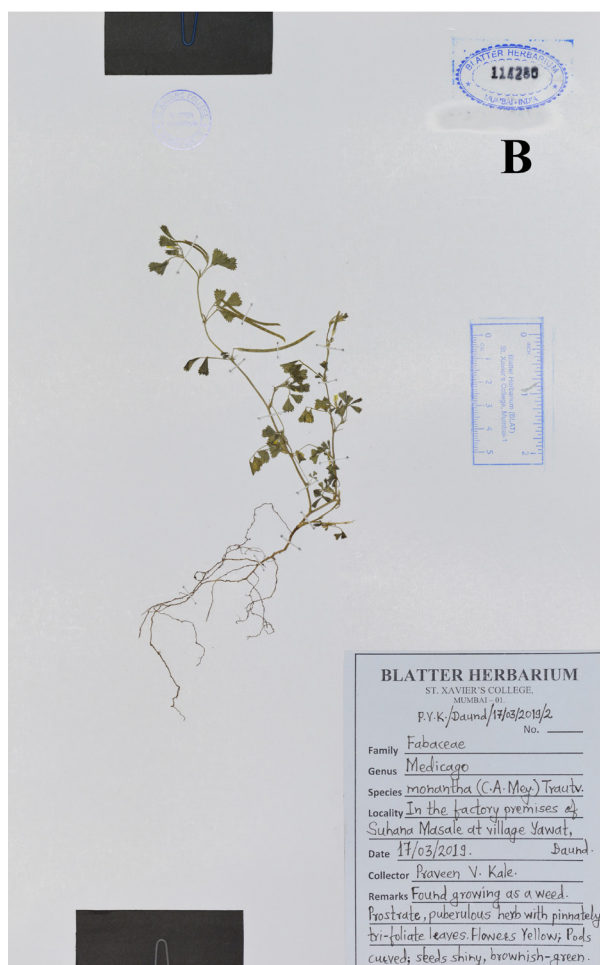
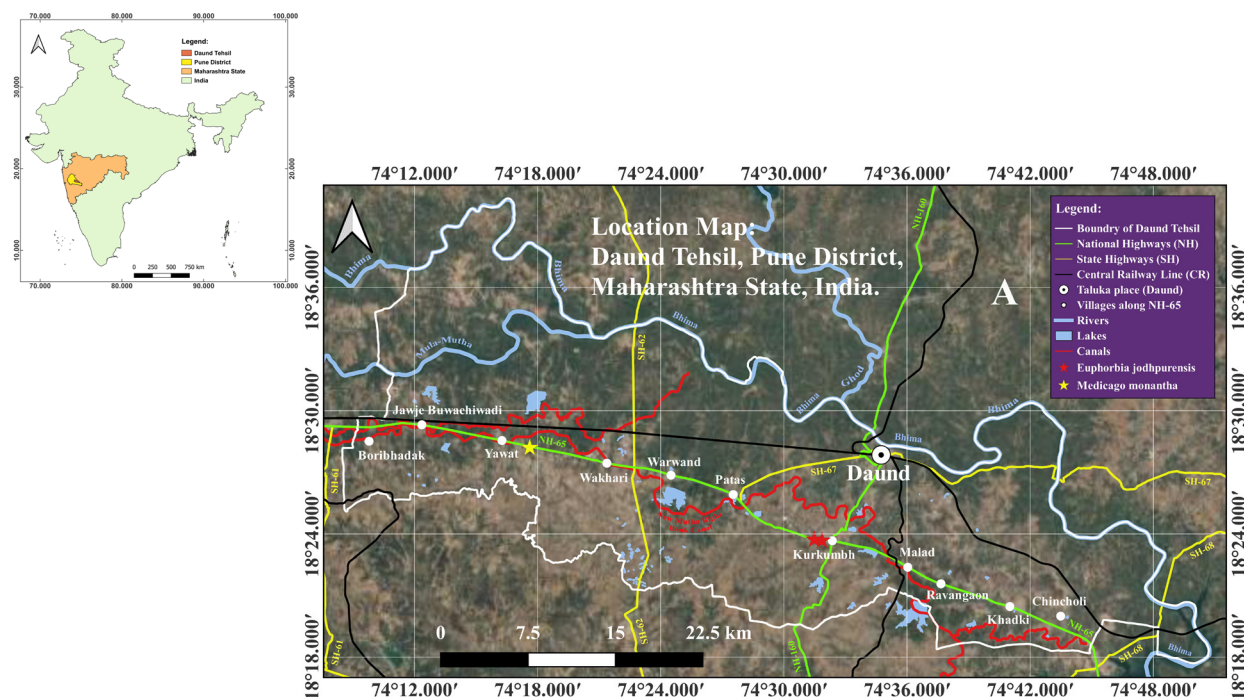


Image 1. A—Location Map | Herbarium specimens deposited at BLAT: B—*Medicago monantha* (C.A. Mey.) Trautv. | C—*Euphorbia jodhpurensis* Blatt. & Hallb. © The Director, Blatter Herbarium, St. Xavier's College (Autonomous), Mumbai.

& Magotra, J. Plant Biol. Res. 1(2): 7. 2012. *T. monantha* ssp. *incisa* (Benth.) Ali in Nasir & Ali, Fl. W. Pakistan, Papilionaceae 100: 294. 1977; Singh in Shetty & Singh, Fl. Rajasthan 1: 269. 1987. (Image 2H–J).

Annual, silvery-puberulous herb with prostrate to ascending slender stem. Leaves pinnately 3-foliate, strongly nerved; petioles 1–1.5 cm long; leaflets 5–10 × 3–7 mm, obovate-oblong, retuse at apex, cuneate at base, toothed mainly in upper part, sub-glabrous above, sparsely silvery-puberulous beneath; lateral nerves 5–8, conspicuous; petiolules of lateral leaflets are very short, those of terminal leaflets 1–1.5 cm long. Stipules are linear-subulate, puberulous, 3–6 mm long, single-nerved. Inflorescence axillary, sessile or pedunculate, 1–3-flowered in axillary sub-umbellate clusters; peduncles 0.5–1.5 cm long, puberulous; bracts linear-subulate, puberulous, 1–2 mm long; pedicels less than 1 mm long. Calyx campanulate, linear-lanceolate, very acute, 3–5 mm long, puberulous outside; teeth 5, sub-equal. Corolla yellow; standard 5–7 × 2–2.5 mm, obovate, narrow towards base, retuse; wings 3.5–4 × 1 mm, oblong-obovate, obtuse, claw 2.0–2.3 mm long, upper auricle 0.5–1 mm long; keels 3.5–4 × 1 mm, oblong-obovate, slightly curved towards apex, rounded, claw 2 mm long, flat, upper auricle minute. Stamens glabrous; vexillary filaments 2.3–3 mm long, flat; staminal sheath 2.5–4 mm long; free filaments 0.5–0.7 mm long, sub-equal; anthers minute. Ovary 2.7–3.3 × 0.5 mm, narrowly oblong, ovules many, very minute hairs present along dorsal side when young, densely sericeous at maturity; style 0.5 mm long, subulate, flat, curved, glabrous, persistent; stigma capitate, glabrous. Pods greyish-green, 2.7–5.5 × 0.1–0.2 cm, linear-cylindrical, somewhat compressed, straight or slightly falcate, apiculate, reticulately veined, 12–15-seeded; seeds brownish-green.

Flowering & Fruiting: March–May.

Habitat & associates: In the garden premises of Pravin Masalewale (Suhana Masala) factory unit located along the Pune–Solapur Highway Road, found growing as a weed together with *Medicago polymorpha* L., *Solanum nigrum* L., *Dactyloctenium aegyptium* (L.) Willd., *Eragrostis tenella* (L.) P. Beauv. ex Roem. & Schult. and *Setaria verticillata* (L.) P. Beauv.

Distribution in India: So far has been reported from Delhi, Haryana, Himachal Pradesh, Jammu & Kashmir, Punjab, Rajasthan, Uttarakhand, and Uttar Pradesh. The present collection from Yawat village, Daund tehsil, Pune district, Maharashtra State, India (Image 1A), forms its first report for the State.

Specimens examined: Maharashtra, Suhana Masale

Factory Premises, Yawat, Daund tehsil, Pune district, 18.469 °N, & 74.294 °E, 17.iii.2019, coll. P. V. Kale, P.V.K./Daund/17/03/2019/2 (BLAT Accession number 114280).

Euphorbiaceae

Euphorbia jodhpurensis Blatt. & Hallb., J. Bombay Nat. Hist. Soc. 26(4): 971. 1920; Bhandari, Fl. Ind. Desert: 342. 1978; Parmar in Shetty & Singh, Fl. Rajasthan 2: 781. 1991; Binoj Kumar & Balakrishnan in Balakrishnan et al., Fl. of India 23: 291. 2012; Purohit et al., Euphorbia World 15(3): 18–22. 2019; Kotiya et al., Fl. Rajasthan: 441. 2020. *Euphorbia clarkeana* var. *erecta* Hook.f., Fl. Brit. India 5: 254. 1890. *Chamaesyce jodhpurensis* (Blatt. & Hallb.) Raju & Rao, Phytologia 40(5): 392. 1978. (Image 2A–G).

Annual, about 15–60 cm high, glabrous, filiform; stem straw-coloured, erect, simple, or branched from base. Leaves opposite, 12–15 × 3–4.5 mm, obliquely linear-oblong, base almost auricled on one side, margins usually spinulose-serrate, apex obtuse or sub-acute, coriaceous, often crowded at end of branchlets; petioles very short. Stipules lacerate. Cyathia solitary, axillary, less than 1 mm long, campanulate, glabrous; involucre lobes 5, lanceolate, triangular, toothed; glands 4, minute, rounded with pinkish-white orbicular appendages. Male flowers 3–4, pedicels ca 0.5 mm long; anthers sub-globose, transversely dehiscent. Female flower solitary, pedicels ca 1 mm long, glabrous; ovary sub-globose, ca 1 mm across; style 3, ca 1.2 mm long, free from base, each bifurcated up to base; stigma capitate. Capsules yellowish-green with a reddish tinge, sub-globose 1.5–1.7 mm in diam., glabrous, obtusely keeled, cocci somewhat corset; seeds rose-brownish, 1–2 mm long, 4-angled, attenuated and obtuse at apex, distinctly transversely rugose, delicately foveolate.

Flowering & Fruiting: September–December.

Habitat & associates: In sandy soils near the Kurkumbh M.I.D.C. along the Pune–Solapur Highway Road, found growing together with *Euphorbia hirta* L., *Tridax procumbens* L., and *Alternanthera pulchella* Kunth.

Distribution in India: The present collection of specimens of *E. jodhpurensis* collected from Kurkumbh village, Daund Tehsil, Pune District, Maharashtra State, India (Image 1A) forms its extended distribution to Maharashtra State from Rajasthan.

Specimens examined: Maharashtra, Along Pune–Solapur Highway opposite to Kurkumbh M.I.D.C., Kurkumbh, Daund Tehsil, Pune District, 18.395 °N & 74.525 °E, 17. ix.2022, coll. P. V. Kale, P.V.K./Daund/17/09/2022/1 (BLAT Accession number 114283).



Image 2. *Euphorbia jodhpurensis* (A–G): A—Habit | B—Lacerate stipules | C—Leaves showing margins spinulose-serrate | D—Inflorescence | E—Male flowers | F—Cyathium showing male & female flowers | G—Seeds. *Medicago monantha* (H–J): H—Habit | I—Single flower | J—Pods.

IUCN Red List status: Purohit & Kulloli (2022) listed *Euphorbia jodhpurensis* as 'Endangered' under criteria B2ab(iii), D.

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