

# *Thespis thakeri* (Asteraceae): a new species from Gujarat, India

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**Abstract:** *Thespis thakeri* J.J.Sharma & Nagar, a new species from the Saputara hills of Gujarat, India, is described and illustrated. *Thespis thakeri* resembles *T. tonkinensis* Gagnep. and *T. integrifolia* Gagnep. but differs in habit, shape of leaves, capitula attachment, involucre bracts and pappus. Notes on the taxonomy and a key to all species of the genus *Thespis* are provided.

**Keywords:** Astereae, Eschenbachiinae, Saputara, Taxonomy, *Thespis*.

## Introduction

The genus *Thespis* DC. (Asteraceae, tribe Astereae, subtribe Eschenbachiinae) is distributed in Southeast Asia with three accepted species (Nesom & Robinson, 2007; Nesom, 2020; POWO, 2023). *Thespis divaricata* DC. alone is reported from India and Southeast Asia (Roxburgh, 1832; Clarke, 1876; Hooker, 1881; Hajra *et al.*, 1995; Brach & Song, 2006; POWO, 2023), while *T. tonkinensis* Gagnep. and *T. integrifolia* Gagnep. are restricted to Vietnam (POWO, 2023). *Thespis* was initially described by Wallich (1825) under the genus *Cotula* L. However, it was later segregated and described as *Thespis* by Candolle (1833, 1836) on the basis of its heads in capitulescences, subulate style, and presence of pappi.

During plant explorations in the Dang district of Gujarat, India, an interesting specimen of Asteraceae was collected from Saputara. On critical examination with the available literature (Wallich, 1825; Candolle, 1833, 1836; Hooker, 1881; Gagnepain, 1921; Hajra *et al.*, 1995) and

digital images of the type material (GBIF, 2023), it was found that the heads arrangement in capitulescence, ray florets without corolla, sterile disc florets, apiculate anthers and presence of pappus match with those of *T. tonkinensis* Gagnep. and *T. integrifolia* Gagnep. However, it is quite distinct from *T. tonkinensis* and *T. integrifolia* in its habit, shape of leaves, involucre bracts, corolla colour and nature of pappus (Table 1), and hence it is described here as a new species.

## Taxonomic Treatment

***Thespis thakeri* J.J.Sharma & Nagar, sp. nov. Figs. 1–3**

*Thespis thakeri* is similar to *T. integrifolia* Gagnep. and *T. tonkinensis* in having monopodial branching and terminal compound corymbose capitulescences, but differs in being shrubs with lanceolate leaves, involucre bracts acuminate at the apex and pappi longer than corolla tubes, while *T. integrifolia* and *T. tonkinensis* are herbs with spatulate leaves, involucre bracts obtuse at the apex and pappi shorter than corolla tubes.

**Type:** INDIA, Gujarat, Dang district, Saputara, 869 m, N 20°34'52.68", E 73°44'49.91", 13.02.2022, Jaydeep J. Sharma 080 (holo BARO!; iso BSJO!, CALI!).

A tall woody annual herb 1.2–2 m tall. Stem woody, branching monopodial, terete, pubescent. Leaves simple, alternate, estipulate, shortly petiolate, obovate–lanceolate or elliptic–lanceolate, 4.3–19.8 × 1.8–6.4 cm, cuneate at base, serrate at margin, acute at apex, glabrescent adaxially, pubescent abaxially. Capitulescence a terminal compound corymb with many small heads, 15–35 cm long. Heads disciform, 2.1–2.75

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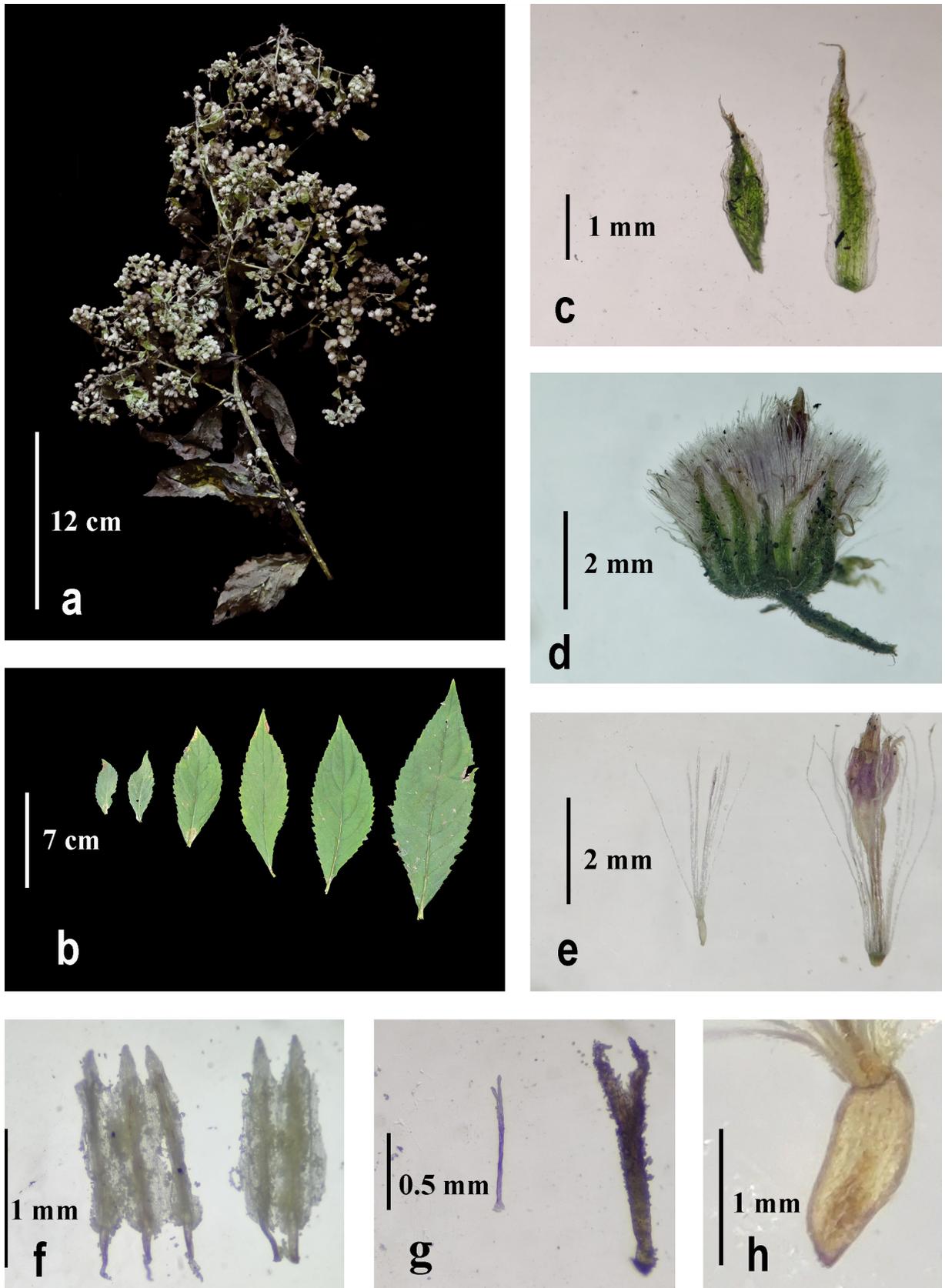


Fig. 1. *Thespis thakeri* J.J.Sharma & Nagar: a. Flowering twig; b. Leaf; c. Involute bract; d. Head; e. Florets (ray floret on left and disc floret on right); f. Anthers; g. Style (ray floret on left and disc floret on right); h. Cypsela (from Jaydeep J. Sharma 080; photos by Jaydeep J. Sharma).

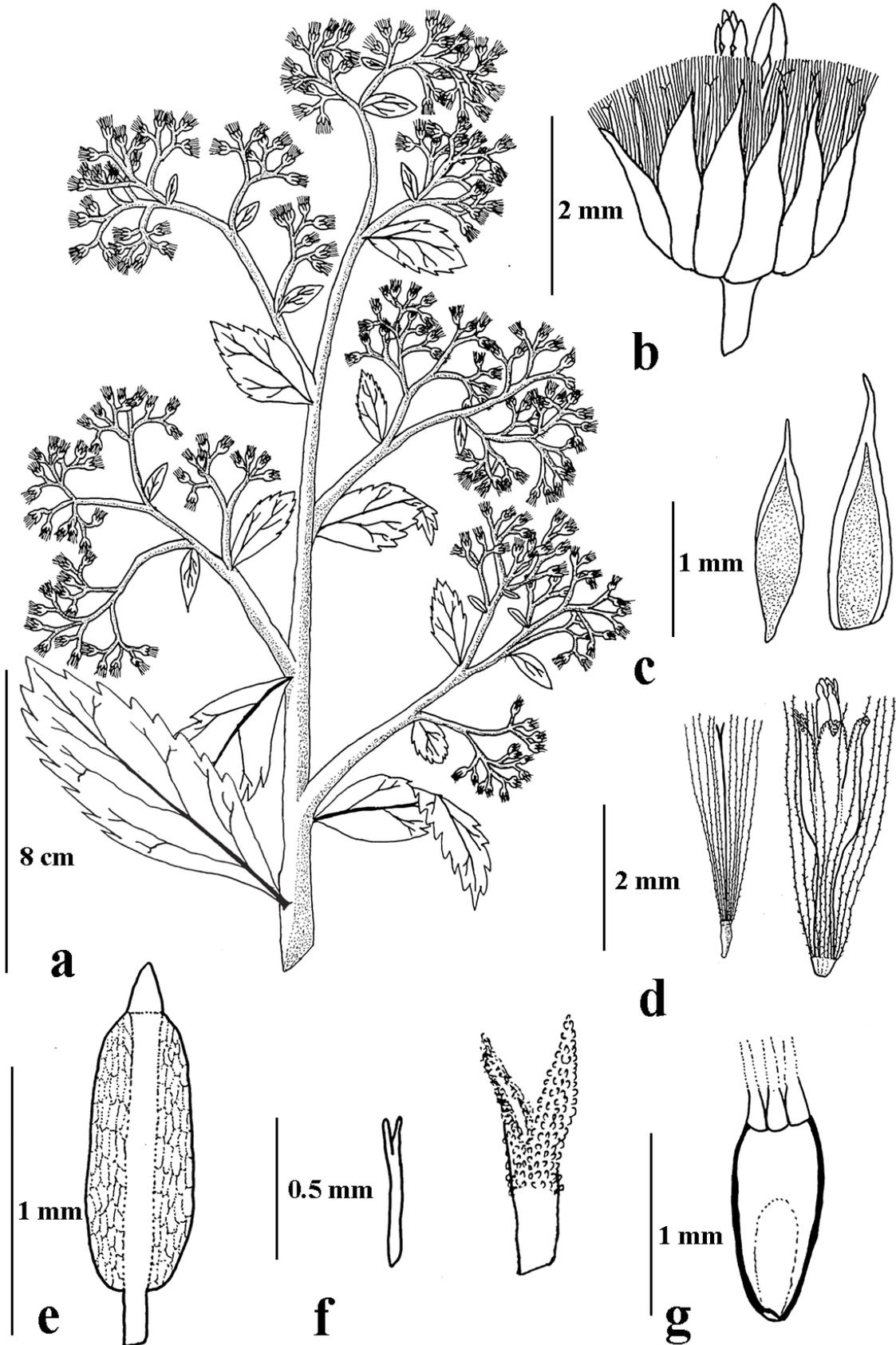


Fig. 2. *Thespis thakeri* J.J.Sharma & Nagar: a. Flowering twig; b. Head; c. Involucre bract; d. Florets (ray floret on left and disc floret on right); e. Anthers; f. Style (ray floret on left and disc floret on right); g. Cypselas (from Jaydeep J. Sharma 080; illustrated by Jaydeep J. Sharma).

mm across, pedunculate; receptacle naked, flat. Involucre bracts uniseriate, 2.6–3.8 mm long, lanceolate-ovate, scarious at margin, acuminate at apex, pubescent. Ray florets female in many series, 3–3.9 mm, corolla completely absent, style glabrous and linear, 2.3–3.4 mm. Disc florets a few (nearly 2–5), 3.4–4 mm, hermaphrodite, infertile, corolla pink, 2.4–3.5 mm, margin of lobes papillate, anthers nearly 1–1.25 mm long, apiculate at apex, entire at base, style of disc floret hairy, subulate, 2.6–3.9 mm long. Cypselas obovate, 0.75–1 mm long, dorsio-ventrally flattened; pappus bristles 10–12 (in ray florets) and 15–18 (in disc florets), 2.5–3.7 mm long, uniseriate, free from base, persistent, plumose, longer than corolla tube.

*Flowering & fruiting*: Flowering from January to March and fruiting from late February to April.

*Habitat*: A small population (c. 30–35 individuals)

of the species was observed on the rocky terrain of hills near Saputara, Dangs, Gujarat, India. It is found growing on gravelly soil along rocky slopes of the mountains with *Argemone mexicana* L. (Papaveraceae), *Trichodesma zeylanicum* (Burm.f.) R.Br. (Boraginaceae), *Blumea oxyodonta* DC. and *Sonchus oleraceus* L. (both Asteraceae).

*Etymology*: The specific epithet ‘*thakeri*’ is given in honour of Jayakrishna Indrajit Thaker (1 October 1849 – 3 December 1929), an Indian plant taxonomist who wrote the first botanical treatise following Hooker’s classification in Gujarati for the benefit of local people. His famous works are “*Barda dungar ni vanaspati ane teni pariksha ane Upyog- Vanaspati Shastra*” (Thaker, 1910) and *Plants of Cutch and Their Utility* (Thaker, 1926).

*Specimen examined*: INDIA, Gujarat, Dang district, Saputara, 869 m, N 20° 34’52.68”, E 73° 44’49.91”, 07.01.2023, Jaydeep J. Sharma 081 (BARO).



Fig. 3. *Thespis thakeri* J.J.Sharma & Nagar: a, c. Plants in natural habitat; b. Flowering twigs.

**Table 1.** Morphological comparison between all species of genus *Thespis*

Characters	<i>T. divaricata</i> DC.	<i>T. integrifolia</i> Gagnep.	<i>T. tonkinensis</i> Gagnep.	<i>T. thakeri</i> J.J.Sharma & Nagar
Habit	25–40 cm tall	7–10 cm tall	8–12 cm tall	120–200 cm tall
Branching	Divaricate (Dichotomous)	Monopodial	Monopodial	Monopodial
Leaves	Obovate–lanceolate to obovate–spatulate, 1.1–2.5 × 0.6–1.6 cm	Spathulate, 0.5–1.3 × 0.2–0.8 cm	Obovate–spatulate, 0.7–2.5 × 0.6–1.5 cm	Obovate–lanceolate or elliptic–lanceolate 4.3–19.8 × 1.8–6.4 cm
Inflorescence	Axillary, clustered, sessile; heads 2.4–3.1 mm diam.	Terminal, compound corymbose, subsessile; heads 2.5–3.4 mm diam.	Terminal, compound corymbose, pedunculate; heads 2.5–4 mm diam.	Terminal, compound corymbose, pedunculate; heads 2.1–2.7 mm diam.
Ratio of length to diameter (L/W) of head	0.59 ± 0.03	0.51 ± 0.02	0.57 ± 0.03	1.33 ± 0.1
Involucral bracts / Phyllaries	1.2–1.8 mm long, obtuse at apex	1.1–1.6 mm long, obtuse at apex	1.5–2.1 mm, obtuse at apex	2.6–3.8, acuminate at apex
Petals	4, yellow	5, yellow	5, yellow	5, pink
Pappus bristles	6–8, shorter than corolla tube	5–6, shorter than corolla tube	7–10, shorter than corolla tube	15–18, longer than corolla tube

**Key to species of genus *Thespis***

1. Branching dichotomous; capitulescence an axillary cluster ..... *T. divaricata*
1. Branching monopodial; capitulescence a terminal compound corymb ..... 2
2. Involucre bracts acuminate; corolla pink; pappus longer than corolla tube ..... *T. thakeri*
2. Involucre bracts obtuse; corolla yellow; pappus shorter than corolla tube ..... 3
3. Pappus bristles 5–6, unequal ..... *T. integrifolia*
3. Pappus bristles 7–10, equal ..... *T. tonkinensis*

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