

Tremacron aurantiacum var. *weiningense* (Gesneriaceae) var. nov. from Guizhou, China

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Tremacron aurantiacum var. *weiningense* (Gesneriaceae), a new variety of *Tremacron aurantiacum* found in northwest Guizhou, China, is described and illustrated. This new variety differs from *T. aurantiacum* K. Y. Pan var. *aurantiacum* in the following respects: it has appressed pubescence and tomentum on the lower surface of its leaves, inflorescence is 4–8-flowered, 5–10 cymes, peduncles and pedicels are covered with glandular pubescence, the corolla is thin with tube-like upper lips indistinct and cut-like, the stigma is 1, capitate.

Gesneriaceae is a family of flowering plants consisting of about 133 genera and more than 3000 species of mainly tropical and subtropical distribution, with a very small number of species extending to temperate areas. There are 56 genera (25 endemic) of Gesneriaceae, including 442 species (354 endemic) in China. To date, seven species of *Tremacron* have been identified to be endemic to China. These species are mainly distributed in the Yunnan and Sichuan provinces (southwest China). Here, we describe a new variety of *Tremacron* found in Heishi, Weining, Guizhou in Sep 2008. This new taxon was found among thick grass on a valley roadside during our field investigation and flowers in Aug–Sep. After comparing it with all known Chinese *Tremacron* species (Pan 1988, 1998, Pan and Li 1990, Li and Wang 2004), we found that it is different and is here described as a new variety.

Tremacron aurantiacum K. Y. Pan var. *weiningense* S. Z. He & Q. W. Sun var. nov. (Fig. 1–3)

A varietate typico pedunculis pedicellisque glandulosis, stigmate simplici vel subsimplici (non bifido) differt.

Type: China Guizhou province, Weining Xian, among the thick grass by the valley roadside, 9 Oct 2008, Shun-Zhi He et al. 10 Sep 2008 (holotype: herbarium Guiyang College of traditional Chinese medicine).

Perennial herb. Leaf blades all basal, widely ovate or ovate, 2.5–4.0 cm long, 1.8–3.3 cm wide, apex nearly circular, base broadly cuneate, margin crenate, upper surface with white villous and white appressed pubescence, lower surface with light-brown villous and white appressed pubescence, lateral veins 4–5 on each side of midrib, inconspicuous on the upper surface, prominent on the lower surface,

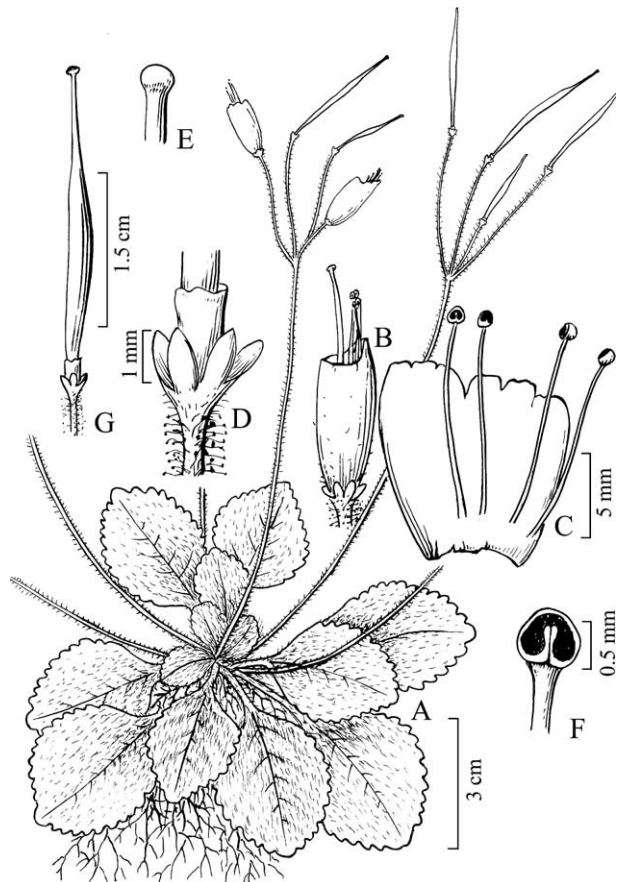


Figure 1. *Tremacron aurantiacum* var. *weiningense* S. Z. He & Q. W. Sun. var. nov. (A) habit, (B) flower, (C) corolla, stamens and staminodes, (D) calyx, (E) stigma, (F) anther. From holotype, drawn by Hua Xie.

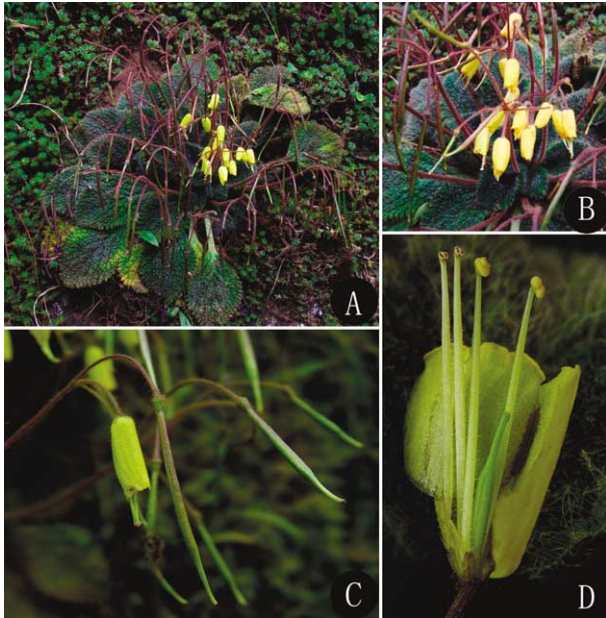


Figure 2. *Tremacron aurantiacum* var. *weiningense* S. Z. He & Q. W. Sun. (A) flowering plant, (B) inflorescence, (C) flower and fruit, (D) longitudinal section of flower.

with densely light-brown villous and white appressed pubescence; petiole 1–4 cm long, densely brown villous. Cymes 5–10, 2-branched, axillary, inflorescence 4–8-flowered. Peduncle 7–9 cm, with light-brown villous, white and glandular pubescence; free or sparsely 2 bracteolate. Pedicel 1.5–3.5 cm, light-brown villous. Sepal's lobe obround ca 1.2 mm × 0.8 mm, apex obtuse, sparsely villous outside,

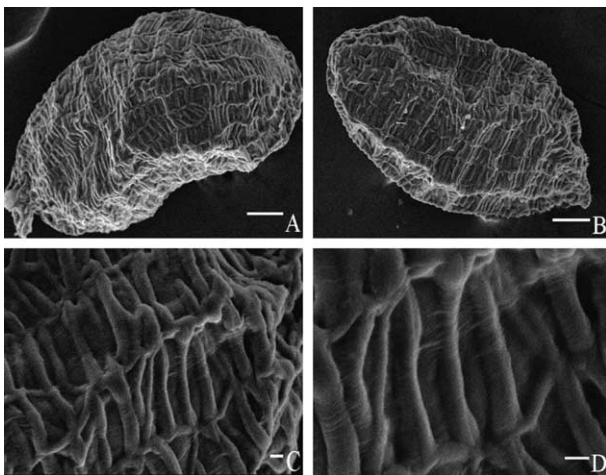


Figure 3. SEM photomicrographs of seed surface of *Tremacron aurantiacum* var. *weiningense* S. Z. He and Q. W. Sun. (A), (B) morphology of mature seed, scale bar = 500 μm, (C), (D) exine ornamentation of mature seed. Scale bar = 50 μm.

glabrous inside. Corolla yellow, tubular, ca 1.2–1.4 cm, thinly lanuginose on both surfaces; corolla tube narrowly tubular, 1.0–1.2 cm × 4–5 mm; upper lips indistinct and cut-like, ca 1.3 mm, 3 emarginate; lower lips ca 1.2 mm, 3-lobed, with nearly cut-like lobes, central lobe ca 1 mm, lateral ones ca 0.8 mm. Stamens 4 separated and exerted out of corolla after maturity, upper stamens ca 1.6 cm, adnate to corolla 1.5 mm from base, lower stamens ca 1.4 cm, adnate to corolla 2.5 mm from base; filaments lanuginose; anthers ovate ca 0.7 mm long, thecae 2, parallel, confluent at apex; staminode 1, ca 1 mm long, adnate to corolla 1 mm from base. Disc ca 2 mm in diameter. Pistil glabrous. Ovary narrowly oblong, ca 1.3 cm long, ca 1 mm in diameter; style ca 7 mm, stigma 1, ca 0.7 mm long, capitate, sparsely emarginate. Capsule oblong, ca 2.0–3.2 cm long, persistent style 5.7 mm. Seed fusiform, light-brown, ca 0.6 mm long, seed coat with transversely reticulate sculpturing (Fig. 3), murus smooth. Flowering Aug–Sep.

Distribution and ecology

Known only in Weining, Guizhou, China, this species grows among thick grass by the roadside next to the valley, at an altitude of 2100–2300 m a.s.l.

Notes

The newly identified variety is similar to *T. aurantiacum* K. Y. Pan var. *aurantiacum*, *T. mairei* (Lévl.) Craib, and *T. forrestii*, but is easily distinguished from them by the leaf, peduncle, pedicel, corolla and stigma (Table 1). For instance, the leaves of the new variety are widely ovate or ovate, with a crenate margin. The leaves of *T. aurantiacum* K. Y. Pan var. *aurantiacum*, however, are ovate and have a margin that is slightly crenate or slightly sinuose-dentate; in *T. mairei* (Lévl.) Craib leaves are lanceolate-ovate to widely ovate, with a margin that is denticulate or sinuose-dentate. In *T. forrestii* the leaves are narrowly elliptic to ovate or obovate, with a double-serrated margin. In terms of peduncle and pedicel, the new variety is covered with glandular pubescence, light brown villous and white pubescence. In contrast, *Tremacron aurantiacum* K. Y. Pan var. *aurantiacum* is covered with rust-coloured villi and white pubescence, while *T. mairei* (Lévl.) Craib is covered with glandular pubescence and villi and *T. forrestii* is covered with rust-coloured villi and glandular pubescence. The corolla of the new variety is narrowly tubular, yellow, upper lip slightly 3 lobed, while that of *T. aurantiacum* K. Y. Pan var. *aurantiacum* is nearly round tubular, gamboge, upper lip indehiscent or emarginate, in *T. mairei* (Lévl.) Craib it is nearly mitrate, white, upper lip emarginate, and in *T. forrestii* nearly mitrate, yellow, upper lip emarginate. When it comes to stigma, the new variety rarely has slight fissures, whereas both *T. aurantiacum* K. Y. Pan and *T. mairei* (Lévl.) Craib have conspicuously 2-lobed stigma, and in *T. forrestii* there are 2.

Table 1. Comparison of *Tremacron aurantiacum* var. *weiningense* var. nov., *T. aurantiacum* K. Y. Pan var. *aurantiacum* and *T. mairei* (Lévl.) Craib.

Characters	<i>T. aurantiacum</i> var. <i>weiningense</i>	<i>T. aurantiacum</i> var. <i>aurantiacum</i>	<i>T. mairei</i>	<i>T. forrestii</i>
Leaves	widely ovate or ovate, margin crenate	ovate, margin slightly crenate or slightly sinuose denate	lanceolate ovate to wide ovate, margin denticulate or sinuose denate	narrowly elliptic to ovate or obovate, margin double serrate
Peduncle and pedicel	covered with glandular pubescence, light brown villous and white pubescence	covered with rust-coloured villi and white pubescence	covered with glandular-pubescence and villi	covered with rust-coloured villi and glandular pubescence
Corolla	thin, tube-like, yellow, upper lip slightly 3-lobed	nearly round tube-like, gamboge, upper lip entire or emarginated	nearly mitrate, white, upper lip emarginated	nearly mitrate, yellow, upper lip emarginated
Stigma	1, rarely with slight fissures	1, conspicuously 2-lobed	1, conspicuously 2-lobed	2

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