

Ainsliaea asaroides sp. nov. (Asteraceae) from Guangdong, China

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Ainsliaea asaroides Y. S. Ye, Jun Wang & H. G. Ye (Asteraceae), a new species from Guangdong, China, is described and illustrated. The new species resembles *A. gracilis* Franch. but can be distinguished by its sub-leathery, cordate leaves, villose petiole, thyrsoid inflorescence and the number of florets. A key to allied species is provided.

The genus *Ainsliaea* DC. (Candolle 1838) is an Asian genus of Asteraceae, tribe Mutisieae Cass. It contains about 49 species and 19 varieties distributed from Afghanistan to Japan. There are 37 species in China, 26 of which are endemic, especially represented in the Yunnan, Sichuan and Guangdong Provinces. China is the center of this genus. The genus is characterized by unbranched stems, with basally rosulate or congested leaves at the median part of the stem (only one species has branched stems with alternate leaves), by the few-flowered capitula, deeply 5-cleft florets with uni-lateral lobes, and by a plumose pappus (Freire 2007). The most closely related genera, *Macroclinidium* Maximowicz, *Myriopsis* Bunge, and *Pertya* Schultze Bipontinus, usually differ by their scabrid, non-plumose pappus bristles (Bremer 1994).

The Ehuangzhang Natural Reserve lies in the east of the Yunkai Mountains of Yangchun city in the southeast Guangdong Province. It occupies about 15 000 ha, and ranges between 21°50'36"–21°58'40"N and 111°21'29"–111°36'03"E (Ye et al. 2004). As it is well covered by natural forests it is an area important for biodiversity conservation. During an inventory of The Ehuangzhang Natural Reserve, the following species was found, and is here described as new to science.

Ainsliaea asaroides Y. S. Ye, Jun Wang & H. G. Ye, sp. nov. (Fig. 1–2)

Species A. gracilis affinis, sed foliis subcoriaceis, basi cordatis vel anguste cordatis, petiolis villosis, inflorescentiis thyrsiformibus, flosculis 3–4 differt.

Type: China. Guangdong Province, Yangchun City, Ehuangzhang Natural Reserve, near Jiujie river, ca 690 m a.s.l., 3 Nov 2004, Ye Hua-gu et al. 10600 (holotype: IBSC).

Plants perennial, herbaceous, 0.2–0.8 m tall; stems erect, single or bi-furcate, densely or sparsely rusty villose. Rhizomes usually short, villous. Leaves alternate or sub-verticillate, more or less crowded towards upper part of stem; leaf blades sub-leathery, ovate to narrowly ovate, 3–11 × 2–7 cm, apex acute to obtuse or with the midrib protruding as an acumen, base cordate or sub-cordate, upper surface glabrous, green, lower surface pale, villose along the mid-vein, margins denticulate, ciliate; basined 5–7, abaxial surface slightly grooved, connected like an arch near the margin; petiole 2–13 cm, wingless, villose. Capitulum with 3–4 florets, 12–15 mm long and ca 6 mm in diameter, forming a terminal panicle; involucre cylindrical, ca 2 mm in diameter, phyllaries in 6–7 layers, their upper surface dark green, purple beneath, with thin vertical stripes, almost glabrous, the 1–3 outer layers 1.0–2.5 × 0.5–1.5 mm, ovate with obtuse apex, middle layers 3–7 × 2–3 mm, elliptic or ovate-lanceolate with acute apex, inner layers lanceolate or obovate-lanceolate, 7–10 × 1–2 mm; receptacle smooth, glabrous. Florets all bisexual, corolla tubular, white, ca 6 mm long, limb deeply 5-lobed, lobes deflexed to one side, linear-lanceolate, apex revolute, ca 6 mm long; anthers ca 4 mm long with obtuse apex; style ca 13 mm long, exceeding the corolla, style branches shortly bi-lobed; ovary ca 3 mm long and ca 1 mm in diameter, villose. Achenes spindly, longitudinally ridged with floss, pappus bristles smear-brown, lower part with purple spot, plumose, ca 5 mm long, slightly united at base.

Notes

Ainsliaea asaroides grows along a riverside and is known only from the type locality. It flowers during Jul–Oct and fruits during Sep–Nov.

The specific epithet is derived from the shape of the leaves which resemble that of the genus *Asarum*.

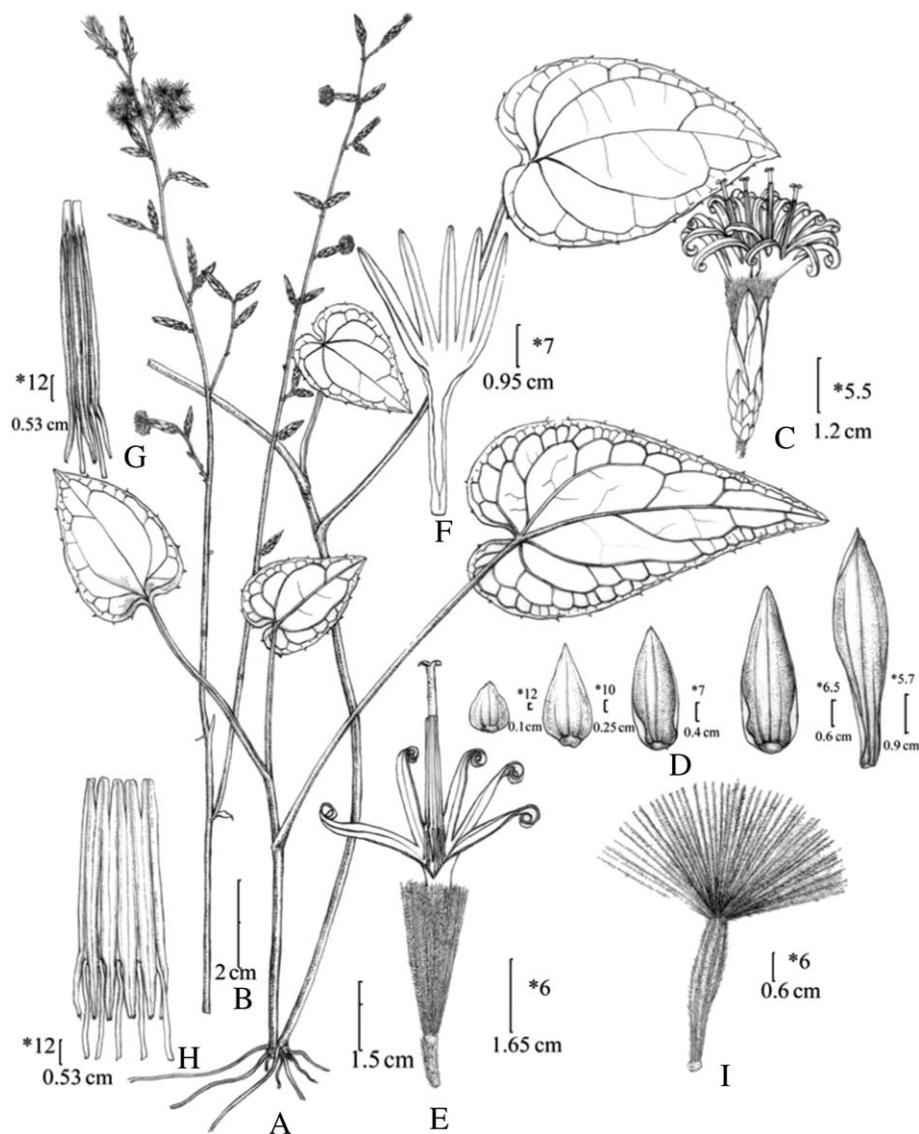


Figure 1. *Ainsliaea asaroides* sp. nov. (A) habit, (B) flowering twig, (C) synflorescence, (D) phyllaries, (E) chasmogamous floret, (F) corolla, (G) obverse side of the stamens, (H) reverse side of the stamens, (I) achene with pappus. From the holotype, drawn by Yun-Xiao Liu. The numbers below the scale denote the length of the scales. *numbers denote the amplification times of the actual length.



Figure 2. *Ainsliaea asaroides* sp. nov. Type specimen. A flower and the whole plant. Photo by Yu-Shi Ye.

Ainsliaea asaroides has a somatic chromosome number of $2n = 26$, which is the same as the basic number for this genus (Arano 1965). Due to not having enough living material, we could not get clear photos for karyotype studies, and therefore, we only counted the chromosome number.

Ainsliaea asaroides is very similar to *A. gracilis* Franch., which is distributed in the Yangchun County, south China at altitudes below 1640 m a.s.l., but the two species are morphologically distinct (Table 1). *A. fragrans* Champ. ex Benth. and *A. elegans* var. *strigosa* Mattf. are also similar, but *A. asaroides* differs from all these species as in the key presented below:

1. Leaves clustered or basally clustered; leaf blade strigose or sparsely strigose; florets 2(–3); style truncate. 2
- Leaves sub-verticillate or verticillate; leaf blade sub-glabrous; florets 3–4; style shortly bi-lobate. 3

Table 1. Diagnostic characters of *Ainsliaea asaroides*, *A. gracilis*, *A. fragrans* and *A. elegans* var. *strigosa*.

Characters	<i>A. asaroides</i>	<i>A. gracilis</i>	<i>A. fragrans</i>	<i>A. elegans</i> var. <i>strigosa</i>
Leaf	sub-coriaceous, sub-glabrous, sub-verticillate, base cordate or sub-cordate	chartaceous, sub-glabrous, verticillate, base rounded to truncate	sub-coriaceous, sparsely strigose, clustered, base deeply cordate	sub-coriaceous, strigose, basally clustered, base deeply cordate
Petiole	villose	sub-glabrous	strigose	strigose
Synflorescence	thyrsoid	racemose	stachyoid	thyrsoid
Florets	3–4	3	3	2(–3)
Phyllaries	papyraceous	papyraceous	papyraceous	sub-coriaceous
Anther apex	obtuse	obtuse	emarginate	obtuse
Style	shortly bi-lobate	shortly bi-lobate	truncate	truncate

2. Capitula arranged in a thyrsoid synflorescence; phyllaries sub-coriaceous; anther apex obtuse. 1. *A. elegans* var. *strigosa*
– Capitula arranged in a stachyoid synflorescence; phyllaries papyraceous; anther apex emarginate 2. *A. fragrans*
3. Leaf sub-leathery, sub-verticillate, base cordate or sub-cordate; petiole villose; capitula arranged in a thyrsoid synflorescence. 3. *A. asaroides*
– Leaf chartaceous, verticillate, base rounded to truncate; petiole sub-glabrous; capitula arranged in racemose synflorescence. 4. *A. gracilis*

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