

**HEMIBOEA ROSEOALBA S.B. ZHOU, X. HONG & F. WEN (GESNERIACEAE),
A NEW SPECIES FROM GUANGDONG, CHINA**

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Abstract

A new species of *Hemiboea*, *H. roseoalba*, from Guangdong, China, is described and illustrated. It is similar to *H. gracilis* and *H. angustifolia* in leaf and flower shape, but can be distinguished by leaf blade with serrulate from the middle to the apex, lateral veins 7-9 on each side of midrib; peduncle 2.5-3.0 cm long, glabrous; cymes 4-6-flowered; triangular calyx base connate for c. 0.3 cm; pink corolla 4.0-4.3 cm long and margin of lobes curled or retroflexed; staminodes 3; pistil 3.7-4.0 cm long; disc 2 mm high and truncate stigma slightly swollen.

Introduction

The genus *Hemiboea* Clarke in Hooker (1888) of the Gesneriaceae was first described by Clarke, with two sections: Sect. *Subcapitatae* Clarke and Sect. *Sympodiales* Clarke. Before 2011, a Chinese endemic genus, *Metabriggsia* W.T. Wang, was considered morphologically similar to *Briggsia* Craib especially in those species with stems, but differs by having only two fertile stamens and one sterile carpel so that it can be treated as a single genus, when it was published by Wang (1983). Thus this prefix, "Meta-", means "with", "between" and "amid", was used to describe the similarity in both genera. Actually, whether morphologies or molecular evidences show it is much closer to *Hemiboea*. Thus, *Metabriggsia* is reduced to synonymy with *Hemiboea* and its two species are transferred to that genus (Weber *et al.*, 2011). So, now it has been revised 29 species and six varieties in China, northern Vietnam, Iriomote-Shima of Ryukyu, Japan (Li, 1996, 2004; Wen *et al.*, 2011; Xu *et al.*, 2012; Pan *et al.*, 2012). China, the center of species diversity of the genus, has all species distributed from South China eastward to Taiwan and northward to Henan and Gansu (Li, 1983, 1987), with 4 species recorded in Guangdong province before 2012 (Wei *et al.*, 2010).

During the course of a floristic investigation in 2012, we collected a rare unknown species of *Hemiboea* Sect. *Subcapitatae* from a limestone area in Liannan Yaozu Autonomous County, Guangdong. After consulting national floras and relevant literature (Li, 1987, 2004; Wang, 1990; Wei and Wen, 1995; Weitzman *et al.*, 1997; Wang *et al.*, 1998; Wei *et al.*, 2010; Xu *et al.*, 2010; Huang *et al.*, 2011; Wen *et al.*, 2011; Pan *et al.*, 2012), as well as specimens of different herbaria (PE, IBK, IBSC, CDBI, HN, KUN, ANU, BJFU, VNM), we concluded that our specimens represent a new species, *Hemiboea roseoalba* sp. nov. which is described and illustrated here.

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Hemiboea roseoalba S.B. Zhou, Xin Hong, & F. Wen, *sp. nov.*

(Figs 1, 2).

Diagnosis: *Haec species nova similis H. gracilis* Franchet et *H. angustifoliae* F. Wen & Y.G. Wei, sed foliis margine serratus ab medius ad apex, lateralis nervis 7-9, pedunculis 2.5-3.0 cm longis, glabris, cymis 4-6-floris, calyx triangulatus, supra basin connatus ca. 0.3 cm, corolla persicinus, 4.0-4.3 cm longis, labellis margine crispus vel reflexis, staminodiis 3, pistillo 3.7-4.0 cm longo, stigmate truncates et leviter tumidus.

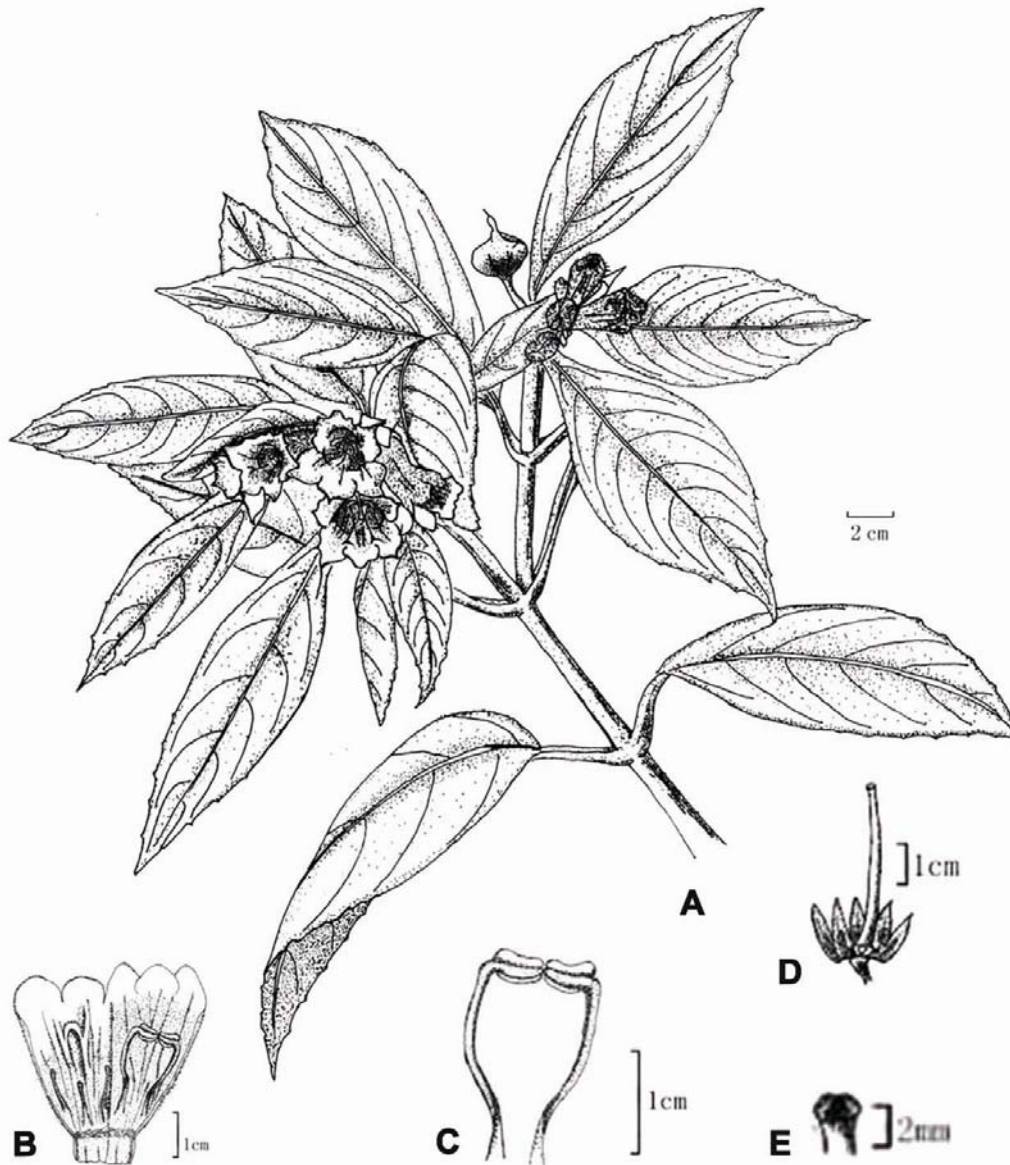


Fig. 1. *Hemiboea roseoalba* *sp. nov.* (A) flowering branch; (B) dissection of a flower showing stamens and staminodes; (C) stamens; (D) calyx opened showing pistil and disc; (E) stigma (drawn from the holotype, F. Wen 201209031).

Type: China, Guangdong Province: Liannan Yao Autonomous county, Gutian village, growing in the entrance of a limestone cave, \pm 200 m, 20 Sep. 2012, *F. Wen 201209031* (*Holotype:* IBK!; *Isotype:* ANU!).

Perennial herbs. Stems ascending, 40-80 cm high, 5-7 mm in diameter, with scattered brown spots, glabrous to sparsely pilose toward apex, simple or branched, with 10-12 nodes or more. Leaves opposite, 8-10 crowded at the apex of stems, the lower ones commonly caducous; petiole



Fig. 2. A-G: *Hemiboea roseoalba* **sp. nov.** (A) habitat; (B) plants growing in natural habitat; (C) flowering plants; (D) frontal view of flower; (E) involucre; (F) pistil and calyx; (G) corolla opened showing stamens and staminodes.

2-4 cm long, glabrous; leaf blade sub-carnose or thinly leathery, thickly herbaceous when dry, narrowly lanceolate to elliptic-lanceolate, $10-12 \times 4-5$ cm, adaxially pubescent, abaxially glabrous, base narrowly cuneate, sometimes slightly oblique, upper surface deep green, lower surface pallid, margin serrulate from the middle to the apex, apex acute or acuminate, lateral veins 7-9 on each side of midrib. Cymes pseudoterminal, 4-6-flowered, peduncle 2.5-3.0 cm long, glabrous, densely covered in brown spots; involucre nearly spheroidal or cordate, apex long-mucronate, c. 2 cm long, 2.0-2.3 cm in diameter, vivid green, membranous, glabrous, bowl-shaped when opened. Pedicel 0.3-0.4 mm long, glabrous. Calyx 5, white or pale green, base connate for c. 0.3 cm, lobes equal, triangular, $1.0-1.2 \times 0.5-0.7$ cm, glabrous. Corolla pink outside, brownish yellow inside, with mauve lines and spots, 4.0-4.3 cm long, outside densely short glandular-hairy and puberulent, inside glabrous; tube 3.5-3.8 cm long, 1.7-2.0 cm in diameter at the orifice, 0.6-0.7 mm in diameter at the base, inside with a ring of hairs adnate to c. 0.4 cm above the corolla base; limb distinctly 2-lipped, adaxial lip 2-lobed to the base, lobes oblate, margin curled, $5.5-7.0 \times 5.2-7.3$ mm, retroflexed; abaxial lip 3-lobed towards the middle, lobe oblate or oblate-oval, margin repand, $6.7-8.0 \times 6.4-7.5$ mm, reflexed. Stamens 2, adnate to 10.5-11.2 mm above the corolla base; filaments linear, c. 15 mm long, geniculate near the base, linear, glabrous; anthers fused at extremities, slightly elliptic, glabrous, $3.2-3.5 \times 2.0-2.5$ mm. Staminodes 3, glabrous, adnate to 10.2-11.3 mm above the corolla base, middle one c. 5 mm long, linear, apex inflated, lateral ones linear, c. 7 mm long with adherent capitate apex. Disc ring-like, c. 2.2 mm high, margin repand, glabrous. Pistil 3.7-4.0 cm long; ovary linear, c. 1.1 cm long, 1.7-2.1 cm in diameter, glabrous; style 2.6-2.9 cm long; stigma slightly swollen, truncate, c. 1 mm in diameter. Capsule linear, 3.2-3.5 cm long, glabrous, slightly curved.

Phenology: Flowering from end of September to the middle of October. Fruits maturing during October to November.

Etymology: The species is named after the pink colour of the corolla of this new taxon, which is brightly pink in this genus.

Distribution: China, only known from the type locality, Gutian village, Liannan Yao Autonomous county, in northern Guangdong Province of southeastern China (Fig. 3).



Fig. 3. Distribution map of *Hemiboea roseoalba* **sp. nov.** and its related taxa. (A) Known distribution of *H. angustifolia*; (B) Known distribution of *H. roseoalba*; (C) Oval area, distribution of *H. gracilis*.

Habitat: *Hemiboea rosealba* grows in rocky crevices on moist shady cliffs at the entrance of a limestone cave, at an elevation of about 200 m above sea level. It occurs in subtropical evergreen broad-leaved forest.

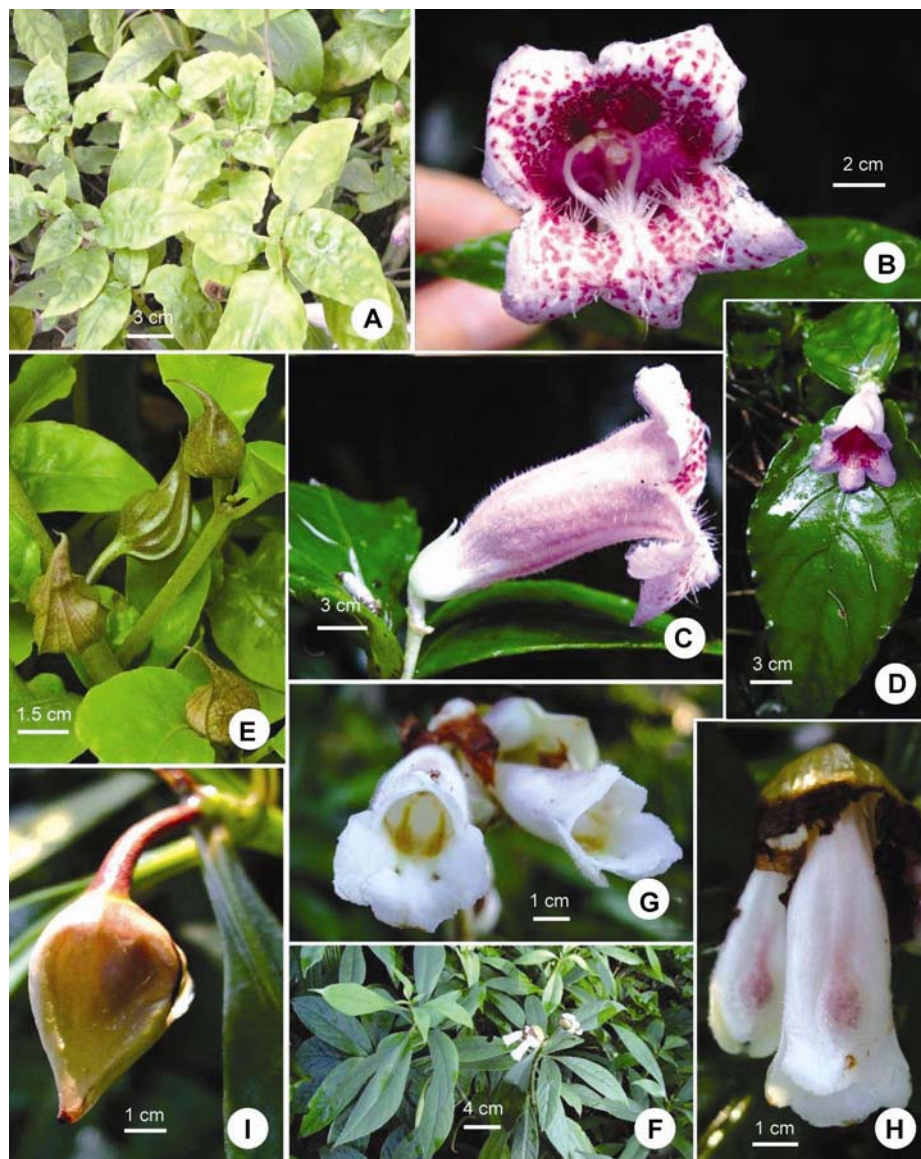


Fig. 4 A-E. *Hemiboea gracilis* (A) Habitat; (B) Front view of flower; (C) Lateral view of flower; (D) Top view of flower and leaf blade; (E) Involucre. F-I. *Hemiboea angustifolia* (F) Habitat; (G) Front and lateral view of flowers; (H) Top view of flowers; (I) Involucre.

Additional collections (paratypes): China, Guangdong province: Liannan Yao Autonomous county, Gutian village, c. 200 m, 20 September 2008, *Xin Hong* 20110903 (ANU!).

Hemiboea roseoalba is morphologically close to *H. gracilis* Franchet and *H. angustifolia* F. Wen & Y.G. Wei in the shape of leaf and flower, but can be easily distinguished by the leaf blade, lateral veins, peduncle, corolla, staminodes, pistil, disc and stigma characters (Table 1, Fig. 4).

Table 1. Morphological comparison of *Hemiboea roseoalba*, *H. gracilis* and *H. angustifolia*.

Characters	<i>H. roseoalba</i>	<i>H. gracilis</i>	<i>H. angustifolia</i>
Margin of leaf blade	Serrulate from the middle to the apex	Entire to repand	Entire
Peduncle	2.5-3.0 cm long, glabrous	0.2-1.2 cm long, glabrous to sparsely white pilose	1.0-1.5 cm long, glabrous
Corolla size	4.0-4.3 cm long	3.0-3.8 cm long	4.8-5.4 cm long
Staminodes	3	2	2
Pistil	3.7-4.0 cm long	2.0-2.5 cm long	2.5-2.7 cm long
Disc	c. 2.0 mm long	c. 1.0 mm long	c. 2.2 mm long
Stigma	Slightly swollen, truncate	Capitate	Capitate, slightly depressed in the middle
Flowering time	September - October	August - October	November

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