

6. GAURA Linnaeus, Sp. Pl. 1: 347. 1753.

山桃草属 shan tao cao shu

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Annual, biennial or perennial herbs, caulescent, with a taproot or woody branching caudex, occasionally with rhizomes. Stems one to several, simple or much branched. Leaves alternate, basal rosette leaves largest, decreasing in size upward, entire or toothed, often lyrate below, shortly petiolate below to subsessile above; stipules absent. Flowers perfect, zygomorphic to sometimes actinomorphic, forming a spicate raceme, not leafy, opening near sunset or near sunrise. Floral tube distinct, cylindrical, deciduous soon after anthesis. Sepals (3 or)4, reflexed, green or yellowish. Petals (3 or)4, white, fading to reddish, rarely yellow, usually abruptly clawed. Stamens (6 or)8. Anthers versatile; pollen shed singly. Ovary with (3 or)4 locules, with 1(or 2) ovules per locule; stigma divided into (3 or)4 short linear lobes, receptive all around, and subtended by a \pm conspicuous ringlike indusium. Fruit an indehiscent nutlike capsule with hard walls, broadly fusiform to subcylindric, terete to sharply (3 or)4-angled, sessile or basal portion sterile and stipelike. Seeds (1 or)2–4 per capsule, irregularly ovoid. $2n = 14, 28, 42, 56$.

Twenty-one species: C and E North America to C Mexico; one species (naturalized) in China.

Two other species are known from cultivation. *Gaura lindheimeri* Engelmann & A. Gray is native to black-soil prairies of SC North America and is distinguished in part by its relatively large flowers (petals 1–1.5 cm), opening near sunrise, and sepals with long, erect hairs. It is commonly cultivated for its attractive flowers but is not known to be naturalized outside of its indigenous distribution; it is found in Hebei, Hong Kong, Jiangxi, and Zhejiang in China. *Gaura biennis* Linnaeus, native to a large area of C North America, has been in cultivation since ca. 1750; it is known from Yunnan in China but does not appear to be naturalized.

Recent molecular data demonstrate that *Gaura*, together with the unispecific genus *Stenosiphon* Spach, although comprising a monophyletic group, is embedded within the diverse genus *Oenothera*, and is best treated as part of that genus. The morphological characters used to delimit the genus—nutlike, indehiscent capsules with 1–4 seeds, flowers mostly zygomorphic, stigma lobes short—still delimit the group but now are viewed as specializations derived within *Oenothera*.

One of the earliest names in Onagraceae based on Chinese material was *Gaura chinensis* Loureiro (Fl. Cochinch. 1: 225. 1790). However, Merrill (Trans. Amer. Phil. Soc., n.s., 24(2): 39, 290. 1935) considered this to be one of Loureiro's "grave errors" and, using Loureiro's description, re-identified this taxon as a species of *Haloragis* J. R. Forster & G. Forster. Orchard (Bull. Auckland Inst. Mus. 10: 1–299. 1975) subsequently revised that group of Haloragaceae, and the species is currently treated as *Gonocarpus chinensis* (Loureiro) Orchard (see the following page).

1. *Gaura parviflora* Douglas ex Lehmann, Nov. Stirp. Pug. 2: 15. 1830.

小花山桃草 xiao hua shan tao cao

Herbs annual or short-lived biennial, vigorously growing, with a heavy taproot. Stems erect, 30–200(–300) cm tall, simple below to well-branched on inflorescence, soft villous throughout and usually also glandular pubescent; lower leaves often deciduous by time of flowering and lower stems then naked. Leaves grayish green, with inconspicuous veins, strigillose and sometimes villous; subsessile above to shortly petiolate below; basal blade 5–15 \times 1–3 cm; cauline blade narrowly elliptic to broadly lanceolate or oblanceolate, 2–12.5 \times 0.5–4 cm, base cuneate to attenuate, margin entire to sinuate-denticulate, apex

acute to acuminate. Inflorescence one to many, slender, dense spicate racemes 5–45 cm, nodding at tips, subglabrous to densely hairy, \pm ebracteate. Flowers open near sunset; floral tube 1.5–3 mm. Sepals 2–3.5 mm, without free tips. Petals pink to rose, 1.5–3 mm, slightly clawed. Anthers 0.8–1.1 mm; pollen ca. 90+% fertile. Ovary glabrous or puberulous; stigma surrounded by anthers. Capsules indehiscent, reflexed at maturity, fusiform, weakly 4-ridged, 2–4-seeded, 5–11 mm, sessile. Seeds 2–3 mm. Fl. Apr–Sep, fr. May–Oct. $2n = 14$; self-compatible, autogamous.

Weedy areas near cultivation, roadsides; 100–800 m. Anhui, Hebei, Henan, Hubei, Jiangsu, Shandong [native to EC North America (including Mexico); naturalized in Japan and widely in Australia and South America].

