

# *Listera fugongensis* (Orchidaceae), a new species from Yunnan, China

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**Abstract.** *Listera fugongensis*, a new species from Yunnan, China, is described and illustrated. The new species is probably related to *Listera nipponica*, but differs from it by having green flowers, petals slightly wider than lateral sepals, and a toothed lip with ciliate margins.

**Key words:** China, *Listera fugongensis*, Orchidaceae, Yunnan.

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*Listera* consists of approximately 30–35 species distributed mainly in northern temperate areas of North America, Europe, and Asia (Chen, 1999; Pearce & Cribb, 2002). This genus is characterized by having two leaves opposite or nearly opposite, a terminal inflorescence, subsimilar sepals and petals, an erect-curved column, lack of a foot, retrorse-inclined anthers, and two-sectile pollinia. During our fieldwork on the eastern slope the Gaoligongshan Mountains along the Salween River, a new species of *Listera*, described below, was discovered.

***Listera fugongensis* X.H. Jin, sp. nov.** Type: China. Yunnan: Fugong County, east slope of Gaoligongshan Mountains (26°54.679' N, 098°44.900' E), under mixed forest of bamboos, *Tsuga* sp., and *Rhododendron* spp., 2940 m, 27 August 2005, X. H. Jin 7914 (holotype: KUN; isotype: PE).

(Fig.1)

Habitu *Listerae nipponicae* subsimilis, sed floribus viridibus, petalis sepalis lateralibus angustioribus, labio dentato atque ciliato distinguenda.

Terrestrial plant 30–40 cm tall. Stem erect, base with 2–3 sheaths. Leaves two, opposite, attached one third the distance from the base of the stem, 1.5–4 × 1.2–3 cm, broadly ovate

to ovate, apex acute. Inflorescence laxly many-flowered; peduncle puberulent, ca. 5 cm long; rachis puberulent, 15–20 cm long. Floral bracts ovate to elliptic, 4–6 mm long. Pedicel with ovary 1 cm long, pedicel puberulent. Flowers uniformly green. Dorsal sepal elliptic, ca. 4 × 2.5 mm, acuminate. Lateral sepals narrowly elliptic, ca. 4 × 1.5 mm, reflexed along the ovary. Petals linear, 3 × 0.5 mm. Lip 8–9 × 7 mm, base cuneate, margin toothed, claw with two auricles, apex bilobed; disc with a thickened mid-line extending into a small tooth between two lobules; auricles triangular, 1.5 mm long, 1.5 mm wide at base; lobules oblique, diverging at 30°, ca. 5 × 3 mm. Column curved, 2–3 mm long.

**Distribution and ecology.** *Listera fugongensis* grows on the eastern slope of the Gaoligongshan Mountains, at 2800–3000 m in a mixed forest with *Tsuga* sp., bamboos, and *Rhododendron* spp. At present, only one population of about 500 individuals is known.

This species is probably closely related to *Listera nipponica* Makino and *L. nanchuanica* S.C. Chen. Both of these species have bilobed lips with two earlike appendages at

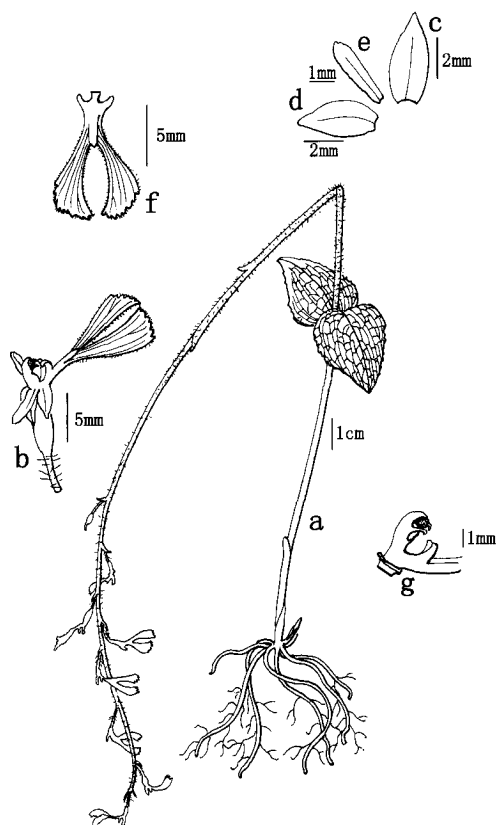


FIG. 1. *Listera fugongensis*. a. Plant. b. Lateral view of flower. c. Dorsal sepal. d. Lateral sepal of flower. e. Petal. f. Lip. g. Column and two auricles of lip.

the base, as does *L. fugongensis*, but it is not difficult to distinguish these three species. Leaves of *L. nanchuanica* and *L. fugongensis* are attached one third the distance from the base of plants, whereas they are located at the middle of the stem in *L. nipponica* (Chen 1981, 1999). Pedicels of *L. fugongensis* and *L. nanchuanica* are puberulent but pedicels are glabrous in *L. nipponica*. Flowers of *L.*

*fugongensis* and *L. nanchuanica* are uniformly green, with the margin of the lip toothed and ciliate, while flowers of *L. nipponica* are green-brown with an entire lip. Auricles of the lip in *L. fugongensis* are triangular and 1.5 mm long, whereas auricles of the lip in *L. nanchuanica* are ovate to rectangular and 0.5 mm long. Lips are twice the length of the sepals in *L. fugongensis* and *L. nipponica* (Makino, 1905), while the lip is three times the length of the sepals in *L. nanchuanica*. Furthermore, these three species have non-overlapping distributions. *Listera nipponica* is restricted to Japan, *L. nanchuanica* is endemic to southwestern Sichuan, and *L. fugongensis* only occurs in the Gaoligongshan Mountains, northwestern Yunnan.

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