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# *Gastrodia wuyishanensis*, a New Species of Orchidaceae from Fujian, China

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**ABSTRACT.** *Gastrodia wuyishanensis* Da M. Li & C. D. Liu (Orchidaceae) from Wuyishan National Nature Reserve in Fujian, China, is described and illustrated. This new species is similar in habit to *G. menghaiensis* Z. H. Tsi & S. C. Chen, from which it differs by having a rhombic-ovate lip that lacks a long claw at the base and two calli on the upper surface as found in *G. menghaiensis*.

**Key words:** China, *Gastrodia*, IUCN Red List, Orchidaceae.

*Gastrodia* R. Brown, a leafless orchid genus of ca. 20 species, is found in Asia and Oceania. Altogether, 13 species have been recognized in China (Chen, 1999). Of these, all but *G. elata* Blume and *G. javanica* Endlicher are endemic to either Taiwan or Yunnan. The new species described here was first collected by the second author in August 2000 in a dense forest in the Wuyishan area in Fujian province. However, the specimen was rather poor, and we failed to identify it by its floral characters. Four years later, two plants of this entity were collected again from the same area, one in blossom and the other with immature fruit. This close examination showed that it is an undescribed species, quite distinct from other *Gastrodia* known to us. It somewhat resembles *G. menghaiensis* Z. H. Tsi & S. C. Chen in habit, but differs by its rhombic-ovate lip lacking a long claw at its base and two calli on its upper surface as found in *G. menghaiensis*. The new species is also somewhat similar to *G. gracilis* Blume in habit, but the new species differs by having a brownish hairy rhizome, undulate sepal lobes, and subsessile lip.

***Gastrodia wuyishanensis*** Da M. Li & C. D. Liu, sp. nov. TYPE: China. Fujian: Jianyang Co., Wuyishan, in shaded, dense forest, 1280 m, 23 Aug. 2004, C. D. Liu 4823 (holotype, PE). Figure 1.

Habitu *Gastrodiae menghaiensi* Z. H. Tsi & S. C. Chen subsimilis, sed labello rhombeo-ovato, nec longo-unguiculato basin versus nec callosio superficie bene differt.

Mycoheterotrophic plants; rhizome tuberous, cylindrical-ellipsoid, 1.5–2 cm, 6–8 mm thick, with 3 or 4 slightly contracted nodes, brownish hairy throughout the surface, near the base with several fleshy roots 3–20 cm. Stem erect, 10–20 cm, 2–3 mm diam., gray brownish or gray greenish, 3- or 4-noded below the middle, sheathed; sheaths cylindrical, 4–13 mm. Inflorescence 2.5–7 cm, loosely 5- to 8-flowered; bracts broadly ovate, 2–3 mm, acute at apex, brownish, falling after anthesis; pedicellate ovary greenish white, 3–7 mm. Flowers slightly nodding, somewhat cylindrical-campanulate or broadly cylindrical, 7–11 mm; sepals and petals united forming a perianth tube, with free lobes at apex; perianth tube 6–9 mm, 4–5 mm diam., very slightly broader toward the apex; sepal lobes suberect, triangular-semiorbicular or nearly semiorbicular, 1.5–2 × 2.5–3.5 mm, slightly crisped-undulate or undulate margined; petal lobes much smaller, nearly semiorbicular, 0.7–0.9 × 0.5–0.6 mm, slightly undulate margined; lip white, rhombic-ovate, 2–3 × 1.5–2 mm, connate at base to the short column foot, lacking conspicuous appendage on the upper surface; column slightly arching, 4–5 mm, with a narrow white wing on either side; wings dilated toward the apex; stigma at the ventral base of the column; pollinia 2, granular-farinaceous, composed of many separable masses, without caudicle and viscidium; immature fruit ca. 5 mm.

**Phenology.** Flowering in August and September.

**Distribution and habitat.** *Gastrodia wuyishanensis* is found in Wuyishan National Nature Reserve, Jianyang County, Fujian province, China, at 1280–1350 m, in shaded, dense forests.

**IUCN Red List category.** The new species is threatened due to the destruction of forests. This is

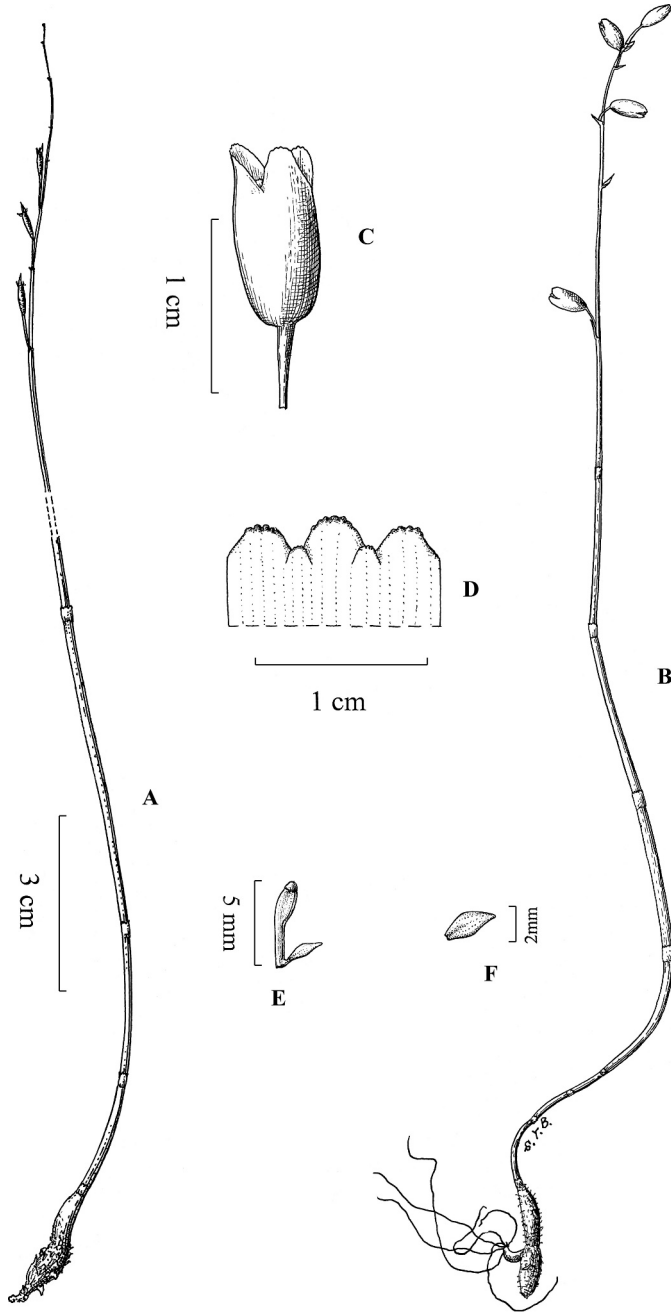


Figure 1. *Gastrodia wuyishanensis* Da M. Li & C. D. Liu. —A. Plant with immature fruit. —B. Plant with inflorescence. —C. Flower. —D. Opened perianth (upper part), showing sepal lobes and petal lobes. —E. Lateral view of column and lip. —F. Lip. Scale bar common to A and B. Drawn from the holotype, *Liu 4823* (PE).

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a very rare species, which we saw only twice in the field, although we do fieldwork there year after year. Its endangered status should be evaluated as CR (Critically Endangered), according to the IUCN Red List (IUCN, 2001).

*Paratype.* CHINA. **Fujian:** Jianyang Co., Wuyishan, in shaded place in dense forest, 1350 m, 23 Aug. 2000, *C. D. Liu 0823* (PE).

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