
Chroniochilus sinicus, a New Species of Orchidaceae from Yunnan, China

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ABSTRACT. *Chroniochilus sinicus* L. J. Chen & Z. J. Liu, a new species, is described for the Orchidaceae from Yunnan, China, and accordingly the genus *Chroniochilus* J. J. Sm. is first reported from China. The new species differs from the allied species *C. virescens* (Ridl.) Holttum by having much larger leaves (7–10 cm), much longer inflorescences (to 18 cm), tiny bracts, and a cordate-conical lip constricted in its upper portion, with side-lobes 3.5–4.5 mm long.

Key words: China, *Chroniochilus*, IUCN Red List, Orchidaceae, Yunnan.

Chroniochilus J. J. Sm. (Orchidaceae, Vandeeae) is a small genus of ca. five species occurring in Thailand, Malaysia, Indonesia, and now China (Seidenfaden, 1988; Seidenfaden & Wood, 1992). It is characterized by the flower having two pollinia that are not cleft, split, or porate; a distinct column-foot; and a spurless, solid, conical lip. Our plant was collected from Malipo County in southeastern Yunnan, China. Many individuals of this entity were seen growing on tree trunks with their stems and inflorescences pendulous. Their habit and fruit was similar in appearance to some species of *Thrixspermum* Lour., but the floral structure was quite different with only two pollinia and a conical lip. The pollinium was not cartilaginous or bony, but slightly soft, with an obscure but indehiscent stripe on its surface. The lip and column of the new orchid were similar to those of *Chroniochilus* species, but the leaves and inflorescence differ significantly. Our plant is treated here as a new species, and accordingly this is the first report for the genus *Chroniochilus* in China.

Chroniochilus J. J. Sm., Bull. Jard. Bot. Buitenzorg sér. 2, 26: 81, 84. 1918. TYPE: *Chroniochilus tijdadapense* J. J. Sm.

Epiphytic plants; stems short or rather long, with 3 to 9 leaves. Leaves often bilobed at apex. Inflorescence racemose, many-flowered; flowers small, few open at a time; lip conical, fleshy, with large side-

lobes backward-spreading, spurless, the conical part solid; column with a distinct foot to which the lip is movably attached; pollinia 2, not cleft, split, or porate, on a narrowly oblong or linear stipe; viscidium small.

Chroniochilus sinicus L. J. Chen & Z. J. Liu, sp. nov. TYPE: China. Yunnan: Malipo Co., Chuantou, 23°07'N, 104°38'E, on tree, 1000 m, 27 Aug. 2008, Z. J. Liu 4143 (holotype, NOCC). Figures 1, 2.

Species nova *Chroniochilo virescenti* (Ridl.) Holttum subsimilis, a quo foliis majoribus 7–10 cm longis, inflorescentia pendula 8.5–18 cm longa, bracteis minoribus 1–1.5 mm longis atque labello cordato-conico in parte superiore constricto lobis lateralibus longioribus 3.5–4.5 mm longis differt.

Epiphytic plants; stems 2–5 cm × 3–4 mm diam., slightly flexuous. Leaves 3 to 9, distichous, somewhat fleshy, suboblong, slightly falcate, 7–10 × 1.4–2.1 cm, unequally bilobed at apex, base amplexicaul sheathing. Inflorescence lateral, racemose, 8.5–18 cm, pendulous, sparsely 10- to 33-flowered; peduncle 2.5–5 cm; rachis continuously elongating with anthesis; floral bracts 1 or 2, broadly ovate, 1–1.5 mm; pedicel and ovary 5.5–6 mm. Flowers widely opening, white, marked with purple-red stripes on lateral lobes and a purple-red patch on apical part of lip; column white and marked with red-brown stripes; dorsal sepal subelliptic, slightly concave, ca. 5.5 × 4 mm, shortly acuminate at apex; lateral sepals subobovate-oblong, 6–7 × 3–4 mm, obtuse at apex; petals subobovate to elliptic, 9–10 × 3–4 mm, obtuse-rounded at apex, base slightly clawed; lip thick-fleshy, cordate-conical, ca. 3.5–4.5 × 2.5–3.6 mm, movable, constricted in upper part, with a fleshy cushion centrally; side-lobes spreading backward, parallel to column-foot, oblong, 3.5–4.5 × 1.7–1.9 mm, rounded to obtuse at apex; column ca. 2 mm, with a distinct foot to 4 mm long; anther-cap yellow, conical. Capsule (immature seen only) terete, ca. 6 cm × 3 mm.

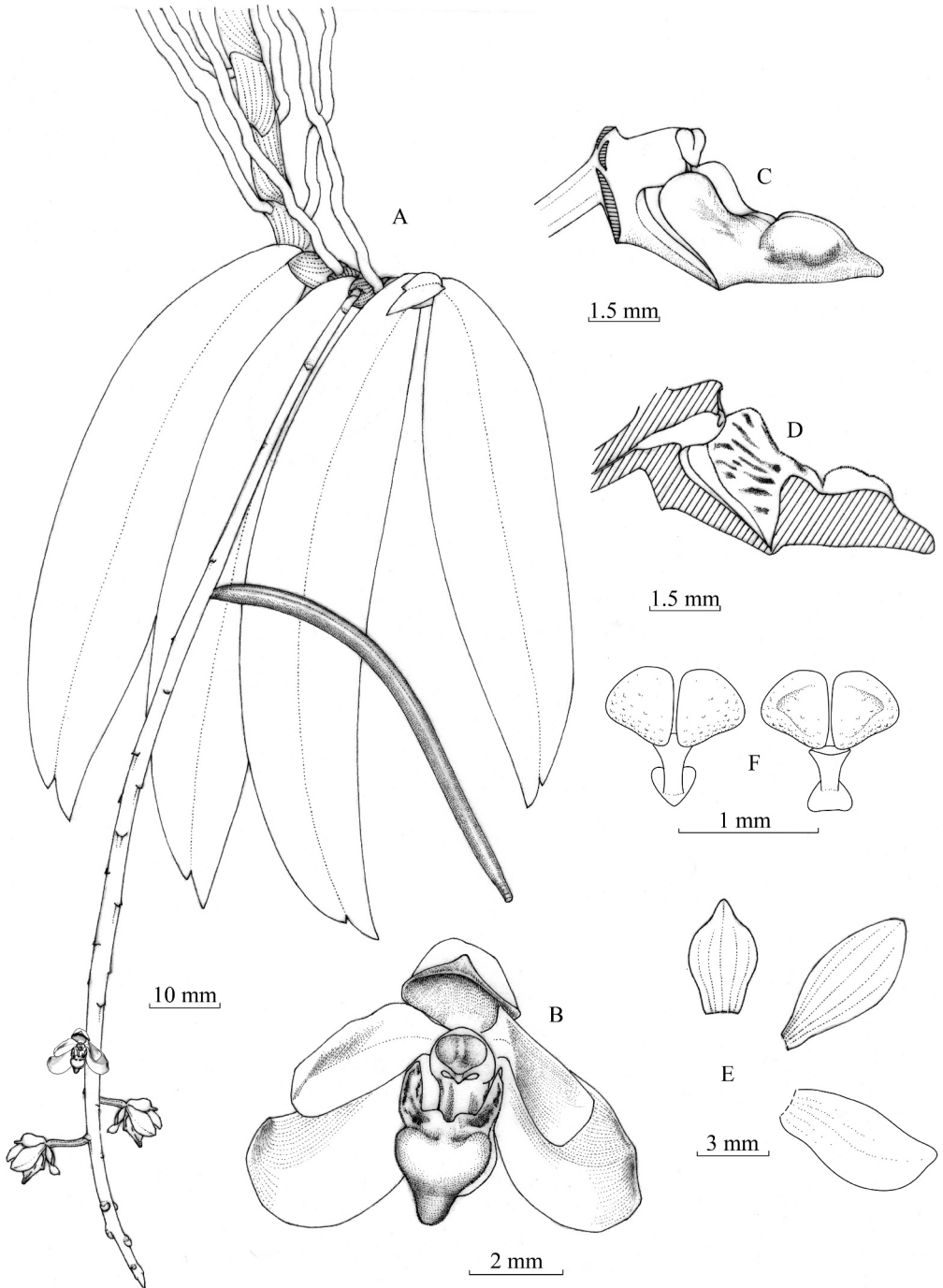


Figure 1. *Chroniochilus sinicus* L. J. Chen & Z. J. Liu. —A. Flowering and fruiting plant. —B. Flower. —C. Column and lip, side view. —D. Column and lip, longitudinal section. —E. Dorsal sepal, petal, and lateral sepal (clockwise from top). —F. Pollinarium, front view (left) and back view (right). Drawn by X. Y. Ma from the type *Z. J. Liu 4143* (NOCC).

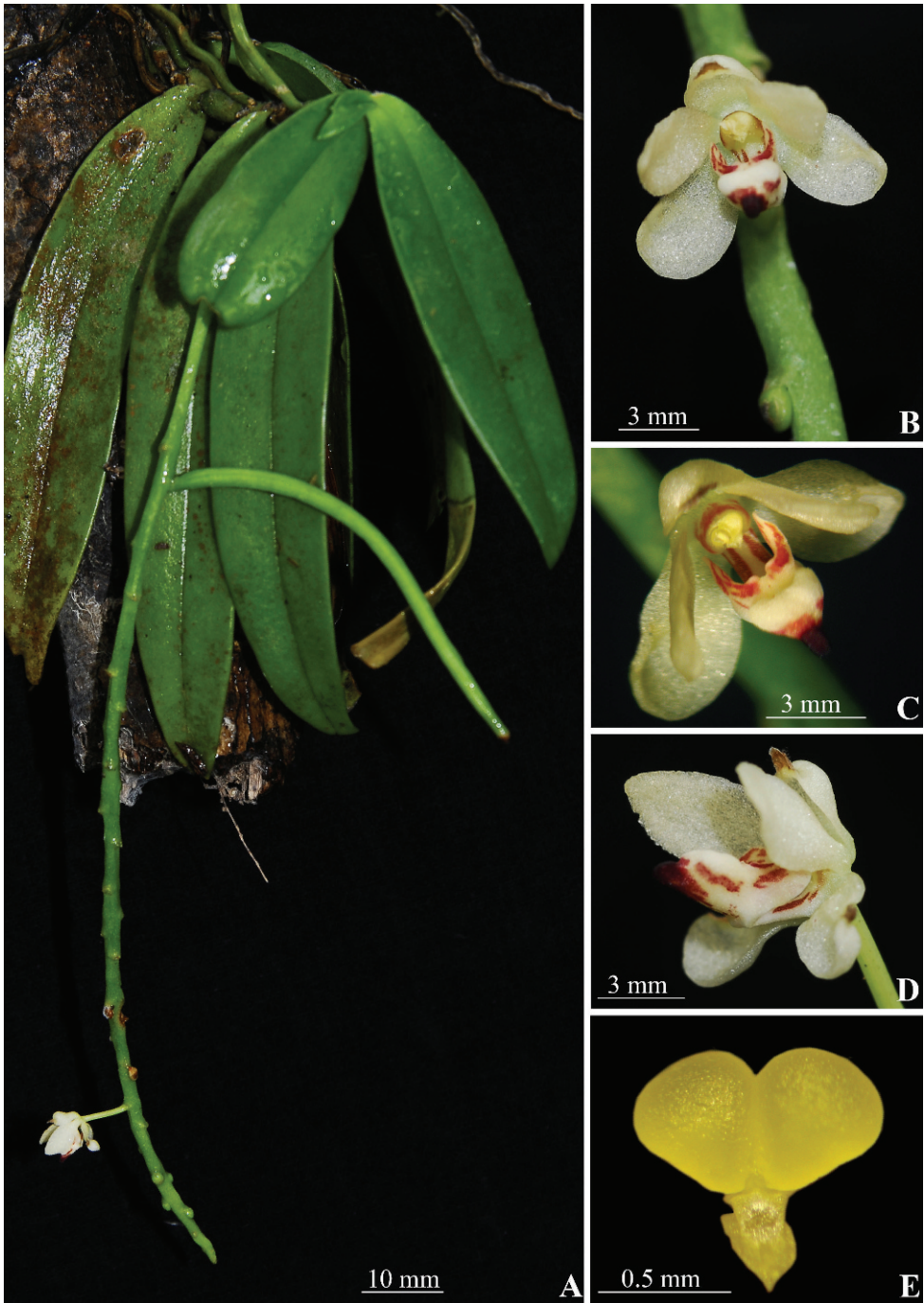


Figure 2. *Chroniochilus sinicus* L. J. Chen & Z. J. Liu. —A. Flowering plant with young fruit. —B–D. Flowers. —E. Pollinarium. From the type *Z. J. Liu 4143* (NOCC).

Distribution and habitat. *Chroniochilus sinicus* is known only from the type locality in Malipo County, Yunnan Province. The species was found growing on tree trunks in evergreen broad-leaved forests in limestone areas, at an altitude of 1000 m.

IUCN Red List category. *Chroniochilus sinicus* is assessed here as Endangered (EN) according to IUCN Red List criteria (IUCN, 2001). Within the type locality and adjacent areas, we searched 20 locations within a 10-km radius from Chuantou in Malipo County. We

found this species in only three of the 20 locations, all less than 1 km from the type locality. Altogether, including the type locality, only 17 individuals were seen in the wild, with four, three, five, and five individuals, respectively, in each location. The rarity of this species may be the result of the destruction of its habitat, as some of the broad-leaved evergreen forests have been destroyed or replaced by planted forests or economic forests, and, to a lesser degree, by its own viability. It is therefore considered to be facing a very high risk of extinction in the wild.

Phenology. The new species was observed in flower from August to October in the wild.

Relationships. The new species is somewhat similar to *Chroniochilus virescens* (Ridl.) Holttum, from which it differs by having larger leaves ($7\text{--}10 \times 1.4\text{--}2.1$ cm vs. $3\text{--}4\text{--}7 \times$ ca. 1 cm in *C. virescens*), a longer inflorescence (8.5–18 cm vs. 1.5–3 cm), broad-ovate bracts 1–1.5 mm long (vs. ovate-lanceolate bracts to 2–3 mm long), a cordate-conical lip

constricted in the upper part (vs. lip conical), and longer side-lobes (3.5–4.5 mm vs. 1.5–2 mm). In addition, *C. sinicus* also superficially resembles *Parapteroceras elobe* (Seidenf.) Aver.; the new species differs by its spurlike lip that is solid and lacks a midlobe, the inflorescence that is much longer than the leaves, and the pollinarium with a much narrower stipe and viscidium.

Paratype. CHINA. **Yunnan:** Malipo Co., Chuantou, 21 Aug. 2009 (fl. in cult. at NOCC), *Z. J. Liu 4466* (PE).

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