

Arisaema menghaiense (Araceae), a New Epiphytic Species from South Yunnan, China

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ABSTRACT. *Arisaema menghaiense* J. T. Yin, H. Li & Z. F. Xu. (sect. *Pistillata* Engler) is described and illustrated as a new species of Araceae from South Yunnan, China. It is closely related to *Arisaema lobatum* Engler in having a globose tuber, trifoliate leaf blades, a unisexual spadix, and an erect cylindrical appendix. It differs in its epiphytic habit, the inflorescence that appears before the leaf, a green (female) or pale purple (male) spathe with a filiform acumen ca. 60 cm (male) or 25 cm (female) long, a pale green, erect, sessile cylindrical spadix appendix with a few acute neuter flowers basally and anther thecae opening by an apical slit.

Key words: Araceae, *Arisaema*, China, Yunnan.

During our study of tropical plant resources in South Yunnan, China, a new species of *Arisaema* was discovered; it is described here to make the name available for the *Flora of China*.

The genus *Arisaema* Martius was established in 1831 when it included only *Arisaema costatum* (Wallich) Martius (Martius, 1831), which was transferred from *Arum*. The next year, Martius moved two other species, *Arisaema nepenthoides* (Wallich) Martius and *A. speciosum* (Wallich) Martius, into *Arisaema* from *Arum* (Schott, 1832). Today, *Arisaema* comprises more than 170 species (Mayo et al., 1997) and is one of the larger genera of Araceae.

Arisaema menghaiense J. T. Yin, H. Li & Z. F. Xu, sp. nov. TYPE: China. Yunnan: Menghai, Bada, 100°4'E, 22°52'N, epiphyte on tree, 1800 m, 29 Apr. 2002 (fl), Yin Jian-Tao 38 (holotype, HITBC). Figure 1.

Haec species *Arisaemati lobato* affinis, sed ab eo habitu epiphytico, inflorescentia ante folium, spathae limbo virido (femineus) vel purpurascens (mas) cum acumine filiformi 25 (femineus) vel 60 cm (mas) longo, appendice viridula, cylindrica, erecta, sessili, inferne florum sterili rudimentis subulatis sparsim obsita, antherarum thecis rima apicali dehiscens differt.

Perennial, dioecious, herbaceous epiphyte; tuber

depressed-globose, ca. 5 × 10 cm, renewing seasonally, purple outside with brown spots, 1–1.5 mm diam.; roots whitish, 2–7 cm long, 1–2 mm diam. Leaf (from fruiting plant) 1; petiole cylindrical, green and smooth without spots, 20–30 cm long, ca. 1 cm diam.; leaf blade greenish, membranaceous, trifoliate; leaflets petiolulate; terminal leaflet ovate, ca. 20 × 10 cm; apex acute; base cuneate, lateral veins numerous, connective vein 2–3 mm remote from the margin, petiolule 15 mm long; lateral leaflets obliquely ovate-lanceolate, ca. 21 × 8 cm; apex acuminate with 5–8 mm filiform tail; base obliquely cuneate; petiolules 8–11 mm long. Inflorescences unisexual, appearing before the leaf; cataphylls 3, membranaceous, pale green, oblong; apex obtuse, 18–23 cm long; peduncle terete, white, ca. 26 × 0.3 cm (male), 25 × 1 cm (female); male spathe tube cylindrical, green, ca. 6 × 1.5 cm, throat margin broadly auriculate, strongly outward recurved; limb greenish purple, ovate-lanceolate, arched, ca. 6 × 5 cm, apex acuminate with a purple tail up to 60 cm long; female spathe tube whitish green, cylindrical, slightly constricted near the throat, ca. 5 × 1 cm; throat obliquely truncate; limb erect, whitish green, ovate-lanceolate, ca. 4 × 3.5 cm; apex acuminate, with a greenish tail up to 25 cm long. Male spadix with basal fertile portion cylindrical, ca. 3.8 × 0.5–0.6 cm, densely flowered; synandria subsessile, purple; anthers 4 to 6, subglobose, dehiscent by an apical slit; appendix sessile, cylindrical, greenish, ca. 3.8 × 0.3 cm; apex obtuse, with a few subulate neuter flowers in lower part; female spadix with basal portion cylindrical, ca. 2.2 × 0.8 cm, densely flowered; ovaries green, 1-loculed, ovoid; stigmas subsessile, discoid; ovules 5 to 6, basal, erect; appendix as in male spadix. Fruiting spadix cylindrical, ca. 5.2 × 1–1.5 cm; appendix ca. 4.5 cm long.

Distribution. China; Menghai County of Yunnan Province.

Phenology. Flowering, April; fruiting, May.

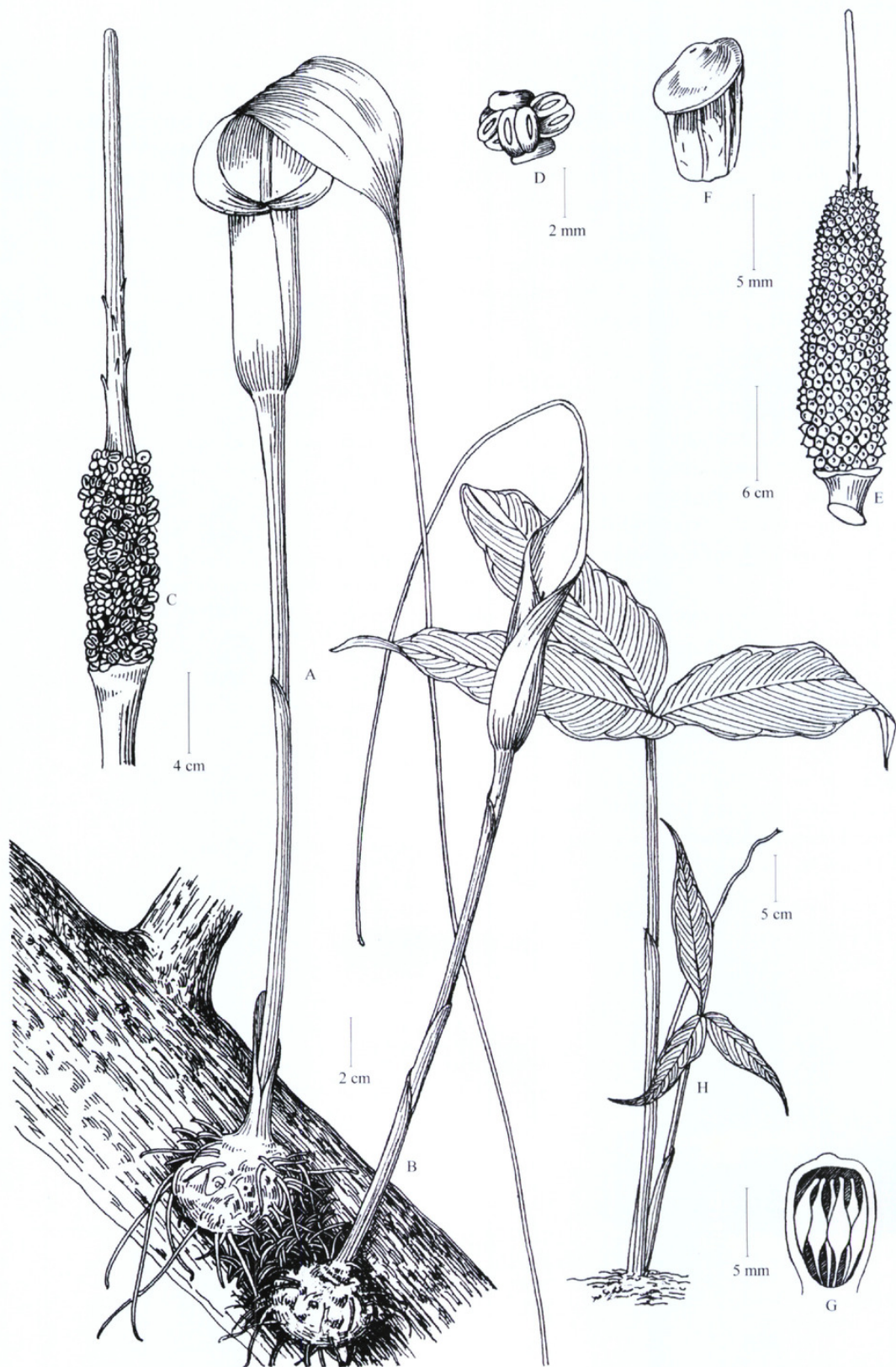


Figure 1. *Arisaema menghaiense* J. T. Yin, H. Li & Z. F. Xu. —A. Male flowering plant with tuber. —B. Female flowering plant. —C. Male spadix. —D. Synandrium. —E. Fruiting spadix. —F. Pistil. —G. Longitudinal section of pistil showing ovules. —H. Leaves of female plant. A, B, C, D from photos of *Yin Jian-Tao 38* (holotype), and E, F, G, H from *Yin Jian-Tao 33* (female, paratype).

Arisaema menghaiense is an epiphytic species in the genus *Arisaema*. This species belongs to section *Pistillata* Engler (Engler, 1920; Hara, 1971; Li Heng, 1979, 1980), which is characterized by a tuber, 3(to 5)-foliolate leaf blade, unisexual spadix, anther cells dehiscing by an apical elliptic or oblong slit, and a cylindrical, erect spadix appendix with nearly truncate base, which exceeds the spathe tube. The following characters distinguish *A. menghaiense* from *A. lobatum* and other species in section *Pistillata*: petiole and peduncle without colored marks appearing before leaves, greenish purple (male) or whitish green (female) spathe limb with a filiform tail up to 60 cm (male) or 25 cm (female) long, sessile cylindrical appendix with a few subulate neuter flowers in the lower part, and the anther thecae dehiscing by an apical slit.

The living tubers of the type and paratype specimens were introduced in Xishungbanna Tropical Botanical Garden in 2002.

The epithet of the new species is derived from the type locality.

Paratype. CHINA. **Yunnan:** Menghai, Mengsong, 100°34'E, 22°3'N, epiphyte on trunk of tree, 1800 m, 29 May 2002 (young fr), *Yin Jian-Tao* 33 (HITBC).

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