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Arisaema menglaense (Araceae), a new species from southern Yunnan, China

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Arisaema menglaense Y.H. Ji, H. Li & Z.F. Xu (Araceae: Arisaemateae), a new species from the southern Yunnan Province of China is described and illustrated. The morphological characters of *A. menglaense* and the related species *A. omkoiense* and *A. pingbianense* are compared.

Key words: Araceae, *Arisaema*, new species, sect. *Fimbriata*, taxonomy

Arisaema (Araceae: Arisaemateae) is a genus of about 170 species (Li 1980, Mayo *et al.* 1997). In China there are 93 species (Li & Long 1998), with the Himalayas-Hengduan Mountains as centre of diversity (Li 1980). The genus has been divided into 10, 13 or 14 sections (Hara 1971, Murata 1984, Gusman 2002). Section *Fimbriata* is comprised of about 17 species that are distributed in southern and southeastern Asia, Himalayas-Hengduan Mountains, and China (Engler 1922, Hara 1971, Li 1979a, 1979b, 1980, Wang 1996). Having evergreen leaves (except *A. fimbriatum*), numerous filiform neuters, and anther cells dehiscing by an apical pore or slit, it is usually treated as the most primitive section in the genus (Li 1980).

In 2002, we started to study aroids for the project of the conservation and study of tropical plant resources in the Xishuangbanna Prefecture of Yunnan. During an expedition to Manla Village in the spring of 2003, Mengla County, southern Yunnan, a specimen of *Arisaema* was found and easily identified as a member of sect. *Fimbriata* with morphological features that suggested it represents an undescribed species. After careful study and comparison with the publications of Engler (1922), Hara (1971), Li (1979a, 1979b, 1988), Wang (1996), and Gusman (2001, 2002) this was confirmed.

Arisaema menglaense Y.H. Ji, H. Li & Z.F. Xu, *sp. nova* (Fig. 1)

Haec species Arisaemati omkioesi affinis, sed ab eo spathae lamina oblonga, ovario ob ovato, stigmate circulari virescenti, synandria sparsis, antherae thecis rima apical dehiscentibus differt.

Type (bisexual): China. Yunnan Province, Mengla County, Manla Village, 101°18´4´´E, 21°59´7´´N, alt. 1040 m, tropical seasonal rain forest, 25.II.2003 *Li Heng & Ji Yun-Heng 50* (holotype KUN; isotypes KUN, HITBC).

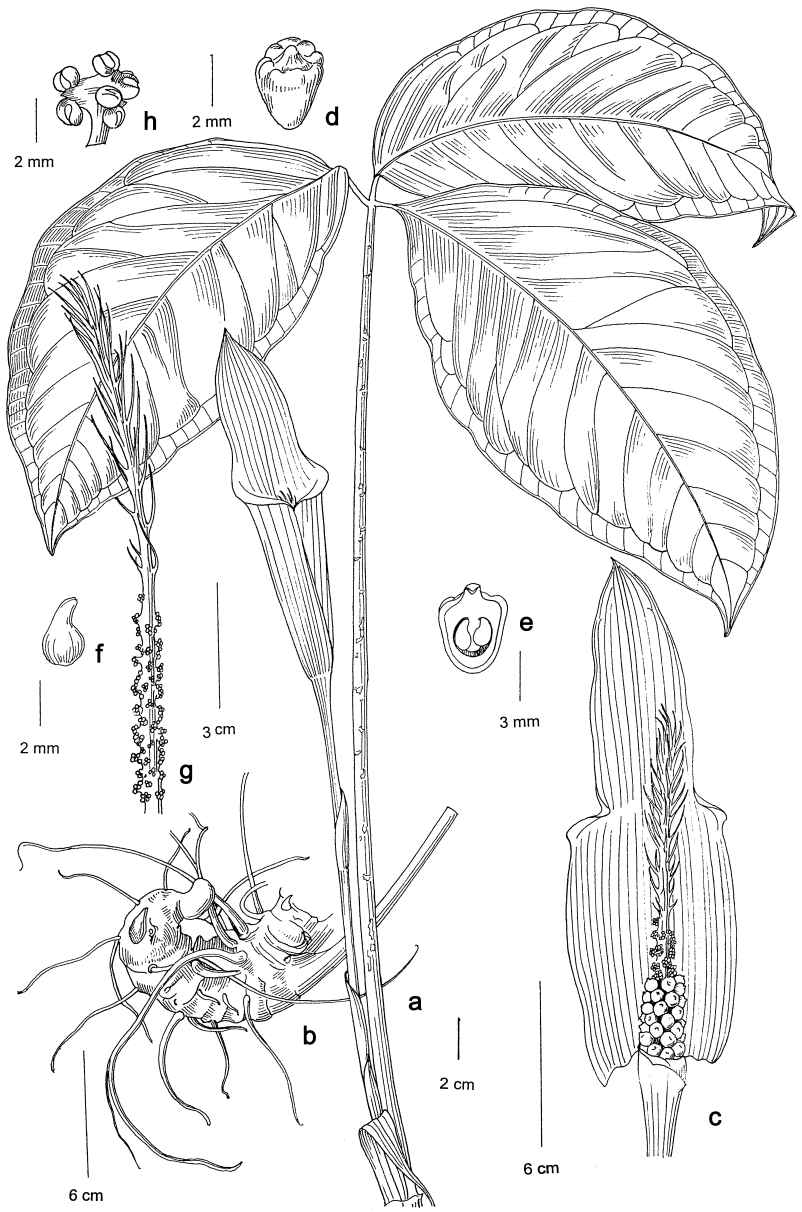

Fig. 1. *Arisaema menglaense* (drawn by Xi-Ling Wu; **a**, **b**, **c**, **d**, **e**, **f**, **h** from holotype; **g** from paratype). — **a**: Plant with inflorescence. — **b**: Rhizome. — **c**: Unwrapped spathe and bisexual spadix. — **d**: Ovary. — **e**: Longitudinal section of ovary showing ovules. — **f**: Ovule. — **g**: Male spadix. — **h**: Synandria.

Perennial evergreen herb, bisexual or male. Rhizome cylindric, erect, oblique lying or horizontal, 2.5–3 cm in diam., 5–6 cm long, light brown outside, violaceous in section, with numerous nodes bearing buds, roots 10–15 cm long. Pseudostem nearly absent, 0.5 cm long at most. Cataphylls 5, membranous, flesh-colored, to 5–8 × 1.5–2 cm, two encircling petiole and peduncle, three enclosing inflorescence. Leaves 1 or 2, developing from different buds. Petiole cylindric, viridescent with inconspicuous white spots, 45 cm long, 5–8 mm in diam.; leaf blade trifoliolate, green; middle leaflet elliptic, 21 × 11 cm, base cuneate, apex acuminate with 1 cm acumen, petiolule 1.7 cm long; lateral leaflets oblique-lanceolate, 20 × 8 cm, apex acuminate with 0.9–1 cm acumen, base wide-cuneate, petiolule 1.5 cm long; lateral veins 7–9 each side, connective vein 4–9 mm from margin. Peduncle cylindric, green, shorter than petiole, 20 cm

long, 5 mm in diam. Spathe (bisexual and male) green, with numerous longitudinal veins, tube funnel-shaped, 7 cm long, 1.5–3 cm in diam., throat margin recurved to 8 mm wide, limb erect, oblong, 6.5 cm long, 4 cm wide. Bisexual spadix 3.5 cm long, female portion 1.5 cm long, pistils densely arranged, ovary greenish, obovate, 2.5 mm long, 1–2 mm in diam., unilocular, stigma subsessile, greenish, circular, placentation basal, ovules 4, erect; male portion 2 cm long, synandria sparse, purple, stalk 2 mm long, stamens 3, each comprising 2 anther cells, anther cell subglobose, 1 mm in diam., dehiscing by an apical slit; appendix erect, long-coniform, sessile, 5.5 cm long, 1–4 mm in diam., usually exceeding from spathe tube 1 cm, lower part purple, upper green, wholly covered by filiform neuters, neuters erect, green, 5–10 mm long. Male spadix 3 cm long, 2 mm in diam., appendix 5 cm long, covered by filiform neuters, synandria and neuters as in bisexual spadix. Flowering December to February.

Compared with other evergreen rhizomatous species in the same section, *Arisaema menglaense* closely resembles *A. omkoiense* in having pseudostem nearly absent, peduncle shorter than petiole, spathe tube funnel-shaped, throat margin widely recurved, synandria loosely arranged in male spadix, and spadix-appendix wholly covered by filiform neuters. However, *A. menglaense* is clearly distinct from the latter in having an oblong spathe limb, obovate ovary with a greenish and circular stigma, synandria loosely arranged in bisexual spadix, and anther cells dehiscing by an apical slit. *Arisaema menglaense* also resembles *A. pingbianense* in having trifoliolate leaves with middle leaflet elliptic and lateral leaflets oblique-lanceolate, spathe limb oblong, spadix-appendix exceeding from tube, and neuters filiform, but differs in having a big, thick rhizome, spathe tube funnel-shaped, tube mouth widely recurved, spathe limb lacking a rounded white spot above the tube, and spadix-appendix entirely covered by erect neuters.

Additional specimen examined (paratype, male). **China**. Yunnan Province, Mengla County, Manla Village, 101°18´4´´E, 21°59´7´´N, alt. 1040 m, tropical seasonal rain forest, 25.II.2003 *Li Heng & Ji Yun-Heng 51* (KUN, HITBC).

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