

Colocasia tibetensis (Araceae, Colocasieae), a new species from southeast Tibet, China

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Colocasia tibetensis J.T. Yin is described and illustrated as a new species of Araceae from southeast Tibet, China. Morphological characters of *C. tibetensis* and morphologically similar species *C. fallax* are compared. *Colocasia tibetensis* differs from *C. fallax* in its erect (not reflexed) spathe limb, the junction between the lamina and lower convolute part of the spathe being not constricted, having three placentae and stolons 15–35 cm long.

Key words: Araceae, *Colocasia*, new species, taxonomy

Colocasia is a genus of about 13 species distributed in tropical and subtropical Asia. Including that described here there are nine species in China (Li 1979, Li & Wei 1993, Mayo *et al.* 1997, Li & Long 1998, 1999, 2000, Long & Liu 2001, Cao & Long 2003, Yin 2004). In China *Colocasia esculenta* is widely cultivated and naturalized in the humid tropics and subtropics, while *C. heterochroma*, *C. gigantea*, *C. lihengiae*, *C. gaoligongensis*, *C. gongii*, and *C. menglaensis* are considered as native to western and southern Yunnan. During our expedition to Motuo county in southeast Tibet (= Xizang), a new species of *Colocasia* was discovered and introduced in Xishungbanna Tropical Botanical Garden, Chinese Academy of Sciences.

Colocasia tibetensis J.T. Yin, *sp. nova*
(Fig. 1)

Haec species Colocasieae fallaci similis, sed ab

ea spatha erecta ad basim laminae non constricta, ovario uniloculari atque placentis 3 parietalibus differt.

TYPE: China. Tibet (Xizang), Motuo county, 95°18.070'E, 29°19.152'N, alt. 1088 m, by the path from Motuo county to Beibong country, 21.IX.2002 Yin Jian-Tao 378 (holotype HITBC).

Terrestrial perennial herbs with a flexuous rhizome and stolons (stoloniferous runners). Rhizome up to 7 cm long, 1.5 cm in diam.; stolons 2–5 per plant, simple, trailing horizontally, non-branching, thin, pale green, 15–35 cm long, up to 3 mm diam., with light green cataphylls; internodes cylindrical, 1.5 cm long, without tubercles; roots whitish, dense, 15–30 cm long, 1–2 mm diam. Leaves 3–5 per shoot; petiole cylindrical, pale greenish, glossy, up to 20 cm long, 3 mm diam.; leaf blade peltate, ovate-cordate, membranaceous, up to 12 × 6 cm, upper surface glossy green, pale green in middle, lower surface glossy pale green; primary lateral veins

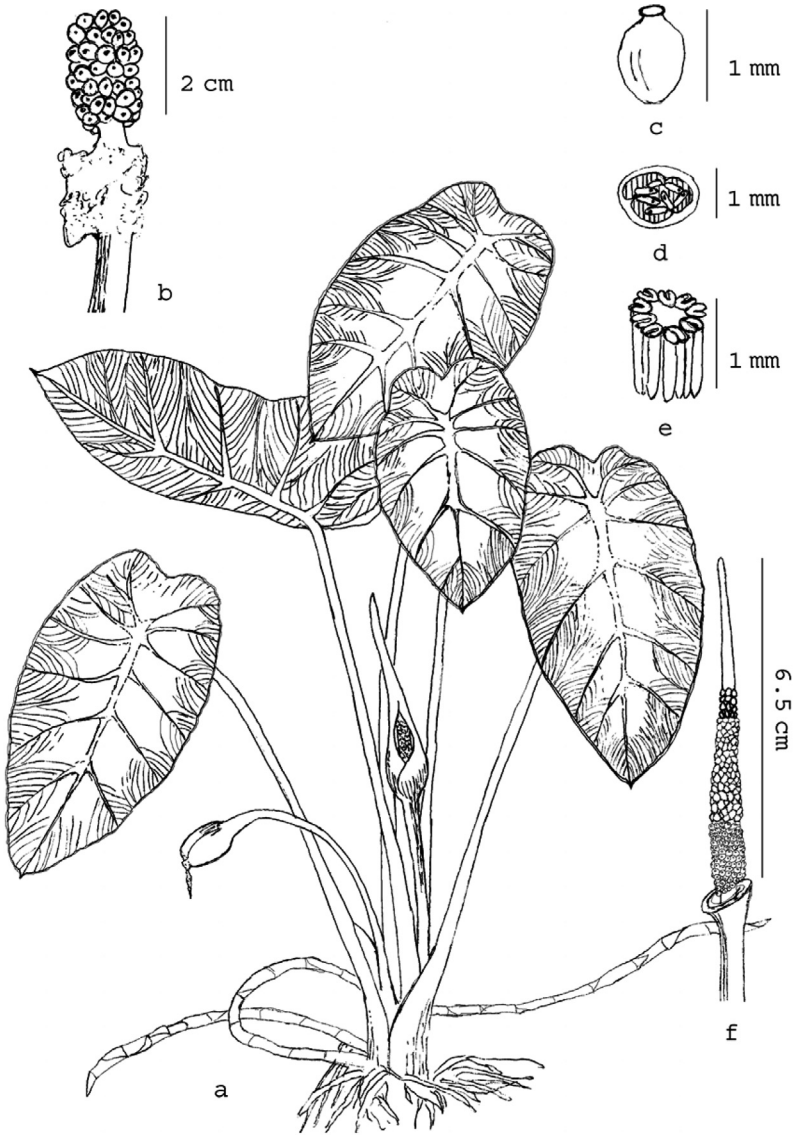


Fig. 1. *Colocasia tibetensis* (from living plant in Xishungbanna Tropical Botanical Garden, drawn by Wen-You Chen). — **a:** Flowering plant with stolons. — **b:** Fruit. — **c:** Ovary. — **d:** Transverse section of ovary. — **e:** Synandrium. — **f:** Spadix.

pinnate, 6–7 pairs per side; marginal vein 0.5 mm from margin, inconspicuous. Inflorescences 1–2 together, appearing with leaves; peduncle cylindrical, glossy pale green, up to 10 cm long, shorter than petiole. Spathe not constricted between lower convolute part and blade, lower part funnellform with convolute margins, greenish, up to 2 cm long, 1 cm diam.; limb oblong-lanceolate, yellowish, up to 6 cm long, 3 cm wide, at anthesis lower part gaping, upper part remaining convolute, erect, not reflexed. Spadix bad odoriferous up to 6.5 cm long, shorter than spathe; female zone cylindrical, pale yellow-

ish, up to 1.4 cm long, 0.6 cm diam.; male zone yellowish, cylindrical, up to 1.8 cm long, 0.6 cm diam.; sterile zone between appendix and male zone cylindrical, about 5 mm long, 1 mm diam.; appendix pale yellowish, elongate-conic, up to 3.3 cm long, 2 mm diam. Male flower bad odoriferous, 6–9-androus, stamens connate into a truncate synandrium, thecae lateral, oblong-linear, each dehiscing by an apical pore. Sterile male flower: synandroides depressed, apex nearly truncate, oblong to ovate. Female flower: ovary ovoid to oblong, about 1 mm long, unilocular, ovules many (about 20), placentae 3, parietal,

Table 1. A morphological comparison of *Colocasia tibetensis* and *C. fallax*.

Characters	<i>Colocasia tibetensis</i>	<i>C. fallax</i>
Rhizome	Flexual, 7 cm long, 1.5 cm diam.	Horizontal, 4–5 cm long, 0.8–1.5 cm diam.
Tubercles	None	Small, 1–1.5 cm diam.
Stolon	2–4 per plant, 15–35 cm long	None
Petiole	20 cm long	30–50 cm long
Blade	Ovate-cordate, 12 cm long, 6 cm wide	Ovate-cordate, 8–15 cm long, 5–12 cm wide
Primary lateral veins	6–7 pairs	3–5 pairs
Peduncle	10 cm long	7–15 cm long
Spathe	Not constricted in middle	Constricted in middle
Spathe tube	Funneled, 2 cm long, 1 cm diam.	Oblong, 2.3 cm long, 1.2 cm diam.
Spathe lamina	Erect, oblong-lanceolate, yellowish, 6 cm long, 3 cm wide	Reflexed, oblong, 4–6.5 cm long, 2 cm wide
Male zone	1.8 cm long, 0.6 cm diam.	3.5 cm long, 0.6–0.8 cm diam.
Female zone	1.4 cm long, 0.6 cm diam.	1.5 cm long, 0.5 cm diam.
Sterile zone	0.5 cm long, 0.1 cm diam., between appendix and male zone	1 cm long, 0.1–0.2 cm diam., between male zone and female zone
Appendix	Elongate-conic, 3.3 cm long, 2 mm diam.	Fusiform, 3 cm long, 0.2–0.3 cm diam
Male flower	Synandria 6–9-androus	Synandria 6–8-androus
Female flower	Ovary ovoid to oblong, placentae 3	Ovary ovoid, placentae 2
Habitat	Humid edges of and in forest margins at alt. 800–1100 m	Valleys in forest or scrubs, alt. 850–1400 m
Distribution	Xizang, China	China (S Yunnan), N Bangladesh, NE India, Thailand

stylar region short, stigma discoid-capitate; berry yellow, bad odoriferous, ovoid, 2 mm long. Flowering period March to September.

Colocasia tibetensis appears to be closest to *Colocasia fallax* but may be easily distinguished by the unconstricted part between spathe lamina and tube (in which character *C. tibetensis* differs from all congeners), erect spathe limb and three placentae per ovary.

The differences between *C. tibetensis* and *C. fallax* are presented in Table 1.

Colocasia tibetensis grows at humid edges of and in forest margins at alt. 800–1100 m. Other aroids in the same habitats include *Remusatia vivipara*, *Rhaphidophora decursiva*, and *Pothos scandens*. Plants of *Colocasia tibetensis* were introduced to the Xishungbanna Tropical Botanical Garden at alt. 500–600 m. in September 2003. They are growing very well and flowering.

ADDITIONAL SPECIMEN EXAMINED (paratype): **China.** Tibet (Xizang) Province, Motuo county, Beibong, 95°18' E, 29°19' N, alt. 800 m, forest margin, by stream, 22.IX.2002 *Yin Jian-Tao 414* (HITBC).

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