

Colocasia bicolor (Araceae), a new species from Yunnan, China

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Colocasia bicolor C.L. Long & L.M. Cao, *sp. nova* from China (Yunnan province, Jinghong and Mengla counties) is described and illustrated. Diagnostic morphological characters that distinguish it from *C. heterochroma* H. Li & Z.X. Wei are presented. The clearest differences are that *C. bicolor* has a sterile zone in the inflorescence, a rolled-up and reflexed spathe lamina, and a conoid, reddish-purple, greenish, white or pale yellow appendix. Chromosome numbers of *C. bicolor* ($2n = 28$) were observed in the plants cultivated in Kunming Botanical Garden.

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

Colocasia (Araceae) is a tropical Asian genus. Until 2001, about ten species had been described (Engler & Krause 1920, Li 1979, Sivadasan 1982, Plucknett 1983, Shaw 1984, Sreekumari & Mathew 1991a, 1991b, Li & Wei 1993, Hay 1996, Mayo *et al.* 1997, Li & Long 1999, Long & Li 2000, Long & Liu 2001). In July 2001 and June 2002, we collected an aroid in and along the forest edges in limestone areas in southern Yunnan, China. It resembles *C. heterochroma*, but differs by having a sterile zone in the inflorescence, a reflexed spathe lamina, a conoid, reddish-purple, greenish white or pale yellow appendix, branched stolons, and big purple spots on the leaf surface.

Colocasia bicolor C.L. Long & L.M. Cao, *sp. nova* (Fig. 1)

Species nova C. heterochromae proxima, sed

spadicibus inter flores masculi et feminei floris neutris praeditis, laminis spathae reflectis, appendicibus terminatis conicis (nec teretibus), purpureo-rubris vel viridi-albis vel luteolis (nec lacteo-flavis) facile differt.

TYPE: China. Yunnan Province, Mengla, in moist shady places, alt. 980 m, 22.VI. 2002 Long Chun-lin & Cao Li-min 02085 (holotype KUN).

Terrestrial perennial herb with stolons and tubercles. Stolons 3.7–39.7 cm long, 4 mm diam., trailing horizontally, branched, thin, pale green, internodes cylindrical, 2.7–9 cm long, with tubercles. Tubercles triangular or ovate, 2 cm diam. Leaves 3–7, petiole cylindrical, light green or greenish white, without transverse purple lines, 20–44 cm high; blade peltate, ovate-cordate, membranaceous, (5.1–)16–21 cm long, (4.7–)13–16 cm wide, upper surface green or

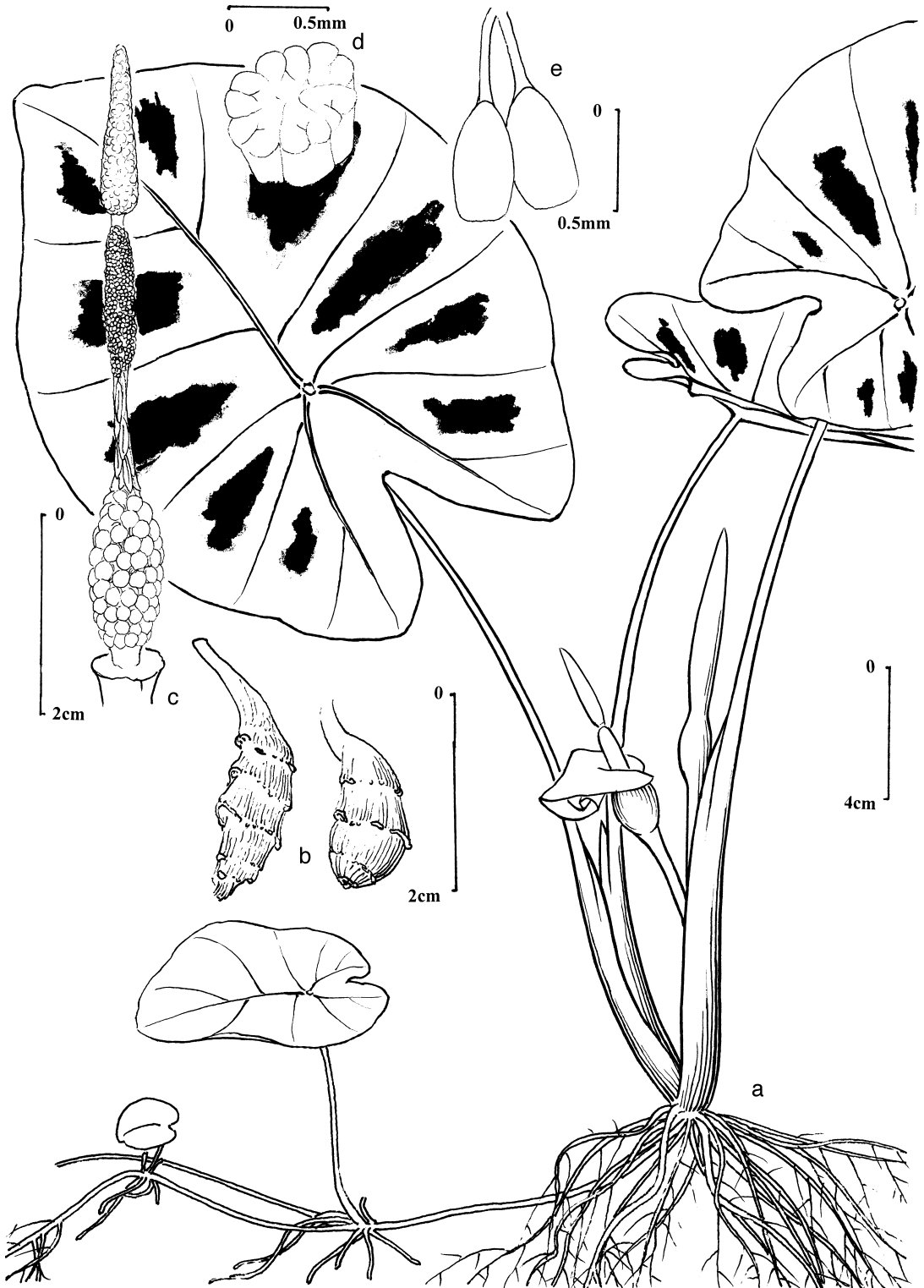


Fig. 1. *Colocasia bicolor* (from holotype, drawn by Yi-tao Liu). — a: Habit. — b: Tubercles without fiber. — c: Inflorescence. — d: Synandria, top view. — e: Two ovules with peduncles.

light green, with 4–6 pairs of big purple spots (lighter when growing in a very shady environment), lower surface pale green; primary lateral veins in 3–4 pairs, marginal veins inconspicuous. Inflorescences 1–3; peduncle cylindrical, pale green, 6.4–15 cm long, much shorter than petiole. Spathe constricted, tube convolute, green, 1.3–2.7 cm long, 0.6–1.8 cm diam., almost cylindrical; blade oblong-lanceolate, yellow, greenish white or yellowish, 4.2–7.8 cm long, 1.6–3.3 cm wide, usually reflexed at anthesis. Spadix sessile, shorter than spathe, female zone short, cylindrical, 0.9–1.7 cm long, 3–8 mm diam.; male zone 1–1.7 cm long, 2.5–5 mm diam., yellowish, pale pink or cream-colored; neutral flower zone between female and male flower parts, cream-colored, 0.5–0.8 cm long, 0.8–2 mm diam.; appendix cylindrical in lower part but conoid in upper part, reddish-purple, greenish white or light yellow, 1.7–5.1 cm long, 1.5–6 mm diam. Female flowers green, ovary ovoid, ovules ca. 30, placenta parietal, funicle long, stigma sessile. Male flowers 6–8 androus, stamens connate into

a synandrium, yellow. Young fruits green. Chromosome number $2n = 28$.

PHENOLOGY: In the original sites flowering from June to August, fruiting from July to October. Fruits were not seen in the cultivated plants in the Kunming Botanical Garden.

DISTRIBUTION AND HABITAT: Southern Yunnan, SW China: Mengla and Jinghong counties in Xishuangbanna Prefecture, Simao and Lancang counties in Simao Prefecture; small populations in or along the edges of forests, or on the hillsides close to roads in limestone areas, alt. 840–1380 m. There were also other aroid plants in the same habitats. The species favours moderate light. It is in cultivation in the Kunming Botanical Garden.

After detailed studies, we believe that *Colocasia bicolor* is closest to *Colocasia heterochroma*. However, the former can be easily distinguished by a sterile zone in the inflorescence, a reflexed spathe lamina, a conoid, reddish-purple, greenish white or pale yellow appendix, and branched stolons. A closer comparison is in Table 1.

Table 1. Comparison between *Colocasia bicolor* and *C. heterochroma*.

Characters	<i>Colocasia bicolor</i>	<i>Colocasia heterochroma</i>
Tubercles	triangular or ovate, 2 cm diam.	oblong-ovoid
Stolon	3.7–39.7 cm long, 4 mm diam., branching	5–10 cm long, 3 mm diam., non-branching
Petiole	20–44 cm long	17–30 cm long, transverse purple lines
Blade	ovate-cordate, (5.1–)16–21 cm long, (4.7–)13–16 cm wide, green with big, purple spots on surface	ovate-cordate, 12 cm long, 10 cm wide, purple or dark purple on surface
Primary lateral vein	3–4 pairs	4 pairs
Peduncle	1–3, 6.4–15 cm long	1–2, 4–7 cm long
Spathe tube	1.3–2.7 cm long, 0.6–1.8 cm diam.	3 cm long, 1.7 cm diam.
Spathe lamina	lanceolate, 4.2–7.8 cm long, 1.6–3.3 cm wide, reflexed	oblong-lanceolate, 10.5 cm long, 2.7 cm wide, light purple, non-reflexed
Female zone	0.8–1.7 cm long, 3–8 mm diam.	1 cm long, 4 mm diam.
Male zone	1–1.7 cm long, 2.5–5 mm diam.	1.3 cm long, 3 mm wide
Appendix	cylindric in lower part conoid in upper part, 1.7–4.4 cm long, 6 mm diam., reddish-purple, greenish white, pale yellow	cylindric, 4.5 cm long, 2.5 mm diam., cream-yellow
Male flower	synandria 6–8 androus	synandria 10–12 androus
Female flower	ovary ovoid	ovary subspherical
Sterile zone	0.5–0.8 cm long, 0.8–2 mm diam., cream colored	none
Chromosome number	$2n = 28$	$2n = 28$
Habitat	in moist shady places in or along the edge of forests, or on the hillsides close to the roads, alt. 840–1380 m	in dense forest, alt. 1100 m
Distribution	S Yunnan, China: Mengla, Jinghong, Simao, Lancang	SW Yunnan, China: Yingjiang

ADDITIONAL SPECIMENS EXAMINED (paratypes): **China.** Mengla, 27.VII.2001, Long Chun-lin & Cao Li-min 01005; Mengla, 29.VII.2001, Long Chun-lin & Cao Li-min 01023; Mengla, 29.VII.2001, Long Chun-lin & Cao Li-min 01024 (all KUN).

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