

## *Michelia concinna* (Magnoliaceae), a new species from SE Yunnan, China

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*Michelia concinna* H. Jiang & E.D. Liu, a new species of Magnoliaceae from SE Yunnan, China is described and illustrated. The morphological characteristics of the new species and two morphologically similar species are compared.

Key words: Magnoliaceae, *Michelia*, new species, taxonomy

There are approximately 11 genera and 160 species of Magnoliaceae in China (Law 2004). The genus *Michelia*, including 80 species or so, mainly occurs in China, India, Sri Lanka, Indochina, Malaysia and south Japan. There are about 70 species of *Michelia* in China, which is considered the modern distribution and diversity centre of the genus (Law 1984, 1996, 2000, Law *et al.* 1995).

In the past five years, we did much research work on the conservation biology of Magnoliaceae. In March of 2003, when observing the plants of Magnoliaceae in Kunming Arboretum, Yunnan Province, China, we found several plants of *Michelia* that differed clearly from the congeneric species in China and in the neighbouring countries. In March of 2005, we observed the plants again and dissected several flowers; in October of that year, we collected and studied many fruits. After further morphological study, literature search (Law 1984, 1996, 2000, 2004, Chen & Nooteboom 1993, Law *et al.* 1995, Yan *et al.* 2004) and examination of numer-

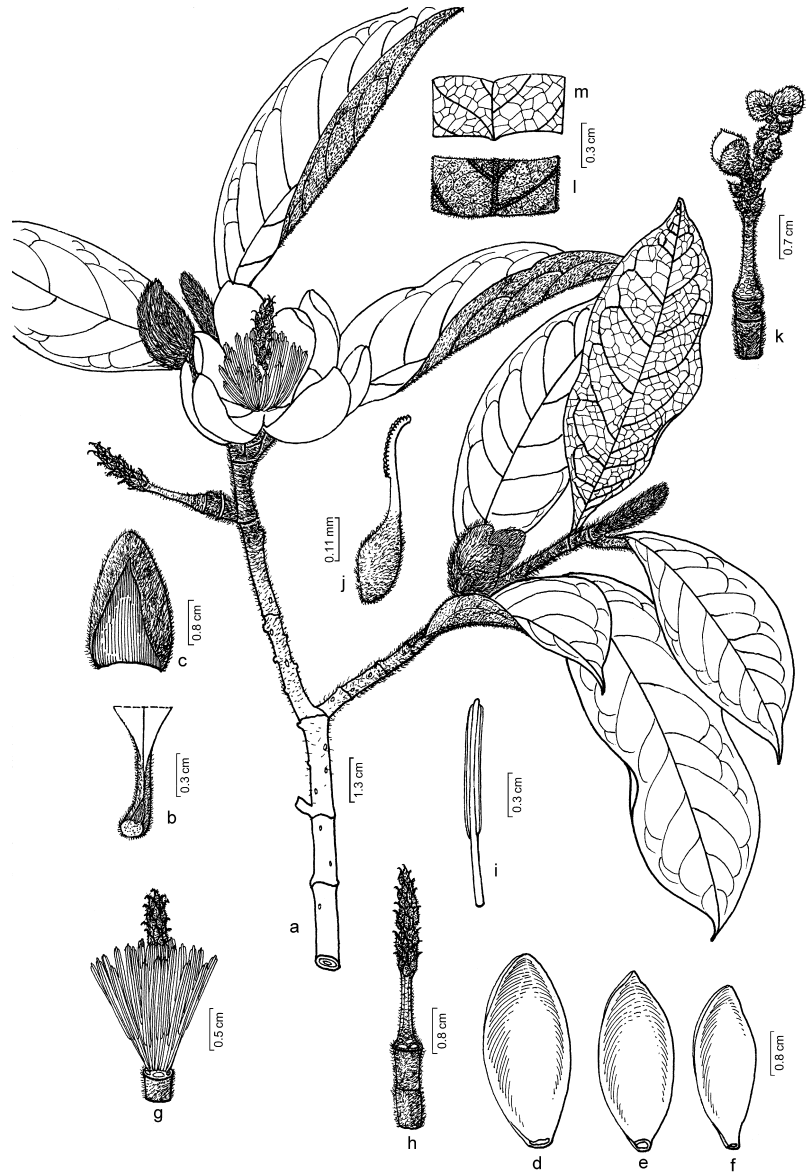
ous specimens in PE, KUN, IBSC and YAF, it became clear that these plants represented an undescribed species.

***Michelia concinna*** H. Jiang & E.D. Liu, *sp. nova* (Fig. 1)

*Species M. crassipiti* Law similis, quae differt tepalis 6, purpureis, carpellis 25–32, ovulis in quoque carpello singulo 2; etiam affinis *M. skinneriana* Dunn, quae differt tepalis 6, stipulae petiolo adnatae.

TYPE: China. Yunnan Province: Kunming Arboretum (Transplanted from Southeast Yunnan, original habitat and altitude unknown), alt. 1990 m, 22.III.2006 H. Jiang 03942 (holotype KUN; isotypes H, PE, YAF).

*Arbor parva circa 4 m alta; ramuli hornotini spisse brunneo-pubescentibus, in vetustate sparse lenticellati; gemmae 2.0–3.5 cm longae, dense russo-tomentosae. Lamina coriacea, oblonga vel obovato-oblonga, 8–13 cm longa,*



**Fig. 1.** *Michelia concinna* (from the holotype). — **a**: Part of one flowering branch. — **b**: Petiole. — **c**: Bract. — **d–f**: Tepals. — **g**: Androecium and gynoecium. — **h**: Gynoecium. — **i**: Stamen. — **j**: Carpel. — **k**: Aggregate fruit. — **l**: Part of abaxial leaf surface. — **m**: Part of adaxial leaf surface (drawn by Wang Ling).

3–5 cm lata, superne atroviridia nitida in juventute sericea, in vetustate glabra, subtus dense brunneo-pubescentia, apice cuspidate, basi late cuneata; costa vel nervi lateralis supra impressi, nervis lateralibus utrinsecus 10–13, nervi reticulati conferti, in sicco utriusque prominuli; petioli 6–8 mm longi, basi leviter dilatati, pubescentes; stipulae a petiolo adnatae, cicatricibus stipulorum 2–4 mm longis. Pedunculi 1.0–1.5 cm longi, 4–5 mm diam., confertim brunneo-tomentosi; bracteae 2–3, papyraceae, extus spisse brun-

neo-tomentosae; pedicellae absentes; tepala 9, flava, in 3-verticillum disposita, basi internus sanguinea, leviter succulenta, glabra; tepalis 3 exterioribus obovatis vel obovato-ellipticis, 3.0–4.5 cm longis, 1.4–2.0 cm latis, interioribus anguste ellipticis vel oblongis, 2.8–3.4 cm longis, 1.0–1.3 cm latis; stamina 40–50, 1.5–1.8 cm longa, antheris circ. 1 cm longis; antherarum connectivum ultra loculos antherarum in cuspidem (0.5–1.0 mm longam) projectum; filamenta sanguinea, 4–6 mm longa; gynoecium

**Table 1.** Morphological differences among *Michelia concinna*, *M. crassipes* and *M. skinneriana*.

Characters	<i>M. concinna</i>	<i>M. crassipes</i>	<i>M. skinneriana</i>
Life form	small tree, 4–6 m tall	shrub, 2–5 m tall	large tree, 15 m tall
Stipule scar	1/3–1/2 of petiole length	3/4–1/1 of petiole length	as long as petiole
Leaf veins	reticulate veins dense and conspicuous on abaxial leaf surface	reticulate veins inconspicuous on abaxial leaf surfaces	reticulate inconspicuous on abaxial leaf surfaces
Peduncle	thick and strong	thick and strong	slender
Tepals	9, in 3 whorls	6, in 2 whorls	6, in 2 whorls
Tepal color	pale yellow	dark purple	pale yellow
Tepal indumentum	abaxially glabrous at base	abaxially glabrous at base	abaxially brown hairy at base
Carpels	47–62	25–32	30–35
Ovules	4–5	2	2

*cylindricum*, 16–20 mm longum, spisse brunneo-pubescentis, conspicue extra androecium projectum, gynophorum 8–12 mm longum, dense brunneo-pubescentis; carpella 47–62, ovata, circ. 2.5 mm longa, confertim laete brunneo-puberula, stylo circ. 2.5 mm longo, ovulis 4–5. Fructus spiciformis-cylindricus 4–7 mm longus, dense pubescens, carpellis pro parte majore abortivis, fertiliter libere dehiscentibus, late ovatis vel suborbiculatis, 7–8 mm longis. Semen in quopue carpello 1, rubrum. Florescentia: Feb.–Apr.; fructescentia: Aug.–Sep.

*Michelia concinna* belongs to *Michelia* subgen. *Michelia* sect. *Micheliopsis* (Dandy 1974). It is morphologically close to *M. crassipes* and *M. skinneriana*, but there are some clear differences between them, indicated in Table 1.

ADDITIONAL SPECIMENS EXAMINED (paratypes). — **China.** Yunnan Province, Kunming Arboretum (transplanted from Southeast Yunnan, exact locality or original habitat and altitude unknown), 15.III.1999 *H. Jiang 00150* (YAF), 10.III.2003 *H. Jiang 02867* (YAF, KUN), 31.VIII.2006 *H. Jiang 04198* (KUN, PE, YAF).

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