Taxonomic notes on *Castanopsis* (Fagaceae, Castaneoideae) from China

LI CHEN¹, XIN-WEI LI¹ & JIAN-QIANG LI¹ *

¹ Key Laboratory of Plant Germplasm Enhancement and Specialty Agriculture, Wuhan Botanical Garden, Chinese Academy of Sciences, Wuhan, Hubei, 430074, P. R. China (*corresponding author’s e-mail: lijq@wbgcas.cn)

Abstract

The taxonomy of some Chinese *Castanopsis* species is clarified in the present paper. *C. semifabri* is accepted as the taxonomically correct name, having priority over *C. ledongensis*. *C. wuzhishanensis* is treated as a new synonym of *C. semifabri*. *C. qiongbeiensis* described from Hainan is a new synonym of the widely distributed and more variable *C. chinensis*. *C. lantsangensis* and *Quercus pinfaensis* are reduced to synonyms of *C. ceratacantha* and *C. eyrei* rather than synonyms of *C. mekongensis* and *C. fargesii*, respectively. The variety *C. carlesii* var. *spinulosa* is subsumed as a new synonym of *C. carlesii*. *C. formosana* is resurrected as a separate species rather than treated as a synonym of *C. jucunda*. In addition, an accurate description of *C. wenchangensis* is given to replace the inaccurate one given in *Flora Reipublicae Popularis Sinicae* and *Flora of China*.

Introduction

*Castanopsis* (D. Don 1825: 56) Spach (1841: 142, 185) (Fagaceae, Castaneoideae) is the third largest genus in Fagaceae and is widely distributed across tropical and subtropical Asia as far north as the Yangtse River of China, Korea, and Japan, as well as the Himalayas (Camus 1929, Barnett 1944, Kaul 1988, Huang & Chang 1998). In the first major revision of the genus, Camus (1929) described 112 species and based on the characteristics of cupules recognized three sections (*Eucastanopsis*, *Callaeocarpus*, and *Pseudopasania*). Subsequently, her work was complemented by Barnett (1944), who recognized 119 species divided into 11 groups on the basis of the characteristics of cupules, nuts and leaves. Soepadmo (1972) recognized 34 species in Malesia based on fruiting specimens. Later, Govaerts & Frodin (1998) recognized 134 species of *Castanopsis*, with ca. 62 species recorded in China. The taxonomy of the *Castanopsis* of China has been the subject of extensive study (e.g. Hu 1949, Cheng et al. 1963, Hsu & Jen 1975, Liao 1996, Wang & Chang 1996, Huang & Chang 1998, Huang et al. 1999, Liu 2009). Huang & Chang (1998) and Huang et al. (1999) made comprehensive revisions of Chinese *Castanopsis*, and on the basis of vegetative and cupular characteristics recognized respectively 63 or 58 species in China. However, some distinct species were mistakenly synonymized, and a number of species described by other authors (Fu & Huang 1989, Chen & Yu 1991, Fu & Feng 1992, Fu 1994) were not included in their monographs. Recently, some new species published by Fu (2001) on the basis of a small number of specimens from Hainan have descriptions that differ only slightly from previously published species. The aim of this study is to better understand the variation of morphological characters and to further revise Chinese *Castanopsis*.

Materials and Methods

Over the last few years, we made five expeditions to various areas in China where *Castanopsis* is found to record the morphological variations and biological features. We also subjected to careful examination the *Castanopsis* specimens deposited at CAF, CDBI, HF, HIB, HITBC, IBK, IBSC, KUN, LBG, PE, SWFC and SYS. We also obtained images of type specimens of *Castanopsis* species from the curators of A, AMES, B,
After examining the type specimen of *Castanopsis wenchangensis* G.A. Fu & C.C. Huang and comparing its original description with that in *Flora Reipublicae Popularis Sinicae* (Huang & Chang 1998) and *Flora of China* (Huang et al. 1999), we find that Huang & Chang (1998) and Huang et al. (1999) mistakenly interpreted *C. wenchangensis* as *C. glabrifolia* J.Q. Li & Li Chen (2011: 317). *C. wenchangensis* is distinguished from *C. glabrifolia* by its global cupules with longer spines, pubescent branches, leaves and rachis of inflorescences. The description of *C. wenchangensis* according to Fu and Huang (1989) and the holotype specimen was given as the following:

Trees. Second-year branches grey black with slightly raised lenticels. First-year branches, petioles, leaves abaxially, midvein from base to middle adaxially, rachises of inflorescences and perianth segments covered with grey pubescences and brown scales. Petiole 0.8–1.4 cm. Leaf elliptic or ovate-elliptic, 4.5–6.5 × 1.9–3.1 cm, leathery, base acute or broadly cuneate, margin very shallow serrate from middle to apex, often slightly curled abaxially, apex acute acuminate; midvein adaxially impressed, secondary veins 6–9 pairs on each side of midvein, impressed adaxially. Rachis of inflorescences 10 cm, 1.5 mm thick. Cupule globose, 1.4–2.0 cm in diameter, cupule outside covered with sparsely grey pubescent spines, spines 0.6–1.5 cm long, basally connate. Nut 1 per cupule, conical, 12 mm in diameter, densely brown pubescent; scar basal.

Acknowledgements

This work was financially supported by grants from the National Natural Science Foundation of China (no. 30770151). We thanked Prof. M.X. Jiang (Wuhan Botanical Garden, CAS) for providing materials from Taiwan. We are grateful to Julian Harber and an anonymous reviewer for comments that improved the manuscript.

References


Specimens examined (if not designated, specimens are deposited in IBSC):