

**VALIDATION OF FOUR NAMES OF *CASTANOPSIS* (FAGACEAE) FROM  
HAINAN, SOUTHERN CHINA**

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Four names of *Castanopsis* were not validly published because specimens from two gatherings were indicated as types in the original publications. This is contrary to Art. 37.2, which permits two or more specimens to be indicated provided that they belong to a single gathering (but on or after 1 January 1990 a single herbarium must also be specified: Art. 37.7). The names are here validated with the designation of the holotype.

*Castanopsis* Spach. consists of about 120 species which are widely distributed in tropical and subtropical Asia (Huang and Zhang, 1988; Mabberley, 2008). In China, 58 species of *Castanopsis* have been recognized (Huang *et al.*, 1999). Recently, four new species, i.e., *Castanopsis hairocarpa* G. A. Fu, *C. oleifera* G. A. Fu, *C. qingbeiensis* G. A. Fu, *C. wuzhishangensis* G. A. Fu, from Hainan Island in South China were published (Fu, 2001). However, two specimens, representing flowering and fruiting stage, were simultaneously designated as types for them respectively. Therefore, these names were not validly published according to Art. 37.1 of the International Code of Botanical Nomenclature (ICBN, see McNeill *et al.*, 2006). To enable their formal use, these names are herein validated by a holotype designation.

According to the Article 46.2, G. A. Fu is the author of *C. hairocarpa*, *C. oleifera*, *C. qingbeiensis* and *C. wuzhishangensis*, that is because, for each name validated here, both the name and the validating description and diagnosis are ascribed to Fu.

Holotype of each species were examined in the herbarium HFB, other specimens from the following herbaria were available to us for comparison: CDBI, IBK, IBSC, KUN and PE. As fruit is a very important character for the taxonomy of the genus *Castanopsis*, thus collections in fruiting stages were designated as holotype respectively.

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### Validation of the names

*Castanopsis trichocarpa* (In the original publications is *hairocarpa*, which is a ridiculous compound of the English word “hair” and a Greek word “carpa”. It is preferable to use another Greek word in the compound: *tricho-* means hairy.) G. A. Fu, *sp. nov.* Validated by a full and direct reference to the Latin diagnosis associated with *Castanopsis hairocarpa* G. A. Fu, *Guihaia* 21: 96. 2001.

*Holotype*: G. A. Fu 7739 (HFB), China, Hainan, Wenchang, Gongpo town, Longfeitou village, 3 Oct 1992. — *Paratypes*: G. A. Fu 7328, 8169, 8219, 8224, 8250, 8251, 10250 (HFB), China, Hainan, Wenchang, Gongpo town, Longfeitou village; G. A. Fu 8249 (HFB), Hainan, Wenchang, Changsa town, Baocaishan village.

*Castanopsis trichocarpa* is similar to *C. choboensis* Hickel & A. Camus and *C. indica* (Roxburgh *ex* Lindl.) A. DC., but its cupules only cover about basal 1/2 of nuts. The new species is endemic to Wenchang, under rain forests, associated plants include *Symplocos racemosa* Roxb., *Syzygium odoratum* (Lour.) DC., *Ochna integerrima* (Lour.) Merr., *Psychotria rubra* (Lour.) Poir. The Chinese name of this species is “mao guo zhui” and known as “ruan ci zhui” for local people.

*Castanopsis oleifera* G. A. Fu, *sp. nov.* Validated by a full and direct reference to the Latin diagnosis associated with *Castanopsis oleifera* G. A. Fu, *Guihaia* 21: 97-98. 2001. *Holotype*: G. A. Fu 6683 (HFB), China, Hainan, Wenchang, Changsa town, Baocaishan village, 7 Oct 1989. — *Paratypes*: G. A. Fu 6681, 8107, 8166, 8167, 8109, 8170 (NHF), China, Hainan, Wenchang, Changsa town, Baocaishan village, 18 Dec 1995; G. A. Fu 6681, 7740, 7742, 7743, 7894, 8237, 8238, 8243, 8244, 10174 (NHF), Hainan, Wenchang, Gongpo town, Longfeitou village.

*Castanopsis oleifera* is mostly similar to *C. hainanensis* Merr., but the leaf blade of *C. oleifera* is oblong to elliptic, secondary veins arcuate, while leaf blade of *C. hainanensis* is obovate, ovate-elliptic or broadly ovate, secondary veins straight. *C. oleifera* is endemic to East Wenchang, Hainan, in mixed forest of *Litsea pseudoelongata* H. Liu, *Syzygium hancei* Merr. & L. M. Perry, *Psychotria rubra* (Lour.) Poir., with the altitude about 20 m. The Chinese name of the species is “you zhui” and known as “jia niu zhui” for local people.

*Castanopsis qiongbeiensis* G. A. Fu, *sp. nov.* Validated by a full and direct reference to the Latin diagnosis associated with *Castanopsis qiongbeiensis* G. A. Fu, *Guihaia* 21: 96-97. 2001.

*Holotype*: G. A. Fu 10248 (HFB), China, Hainan, Wenchang, Gongpo town, Longfeitou village, 27 Nov 1999. — *Paratypes*: G. A. Fu 6682, 6960, 7895, 8108, 8171, 8172, 8173 (HFB), China, Hainan, Wenchang, Changsa town, Baocaishan village; G. A. Fu 7744, 8243, 10175, 10249A (HFB), Hainan, Wenchang, Gongpo town, Longfeitou village; J. Xiao 137877 (HFB), China, Hainan, Wenchang, Changsa town, Baocaishan village.

*Castanopsis qiongbeiensis* is most similar to *C. chinensis* Hance, from which it differs by its ovate-lanceolate or ovate-oblong leaf blade, and leaves more hard. The new species is confined to Wenchang, Hainan, growing with *Litsea pseudolongata* H. Liu, *Syzygium tephrodes* (Hance) Merr. & L. M. Perry, *C. wenchangensis* G. A. Fu & C. C. Huang, *Symplocos racemosa* Roxb. The Chinese name of this species is “qiong bei zhui” and known as “da ye ke zhui” for local people in Wenchang.

*Castanopsis wuzhishanensis* G. A. Fu, *sp. nov.* Validated by a full and direct reference to the Latin diagnosis associated with *Castanopsis wuzhishangensis* G. A. Fu, *Guihaia* 21: 95-96. 2001.

*Holotype*: G. A. Fu 10256 (HFB), China, Hainan, Wuzhishan, in secondary rain forest, 4 Jan 2000. — *Paratypes*: G. A. Fu 10116, 10251, 10291 (HFB), China, Hainan, Wuzhishan.

*Castanopsis wuzhishanensis* is morphologically most similar to *C. carlesii* (Hemsl.) Hayata var. *spinulosa* W. C. Cheng & C. S. Chao and *C. echinocarpa* Miq. var. *seminuda* W. C. Cheng & C. S. Chao. Compared to *C. carlesii* var. *spinulosa*, leaves of *C. wuzhishangensis* are more hard and thick, and can be distinguished from *C. echinocarpa* var. *seminuda* by its smaller leaves (c. 5.5-10.5×1.5-2.8 cm). *C. wuzhishangensis* is confined to Wuzhishan, Central Hainan with the altitude from 700 to 850 m, associated plants include *Eurya nitida* Hieron., *Lindera kwantungensis* (Liou) C. K. Allen, *Reevesia longipetiolata* Merr. & Chun, *Cyclobalanopsis blakei* (Skan) Schottky and *Castanopsis hystrix* Miq. The Chinese name of this species is “wu zhi shan zhui” and known as “shan bai zhui” for local people in Wenchang.

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