

博白油茶和红皮糙果茶分类学问题的讨论

石祥刚, 王秀娟, 叶创兴 *

(中山大学生命科学学院, 广东广州 510275)

摘 要: 通过对由原产地引种的博白油茶(*Camellia gigantocarpa* Hu et Huang)和红皮糙果茶(*C. crapnelliana* Tutcher)成长植株的形态、花、果实以及馆藏相关标本的详细比较和观察,认为这两个种存在着显著的差异:博白油茶树皮被灰绿色的粉末,红皮糙果茶树皮被砖红色的粉末;博白油茶侧脉 9~10 对,叶缘具细锯齿,叶下偶见微毛;红皮糙果茶的侧脉 7~8 对,叶缘具浅细圆齿,叶下永远无毛;博白油茶花瓣数目 6~7 枚,为倒卵形到宽倒卵形,花瓣基部连生仅 2 mm;红皮糙果茶花瓣数目常为 8~9 枚,甚至更多,为倒卵形到窄倒卵形,花瓣基部连生达 4 mm;博白油茶的雄蕊花丝基部连生仅 2 mm;红皮糙果茶的雄蕊花丝基部连生达 5~6 mm。因而应该将博白油茶(*C. gigantocarpa* Hu et Huang)看作一个独立的种。

关键词: 博白油茶; 红皮糙果茶; 分类学讨论

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A taxonomic discussion on *Camellia gigantocarpa* and *Camellia crapnelliana*

SHI Xiang-gang, WANG Xiu-juan, YE Chuang-xing *

(Department of Biology, School of Life Science, Zhongshan University, Guangzhou 510275, China)

Abstract: Having carefully observed the shapes, flowers, fruits of live cultivated plants of *C. gigantocarpa* Hu et Huang and *C. crapnelliana* Tutcher, which were planted from seeds of original area, and examined the relevant specimens collected in herbariums, the authors think there are distinct differences between the two species as following: the bark of *C. gigantocarpa* is grey-green and *C. crapnelliana* is brick-red; *C. gigantocarpa* with lateral nerves 9~10 pairs and mucronulate-serrulate, occasionally with thinner pubescence beneath leaves and *C. crapnelliana* with lateral nerves 7~8 pairs and shallow-crenate, always glabrous beneath leaves; *C. crapnelliana* with 6~7, obovate to wide obovate, united at the base about 2~3 mm, *C. crapnelliana* with usual petals 8~9, even trended more, obovate to narrowly obovate, united at the base about 4 mm; filaments of *C. gigantocarpa* united only to 2 mm and *C. crapnelliana* united up to 5~6 mm at the base. So *C. gigantocarpa* should be looked upon as an independent species.

Key words: *Camellia gigantocarpa*; *C. crapnelliana*; taxonomy

After careful examination and comparison, we suggest recover *Camellia gigantocarpa* Hu et Huang as an independent species to *C. crapnelliana* Tutcher.

C. gigantocarpa, published by Hu Hsen-Hsu in 1965, the typical specimen is Huang Tso-chieh 2026, which was collected in Bobai County, Guangxi Province (Hu, 1965). Its character is belonged

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作者简介: 石祥刚(1978-),男,山东临沂市人,硕士,从事植物分类学与植物资源学研究。* Correspondent author and e-mail address: lssycx@zsu.edu.cn

to *Camellia* section *Furfuracea* Chang; its perules indifferently, styles 3~5 and completely divided, pericarp furfuraceous. *C. gigantocarpa* is famous for its big fruits and as an edible oil made from its seeds. *C. crapnelliana* Tutch. firstly was found in Hong Kong and published in 1904 by Tutch. *C. crapnelliana* is also belonged to *Camellia* section *Furfuracea* Chang base on its morphological character of its flowers and fruits, it is conspicuous because of its cortex thinner and brick-red powder. Later *C. crapnelliana* also found in other area of Guangdong Province, sometime it forms a single kind of forest. Rehder(1924) transferred *C. crapnelliana* to genus *Thea*; *Thea crapnelliana* (Tutch.) Rehder. We know, the genus *Camellia* is now the only correct name and *Thea* is its synonym. In 1981, Professor Chang Hong-Ta firstly combined *C. gigantocarpa* to *C. crapnelliana* and then he identically handled with these species in his works (1984 (*Camellias*), 1990 (*Flora of Guangxi*), 1991 (*Flora of Guangdong*), and in 1998 (*Flora of China* V49)).

These two species have been cultivated and grown in our garden since 1980s and they all were planted from seeds. *C. gigantocarpa* was from the arboretum of Guangxi Botanical Institute, Guilin, where was from Bobai County and *C. crapnelliana* was from Hong Kong. Now over ten trees in each species are in good status and grow as high as 6 m. Their character is identified to *Camellia* Sect. *Furfuracea* Chang. There are some similar characters; big flower and fruit, numerous and indifferently perules, hair ovary, free styles, thick pericarp, glabrous seeds and etc. between these two species. After observation of cultivated plants and examined relevant specimen of these two species, we think there are enough reasons to divide them into independent species. Mainly based on the specimen in herbaria and observation of live cultivate, we describe these two species as following.

Camellia gigantocarpa

C. gigantocarpa in *Acta Phytotax.*, Sinica, 1965, 10 (2): 133 — 134; non *C. crapnelliana* in

Chang Hong-Ta, 1981, *Tax. Gen. Camellia*, 28 — 29; 1991, in *Flora of Guangdong* (2): 129 — 130, in *Flora of Guangxi*; 1998, in *Flora of China* 49 (3): 18, and in Chang Hung Ta et Bruce Bartholomew, 1984, *Camellias*: 43; also non *C. crapnelliana* in Ming Tien-lu, 2000, *Monograph of the Genus Camellia*, 224 — 225.

A small tree, 5~6 m tall or taller. Bark light Grey-green and with tiny powder; both young branch and older branch gray-green, glabrous, scale bud glabrous. Leaves thinly coriaceous, obovate, oblong or elliptic, 10~15 cm long, 4.5~8 cm wide, shortly cuspidate, base cuneate or subrotund, mucronulate-serrulate, glabrous, pale-green above, dull green below with sparsely covered with corkwarts; lateral nerves 9~10 pairs, midrib and lateral nerves concave above, prominently elevated below, occasionally sparsely pilose; petioles 8~12 mm long, channeled above, glabrous. Flowers large, white, slightly fragrant, terminal and solitary, sessile, 8~12 cm in diameter; perules 9, sometime 12, from semi orbiculate and about 1 cm. high (outermost) to obovate, petaloid, 2.5 cm long (innermost), concave, brown, gray-tomentose on the back, smooth on the face, persistent to anthesis and deciduous in mature fruit; petals 6~7, rare 9, obovate, 4~6.5 cm long, 2.5~4.5 cm wide, united at the base about 2~3 mm, pubescent on the back. Stamens very numerous, filaments about 1.7 cm long, glabrous, outermost filaments adnate to petals about 2 mm, others free. Ovary globose, often 3, sometime 4~5-locular, densely tomentose; styles 3~4, few 5, free to the base, 8~15 mm long, minutely pilose at the base; ovules numerous in each locule. Capsule large, globose, fulvous, 6~8.5 cm tall, 7~10 cm in diameter, the surface rough and furfuraceous, often splitting into 3~5 valves, valve woody, 1~2 cm thick, column stout, 4~5 cm long. Seeds 5~6 in each locale, testa brown, glabrous, convex-angular, 18~20 mm. long and wide.

Guangdong(cultivated): the garden of Zhongshan University, Ye Chuang-xing 5906, 5907(SYS), 2000. 10.

Guangxi: Bobai, Jiangning, Duofu, Huang Tso-chieh 2026 (Typus! IBK); Nanning, Sankuang, the wood garden of Guangxi Institute of Forestry, Liang Sheng-ye 6403507 (SYS), 1964. 12. 13; the same place, Chang Hong-ta 6646, 6648 (SYS); Rongxian, Yulin Institute of Forestry, Mo Ze-qian 87 (SYS), 1987. 10. 4; Guilin, Guilin Institute of Forestry, Zhao Si-kao 53 (SYS).

Different from original description are glabrous filaments of type, Huang Tso-chieh 2026 and other specimen put under *C. gigantocarpa*, and planted in our garden.

Camellia crapnelliana

C. crapnelliana in Journ. Soc. London 37: 63. 1904; Sealy, J. R., 1958, Rev. Gen. *Camellia*, 153—154; in strict sense, excluded *C. gigantocarpa*; Chang Hong Ta; 1981, Tax. Gen. *Camellia*, 28—29, 1991, Flora of Guangdong (2): 129—130, 1998, in Flora of China 49: 18, and 1984, in Chang Hung Ta et Bruce Bartholomew, *Camellias*, 43; Ming Tien-lu 2000, Monograph of the Genus *Camellia*, 224—225.

A small tree, 5~6 m tall or taller. Bark brick red with minute powder; young branches brown-green, older branches red-brown. Leaves rigidly coriaceous, elliptic or oblong-elliptic, 7~13 cm. long, 3~5 cm wide, acuminate, base rotund or broad cuneate, obscurely denticulate with the teeth appressed to the margin, pale green above, dark green below with sparsely covered with corkwarts, glabrous; lateral nerves 7~8 pair; midrib and lateral nerves concave above, prominently raised below, glabrous; petioles 5~10 mm long, glabrous, channeled above. Flowers white, terminal, solitary; sessile, 9~10 cm in diameter; perules 7~9, sometime 13, from semiorbicular and about 5 mm tall (outermost) to orbicular, petaloid, 2.5 cm long (innermost), concave, brown, gray-tomentose on the back, smooth on the face, partly persistent to anthesis and deciduous in mature fruit; petals (6~) 8~9 (~11), narrow obovate, 3~5.5 cm long, (1.5~) 2~3.5 cm wide, united at the base about 4 mm, minutely pubescent on the back. Stamens ver-

y numerous, filaments about (0.8~) 1~1.8 cm long, glabrous, outer filaments united for up to 6 mm from the base, Ovary globose, densely tomentose, 3~5-locular, ovules numerous in each locule; styles 3~4, few 5, free to the base, about 1.5 cm long, slight pilose at the base. Capsule large, globose, brown-red, 7~11 cm tall, 8~12 cm in diameter, the surface rough and brownish furfuraceous, often 3 valvate dehiscent, valves woody and slightly floppy, 1.5~2 cm thick. Seeds 3~5 in each locule, convex and angular, brown, shiny, glabrous, 3~5 in each locule.

Hongkong: Kowloon, Dawu shan, Chang Hong-ta 7537, 7531 (SYS), Lau. Q. S. 1328, 1967. 11. 21; Dalong Farm, Li Fu-sheng s. n., SYS 149083.

Guangdong (cultivated): the garden of Zhongshan University, Ye Chuang-xing 5908 (SYS), 2000. 11. 18.

The differences of these two species are stated as following: (1) The color of the bark: *C. gigantocarpa* is gray-green and *C. crapnelliana* is brick-red. In field, as in Hong Kong and in Gutian, Huiyang County, Guangdong Province, *C. crapnelliana* sometime forms single dominant community and is very conspicuous because of its brick-red trunk. Hu had pointed out *C. gigantocarpa* with slight and gray-green bark ("cortice pallide cinereo-viridi") when he published the species with latin description (Hu, 1965). The trees cultivated in the garden of Zhongshan University were from seeds of original area. The seeds of *C. gigantocarpa* were from Arboretum of Guangxi Botanical Institute, those plants were straightly transferred from Bobai County and with gray-green bark. The seeds of *C. crapnelliana* were from Hong Kong, now either *C. gigantocarpa* or *C. crapnelliana* has grown up small trees as high as 6 m, and, former with gray-green bark and latter with brick-red bark. The color of bark of these two species is compared with which plants grow in original field and then are completely identical. It doesn't seem that the plants cultivated in our garden are natural hybrids. In generally speaking, all morphological characters

of vegetative and propagated organs all maintain correspondence between wild field and cultivated status in these two species. Having combined the cultivated plants and specimen in herbarium, we think that some obvious differences are existed between these two species as following.

(2) The leaves: *C. gigantocarpa* with lateral nerves 9~10 pairs and mucronulate-serrulate; *C. crapnelliana* Tutchter with lateral nerves 7~8 pairs and obscurely denticulate with the teeth appressed to the margin or shallow crenule. *C. gigantocarpa* occasionally with thinner pubescence beneath leaves.

(3) The flowers; size, *C. gigantocarpa* from 10 to 12 cm in diameter is bigger than *C. crapnelliana* from 9 to 10 cm in diameter; *C. gigantocarpa* with petals 6~7, obovate, 4~6.5 cm long, 2.5~4.5 cm wide, united at the base about 2~3 mm, *C. crapnelliana* with usual petals 8~9, even trended more, narrow obovate, 3~5.5 cm long, 2~3.5 cm wide, united at the base about 4 mm; union of filaments; *C. gigantocarpa* united only to 2 mm and *C. crapnelliana* united up to 5~6 mm at the base.

Differences of barks, leaves and flowers between two species are illustrated following pictures (Plate I): Fig. 1: Bark of *C. gigantocarpa*; Fig. 2: Bark of *C. crapnelliana*; Fig. 3: The whole plant of *C. gigantocarpa*; Fig. 4: The whole plant of *C.*

crapnelliana; Fig. 5: The flower of *C. gigantocarpa*; Fig. 6: The flower of *C. crapnelliana*; Fig. 7: The fruits of *C. gigantocarpa*; Fig. 8: The fruits of *C. crapnelliana*.

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