
New Combinations in Chinese *Polyspora* (Theaceae)

Bruce Bartholomew

Botany Department, California Academy of Sciences, 875 Howard Street, San Francisco,
California 94103-3009, U.S.A. bbartholomew@calacademy.org

Ming Tienlu

Kunming Institute of Botany, Chinese Academy of Sciences, Heilongtan, Kunming,
Yunnan 650204, People's Republic of China

ABSTRACT. For the Theaceae treatment in the *Flora of China*, volume 12, it was found that several specific epithets have not yet been validly transferred from *Gordonia* Ellis to *Polyspora* Sweet ex G. Don. In this article the following five species are transferred from *Gordonia* to *Polyspora*: *Polyspora chrysandra* (Cowan) Hu ex B. Bartholomew & T. L. Ming, *P. hainanensis* (Hung T. Chang) C. X. Ye ex B. Bartholomew & T. L. Ming, *P. longicarpa* (Hung T. Chang) C. X. Ye ex B. Bartholomew & T. L. Ming, *P. speciosa* (Kochs) B. Bartholomew & T. L. Ming, and *P. tonkinensis* (Pitard) B. Bartholomew & T. L. Ming. Three species, *Gordonia axillaris* Roxburgh ex Ker Gawler, *Gordonia tonkinensis* Pitard, and *Thea speciosa* Kochs, as well as the one variety *Gordonia axillaris* var. *acuminata* E. Pritzell, are lectotypified.

Key words: China, *Gordonia*, *Polyspora*, Theaceae.

Recent molecular evidence has shown that the Chinese species often treated as *Gordonia* Ellis are not closely related to the North American species *G. lasianthus* (L.) Ellis, the type species of the genus, and should be treated as a different genus (Prince & Parks, 2001; Yang et al., 2004). On the basis of priority, the generic name that must be used for these species is *Polyspora* Sweet ex G. Don. Although several of the Chinese species have been treated in the literature as *Polyspora* (Hu, 1963; Prince & Parks, 2001; Yang et al., 2004; Ye, 1990), for the recognized taxa only the combination *Polyspora axillaris* (Roxburgh ex Ker Gawler) Sweet ex G. Don has been validly made. In order to treat the Chinese species of *Polyspora* in the *Flora of China*, volume 12, five combinations must be validly made. The six species of *Polyspora* that occur in China include the following:

1. *Polyspora axillaris* (Roxburgh ex Ker Gawler) Sweet ex G. Don, Gen. Hist. 1: 574. 1831.

Basionym: *Camellia axillaris* Roxburgh ex Ker Gawler, Bot. Reg. 4: t. 349. 1818. *Gordonia axillaris* (Roxburgh ex Ker Gawler) D. Dietrich, Syn. Pl. 4: 863. 1847. TYPE: plate in the original protologue, Bot. Reg. 4: t. 349. 1831 (lectotype, designated here).

This species occurs in forests and thickets from 100 to 800(–2300) m in Guangdong, Guangxi, Hainan, and Taiwan, China (Chang, 1998), and Vietnam (Ho, 1991).

There is no type specimen for this species, so the plate in the original protologue is chosen as the lectotype.

2. *Polyspora chrysandra* (Cowan) Hu ex B. Bartholomew & T. L. Ming, comb. nov. Basionym: *Gordonia chrysandra* Cowan, Notes Roy. Bot. Gard. Edinburgh 16: 184. 1931. TYPE: China. Yunnan: lava bed W of Tengyueh, 25°N, 5000 ft., Nov. 1912, *G. Forrest 9234* (holotype, E; isotype, A).

This species occurs in forests and thickets from 1100 to 2400 m in Guizhou, Sichuan, and northwestern Yunnan, China, and northern Myanmar (Chang, 1998; Ming, 1997).

H. H. Hu proposed the combination *Polyspora chrysandra* (Hu, 1972) but did not include the basionym reference citation.

3. *Polyspora hainanensis* (Hung T. Chang) C. X. Ye ex B. Bartholomew & T. L. Ming, comb. nov. Basionym: *Gordonia hainanensis* Hung T. Chang, Acta Sci. Nat. Univ. Sunyatseni 22(2): 111. 1983. TYPE: China. Hainan: Jianfengling, *T. Q. Yu 11206* (holotype, SYS).

This species occurs in forests from 300 to 1500 m in Hainan, China (Chang, 1998).

C. X. Ye proposed the combination *Polyspora hainanensis* (Ye, 1990) but did not include the basionym reference citation.

4. ***Polyspora longicarpa*** (Hung T. Chang) C. X. Ye ex B. Bartholomew & T. L. Ming, comb. nov. Basionym: *Gordonia longicarpa* Hung T. Chang, Acta Sci. Nat. Univ. Sunyatseni 22(2): 111. 1983. TYPE: China. Yunnan: Tengchong. *J. Chen* 2-77 (holotype, KUN).

This species occurs in forests from (1000–)1700 to 2500 m in southeastern to southwestern Yunnan China, northern Myanmar, northeastern Thailand, and northern Vietnam (Chang, 1998; Keng, 1972; Ming, 1997). Keng (1972) recorded *Gordonia axillaris* as occurring in northeastern Thailand, which was before *G. longicarpa* had been named, but from his description the plant is clearly *Polyspora longicarpa*.

C. X. Ye proposed the combination *Polyspora longicarpa* (Ye, 1990) but did not include the basionym reference citation.

5. ***Polyspora speciosa*** (Kochs) B. Bartholomew & T. L. Ming, comb. nov. Basionym: *Thea speciosa* Kochs, Bot. Jahrb. Syst. 27: 597. 1900. *Camellia speciosa* (Kochs) Cohen-Stuart, Med. ed. Proefstat. Thee 60: 67. 1916. TYPE: China. Sichuan: Maup'o shan, im Urwald, 3 Sep. 1891, C. Bock & A. von Rosthorn 754 [as "454"] (holotype, B destroyed; lectotype, designated here, GZU).

Gordonia axillaris (Roxburgh ex Ker Gawler) Sweet ex G. Don var. *acuminata* E. Pritzel, Bot. Jahrb. Syst. 29: 473. 1900. *Gordonia acuminata* (E. Pritzel) Hung T. Chang, Acta Sci. Nat. Univ. Sunyatseni 22(2): 112. 1983. TYPE: China. Sichuan: Nan ch'uan, Ta ho kou, 31 July 1891, C. Bock & A. von Rosthorn 147 (syntype, B destroyed; lectotype, designated here, O; isotypes, GZU, O). China. Sichuan: Mao p'o shan, Sep. 1891, C. Bock & A. von Rosthorn 754 (syntype, B destroyed; isosyntype, GZU).

Gordonia kwangsiensis Hung T. Chang, Acta Sci. Nat. Univ. Sunyatseni 22: 112(2). 1983. TYPE: China. Guangxi: Damiao Mountain, S. H. Chun 16467 (holotype, IBSC).

This species occurs in forests from 1200 to 2000 m in northern Guangxi, Guizhou, southern to southwestern Sichuan (including the Chongqing Municipality, formerly part of Sichuan), and Yunnan, China (Chang, 1998).

The only specimen cited by Kochs (1900) for *Thea speciosa* was "Bock & von Rosthorn 454." Although the holotype at B is lost, there is compelling evidence that 454 is an error, and the number in the protologue should have been 754. By checking the dates and collection numbers cited in Diels (1900–1901) it is evident that *Bock & von Rosthorn* numbers between at least 192 and 707 were collected in August 1891. In the protologue

for *Thea speciosa*, Kochs stated that the collection was made in September, whereas *Bock & von Rosthorn* numbers for September 1891 started with 708. The holotype of *Thea speciosa* was not only collected on the same date, but also at the same Chinese collection locality (with minor transcription differences in spelling) as *Bock & Rosthorn* 754. Furthermore, in the treatment for Simarubaceae by Pritzel in Diels (1900–1901), *Bock & von Rosthorn* 454 is identified as *Picrasma ailanthoides* (Bunge) Planchon. Unfortunately, no archival information that might throw additional light on this matter is available at B (Robert Vogt, pers. comm.), GZU (Anton Drescher, pers. comm.), or O (Per Sunding, pers. comm.). Quite likely collection number 754 was misread as 454 either when the handwritten label on the specimen was transcribed or possibly when a handwritten manuscript was set in type.

In flower *Polyspora* and *Camellia* (*Thea*) are very similar, and this no doubt was why Kochs originally placed the flowering specimen of *Bock & von Rosthorn* 754 in *Thea*. However, because the fruit of *Polyspora* and *Camellia* (*Thea*) are very different, once it was realized that the fruiting specimen of *Bock & von Rosthorn* 147 was the same species, it would have been clear that *Thea speciosa* was in the wrong genus. In the treatment of Theaceae in *Die Flora von Central-China* (Diels, 1900–1901), Pritzel and Kochs realized that *T. speciosa* should be treated as a *Gordonia*. This treatment in Diels's article was by both Kochs (who authored *Thea*) and Pritzel (who authored the rest of the family). Pritzel did not reduce *Thea speciosa* to a variety of *Gordonia axillaris*, but rather selected a different infraspecific epithet, based his *Gordonia axillaris* var. *acuminata* E. Pritzel on two syntypes (one of which was the holotype of *T. speciosa*), and gave *T. speciosa* Kochs as a synonym for his new variety. However, at the specific level *T. speciosa* has priority, so Pritzel's specific epithet *speciosa* must be used when treating this taxon as a species. Because the holotype of *T. speciosa* and both syntypes of *G. axillaris* var. *acuminata* have been destroyed, it is appropriate to lectotypify *T. speciosa* on the only known isotype and to lectotypify *G. axillaris* var. *acuminata* on one of the extant fruiting isosyntypes.

C. X. Ye proposed the combination *Polyspora kwangsiensis* (Ye, 1990) but did not include the basionym reference citation and misspelled the specific epithet as "*kwangsiensis*." However, this combination is not being validated here because the species is now reduced to a synonym. H. T. Chang proposed the species *Gordonia szechuanensis* (Chang, 1983) for what is the same species as *Po-*

lyspora speciosa, but he did not supply Latin description or diagnosis.

- 6. *Polyspora tonkinensis*** (Pitard) B. Bartholomew & T. L. Ming, comb. nov. Basionym: *Gordonia tonkinensis* Pitard, in Lecomte, Fl. Gen. Indo-Chine 1: 348. 1910. TYPE: Vietnam. Tonkin environ de Ninh-binh, 1883–1891, Abbé R. P. Bon 60 (lectotype, designated here, P).

This species occurs in forests and thickets from 1200 to 2100 m in southern Guangxi, southeastern Yunnan, China, and northern Vietnam (Ming, 1997).

KEY TO THE SPECIES OF *POLYSPORA* IN CHINA

- 1a. Leaf blade apex rounded, obtuse, or emarginate.
 2a. Petiole 10–15 mm, glabrous; leaf blade margin entire or apically remotely crenate 1. *P. axillaris*
 2b. Petiole 3–5 mm, appressed pubescent; leaf blade margin serrate 2. *P. chrysandra*
- 1b. Leaf blade apex bluntly acute, acuminate, or shortly acuminate.
 3a. Current year branchlets, petioles, leaf blades abaxially, and filaments basally all with trichomes; capsule 4–5 cm long 4. *P. longicarpa*
 3b. Current year branchlets, petioles, leaf blades, and filaments glabrous (branchlets subglabrous in *P. tonkinensis*); capsule 1–3.5 cm long.
 4a. Young branches slender; leaf blade narrowly oblong to oblanceolate, 8–13 × 2–3 cm; flowers ca. 4 cm diam 3. *P. hainanensis*
 4b. Young branches stout; leaf blade elliptic to oblong-elliptic, 9–18 × 3–6 cm; flowers 5 cm or more diam.
- 5a. Terminal buds large, purplish red, glabrous; petiole 1.5–2 cm; flowers 8–10 cm diam.; style ca. 2 cm 5. *P. speciosa*
 5b. Terminal buds small, white sericeous; petiole 0.8–1.5 cm; flowers 5–6 cm diam.; style ca. 1.5 cm 6. *P. tonkinensis*

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