

**TSIANGIA, A NEW GENUS BASED ON GAERTNERA HONGKONGENSIS
(RUBIACEAE)**

P. Pui-Hay BUT*, Hsiang-hao HSUE** & Ping-T'ao LI**

SUMMARY

Detailed examination of the holotype and isotype of *Gaertnera hongkongensis* Seemann led to the conclusion that this species does not belong to *Gaertnera* nor to *Randia*. A new genus, *Tsiangia*, is proposed to accommodate the new combination *Tsiangia hongkongensis*. This new genus is retained in Rubiaceae.

Gaertnera hongkongensis was described by Seemann in 1857 based on two specimens collected by Champion and Eyre in Hong Kong. Since then, no further collection of the plant has been made in the last hundred-odd years. In order to ascertain the status of the plant for the forthcoming Flora of Hong Kong and Flora Reipublicae Popularis Sinicae, we borrowed and studied the holotype and isotype available in the Royal Botanic Gardens at Kew. Assistance from the directors and staff members of the Royal Botanic Gardens, Kew, and of the Agriculture and Fisheries Department, Hong Kong, are deeply appreciated.

A single flowering branch of 25 cm long was mounted on the holotype. This branch bears at the lower portion opposite leaves and herbaceous costate-awned stipules, and in the upper middle portion seven normal flowers. The pistils of the terminal flowers, however, were reverted into leafy shoots. In the isotype there are three flowering branches of 6-7 cm long, each bearing 1-4 normal flowers. The pistils in the terminal flowers, however, were also transformed into leafy shoots. Invivescence in the abnormal terminal flowers were noted by Bentham (1852), Seemann (1857), Bentham & Hooker (1876), and Van Beusekom (1967).

After detailed study of the specimens, we came to the conclusion that the normal flowers of *G. hongkongensis* are representative of the plant. We also agree with Van Beusekom (1967) that *G. hongkongensis* should be removed from *Gaertnera*, since the former plant differs from other species of *Gaertnera* in a number of key characters (Table 1).

Nevertheless, we do not agree with Van Beusekom (1967) in assigning *G. hongkongensis* to *Randia* cf. *densiflora*. This species is currently placed in the genus *Aidia*

* The Chinese University of Hong Kong, Shatin, N. T., Hong Kong.

** South China Agricultural College, Guangzhou, China.

Lour. However, *A. racemosa* (Cav.) Tirvengadam (syn. *Randia densiflora* (Wall.) Benth.) has 5-merous flowers. Two Chinese species, *A. henryi* (E. Pritz.) Yamazaki and *A. yunnanensis* (Hutch.) Yamazaki have 4-merous flowers. The former plant has rotate corolla, imbricate corolla-lobes, superior ovary, 2-branched and linear stigma, and appendages in addition to a ring of white hairs on the adaxial surface of sepals. Species of *Randia* (sensu lato) have infundibular, or campanulate or salverform corolla, valvate or contorted corolla-lobes, inferior ovary, club- or spindle-shaped stigma, and no appendage on the adaxial surface of sepals. Unable to assign it to any other genus, we propose to establish the following genus to accommodate this plant.

Table 1

	<i>Gaertnera hongkongensis</i>	Other <i>Gaertnera</i> species
1. Corolla shape	rotate	trumpet- or funnel-shaped
2. Aestivation	imbricate	valvate, rarely contorted
3. Corolla-lobe	broadly obovate; rounded at apex	mainly linear, lanceolate, oblong, ovate, or triangular; acute or obtuse at apex
4. Corolla-throat	glabrous	villous bearded
5. Corolla-tube	1/5–1/3 the length of corolla-lobe	1–3 times as long as corolla-lobe
6. Calyx shape	deeply lobed, shallowly cup-shaped (connate only at base)	broadly cup-shaped, campanulate or urceolate
7. Calyx-lobe	3 times longer than remaining calyx-tube	shorter than remaining calyx-tube
8. Appendages on adaxial surface of calyx	brownish red appendages present in addition to a ring of white hairs	no appendage other than a ring of white hairs
9. Stipule	opposite, distinct or connate at base, midrib elevated and extended beyond apex into a spine	connate into a tube, ridged or winged, supplied with 2–4 teeth
10. Leaf apex	obtuse	acuminate, acute or caudate

TSIANGIA But, Hsue & Li, *gen. nov.*

Gaertnerae Lamk. ut videtur affinis, sed stipulis oppositis interpetiolaribus costatis, stipularum costis e basi versus apices rigido-spinis productis ad 4 mm longis, floris 4-meris, actinomorphis, calycibus 4-partitis, intus annulatum albis membranis et teretibus 4-appendicibus praeditis, corollis rotatis imbricatis et tubis lobis brevioris distinguitur.

Frutex vel arbor parva. Folia opposita integerrima, penninervia, petiolata; stipulae oppositae interpetiolaris costae, stipularum costis e basi versus apices rigido-spinis productis ad 4 mm longis. Simplicia vel composita dichasia pedunculata; pedicellis basi bracteolis praeditis. Flores 4-meri actinomorphi; calycibus 4-partitis, intus annulatum albis membranis et teretibus 4-appendicibus praeditis; corollis rotatis tubo brevioris, lobis tubo longioris, imbricatis, membranaceis in sicco perspicue dictyoneuris; stamina tubo fauce affixa, exserta, corollae lobo alternata, antheris 2-loculis introrsis; pistillum 1, ovario supero, biloculari bilobato; stylo 1, stigmatibus lorato-lanceolatis bipartitis. Fructus ignotus. Species unica, in Hongkong incolens. — **T y p u s** : *Tsiangia hongkongensis* (Seem.) But, Hsue & Li.

Tsiangia hongkongensis (Seem.) But, Hsue & Li, *comb. nov.*

Gaertnera hongkongensis Seem., Bot. Voy. Herald (1857) 384. — *Sykesia hongkongensis* O. Kunth, Rev. Gen. Pl. 2 (1891) 425. — **T y p e** : *Champion & Eyre s. n.* (K, holotype & isotype), Hong Kong.

Frutex vel arbor parva. Folia opposita subsessilis chartacea late obovata vel spatulata ad 6 × 2 cm, apice obtusata basi attenuata integerrima glabra, nervis foliorum conspicuis praesertim costa phanerissima, nervis lateralibus utrinsecus ca. 5, oblique ascendentibus prope marginem anastomosantibus apice furcato-nervis ad marginem; stipulae oppositae interpetiolaris distinctae vel tantum basi connatae apice subtruncatae herbaceae ca. 1.5 mm altae, costatae, stipularum costis e basi nervus apices ad 4 mm longis rigido-spinis productis, glabris. Simplicia vel composita dichasia; pedunculis pedicellisque puberulis; pedicellis 3–4 mm longis basi bracteolis praeditis; bracteolis parvis triangulatis. Flores 4-meri actinomorphi, glabri; calycibus ca. 1 mm longis 4-partitis, lobis late ovatis vel triangulatis ca. 0.8 mm longis, apice obtusatis intus annulatum albis membranis et teretibus 4-appendicibus praeditis; corollis rotatis, tubo 2 mm longo ca. 0.8–1 mm lato, lobis obovato-ellipticis 8–9 × 5 mm, apice rotundatis membranaceis imbricatis in sicco perspicue dictyoneuris; stamina tubo fauce affixa exserta, corollae lobo alternata, antheris 2-loculis linearibus vel anguste lanceolatis ca. 2 mm longis, apice angustatis basi sagittiformibus introrsis, filamentis complanatis ca. 0.5 × 0.2 mm; pistillum 1, ovario supero biloculari bilobato, stylo 1, stigmatibus lorato-lanceolatis bipartitis. Fructus ignotus.

Distribution. Hong Kong.

Notes. According to Bentham (1852) the corolla was green and each chamber of the ovary contained several ovules.

Transverse section of the ovary showed the presence of druses. Similar sections of the leaf blades showed druses, and a V-shaped vascular bundle with infolded arms in the midrib. Tentatively, we retain the new genus in Rubiaceae, awaiting the discovery of fresh materials.

The new generic name intends to honour the late Professor Tsiang Ying of the South China Agricultural College for his contribution to the understanding of the flora of China, particularly Annonaceae, Apocynaceae and Asclepiadaceae.

REFERENCES

- BENTHAM, G. 1852. *Florula hongkongensis*. J. Bot. Kew Misc. 4: 333–334.
— & J. D. HOOKER. 1876. *Genera Plantarum*.
BEUSEKOM, C. F. VAN. 1967. A revision of the Malesian and Ceylonese species of the genus *Gaertnera* Lamk. (Rubiaceae). *Blumea* 15: 359–391.
BUT, P. P. H., H. H. HSUE & P. T. LI. 1984. Taxonomy of *Gaertnera hongkongensis* Seemann. J. South China Agric. Coll. 5: 11–15.
SEEMANN, B. C. 1857. *Flora hongkongensis*. Bot. Voy. Herald: 384.
TIRVENGADUM, D. D. 1983. New taxa and name changes in tropical Asiatic Rubiaceae. *Nordic J. Bot.* 3: 455–469.
YAMAZAKI, T. A. 1970. Revision of the genus *Randia* in Eastern Asia. *Jap. J. Bot.* 45: 357–342.