NOMENCLATURAL CHANGE FOR AN ECONOMICALLY IMPORTANT PLANT FROM CHINA

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A common medicinal plant of southern China has been called *Microcos paniculata* L. in Chinese botanical literature for half a century. Linnaeus proposed this name for a plant sent to Europe from Sri Lanka. To identify some Chinese collections, I compared them with Sri Lankan specimens. This revealed that plants growing in these widely separated regions belong to different species and thus necessitated a nomenclatural transfer. *Microcos nervosa* (Lour.) S. Y. Hu, comb. nov., is proposed.

A shrub or small tree common on the hillsides of southern China, locally called *bu-cha-ye,* has been used for home remedies by the Chinese people since time immemorial. Its medicinal use was first recorded in botanical literature by McClure and Hwang (1934). In this report they observed (p. 17): "An infusion of the leaves is administered internally to relieve indigestion. . .and as a cooling drink. . . ." They identified the plant as *Grewia microcos* L. (Tiliaceae), which is a synonym for *Microcos paniculata* L. During a study of special health-food products available in Chinese groceries in Boston (Hu, in prep.), I observed *bu-cha-ye* on the shelf for herb tea. The botanical identification of this product led to the discovery of a nomenclatural problem and to the necessity of transferring the specific epithet of *Fallopia nervosa* Lour. to the genus *Microcos* L.

The genus *Microcos* was first recorded from material sent to the Netherlands by a Dutch resident of Sri Lanka. In 1737 Johannes Burman described and illustrated a plant received from Sri Lanka called "kleine Cocos" and gave it a Greek name, *Microcos.* Linnaeus (1753), on the basis of Burman's illustration of the inflorescence, named the species *M. paniculata.* Chinese botanists have applied this epithet in their accounts of *bu-cha-ye.*

To identify the imported herb tea in Chinese stores, I carefully examined all Asiatic specimens labeled *Microcos paniculata* in the Harvard University Herbaria, including those from the woods of Sri Lanka, the forests of India (Bombay region), and the open hillsides of Bangladesh, northern Burma, Thailand, Laos, Vietnam, southern China (Yunnan, Guangdong, and Guangxi), and Hong Kong. Specimens from this wide geographic range, grown in varied ecological conditions, involve a complex of several species. The source material of the Chinese *bu-cha-ye* belongs to a species very different from *M. paniculata* L. of Sri Lanka. Recent collections from Sri Lanka, which match Burman's illustration in leaf shape, have leaves uniformly stellate-pubescent on the veins and veinlets

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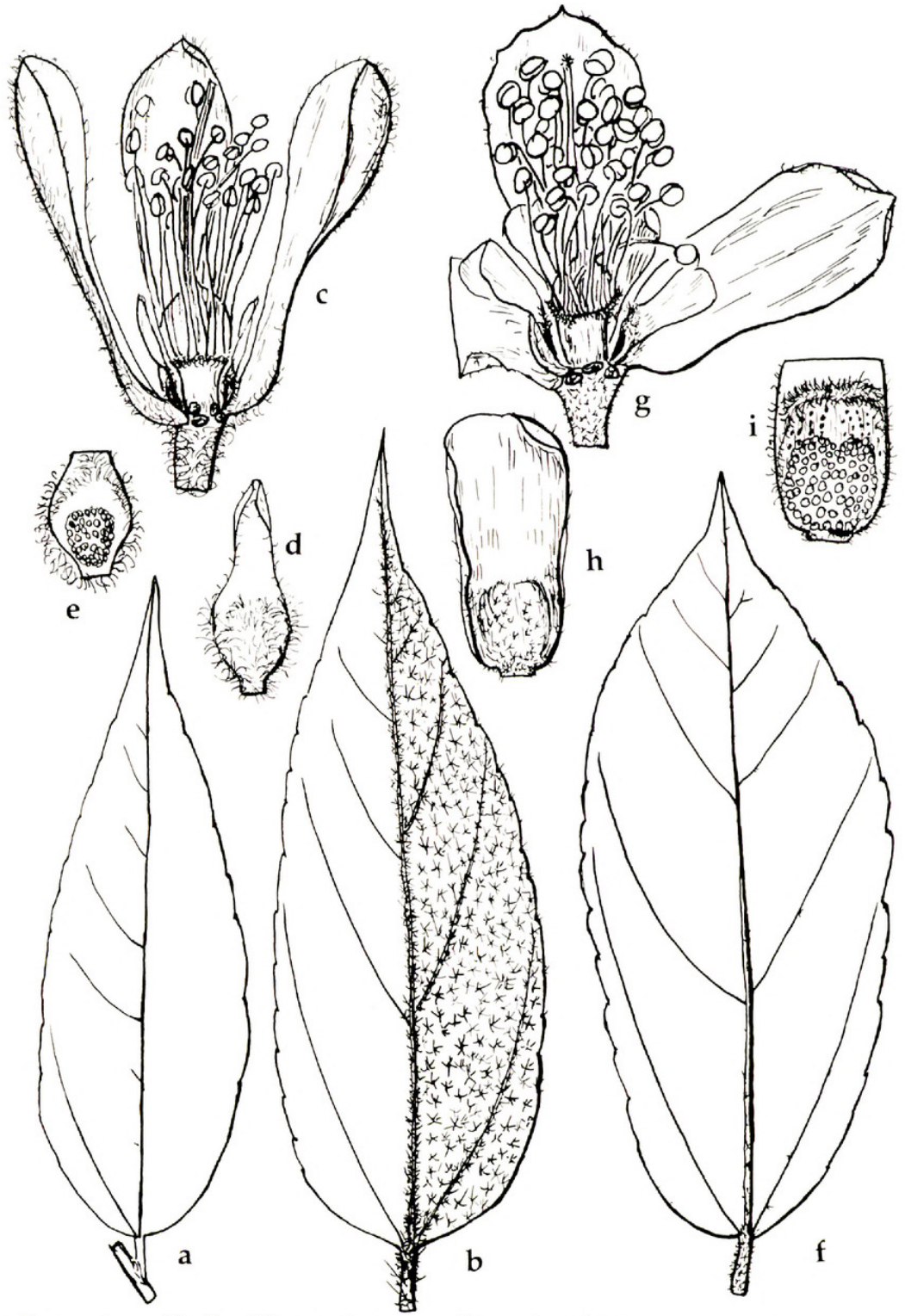
Journal of the Arnold Arboretum **69**: 77–80. January, 1988.



Comparison of leaf and flower characters of 2 species of *Microcos*. a–e, *M. paniculata*, from Sri Lanka (a redrawn from Burman, 1737, *t. 74*; b–e from *J. M. de Silva 41*, A): a, leaf, × 0.6; b, leaf showing portion of uniformly stellate-pubescent lower surface, × 0.6; c, flower from same specimen, 2 sepals and 2 petals removed, showing spathulate sepals, small petals much narrowed and long-villose at base, and stamens and pistil attached to columnar androgynophore with apical hairy annulus, × 6; d, petal, abaxial view, basal half densely long-villose, distal half narrowed, × 9; e, basal portion of same petal, adaxial

beneath, spathulate sepals, and ovate-lanceolate petals with an obovate basal gland on the adaxial surface (see FIGURE, a–e). Specimens from Guangzhou and Hong Kong, which match Loureiro's holotype in leaf shape and the imported herb-tea material of *bu-cha-ye* in texture, color, and trichomes, have leaves often broader above the middle, glabrous except occasionally on the midrib beneath, obovate-oblong sepals, and oblong petals with a large, oblong-orbicular basal gland on the adaxial surface (see FIGURE, f–i). The earliest specific epithet for the Chinese taxon, the source species of *bu-cha-ye,* is *Fallopia nervosa* Lour., which is here transferred to *Microcos.*

Microcos nervosa (Lour.) S. Y. Hu, comb. nov.

Fallopia nervosa Lour. Fl. Cochinch. 336. 1790. TYPE: Canton, *J. de Loureiro s.n.* (holotype, P).

Grewia microcos sensu McClure & Hwang, Lingnan Univ. Sci. Bull. **6:** 17. 1934, non L.

Microcos paniculata sensu How, Fl. Canton, 231. *fig. 110.* 1956, and many Chinese authors after How, non L.

Loureiro obtained the holotype of *Fallopia nervosa* from Canton in the early 1740's. He recorded a Chinese name, *hai pu ip* (provided by his informant but rarely used in China; see How, 1956). His observation of the characteristics of the species was given largely in the generic description. However, some of the terms he used do not have the same meaning as interpreted by current botanists. For example, he called the bracts subtending the ultimate three-flowered branches of the inflorescence "calyx," the sepals "petala," the petals "nectarium," and the androgynophore the "receptaculo." Nevertheless, for a foreign clergyman interested in Chinese plants, his observation was quite good, touching many details. His description of the species was very short, consisting of only 23 words. Since a clear and adequate description of the Chinese species has never been published, one is given below.[2]

Small trees or shrubs 2–8 m high; stems with strong bast fiber; 2-year-old growth glabrous, current year's growth subglabrous or softly covered with very short stellate hairs. Leaves with stipules subulate, coriaceous, striate, densely

[2]The description is based on specimens from Guangzhou (*C. O. Levine 223, 764, 1284,* all at A) and Hong Kong (*C. Wright s.n.,* 1853–1856 (GH), *S. Y. Hu 5229, 5405, 5486, 5525, 5974, 6092, 6672, 6850, 6999, 8065, 9679, 10441, 10634, 11216, 12258, 12949* (all at A), and *Y. Tsiang 621* (A)).

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view, showing obovate basal gland and yoke-shaped hairy zone in middle, × 9. f–i, *M. nervosa,* from southern China (from *S. Y. Hu 10441,* A): f, leaf that matches *bu-cha-ye* purchased from Chinese grocery in Boston, × 0.6; g, flower from same specimen, 2 sepals and 1 petal removed, showing broad oblong sepals, short, broad, retuse petals, stamens and pistil on androgynophore with toothed annulus, × 6; h, petal, abaxial view, showing sparse short, stellate hairs at base, distal half broad, apex retuse, × 9; i, basal portion of petal, adaxial view, showing large, oblong-discoid gland with notch at distal end, hairy ridge in middle, and glossy concave space between, × 9.

pubescent, deciduous; petiole 1 cm long, terete, softly pilose, the apical ⅓ slightly enlarged, glandular, with hairs straight or few stellate; lamina oblong, 9–19 by 4–8 cm, often broadest above middle, oblique-rotund and prominently 3-nerved at base, abruptly short-acuminate at apex with acumen broadly triangular and 5–10 mm long, inconspicuously crenulate-serrulate with each tooth terminated by gland, chartaceous, light yellow-green when fresh, olivaceous when dried, glabrous with pilose hairs on large nerves above, glabrous or occasionally with small stellate hairs on some large nerves and with veinlets prominently reticulate and glabrous beneath. Panicles terminal, sessile, many flowered, the lowest branch often subtended by normal leaves, the major bracts deeply trilobed, caducous, the ultimate branches cymose, 3-flowered. Flowers with pedicel 1–2 mm long, pilose; sepals 5, obovate-oblong, 6 by 3 mm, shortly ciliate; petals oblong, 3 by 1.5 mm, often revolute at margin, shortly pilose and with few soft stellate hairs; androgynophore columnar, glabrous, the terminal annulus 5-toothed, hairy; stamens ca. 40, the filaments in 5 fascicles opposite teeth of annulus, 2–3 mm long, sparsely pilose near base, the anthers globular-oblong; ovary spherical, 1 mm in diameter, 5-celled, glabrous, the style 3 mm long, glabrous, the stigma oblique-punctiform. Drupes globular-obovoid or spherical, 6–8 mm long, 5–7 mm in diameter; exocarp and mesocarp not separable, strongly fibrous, endocarp bony. Seeds oblong-ovoid, 4 mm long, 2 mm in diameter, oily.

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