

Calycanthus chinensis: The Chinese Sweetshrub

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C*alycanthus chinensis* is a beautiful deciduous shrub with a narrow geographic distribution in Zhejiang Province, China. It grows up to ten feet tall with a broad profile. The leaves are oppositely arranged with short petioles and are glossy green with a touch of roughness on the upper surface. In the Boston area its nodding flowers appear in mid to late spring. Appearances notwithstanding, the sepals and petals are not differentiated (therefore termed *tepals*): the outer tepals are a silky white with a tinge of pink and a diameter of two to three inches, while the inner tepals are a waxy pale yellow to white with maroon markings. Unlike the native *Calycanthus floridus* the flowers are not fragrant and are pollinated by small beetles.

Tepals and stamens occupy the rim of a deep floral cup; the ovaries are attached to the side of the cup. The fruits, top-shaped with many seeds, overwinter on the shrub. In its natural habitat, it grows underneath a canopy and therefore is best cultivated in partial shade with wind protection and good soil moisture. In 1998 Michael Dirr described it as "a unique plant but doubtfully as worthy as *Calycanthus floridus*." Opinions may vary as to the species' comparative garden worthiness, but where evolutionary and taxonomic histories are concerned, *C. chinensis* definitely provokes more interest. As a practical matter, the species is rare in the wild and needs our help to survive.



The pendant flowers of Calycanthus chinensis have an unusual, waxy texture.

Calycanthus chinensis belongs to Calycanthaceae, which includes two genera and about ten species.¹ *Chimonanthus* (wintersweet) is the other genus; it differs from *Calycanthus* in



In this closeup of a *Calycanthus chinensis* flower, the inner and outer whorls of tepals are clearly visible.

many features, including morphology, wood anatomy, pollen, and embryology. Species of *Chimonanthus* are literally called “waxy prunus” in Chinese because it blooms in winter with waxy yellow flowers that resemble cherries. *C. chinensis* was first described as a species of *Calycanthus*² and was later recognized as a separate genus, *Sinocalycanthus*.³ Morphologically, this species differs from other species of *Calycanthus* in its white flowers and dimorphic (two forms), broadly ovate tepals. Therefore, many authors recognize this species as a separate genus from *Calycanthus*.⁴ However, we prefer to treat this plant as a species of *Calycanthus* for the following reasons.

First, it is rare that species of different genera hybridize successfully, but *Calycanthus chinensis* has been successfully crossed with *C. floridus* and *C. occidentalis*.⁵ Second, differences in DNA sequences are few among *C. floridus*, *C. occidentalis*, and *C. chinensis*.⁶ Third, this treatment shows *Calycanthus*' disjunct distribution in eastern Asia and North America. And a final consideration—hardly a serious one—is the tongue twisting required to pronounce the long hybrid name *Sinocalycanthus*.

When *Calycanthus chinensis* was first introduced into cultivation in North America in the early 1980s, its hardiness was unknown.⁷ But experience at the Arnold Arboretum has shown the plant to be fully hardy in USDA zone 6, hav-



The flowers of our native eastern sweetshrub differ from those of their Chinese relative both in form and fragrance.

ing survived temperatures of minus 10 degrees F in 2003. The plants being offered for sale were raised from seeds produced by plants growing outdoors at the Arnold Arboretum since 1998. The parent plants were raised from seeds collected at the Nanjing Botanical Garden in 1994.

Endnotes

- ¹ J. Li, J. Ledger, T. Ward, and P. Del Tredici. 2004. Phylogenetics of Calycanthaceae based on molecular and morphological data, with a special reference to divergent paralogues of the nrDNA ITS region. *Harvard Papers in Botany* 9: 69–83.
- ² W. C. Cheng and S. Y. Chang. 1963. *Scientia Silvae* 8: 1.
- ³ — — —. 1964. *Genus novum calycanthacearum chinae orientalis*. *Acta Phytotaxonomica Sinica* 9: 135–138.
- ⁴ L. Li. 1989. Cytogeographical study of *Calycanthus* Linnaeus. *Guihaia* 9: 311–316; Y. Li and P. T. Li. 2000. Cladistic analysis of Calycanthaceae. *Journal of Tropical and Subtropical Botany* 8: 275–281; M. Durr. 1998. *Manual of Woody Plants*, 5th ed. Stipes, Champaign, IL.
- ⁵ F. T. Lasseigne, P. R. Fantz, and J. C. Raulston. 2001. ♀ *Sinocalycanthus raulstonii* (Calycanthaceae): A new intergeneric hybrid between *Sinocalycanthus chinensis* and *Calycanthus floridus*. *HortScience* 36: 765–767; Todd Lasseigne, pers. comm.
- ⁶ J. Li et al. 2004.
- ⁷ G. H. Straley. 1991. Presenting *Sinocalycanthus chinensis*. *Arnoldia* 51(1): 18–22.

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