

## FURTHER COMMENTS ON STYRAX L.

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In his recent monograph of *Styrax* (Sida 5: 191-258, 1974) Gonsoulin treated the species from the Lesser Antilles in such a way as to require comment and correction in relation to my own work on the flora of the islands. Curiosity prompted the checking of one other taxon with the result that a new combination is proposed. I leave it to others to note these suggestions and to check the work further.

Gonsoulin failed to explain his treatment of the gender of the name *Styrax* and was not consistent in the specific epithets used. In many cases the original spelling is altered without noting such changes. *Styrax* has been and can be treated as masculine, feminine, or neuter. However, Wood and Channell made a recommendation in a paper cited by Gonsoulin (Jour. Arnold Arb. 41: 1-35, 1960) on which he offered no comment. Wood and Channell pointed out that Linnaeus consistently treated the name as neuter and that, under Recommendation 75A (1) of the *International Code of Botanical Nomenclature*, Linnaeus' practice in this matter should be followed. The following neuter endings are preferred: *Styrax americanum*, *S. grandifolium*, *S. argentum*, *S. conterminum*, *S. obtusifolium*, *S. ochraceum*, and *S. glabrum*. It should be pointed out that general agreement on the gender to be used does not exist in even more recent practice. Entry 11/06408 in the *Index Nominum Genericorum* acknowledged the type species of *Styrax* to be "*S. officinalis* L. ('officinale')." Stearn (Bot. Latin 76, 1966) stated that the generic name *Styrax* is treated as feminine. Airy-Shaw (Willis' Dict. Fl. Pl. and Ferns, 8th ed., 1116, 1973) referred to "*Styrax officinale*." The recommendation of the *International Code of Botanical Nomenclature* to follow "general usage" can best be implemented by following the practice of the original author Linnaeus.

In reference to the species in the Lesser Antilles, the editorial style adopted by Gonsoulin is confusing and misleading. Swartz (Nov. Gen. Sp. Pl. Prodr. 74, 1788) published *S. glabrum*, not *S. glaber* as used by Gonsoulin (op. cit. 233). In 1788, Cavanilles also published the same binomial as "*Styrax glabrum* Lamarck," an illegitimate substitute for *S. americanum* (Encycl. Meth. 1: 82, 1783). Gonsoulin correctly listed the Cavanilles binomial in the synonymy of *S. americanum* but cited incorrectly the publication date as 1790. Although "*Styrax glabrum* Cav." is illegitimate, a fact unnoted by Gonsoulin, the problem of two different uses of the same binomial in 1788 is easily settled by reference to Stafleu's *Taxonomic Literature* (Reg. Veg. 52: 79, 462, 1967). The pertinent fascicle of Cavanilles' *Monodelphia classis dissertationes* decem 6: page 340, plate 188, fig. 1 was published between Octo-

ber 12 and 25, 1788, while Swartz' *Prodromus* was published in July of the same year.

In the synonymy of *S. glabrum* Sw., Gonsoulin attributed the binomial *S. occidentalis* to Swartz ex Thunberg. This name also might have been indicated as illegitimate, as it was proposed in a thesis defended by L. J. Prytz, a student of Thunberg, when he noted the existence of *S. glabrum* Cav. and renamed *S. glabrum* Sw. as *S. occidentalis* Swartz. Why the name was attributed to Swartz is not clear. The citation of Swartz ex Thunberg is correct.

To the synonymy of *S. glabrum* Sw. should be added *Morisonia imrayi* Griseb. (Fl. Brit. W. Ind. 19. 1859). Grisebach cited an Imray collection (K) from Dominica, and Urban noted this misidentification by Grisebach in a comment following the description of *S. portoricensis* (Bot. Jahrb. 15: 338. 1892).

The designation of a holotype for *S. glabrum* Sw. also requires some comment, for Gonsoulin, possibly influenced by Urban's citation of this record (op. cit.), has indicated it to be "Willdenow 8326." However, Willdenow 8326 is the number of an herbarium entry, actually two sheets, in the Willdenow herbarium (B) and not a specimen collected by Willdenow. Neither sheet should be designated as the holotype. In the original publication of the species, Swartz (Prodr. 74. 1788) stated "India occidentalis, Vincenti" with the classical symbol for a perennial or woody plant. Swartz later elaborated on the description and stated (Fl. Ind. Occident. 2: 848. 1800) "Habitat in India occidentali; Ins. Sti Vincentii (Anderson)." Such a specimen from the island of St. Vincent, where Anderson was superintendent of the Botanical Garden from 1785-1811, is in the herbarium of the British Museum (Natural History). This is the holotype. There are two sheets in the Willdenow herbarium as seen on microfiche (IDC 7740. 567. III. 1,2), the first a specimen with flowers and the second a sterile specimen of but two leaves. Both specimens bear comparable labels mentioning the Swartz *Prodromus* page 74 and the habitat of "India occidentalis," and both were annotated by Perkins. The index to the Willdenow Herbarium on microfiche (IDC 7740. 27. III. 7) suggested with a question mark that the specimens might have come from the Vahl herbarium. The flowering specimen with its shortly acute to subtruncate leaf apices appears to be a good match for a specimen collected by Ryan on Montserrat and deposited in the herbarium at Copenhagen. The questioned reference to Vahl's herbarium may be accurate.

Several errors of geography are also found in Gonsoulin's citations. Bains-Jaunes, not "Bains-Tames," is the classical collecting locality in Guadeloupe. "Herbier de la Martinique" is not a locality but a label heading. Duss collections cited under this title present other problems, for many specimens from different localities were distributed under the same number. Duss himself (Fl. Phan. Ant. Franc. 389. 1897) noted that his collection 1728, a collection cited by Gonsoulin, was found in the "Bois de la Calebasse, de l'Ajoupa-Bouillon, de Fontaine-Chaude, de Case-Pilote." In other cases a single Duss number may represent a mixed collection, or two or more

numbers may be given to a single specimen. Even a single location on a given herbarium label may vary from one herbarium to another and so can not be trusted. The Cowan collection from Tobago was made "Roxborough-Parlatuvier Road, Main Ridge: primary forest, 450-500 m. elev."—not at "Orxborough," which is an unfortunate typographical error.

Gonsoulin's description of *S. glabrum* does not cover the full range of variation in the size and shape of the leaves of the species. He apparently followed the descriptions given by Urban (Bot. Jahrb. 15: 338. 1892) and Perkins (Pflanzenr. IV, 241: 63. 1907) but did not mention that both authors noted that their descriptions do not agree with that given by Swartz. Swartz described the leaves as lanceolate-oblong, acuminate, and subserrate to entire. The holotype has such characteristics, and I suspect this leaf shape is associated with vigorous shoots. Other specimens from the Lesser Antilles have shorter, elliptical to ovate leaves with apices acute to rounded or subtruncate. A single specimen labeled Duss 3262/3707 (P) from Guadeloupe has fruit twice the size described by previous authors. Specimens have also been seen from the islands of St. Kitts (*Howard 16588 [A]*, *Wadsworth 495 [A]*), Montserrat (*Squire s.n. [A]*, *Ryan s.n. [C]*), and Dominica. The occurrence of *S. glabrum* on Dominica was mapped by Gonsoulin but no specimens were cited. The Imray collection originally described as *Morisonia* documents such a record. It is possible that two species are represented in the Lesser Antilles but only a few fruiting specimens are available and no material of flower and fruit from the same individual plant or population is available. *Styrax glabrum* of the Lesser Antilles requires further study and careful examination in the field.

Gonsoulin listed as a generic synonym of *Styrax* the name *Darlingtonia* Torrey, but he apparently failed to see an additional complication in this reference which affects the nomenclature he adopted. In 1851, Torrey (Proc. Amer. Assoc. Adv. Sci. 4: 190-193) described a new plant collected by Fremont in California for which he proposed the name *Darlingtonia rediviva*. In 1853, Torrey (Smithsonian Contr. Knowl. 6(4): 1-8, pl. 12) described the insectivorous genus *Darlingtonia* with one species, *D. californica*. The generic name had been used earlier by A. P. de Candolle and its use by Torrey for the insectivorous plant has been conserved (3131). In the 1853 paper, Torrey stated: ". . . a Californian plant, on imperfect specimens of which, I had recently indicated a genus under this name, proves to be only a species of *Styrax*." Torrey then stated in a footnote: "Having recently obtained good flowering specimens of this plant, the following description of it is appended: -*Styrax californicum* . . . ." [Emphasis added.] The binomial *Darlingtonia rediviva* remained in limbo until L. C. Wheeler reviewed the matter (Bull. S. Calif. Acad. Sci. 44(3): 94. 1945) and made the combination *Styrax rediviva* (Torrey) L. C. Wheeler. This new combination was overlooked by Gonsoulin and is not considered in recent floras of California. If a variety is to be recognized (as Gonsoulin and Rehder recognized var.

*californica*), then the correct name, citation, and synonymy are the following:

*Styrax officinale* L. var. **rediviva** (Torrey) Howard, comb. nov.

*Darlingtonia rediviva* Torrey, Proc. Amer. Assoc. Adv. Sci. 4: 190-193. 1851.

*Styrax rediviva* (Torrey) L. C. Wheeler, Bull. S. Calif. Acad. Sci. 44(3): 94. 1945.

*Styrax californicum* Torrey, Smithsonian Contr. Knowl. 6(4): 1-8, pl. 12. 1853.

*Styrax officinalis* var. *californica* (Torrey) Rehder, Mitt. Deutsch. Dendrol. Ges. 1915: 226. 1915.