



Styrax rhytidocarpus (Styracaceae), a new species from Hunan, China

HUI ZHOU¹, WEN YANG², MING LI² & XUN-LIN YU^{1*}

¹The Dendrological Teaching and Research Team, School of Forestry, Central South University of Forestry & Technology, No. 498, Shaoshan South Road, Tianxin District, Changsha 410004, Hunan Province, China. * corresponding author: csfuyuxl@163.com

²Hunan Prospecting Designing and Research General Institute for Agriculture Forestry and Industry, No. 232, Chengnan Central Road, Yuhua District, Changsha 410007, Hunan Province, China.

Abstract

A new species, *Styrax rhytidocarpus* W. Yang & X. L. Yu (Styracaceae) from Hunan, China, is described and illustrated. This species can be readily distinguished from all other species of *Styrax* by the combination of characters: glabrous peduncles, bracteoles, and pedicels; 1.7–2.0 × 0.8–1.3 cm corolla lobes; bowl-shaped and deeply rugose persistent calyx; thick, fleshy, and rugose fruit with slightly curved and long-rostrate apex; and ridged and densely stellate-hairy seeds.

Introduction

The genus *Styrax* Linnaeus (1753: 444) contains about 140 species distributed mainly in eastern and southeastern Asia, and tropical America, with one species in the Mediterranean region (Fritsch 1999, 2001, 2015). Perkins (1907) divided *Styrax* into two sections, i.e. sect. *Foveolaris* (Ruiz et Pavon 1794: 57) Perkins (1907: 27) and sect. *Styrax*. All Chinese species of *Styrax* belonged to *S.* sect. *Styrax* that was further divided into two series, i.e. ser. *Valvatae* (Gürke 1891: 178) Perkins (1907: 18) and ser. *Imbricatae* (Gürke 1891: 177) Perkins (1907: 25) based on the aestivation of corolla lobes. Fritsch (1999) revised the two sections as sect. *Styrax* and sect. *Valvatae* (Gürke 1891: 178) mainly based on the plants whether deciduous or evergreen, indumentum of young shoots base and corolla lobes whether membranous or subcoriaceous. Moreover, sect. *Styrax* was further divided into ser. *Styrax* and ser. *Cyrta* P. W. Fritsch (1999: 373), and sect. *Valvatae* into ser. *Valvatae* (Gürke 1891: 178) Perkins (1907: 18) and ser. *Benzoin* P. W. Fritsch (1999: 374). Interestingly, of the 30 *Styrax* species documented from China, there are 25 species belong to ser. *Cyrta* and only five species to ser. *Benzoin* (Hwang 1987, Fritsch 1999, Huang *et al.* 2003).

Most species of *Styrax* in China are characterized by the flattened filaments and the base connate into a tube and adnate to corolla, ovary superior, drupe fleshy or dry and smooth, seeds wingless and wrinkle-free. Southern Hunan is one of the species diversity center of *Styrax*, with twelve species and two varieties recorded (Hwang 1987, Hwang & Grimes 1996, Qi & Lin 2000, Huang *et al.* 2003). These species are commonly found in scrublands or forests of the sunny valleys in low mountains.

During a field investigation in Linwu county in July 2009, we encountered a plant that is similar to *Styrax odoratissimus* Champion ex Benth (1852: 304) in leaf blade shape, but differs in having a rugose and inflated persistent calyx, as well as the notably large fruits. Regrettably, we regarded these strange fruits as merely insect galls at that time. On August 2011, we re-visited the site and observed the same fruit morphology. Through fruit dissection we found normally developed seeds, demonstrating that this is the natural state of fruits rather than insect galls. In order to obtain more information about these plants, we tracked and observed the flowers and fruits in subsequent years. Reviewing all the characteristics and referring to the relevant literature (Hwang 1987, Qu & Wang 1989, Hwang 1994, Hwang & Grimes 1996, Hwang *et al.* 2003) and some specimens in CSFI, we have confirmed it as a species of *Styrax* new to science. Owing to its deciduous habit and with terminal or leaf axillary inflorescences, it can be placed to ser. *Cyrta*.