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Chu Xue Ying Hong: A New *Styrax japonicus* Cultivar

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Styrax japonicus is a well-known ornamental tree with a large number of beautiful white, bell-shaped flowers (Zhang et al. 2025). Because of the uniqueness of its flowers, it is also commonly referred to as "Japanese Snowbell" (Paparella et al. 2025). Importantly, it blossoms in mid- to late spring, when common landscape trees such as *Prunus* L. and *Magnolia* L. have stopped flowering (Lobdell and Shearer 2022). Furthermore, the flowers contain several active compounds with varying medical properties, including sedative, anxiolytic, and antinociceptive (He et al. 2022, 2023).

Here we report on a newly cultivated variety of *S. japonicus* with good ornamental value, Chu Xue Ying Hong (Fig. 1). *Chu xue* in Chinese refers to the first snowfall, representing the pure white petals of this variety; *hong* refers to red, representing the reddish-brown calyx and pedicel of this variety; *ying* in Chinese refers to the backdrop of each other, representing the red calyx and pedicel as well as the white petals setting each other off, thus increasing the overall beauty of the flower.

Origin

In Sep 2013, seeds of open-pollinated *S. japonicus* were collected from individual plants in Yuntai Mountain, Lianyungang, Jiangsu Province, China. It was sown in Spring 2014 at the Styracaceae Germplasm Repository in Nanjing, Jiangsu Province, China (32°54′N, 118°50′E). In 2017, most cultivated *S. japonicus* plants flowered and set fruit. During flowering, one *S. japonicus* plant with red calyxes and pedicels was found from the same family line through field inspections, and marking records were made. In Spring 2019, scion woods of the plant were collected and grafted onto rootstocks composed of 2-year-old *S. japonicus* seedlings. In Spring 2021, the same activities were conducted again as those in Spring 2019. After asexual propagation, cultivars that met the requirements for variety identification, distinctness, uniformity, and stability, were finally identified. This new cultivar was officially authorized by the National Forestry and Grassland Administration of China with accession number 20230493.

Description

The morphological characteristic differences between 'Chu Xue Ying Hong' and the original *S. japonicus* are shown in Table 1. 'Chu Xue Ying Hong' has a smooth trunk and a compact and elegant tree shape. The leaves are alternate, papery, or nearly leathery, elliptic or oblong-elliptic to ovate-elliptic, 4 to 10 cm long, and 2 to 5 cm wide. On the upper surface of the leaf, there are sporadic stellate hairs in the veins. On the lower surface of the leaf, there are long, white, whisker-shaped hairs at the confluence of the main vein and the lateral vein. The petiole is 5 to 10 mm long, with grooves on it and sparsely covered with short, stellate soft hairs.

The raceme is terminal, with 5 to 8 flowers, 5 to 8 cm long. The petals are white and 2 to 2.8 cm long. The pedicels are slender, reddish-brown, drooping when in bloom, 2.5 to 3.5 cm in length, and hairless. The calyx is funnel-shaped, reddish-brown, 4 to 5 mm in length, 3 to 5 mm wide, and hairless. The filaments are flat with the lower part united into a tube and the upper part separated; the lower part of the separated section is covered with long, soft, white hairs, and the upper part is hairless. The anthers are oblong, with star-shaped hairs along the edges, ~5 mm long. The flowering period is from the end of April to early May.

The fruit is ovate, 8 to 14 mm in length, and 8 to 10 mm in diameter with a mucronate apex. The outside of the fruit is densely covered with gray star-shaped down and has irregular wrinkles.

Cultivation

'Chu Xue Ying Hong' prefers a warm, humid climate and is a light-demanding tree species, but shade is required during the seedling stage. It prefers acidic to slightly alkaline, loose, fertile soils with a relatively deep layer and grows best on moist, neutral soils. It also shows adaptability to soil conditions, with a certain tolerance to waterlogging and saline–alkali conditions, as well as being relatively drought tolerant. It can grow widely in subtropical and warm temperate regions. Its growth condition in a colder growing climate remains to be evaluated.

This cultivar can be propagated by grafting (softwood cuttings and tissue culture may also work but has not been tried). From the end of February to the beginning of March each year, a ventral graft can be conducted by taking a sturdy, 1-year-old branch with full buds as the scion. The rootstock is selected from 2-year-old *S. japonicus* seedlings. Additionally, grafting should be carried out at a height of about 15 to 20 cm from the

Fig. 1. (**A**) The leaf of 'Chu Xue Ying Hong'. (**B**) The entire plant of 'Chu Xue Ying Hong'. The reddish-brown pedicels and calyxes can be seen.

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Table 1. Comparison of morphological characters of the original *Styrax japonicus* and 'Chu Xue Ying Hong'.

Characteristics	Original *S. japonicas*	'Chu Xue Ying Hong'
Pedicel color	Green	Reddish-Brown
Calyx color	Green	Reddish-Brown

ground. If a good job of watering, bud removal, and unbinding after grafting is done, the grafting survival rate greater than 70% can be achieved.

Availability

The variety rights holders of 'Chu Xue Ying Hong' are Nanjing Forestry University and Nanjing Yangzi Jasmine Valley Culture Technology Co., Ltd. For more information or other needs, please contact Fangyuan Yu (fyyu@njfu.edu.cn).

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