SHIUYINGHUA, A NEW GENUS OF SCROPHULARIACEAE FROM CHINA

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IN HER MONOGRAPH of the genus *Paulownia* Sieb. & Zucc. (Scrophulariaceae), Hu (1959, p. 47) excluded *P. silvestrii* Pampanini & Bonati (1911) from that genus and transferred it to *Catalpa* Scop. (Bignoniaceae). I have had the opportunity of examining a photograph of the type specimen, *P. C. Silvestri 3286* (PLATE I), which shows characters of a tree clearly different from *Catalpa*. The characters which do not permit one to classify this plant as a member of the genus *Catalpa* may be summarized as follows:

1. The conspicuously dimorphic shape of leaves which are broadly ovate (cordate) in the axial position and elliptically lanceolate in the abaxial position on flowering branches.

2. The flowering branches which bear both leaves and almost laterally situated (axillary) loose cymes of flowers, as in *Paulownia fortunei* (Seem.) Hemsl. and substantially all other species of *Paulownia*. In *Catalpa*, the inflorescences are formed terminally and correspond to racemes or true panicles (thyrses).

3. The calyx which is five lobed and patelliform, as in *Paulownia* but not *Catalpa* in which the calyx is gamosepalous, splitting into two strongly convex lobes at anthesis. Also, the flower buds are generally oblong in *Paulownia silvestrii*, instead of showing the typically subglobular shape of the bud of *Catalpa*.

Although the fruit of *Paulownia silvestrii* is unknown, the original description of this species by Pampanini and Bonati leaves, in my opinion, no serious doubts about its correct position in the system. This place is to be found in the tribe PAULOWNIEAE Pennell of the family Scrophulariaceae.

However, the general shape and consistence of the flower buds of *Paulownia silvestrii* alone separate this species sufficiently from all known members of *Paulownia*. This character also seems to be Hu's basic reason for excluding *P. silvestrii* from *Paulownia*. In addition, her analysis of a flower bud of *P. silvestrii* revealed another difference concerning the structure of the young stigma (Hu 1959, p. 47). Some apparently less important differences between *P. silvestrii* and the other species of *Paulownia* may be found in the general appearance of the flowering branches and in the size of flowers. Accordingly, *Paulownia silvestrii* is best interpreted as the type of a distinct new genus which I have the pleasure of naming in honor of Dr. Shiu-ying Hu, of the Arnold Arboretum, to whom botany is indebted for her contributions to the knowledge of Chinese plants.

HOLOTYPE OF PAULOWNIA SILVESTRII (*Silvestri 3286*)

Shiuyinghua, gen. nov.

Plantae lignosae foliis simplicibus oppositis vel etiam ternatim verticillatis. Inflorescentia axillaria cymosa. Alabastra oblonga. Calyx lobis 5 membranaceis vel ± crassis. Corolla gamopetala quinquefida tubo inflato, lobis subaequilongis. Stamina didynama basi tubi inserta. Stigma (in alabastro visum) bilamellatum. Fructus ignotus. — Hab.: Asia temperata.

TYPUS GENERIS: **Shiuyinghua silvestrii** (Pamp. et Bonati), comb. nov. *Paulownia silvestrii* Pampanini et Bonati in Pampanini, Nuov. Giorn. Bot. Ital. II. **18**: 177. 1911. *Catalpa silvestrii* (Pampanini et Bonati) S. Y. Hu, Quart. Jour. Taiwan Mus. **12**: 47. 1959.

TERRA TYPICA: China, provincia Hupeh, praeter ripam fluminis Yang-tze Kiang (et praecipue fluvii Han Kiang), alt. 700 m., 20–30 Juni 1907, *P. C. Silvestri 3286* in hb. FI (et fragmentum, A).

The new genus *Shiuyinghua* becomes now the second known genus of the tribe PAULOWNIEAE. However, another genus, *Wightia* Wallich, is sometimes considered to belong here also. *Wightia* is likewise a woody genus and is represented in the Himalayan, Burmese, Chinese (Yunnan), Vietnamese (Tonkin), and Malayan floras. The relatively limited knowledge of the morphology of *Shiuyinghua* does not make it possible to elaborate for the time being more than the following key to the practical identification of the three genera.

Stamens surpassing the top of corolla; calyx entire, tight-fitting. .... *Wightia.*
Stamens not surpassing the top of corolla; calyx with 5 ± outstanding lobes.
  Flower buds oblong and slender, with stigma appearing bilamellate at this stage of immaturity; corolla not longer than 3 cm. ..... *Shiuyinghua.*
  Flower buds broadly ovate and robust, with stigma appearing punctiform at this stage of immaturity; corolla at least 3 cm. long, mostly much longer. ..... *Paulownia.*

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