A Sino-American Sampler

Stephen A. Spongberg

Plants from the 1980 Sino-American Expedition are finding their way into the living collections of the Arnold Arboretum.

Ten years ago this spring, as the intensifying rays of the sun streamed through the Dana Greenhouses at the Arnold Arboretum to warm seed flats on the benches, there was great anticipation among the staff who carefully inspected the trays for germinating seedlings. Not since the halcyon days of E. H. Wilson earlier in this century had the greenhouse staff attempted to coax so many seeds from China to germinate and grow in the New England climate.

It was in the spring of 1981 that the rich harvest of seeds collected by the Sino-American Botanical Expedition to Western Hubei Province during the fall of 1980 began to germinate in the Arboretum's greenhouses. Specifically, the expedition spent six weeks during August and September of 1980 collecting in the Shennongjia Forest District of northwestern Hubei Province, in a high, mountainous region north of the Chang Jiang (Yangtze) River and on the border of Sichuan Province. Additional collections were made in the Metasequoia region of southwestern Hubei Province during October of that year. Many of the seedlings that resulted from these collections were destined to enter the Arboretum's nurseries adjacent to the greenhouse complex and, ultimately, to join their North American and other Asian cohorts on the grounds of the Arnold Arboretum, where they have added significantly to the diversity of the Arboretum's living collections.

The results of the 1980 Sino-American Botanical Expedition have been presented in a scientific report (Bartholomew et al., 1983), and a listing of the germplasm brought back to the United States was prepared shortly after the expedition had been completed (Dudley, 1982, 1983). In addition, a catalogue was published (Hebb, 1982) of the excess plant material distributed through the American Association of Botanical Gardens and Arboreta in the spring of 1982. While it has not been possible to trace the ultimate success or failure of all of the living plants that resulted from the expedition, it seems appropriate to focus briefly on the results of this ongoing experiment, which has tested the hardiness of many Asian taxa in various localities and has allowed botanists and horticulturists both here and abroad to assess the ornamental and landscape attributes of these Chinese species. Included in these introductions are some that represent the first of their kind to be cultivated in western gardens.

The following summary features a few of the plants that now grow at the Arnold Arboretum. Over 450 accessions of seeds and other propagules collected by the expedition were processed at the Dana Greenhouses, and as of this writing 103 accessions have been incorporated into the living collections. At first glance, this may seem like a low success rate, but a fair proportion of the collections failed to germinate at all, and many of the
accessions that did germinate have proved not to be hardy. Finally, many of the slower-growing accessions, such as the hollies and rhododendrons, are still being grown in the Arboretum's nurseries and will be planted out in the collections in coming years. Consequently, the Arboretum's collections will continue to enlarge as additional material is added in the future, and we can look forward to more new Chinese plants in our already rich collections of woody Asian plants.
Sorbus yuana
Originally thought to represent *Sorbus zahlbruckneri*, this simple-leaved mountain ash proved to represent a new species, which was subsequently named *Sorbus yuana* Spongberg. The specific epithet, *yuana*, was given to this species to honor Professor T. T. Yü, the leading Chinese plant taxonomist and student of the genus *Sorbus*, who was a staunch supporter of the 1980 Sino-American Expedition and of continued cooperation between Chinese and American botanists. *Sorbus yuana* has thus far proven hardy in the Arnold
Arboretum, and trees in the living collections (AA #1539-80 and #1894-80) are approaching fifteen feet (4.5 meters) in height. Closely related to *S. alnifolia*, the celebrated Korean mountain ash, *S. yuana* produces large corymbs of pure white flowers in spring and large, cherry-red, ovoid fruits in fall. Its beautiful dark green, alder-like leaves turn golden yellow in fall, and the species promises to be an outstanding ornamental tree.
The author with Sorbus hemsleyi. Photo by I. Rác.

**Sorbus hemsleyi**

More a botanical curiosity than a promising ornamental, *Sorbus hemsleyi* is another of the simple-leaved mountain ashes collected by the 1980 Sino-American Expedition (AA #1771-80, #1878-80, and #1981-80). Originally discovered in Hubei Province by Augustine Henry toward the end of the nineteenth century, this species was described as new by Camillo Schneider and also, somewhat later, by Alfred Rehder as *S. xanthoneura*. It was not realized, however, that the two species were one and the same until the collections of the Sino-American Expedition were studied, and the seeds brought back by the expedition con-
Sorbus hemsleyi. Photo by Rácz and Debreczy.

stitute its first introduction into western gardens and arboreta. Producing small corymbs of pale green flowers in spring, which are followed by small clusters of greenish-yellow fruits, S. hemsleyi is most notable for its bold, simple leaves. These are dark emerald green on the upper surfaces but covered with a white tomentum on the lower surfaces. As a consequence, the plants provide interest in the landscape, particularly when the leaves are put in motion by a slight breeze.
The leaves of Liquidambar acalycina. Photo by Rácz and Debreczy.

**Liquidambar acalycina**

To my mind one of the most exciting new introductions of the 1980 Sino-American Expedition is a plant that had only recently been described as constituting a new species by a Chinese taxonomist. We collected seeds of this plant, *Liquidambar acalycina*, from a venerable old tree growing by the roadside in the fabled Metasequoia Valley in a remote district of southwestern Hubei Province. At the time of collection, we assumed that the tree represented *Liquidambar formosana*, the common and widely distributed Chinese sweetgum. But on close examination of the voucher herbarium specimens, it became apparent that our collection represented *L. acalycina* Chang, a species first described as
recently as 1959. Ours was undoubtedly its first introduction to western gardens, and in the Arnold Arboretum a small grove of trees grown from this seed lot (AA #1634-80) now occupies space close to the American sweetgums. Ironically, this new Chinese species is more closely related to our American sweetgum than it is to the common Chinese species, L. formosana. And unlike L. formosana, which—despite repeated attempts—has never been hardy in the Boston area, L. acalycina has withstood winters outside in the Arnold Arboretum since 1984.
Rhus chinensis

Chinese sumac, *Rhus chinensis*, was first cultivated in western gardens by Philip Miller in the Chelsea Physic Garden in London during the middle of the eighteenth century. And while we grow several accessions of this wide-ranging Asian shrub at the Arnold Arboretum, the plants that resulted from the Sino-American Expedition constitute our only current accession of this taxon from China. One plant (AA #475-80-C) has become well established along Meadow Road adjacent to the *Cotinus* collection, where it has grown into...
a large, multiple-stemmed shrub, already upwards of fifteen feet (4.5 meters) in height. In flower from late August into September, the ornamental value of this shrub centers on its large panicles of creamy-white flowers, which provide a rich source of nectar for foraging bees. Its compound leaves—each with a winged rachis and seven to thirteen leaflets—add interest to the plants in the late summer landscape, and particularly in fall when they turn a brilliant red.
**Malus baccata**

Among the several species of crabapples collected in the Shennongjia Forest District in Hubei Province, a number were introduced by seed collections, and a group of these proved difficult to determine based only on their fruiting voucher specimens. One collection in particular (SABE #1298, now grown as AA #1843-80) represented a small tree that was particularly attractive in fruit, the small but abundantly produced, fire-engine red pomes suspended on extremely long stalks. Plants from this gathering have now flowered in the Arnold Arboretum, and by using both flowering and fruiting material, we have been able to determine the plant’s identity. It represents *Malus baccata*, the so-called Siberian crab, and its occurrence in western Hubei Province represents a considerable extension of its known range. Its unexpected occurrence far south of its usual range in northern Asia confused us when we attempted to identify it at the time of collection, and we thought it might represent a new species. It was only through recourse to the flowering material from the plants grown in the Arboretum that its correct identity has been ascertained. As can be seen in the accompanying photograph, the flowers, too, are produced on very long pedicels, and *en masse* transform each limb of the flowering tree into a beautiful bower of white.

![Malus baccata with exceptionally long petioles. Photo by Rácz and Debreczy.](image-url)
**Sinowilsonia henryi**

Another shrub now growing at the Arnold Arboretum for the first time since 1972 is of great historical significance, as reflected in its generic and specific botanical names. *Sinowilsonia henryi*, based on herbarium specimens collected in western Hubei Province by Augustine Henry and Ernest Henry Wilson, combines the names of these two famous collectors of Chinese plants. And its generic name, *Sinowilsonia*, refers to Wilson using the combining form *Sino*, which can be freely translated as “Chinese” Wilson, the name by which he was affectionately known by his botanical and horticultural colleagues.

This species was originally introduced into cultivation by Wilson in 1908, and to my knowledge all of the plants of the solitary species of this Hamamelidaceous genus known in western gardens up until 1980 were derived from this single introduction. At the Arnold Arboretum, plants from this introduction grew in various locations until the severe winter of 1934, when all succumbed to extremely low winter temperatures. An attempt to reestablish the plant in our collections was made in 1965 when young plants grown from seeds gathered from a plant at the Planting Fields Arboretum on Long Island were established in the Center Street beds. These, however, were no longer growing when that area was surveyed in 1972.

The most recent opportunity to establish this species in our collections resulted from the 1980 Sino-American Expedition, although only one seed germinated from those received at the Dana Greenhouses. This plant (AA #1970-80) has proven to be vigorous in growth and has been planted on the gentle slope above the east nursery near the greenhouse complex. It is hoped that it will continue to thrive in this protected location, and that it will eventually flower and fruit. While *Sinowilsonia* is not of great ornamental significance despite its close generic relationships to the witch hazel family, its historical associations alone dictate that it be included in the collections of the Arnold Arboretum.

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**Magnolia, Rubus, and Heptacodium**

Several other introductions of the 1980 Sino-American Botanical Expedition have been featured in articles appearing in the pages of *Arnoldia*. These include *Magnolia zenii*, which first flowered at the Arnold Arboretum on March 30, 1988, and the so-called ghost bramble, *Rubus lasiostylus* var. *hubeiensis*, which I had the distinct privilege of describing as new with my Chinese colleagues, T. T. Yü and L. T. Lu of the Beijing Botanical Garden and the Institute of Botany, Academia Sinica in Beijing.
Another plant featured earlier in these pages is a shrub with a rather cumbersome common name, seven-son-flower. Originally introduced as *Heptacodium jasminoides*, its botanical moniker has been changed to *H. miconioides*, but despite the difficulties that incumber its nomenclature, it is a lovely late-summer flowering and fruiting member of the honeysuckle family that is a worthy addition to the Arboretum landscape.

Even as the plants mentioned above grow and mature at the Arnold Arboretum, and as additional accessions from the 1980 Sino-American Botanical Expedition are incorporated into the Arboretum’s landscape, new plants from other parts of China continue to flow into the Arboretum greenhouses. Ours is an ongoing experiment, one that continues to broaden in scope, for botanical and horticultural science as well as for the enjoyment of all.

References


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