

ARNOLD ARBORETUM
HARVARD UNIVERSITYBULLETIN
OF POPULAR INFORMATION

SERIES 4. VOL. I

SEPTEMBER 30, 1933

NUMBER 11

PTEROCARYA REHDERIANA. Some millions of years ago in the age of Reptiles, Pterocaryas, or Wingnuts as they are sometimes called, were native to the forests of Europe and America. Just when they left we do not know for the fossil record is incomplete, but they finally disappeared from the western world along with the dinosaurs and pterodactyls. Unlike these fantastic creatures they did not vanish altogether from the earth. A few species lingered on, one in the region around the Caspian Sea, several others in southeastern Asia. Long after their disappearance they have been brought back, not as fossils, but as living curiosities and are occasionally to be found in botanical gardens and large private collections. The Caucasian Wingnut, *Pterocarya fraxinifolia*, was the first to reappear. It was brought to France by that same Frenchman, André Michaux, who later came to America and tramped through the wilderness studying the flora and collecting trees for the French government. One of the Chinese species, *P. stenoptera*, was brought into cultivation somewhat later through the efforts of the Rev. Graves, an American missionary.

It was in France where both these species were grown in the Arboretum Segrezianum that they apparently hybridized. Seed collected there from *P. stenoptera* was sent to the Arnold Arboretum over fifty years ago. When the young trees developed they were not like the Chinese Wingnut but were instead intermediate between that species and the Caucasian Wingnut, *P. fraxinifolia*. After studying them carefully Alfred Rehder of the Arnold Arboretum came to the conclusion that they were in fact hybrids between these two species. This conclusion has been generally accepted and by a German dendrologist they were eventually named *P. Rehderiana*.

Although the behavior of the second generation grown from the original hybrids has helped to confirm the hypothesis of their hybrid

origin, it is an interesting fact that the hybrid has not been duplicated elsewhere. So far as is known all the specimens of *P. Rehderiana* in cultivation are the descendants of the Arnold Arboretum trees which originated when, by a fortunate accident in the garden at Segrez, pollen from the Caucasian species was brought to the receptive stigmas of *P. stenoptera*.

Like many hybrids *P. Rehderiana* is unusually vigorous. While neither of the parent species has grown well with us, the hybrid seems to be thoroughly at home here. In fifty years the original seedlings have developed into bushy trees with trunks two or three feet thick and have come through all but the coldest winters without injury. For such large trees they have a curious habit of growth. Each has several stems; there is no main trunk and their general bushiness is enhanced by the lusty root-suckers which are thrown up in great profusion.

Botanically, the genus *Pterocarya* is closely allied to the Walnuts and in several features the resemblance is fairly close. The leaf shape is similar as is the color and texture of the foliage. The pith of the branches, as in the case of Walnuts, is not a solid spongy cylinder but is divided up into tiny compartments or chambers. Were it not for the fruits our hybrids might easily be mistaken for some vigorous, bushy Walnut or Butternut. As can be seen in the accompanying plate, the fruits are curious and unusual. The tiny nutlets, no thicker than a pencil, are each set in a little green bowl, which flares out at either side into triangular wings. The individual nutlets are borne in long chains a foot or more in length and give the trees a bizarre appearance.

While the hybrid Wingnut is too coarse and weedy for the average garden there are certain situations in which it might be particularly useful because of its unusual vigor. As a quick-growing screen it is certainly worth trying. It is expected that it would be particularly useful in wet or poorly drained soils since both parental species grow naturally in such situations. The Caucasian Wingnut grows on marshy deltas and along the banks of streams in the region around the Caspian Sea. The Chinese Wingnut is found wild along watercourses though it is sometimes planted in China as a street tree.

Until they are better known, *Pterocaryas* should not, however, be planted in the immediate vicinity of perennial gardens. Their close relatives, the Walnuts, sometimes have a toxic affect upon plants growing nearby, apparently due to a poison contained in the leaves. It is quite possible that *Pterocaryas* might be similarly endowed. Certainly the Caucasian species contains a substance potent enough to stupify



fish, when quantities of the leaves are thrown into the water.

PLANTS OF CURRENT INTEREST. THE *Pterocarya* collection is located along the Centre Street Path at a point where natural seepage provides a favorable site. A number of other interesting trees are in fruit along this path, notably the Chinese Quince, *Chaenomeles sinensis*, and the American Papaw, *Asimina triloba*. Here is also to be seen a rare member of the Mint family, *Comanthosphace sublanceolata*. It is sometimes described as shrubby and may perhaps be so in a warmer climate but with us it is a true herb, dying back to the roots every winter. It is rather coarse, resembling in many ways the related genus *Elsholtzia*, but its late-flowering habit gives it some garden value. It was brought back from Japan by Professor C. S. Sargent over forty years ago and was introduced into English gardens through seeds sent by him to the Royal Botanic Garden at Kew.

On the Overlook *Albizia julibrissin rosea*, described at length in the Bulletins for July 26, 1929, and August 21, 1931, has been in flower since June. There and along the Centre Street Path, *Gordonia* (*Franklinia*) *alatomaha* is flowering unusually well. This beautiful shrub (illustrated in the Bulletin for November 26, 1930) has had a curious history, a full account of which by C. F. Jenkins has recently appeared in the "Pennsylvania Magazine of History and Biography". The species was first discovered by two Quaker botanists, John and William Bartram in September 1765, growing in profusion on the banks of the Altamaha river in Georgia. They introduced it into cultivation and following their directions Dr. Moses Marshall collected it at the same locality in 1790. Since that date it has not been found again. Many botanists "have combed the muddy swamps which border the Altamaha in the region of old Fort Barrington to their own great discomfort and the annoyance of the rattlers and other venomous snakes which infest the region. Fire may have destroyed the original plantation, it may have been grubbed out by the early settlers, or the salt tides may have backed up the river, or again freshets may have washed it away. Several times in recent years the daily press has carried a news item that the *Franklinia* had been found but these have all been erroneous."

EDGAR ANDERSON

EXPLANATION OF THE PLATE

Leaves, flowers, and fruit of the Hybrid Wingnut, *Pterocarya Rehderiana* Schneid. (= *P. stenoptera* DC. x *P. fraxinifolia* Spach.)
(From drawings by C. E. Faxon for Sargent's "Trees and Shrubs".)