

TREES OF SOVIET CENTRAL ASIA

by M.J. Whitehead

City Trees

The main cities of Soviet Central Asia are situated in the foothills of the Tien-Shan and Pamir-Ali mountains where the continental climate provides suitable conditions for large settlements. Farther west, part of the hot semi-deserts have been irrigated and are abundant with vineyards, fruit orchards and cotton fields.

The origins of Tashkent date back 2000 years; it is now the capital of Uzbekistan and has a large textile industry. The climate is dry and hot in the summer with short, cold winters. Shade trees are essential in combating the mid-summer heat, and the Soviet people have traditionally been active in selecting trees for use in the city. The tree canopies often close over the streets, creating favorable conditions below. The essential ingredient for good tree growth in the city is a network of "aryks" or irrigation ditches. The abundance of foliage street trees and blossoming fruit trees planted in gardens and parks provide vital color to the urban landscape.

South of Tashkent is the ancient city of Samarkand, notable as the center of trade of the old silk route from Turkey to China. The ideal silkworm food plant, white mulberry (*Morus alba*), is commonly planted in the city streets, and large old specimens can be seen growing by the colorful Moslem mosques.

Dushanbe is the newly formed capital of Tadzikistan, the most southerly republic of Soviet Central Asia. While at Easter time, in Moscow, small ice flows can be seen floating down the Moscow River, which is lined with bare-twigged trees of birch and linden, in Dushanbe, a few hours by Aeroflot southeast, spring is in full season with buds bursting and masses of pink *Cercis griffithii* brightening up the streets and parks. The importance of vegetation is demonstrated in the use of street layers, with larger trees of planetree (*Platanus orientalis*) and pine (*Pinus nigra* var. *carmanica*), an understory of smaller redbud (*Cercis*), apple (*Malus*), mulberry (*Morus*) and elder (*Sambucus*), and a ground layer

of shrubs and flowers.

The native plane tree or sycamore, is a common city tree. In the village of Vuadil, near Gergana, is a plane tree that is perhaps one of the largest trees in the U.S.S.R. (cover photo). The huge tree is claimed to date back to 1177 and is 30 feet (9 m) in diameter at ground level, with several trunks growing from the base; the original central trunk is probably missing. The tree looked very healthy, and there has been a complete television documentary on this famous specimen.

The Republic of Kirgizia is in the northeastern part of Soviet Central Asia, and the capital, Funze, is situated on a plain north of the Kirgiz Mountains. The city is 100 years old and has 140 different species of street trees, the botanic garden having introduced a selection of suitable species. The luxuriant trees frame and screen streets and buildings, which convey a suburban impression to an otherwise industrial city.

North of the city is a well known Karagach (elm) grove. In 1883 the 230 hectares were laid out with Asian elms, although exotic elms have recently been introduced. Elms are more common in Funze than in other southern cities. The largest species are from eastern Europe and West Asia, *Ulmus laevis* and the native elm, *U. androssowii*. Two smaller native elms are used. *Ulmus densa*, as its name suggests, has a dense crown with an upright habit and is an excellent tree for streets and confined areas. *Ulmus pinnato-ramosa*, more correctly known as *U. pumila* var. *arborea*, makes a small open crown with neat little leaves arranged in pinnate rows on arching twigs. Unfortunately, Dutch elm disease is evident in the area. During May, the elm fruits are dispersed in the streets.

In May another tree in fruit is the female Lombardy poplar (*Populus nigra* 'Italica Foemina'), the male form being more commonly grown in the west.

Alma Ata, the capital of Kazakstan, is situated on the Tien-Shan foothills with the Siberian steppe to the north. Alma Ata is translated as "Apple Mountain", and the native apple (*Malus sieversii* and *M.*

niedzwetkyana) are grown as street trees. The latter species has purple sapwood and is a notable parent of many ornamental apple hybrids collectively belonging to the "purpurea" group.

Perhaps a surprise to most foreign visitors interested in street trees of the southern cities of the U.S.S.R. is the number of introduced North American trees which blend into the mature city treescape.

North American Trees

The botanic gardens of Soviet Central Asia are well stocked with exotic trees, including many from North America. At Dushanbe, the botanic garden has two 30-foot (9 m) trees of giant sequoia (*Sequoiadendron giganteum*) planted on each side of the herbarium entrance. In the arboretum during April, small trees of pawpaw (*Asimina triloba*) produced large maroon flowers on bare twigs. A group of red maple (*Acer rubrum*) provided a feature in their numerous rosy-red winged fruits. Nearby a form of *Calocedrus decurrens* displayed golden growths to the tips of each spray.

Tashkent Botanic Garden has been laid out by geographical areas. The North American section of the young arboretum has many introductions. Particularly notable is a group planting of bald cypress (*Taxodium distichum*) complete with swamp. Presumably, the water was added later in order to submerge the buttress roots after establishment to create a semi-natural effect; pneumatophores have not yet been produced. Catalpa (*Catalpa speciosa*) was blossoming during May and provided an excellent avenue of flowering trees near the administration center.

Street trees in Tashkent include a surprisingly large number of North American species. By far the most common tree is maple (*Acer negundo* var. *californicum*), the western variant with bold and very hairy foliage. White ash (*Fraxinus americana*), honeylocust (*Gleditsia triacanthos*), and osage orange (*Maclura pomifera*) are also common street trees. The male trees of *Maclura* were pruning street trees with cross-cut saws, using long hooked iron bars for branch removal. I had never before seen the brilliant yellow-colored

wood of the fresh pruning cuts of *Maclura*. It is difficult to make constructive comments on the pruning work when consideration has to be given to the region and tradition and not having the opportunity to inquire through translators about more modern tree work facilities. Some streets were planted with only *M. pomifera*.

Tashkent is situated at the western end of the Tien-Shan mountain range, and during 1966 the city's center was destroyed by earthquakes. Now the hub of the city is well established and open planned with largely decorative buildings and attractively landscaped areas. Many of the trees are introduced, and the European or English oak (*Quercus robur*) has very luxuriant foliage resulting from a combination of the sunny climate and irrigation. Blossoming trees included catalpa (*C. speciosa*) and fairly young specimens of tulip tree (*Liriodendron tulipifera*) which were used extensively in the new city center. Tree shapes are put to good use in the landscape, and the slow growth of mulberry (*Morus alba* 'Pendula') from Asia is successfully planted under street telephone wires. Narrow conical crowns of juniper (*Juniperus virginiana* 'Glauca') and arbor-vitae (*Biota orientalis* 'Filiformis Erecta') are used as formal planting to mix with the soft-textured foliage of deciduous trees, the shapes accommodating the confined planting areas between pedestrian and road traffic. In the West, the Chinese *Platycladus orientalis* is more commonly known as *Thuja*, the latter generic name is not adopted in Asia, mainly because of the botanical differences in having larger cones containing large, round, wingless seeds.

A number of North American conifers are growing in Soviet Central Asia in collections or trial plantations, including spruce (*Picea glauca* and *P. pungens*), pine (*Pinus banksiana*, *P. ponderosa*, and *P. strobus*), and Douglas fir (*Pseudotsuga menziesii*).

The plants in the Funze Botanic Garden are arranged in generic collections, which is scientifically useful, although it may increase pests and diseases. The botanic garden has an extensive range of species, including some interesting willows, for example *Salix przewalskii*, a native tree in the north that has very small glaucous leaves. The dendrologist at Funze is very proud of

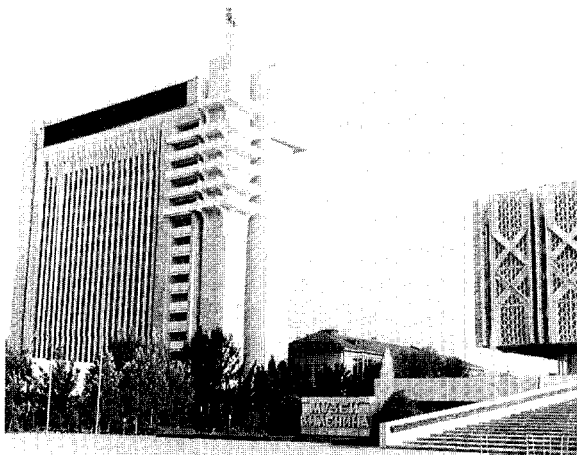


Figure 1. The modern city center of Tashkent.



Figure 2. Tashkent traffic and shade trees.

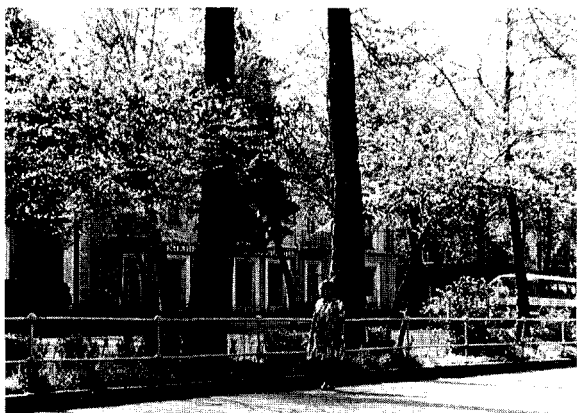


Figure 3. A main road in Dushanbe showing layers of trees with *Pinus*, *Platanus* and *Cercis griffithii* in blossom.



Figure 4. Landscape areas within the new city center of Tashkent planted with many ornamentals including oak and tulip tree.



Figure 5. Close planting of *Fraxinus* in Tashkent showing separated pedestrian walkways, open ditches and installed irrigation sprinklers.

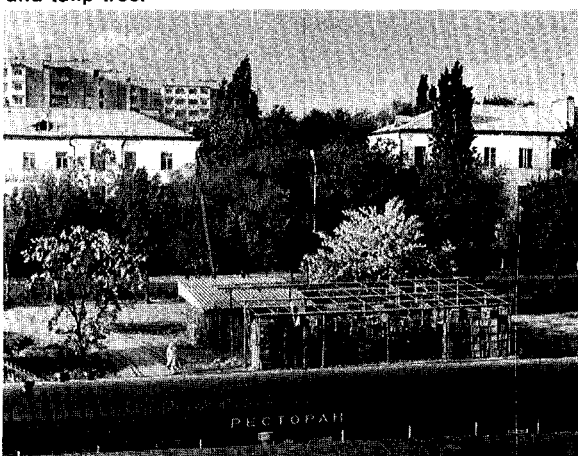


Figure 6. Overlooking the city of Funze towards the peaks of the Tien-Shan Range. Trees include *Populus nigra* 'Italica', *Ulmus pumila* var. *arborea*, and the white blossoming *Robinia pseudoacacia*.

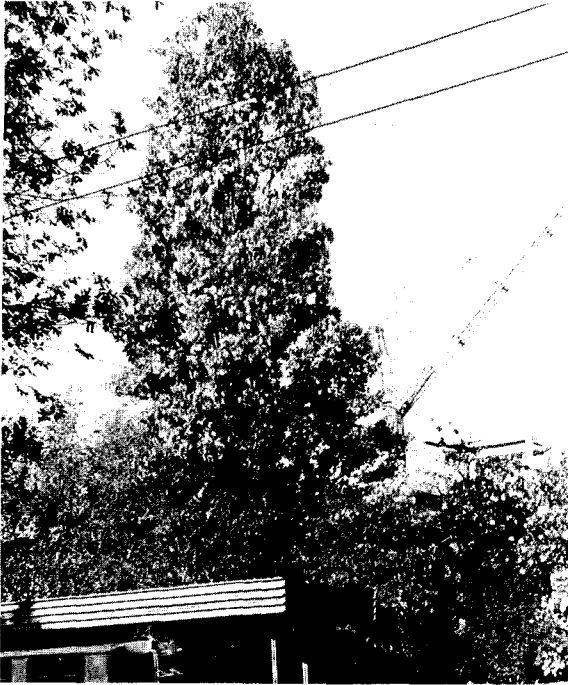


Figure 7. *Populus nigra* 'Italica Foemina' festooned with silky fruits. Growing by a bus stop in Funze.

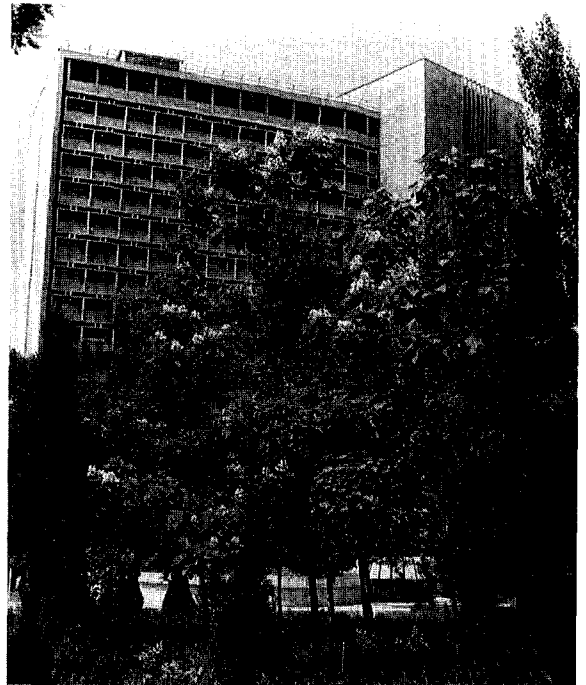


Figure 8. A young *Catalpa speciosa* blossoming in a Tashkent park.



Figure 9. *Maclura pomifera* street trees being pruned in Tashkent.



Figure 10. Pruning *Maclura* trees with a cross-cut saw.



Figure 11. A young specimen tree of *Liriodendron tulipifera* in flower in Tashkent.

the oak (*Quercus*) collection, which consists of about 80 species; he is interested in obtaining more North American oaks, but there are the usual problems with pests, diseases, and import controls. May in Central Asia is the summer season, and the fragrant white blossoms of black locust (*Robinia pseudoacacia*) are to be found all over the city parks and streets; the species also is



Figure 12. Tree name plate of *Platanus orientalis* at Vuadil. Name in Latin and Russian. The conserving hands clasping the trees with the Pamir-Ali Mountains.

becoming naturalized along the banks of the railway.

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