SOME BIOECOLOGICAL CHARACTERISTICS OF CHITALPA (CHITALPA TASHKENTENSIS T.S. ELIAS & WISURA)

Khalmuratov M. A.

Ph.D., DTPI

Khudoyberdiyeva K. A.

master, DTPI

Shokulova N. Ch.

student, DTPI

https://doi.org/10.5281/zenodo.11318632

Abstract. *This article contains information about the botanical description, distribution areas, place in nature, and flowering biology of Chitalpa tashkentensis T.S. Elias & Wisura, a member of the Bignoniaceae family in the Denov arboretum.*

Key words: *Chitalpa Tashkentensis T.S. Elias & Wisura, climatic conditions, ornamental plants, speciality of introduction, ornamental plant.*

НЕКОТОРЫЕ БИОЭКОЛОГИЧЕСКИЕ ХАРАКТЕРИСТИКИ ЧИТАЛПЫ (CHITALPA TASHKENTENSIS T.S. ELIAS & WISURA)

Аннотация. *В статье собраны сведения о ботаническом описании, ареалах распространения, месте в природе и биологии цветения Читалпы ташкентской Т.С. Элиас и Висура, представитель семейства Bignoniaceae в дендрарии Денова.*

Ключевые слова: *Читалпа Ташкентская Т.С. Элиас и Висура, климатические условия, декоративные растения, особенности интродукции, декоративное растение.*

Greening of the cities and population centers of our country is an urgent problem in improving and protecting the current state of the country. Because of many climates, plants are important in greening, improving sanitary hygiene of the environment, reducing wind force, reducing noise, cleaning and moderating air.

It is clear that Chetalpa, which is among such plants, will have an important role in the national economy of our country in the future, including greening and maintaining the health of the population.

Chitalpa tree was obtained by crossing Chilopsis linearis and Catalpa bignonioides. These studies were carried out in 1964 in the botanical garden named after Nikolay Fyodorovich Rusanov in Tashkent. In 1977, Robert Hebb brought a Hylocatalpa seedling to the New York Botanical Garden. In 1991 Chitalpa Tashkentensis T.S. Elias & Wisura registered.

According to the systematic situation,

Bignoniaceae Bignoniaceae family,

Chitalpa - Chitalpa series,

Chitalpa Tashkentensis T.S. Elias & Wisura – Tashkent chitalpa type.

The vital form of this plant is a tree, 6-8 m tall. Leaves are 10-30 cm wide, ovate. Leaf bands up to 16 cm. As an ornamental plant, Chitalpa gives very good shade and flowers beautifully, the root is white and the lateral roots are well developed.

Chitalpa is a deciduous tree and shrub. A tree with a height of 6-8 meters and a diameter of 0.5 meters. The trunk is gray, the young branches are smooth, the branches are burning upwards, gray, brown, dark, the hanging branches are green, yellow-green or reddish-brown.

It is a monoecious plant with flowers forming a stipule or a flower. The color of the flowers is white, the length is up to 4 cm. The fruit is cup-shaped, cylindrical, 20-35- (40) cm. The flowers are large, collected in a wide spike, 12-15 cm long, the lower leaf of the flower has two yellow lines and many dark red brown dots. Blooms in May. The length of its fruits is 15-20 cm, it decorates the tree and hangs in a small place even in winter. A light-loving species, it grows well in wet soils. A tree that is moderately resistant to gases from cars and others. In fertile soils, young seedlings grow quickly and have a growth rate of up to one meter per year. Relatively weak, it can easily hang on sandy soils and dry clay soils. The root system has the ability to protect the soil by growing claw-like roots on the surface of the soil. But in such conditions, a large tree cannot grow rich. 1 kg contains 40-45 thousand seeds, 1000 seeds weigh 20-24 grams. The stored seed of this tree does not lose its ripening properties for up to three years. The seed made from the tree is stored in a paper or cloth bag. The seeds of this tree are good in early planting, the heated ground area is soaked in water for 2 days before it is sprinkled. His planted seed will sprout quickly. The seeds are planted at a depth of 3-4 cm at a depth of 3-4 grams per meter of grass. When the seed is sown in the fall, it is useful to cover the seeds with shavings or straw.

Plant sprouts are often watered because they are delicate. It is possible to reproduce from a pen. Since it is a fast-growing species, it can be transplanted from one year old.

Chitalpa tashkentensis T.S. in the climatic conditions of Denov district. Elias & Wisura, as the daily temperature decreases, the opening of flowers decreases due to the increase in air humidity. On 15.05.2014, the number of flowers opened at 800 was 1%, the peak of flowering was observed at 1200, when the air temperature was 19°C and the relative humidity was 52% (35%), that is, 7 out of 20 buds were opened.

In the dynamics of seasonal flowering, the maximum number of 20-30 flowers was observed on May 10-20. At this time, the average air temperature was 250C and relative air

humidity was 53%. Also Chitalpa Tashkentensis T.S. Elias & Wisura can be propagated in open fields due to its ability to reproduce from seeds, its productivity in response to high temperatures, and its resistance to diseases.

At the same time, Chitalpa is grown in different environmental conditions of Uzbekistan. In the conditions of Tashkent, N.F. Acclimatized in the botanical garden named after Rusanov. In the northern regions of our republic, including the establishment of the Karakalpakstan Botanical Garden (1959), Chitalpa was also acclimatized with the introduction of many trees. Chitalpa Tashkentensis T.S. Elias & Wisura OzR FA was introduced in 1960 to the Nukus Botanical Garden of the Karakalpakstan Department. In the south of Karakalpakstan (Boston region) in the Amir Temur Botanical Garden, R. Babadjanov showed that Chitalpa hybrids of this family are widespread.

The study of the morphological, biological and unique ecological characteristics of promising plants, which are important in greening today, allows to reproduce this plant in the climatic conditions of Denov district and to use them widely.

Denov District Chitalpa Tashkentensis T.S. Elias & Wisura shoot all stages of ontogeny. Flowering is observed at the same time due to the beginning of fruiting and its duration at the scale of the plant bush, and fruiting is somewhat delayed compared to other phases. So Chitalpa Tashkentensis T.S. Elias & Wisura has the potential to be grown as an ornamental tree due to its successful development of ontogeny stages under the conditions of introduction, vegetative reproduction, and lack of damage by pests.

REFERENCES

1. Ашурметов О.А., Каршибаев Х.К. Особенности прорастания семян некоторых многолетних бобовых аридной зоны // Узбекский биологический журнал. – Ташкент, 2002. – № 2. – Б. 56-59.
2. Бабаджанов Р, Корчагина А.М. Ботанические сад на юге Каракалпакстана. // Интродуксия и акклиматизатсия растений. Вып.28. Ташкент, 2003. С. 13-15.
3. Бейдеман И.Н. Методика изучения фенологии растений и растителных сообществ. – Новосибирск: Наука, 1974. – 154 с.
4. Белолипов И.В. Краткие итоги первичной интродуксии растений природной флоры Средней Азии в Ботаническом саду АНУзССР // Интродуксия и акклиматизатсия растений. – Ташкент: Фан, 1980. – вып. 13. – С. 9-58.
5. Вайнагий И.В. О методах изучения семенной продуктивности растений // Бот. журн. – М., 1974. Т. 59. – С. 826-831.

6. Ёзиев Л.Х. Опыт интродуксии древесных растений в Южный Узбекистан. Ташкент: Фан, 2001. 210 с.
7. Пономарев А.Н. Изучение светения и опыления растений // Полевая геоботаника. Под ред. Е.М. Лавренко, А.А. Корчагина. – М.-Л.: АН СССР, 1960. – С. 9-11.
8. D. G. Sodikova, M. A. Xalmuratov, M. K. Hamroyeva, Sh. U. Mardonov, and S. E. Toshmirov. Ecology of micromycetes of higher plants of the
9. Denov Arboratory. BIO Web of Conferences 105, 06003 (2024) https://doi.org/10.1051/bioconf/202410506003
10. D.G. Sodikova, B.S. Sodikov, Sh.U. Mardonov, IOP Conf. Series: Earth and Environmental Science 1112, 012120 (2022). https://www.doi.org/10.1088/1755 - 1315/1112/1/012120
11. Тухтаев Б.Е. Биоекологические особенности солеустойчивых лекарственных растений на засоленных землях // Интродуксия и акклиматизатсия растений. – Ташкент: Фан, 2003. – вып. 28. – С. 115-118.
12. Ҳайитов И.Ю., Ёзиев Л.Х. Дуккаклилар оиласига мансуб дарахт ўсимликларини Жанубий Ўзбекистонда иқлимлаштириш ва уларнинг хўжаликдаги аҳамияти. Конф. Матер. Қарши, 1994. Б.42-44.