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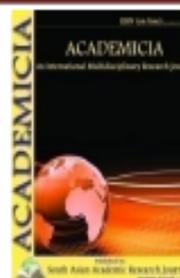
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(Double Blind Refereed & Reviewed International Journal)



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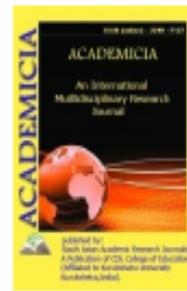
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### TO ENVIRONMENTAL STUDY AND THE VALUE OF THE HAWTHORN IN THE GREENING OF THE ARAL SEA REGION

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#### ABSTRACT

*The article provides information on bioecological features, the economic significance of the introduced hawthorn, which is of great importance in landscaping in the conditions of Karakalpakstan. Hawthorn tree serves to protect nature, protects the soil from wind and water erosion. Hawthorn is appreciated for its fruits and wood. A special quality of all types of hawthorn is their decorativeness. They are especially beautiful during flowering and fruiting. In autumn, the leaves of some species of hawthorn are brightly painted in a beautiful color. The main task from the field of gardening is the selection of the species composition of trees and shrubs that are resistant to different environmental circumstances in our climate. We have a lot of types of trees and shrubs tested on our climatic conditions. This type of hawthorn is widespread in the gorges of the eastern steep cliffs of Ustyurt. This is a previously unfamiliar species for the Karakalpak flora [4, p.19]. It grows on the slopes of steep cliffs, at the bottom of ravines.*

**KEYWORDS:** *Crataegus L., Introduction, Green Zone, Bioecology, Features, Scenic (Decorative), Medicinal, Economic Importance.*

## INTRODUCTION

The increase in green spaces in Karakalpakstan, gardening, landscaping of urban and regional centers, settlements, are the only important measures to improve the environment, places for people to rest, increase soil fertility in saline soil and dry climate of our republic.

The main task from the field of gardening is the selection of the species composition of trees and shrubs that are resistant to different environmental circumstances in our climate. We have a lot of types of trees and shrubs tested on our climatic conditions. The species of hawthorn (hawthorn - *Crataegus* L.) can be attributed to a number of such plants.

Hawthorn belongs to the genus *Crataegus* L., the family Rosaceae Juss. The scientific name of the genus comes from the Greek words *crata* (strong, strong) and *agein* (lead, act). The genus hawthorn is one of the largest in species and form diversity among tree-shrub plants; most species of hawthorn grows in the temperate zone of Eurasia and North America. This served as the basis for the fact that representatives of this genus have long been objects of introduction in many botanical gardens. About 40 species of hawthorn grow on the territory of the former union. They are found mainly in the form of small trees or shrubs [3, p. 514-577].

A number of research works are devoted to the study of hawthorn, A.Redder indicates that more than 1000 species of hawthorn naturally grow in North America. According to the scientist, around the world the genus has 1250 species, of which 1125 species grow in America [3, p. 514-577].

In Central Asia, the introduction and study of the biology and ecology of hawthorn was first carried out in the central botanical garden of the Republic of Turkmenistan [5, pp. 10-15].

## RESULTS OF THE RESEARCH

In the conditions of the city of Nukus, in 1989 several scientists studied the appearance of vegetative and reproductive organs on the kidneys of certain species of the hawthorn genus [1, p. 57-62, 2, p. 145-147].

Many types of hawthorn - ornamental, fruit, medicinal plants, at the same time they are resistant to adverse conditions of our republic, tolerate salinity and dryness of our soil. All types of hawthorn can tolerate shading, but in open places it develops well and bloom profusely.

Many species of the hawthorn genus, for example, Altai hawthorn - *Crataegus altaica*, blood red hawthorn - *C.sanguinea*, Almaatins hawthorn - *C.almaatensis*, Songgar hawthorn - *C.songarica*, Korolkova hawthorn - *C.corolkovii* - decorative, fruit, medicinal, vitamin plants, however, they are resistant to adverse conditions of our republic, tolerate salinity and dry soil well. All species can tolerate shading, but in open places they develop well and bloom profusely.

Altai hawthorn- *Crataegus altaica* Lge. A tree up to 5-6 m tall, most often without thorns, sometimes with a few thorns. The leaves are oval, wide, ovate, spherical or slightly oval, orange-brown or yellow. It grows in nature on the outskirts of the Aral Sea and the Caspian, on the highlands of Central Asia.

This species is resistant to frost and drought. Fruits every year. Ornamental plant with flowers and foliage. Propagated by seeds. The fruits are edible, good honey plant, dyes are obtained from the bark. Leaves, flowers and roots are used in medicine.

Hawthorn blood red – *C.sanguinea* Pall. Introduced in the botanical garden of the city of Nukus in 1970. A tree 4-6 m high, covered with brown-gray bark. The leaves are ovoid, stipules sickle-shaped, spherical fruits. It is of interest as an ornamental and fruit plant.

Hawthorn of Alma-Ata – *Crataegus almaatensis* A.Pojark. A tree or shrub 4-5m high. The leaves are ovoid or ellipso-ovoid, complex inflorescences, multiflowered, spherical fruits, with juicy flesh. Ornamental and fruit tree. Distributed in the former USSR, in Central Asia, cultural species in Western Europe and the United States.

Song hawthorn – *Crataegus songarica* C.Koch. In nature, a small tree up to 5 m high. The leaves are rhomboid or oval, with a wedge-shaped base, the stipules of the inflorescence are multiflowered. The fruits are spherical, purple-black, fleshy, edible. Ripen in the middle of July. Songaris hawthorn grows well in a botanical garden, resistant to cold and drought. Growing fast. This type of hawthorn is an ornamental plant with flowers and foliage.

Hawthorn korolkova - *Crataegus korolkovii* L.Henry. This is the only representative of the hawthorn genus growing in the form of a tree in Karakalpakstan. The leaves are large, white flowers. The fruits are spherical, with a diameter of 8-12 mm. It blooms in May, the fruits ripen in June.

This type of hawthorn is widespread in the gorges of the eastern steep cliffs of Ustyurt. This is a previously unfamiliar species for the Karakalpak flora [4, p.19]. It grows on the slopes of steep cliffs, at the bottom of ravines. In the Aral Sea region, near the Kabanbay gorge, they meet in groups, they can also be found between different bushes and grasses. Ornamental and nectar-producing plant. The fruit is edible.

Hawthorn is appreciated for its fruits and wood. The villagers use hawthorn wood to make handles for various tools, turning, carving, and other household items, and it is also well polished, suitable for making engraving boards.

Some types of hawthorn, for example, Alma-Ata hawthorn, reaches a height of 8 m and forms a rather large mass of wood, so their operation is quite possible. We have woods of some types of hawthorn used for industrial purposes, for the manufacture of the handles of shovels, axes. Hawthorn bark is used as a tanning agent and for dyeing fabrics on red.

Hawthorn is especially appreciated for its fruits. The fruits of many species are large, fleshy and edible. Fresh berries of hawthorn can be eaten, used to make jam, marmalade, jelly. In medicine, they are used to normalize blood pressure. Ground hawthorn berries can also be added to the dough when baking bread. Medicines made from hawthorn leaves are taken to calm nerves and lower blood pressure. In medicine, the hawthorn is blood red.

At the end of the XVIII century, high therapeutic results of hawthorn were revealed for various diseases of the cardiovascular system. Preparations from hawthorn are used for cardiac disorders, hypertension, and for the treatment of patients with atherosclerosis. Medicines obtained from plants are used in the cardiovascular system of the elderly.

A special quality of all types of hawthorn is their decorativeness. They are especially beautiful during flowering and fruiting. In autumn, the leaves of some species of hawthorn are brightly painted in a beautiful color. Hawthorns are widely used in the practice of green building; they are

planted in separate groups among the lawn. High-stemmed forms, especially those that bloom with small red-white flowers, are used in alley plantings as a decorative tree.

Hawthorn is a genus of perennial trees. They can be found at the edges of forests, parks, they form dense thickets, creating conditions for the construction of nests. And also their fruits serve as an important source of food for birds [3, p. 514-577].

Hawthorns do not require special care, are shade-hardy and frost-resistant, and also unpretentious to soil and terrain conditions; therefore, they are widely used in ornamental gardening, in shelterbelts and in landscape parks, including for fixing clones of ravines and banks of water bodies [6].

Types of hawthorn with bright shiny leaves are hardy in urban environments. Wood lends itself well to molding and pruning; species of *C.monogyna*, *C.okyacantha* and *C.sanguinea* are widely used as hedges. Hawthorn tree serves to protect nature, protects the soil from wind and water erosion. In the practice of green building, for landscaping squares, parks, alleys of hawthorn planted in groups, alone. They make very beautiful hedges.

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