



DISTRIBUTION OF RODENTIA REPRESENTATIVES IN THE FOREST ZONE

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ABSTRACT

Due to the varying properties of soil-forming factors (parent material, relief, climate, groundwater, vegetation cover) in the lower Amu Darya delta, its soil cover is also heterogeneous. A large part of the delta consists of meadow alluvial and irrigated meadow soils. Meadow alluvial and meadow marsh soil types are primarily located in the center of the lower part of the present-day Amu Darya delta, with humus content reaching 2-3% in the upper part.

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The vegetation of the lower Amu Darya depends on its relief, climate, groundwater, soil, and other natural factors. For this reason, from a geobotanical perspective, delta plants are divided into the following types: forest, halophyte, and psammophyte.

Forest vegetation covers a large area on the floodplains of the present-day Amu Darya delta, where meadow alluvial, meadow marsh, marsh, and meadow takyr soils are distributed, surrounded by reed beds. At the same time, plants such as cattail, turanga, wild oleaster, willow, and tamarisk also grow here. Forest vegetation is also found along both banks of the Amu Darya River near its shores, in water-filled streams, and around lakes. Forests consist of two tiers: the upper tier consists of willows, oleasters, poplars, or cattails, while the lower tier consists of tamarisk, rushes, and reeds. In the meadow, takyr, and saline soils of the Amu Darya delta, the tamarisk formation occupies a wide area. However, in saline and desiccated lands, tamarisk is displacing the tamarisk formation. In the meadow soils of the lower Amu Darya delta, plants such as rushes, wheatgrass, and couch grass grow.

The unique natural conditions of the lower Amu Darya delta have also affected its fauna. Mammals, birds, and fish are more widespread in this delta compared to other deltas. There are 222 bird species, 31 mammal species (mainly rodents), and 30 fish species.

To protect the forest landscape and its birds and other animals in the Lower Amu Darya delta, the Lower Amu Darya State Biosphere Reserve has been established, as well as the Lower Amu Darya (which preserves the delta landscape and its birds and fish), Nuruntbek (which preserves the forest landscape and pigs, jackals, pheasants), and Khorezm (which preserves the lake landscape and its waterfowl) reserves. The natural resources of the lower Amu Darya delta are diverse, with land and water resources being the most important. In this delta area, there are about 2.4 million hectares of irrigable land. However, currently, only 0.6 million hectares of land are irrigated.

The second essential resource is reed beds and meadows. There were about 0.5 million hectares of reed beds in the delta area, but now, due to low water levels in the Amu Darya delta, its area is decreasing year by year. Reed beds are a source of high-quality fodder and silage raw material. According to the data, 8 tons of silage can be obtained from 10 tons of reeds.

The third essential resource is the muskrat, which produces high-quality fur. However, in recent years, due to the drying up of rivers and lakes in the Amu Darya delta, both the production of muskrat pelts and fishing have been declining. The Lower Amu Darya delta is divided into natural geographical regions such as Shimbay, Kongirat, Beltau, and Khorezm, based on its natural conditions and, in particular, the characteristics of its soil and vegetation cover.

Each layer of the forest is distributed according to a specific pattern among the ecological groups of animals inhabiting it. Today, the ecological situation in forests like the Bekpay Grove, which we observed, is significantly deteriorating due to anthropogenic factors and the decline in living conditions compared to previous times.

It would not be an exaggeration to say that all these changes are due to the drying up of the Aral Sea. Therefore, in such a difficult ecological situation, changing our approach to nature based on preserving and protecting it, not just taking from it as much as we can, but helping it is our sacred, humanistic, and Muslim duty today - that is, our duty and obligation to nature.

In the Bekpay forest, the number of native animal species, as well as rodents, has decreased, their range has narrowed, and their numbers have declined (Figure 3.2.1). The overall populations of reptiles, birds, and mammals in the forest biocenosis are declining, and the intermediate ecosystem chain is in a state of disruption.

When analyzing student reports conducted in 2023-2024, considering the presence of rodents in the Bekpay forest, such as the flat-toothed rat, tamarisk gerbil, house mouse, common mole rat, and other species, we see that the populations of muskrat, Caspian steppe mouse, and midday gerbil are declining and are at risk of disappearing from the biocenosis.

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