



UDC 591

## RESULTS OF FAUNISTIC AND FLORAL INVESTIGATION OF THE DRAINED BOTTOM OF THE ARAL SEA

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### ANNOTATION

*The article discusses the results of a study of the fauna and flora of the dried bottom of the Aral Sea. The disappearance of the Aral Sea led to the formation of the Aralkum salt desert on the site of a dried bottom with an area of about 5 million hectares, 2.7 million hectares of which are located on the territory of Uzbekistan.*

**KEY WORDS:** *threat, system, biogeocenosis, ecosystem, landscapes, lake, island, analys*

The disappearance of the Aral Sea led to the formation of the Aralkum salt desert on the site of a drained bottom with an area of about 5 million hectares, 2.7 million hectares of which are located on the territory of Uzbekistan. This area is an unstable ecological system and poses a threat to both the environment and the health of the local population.

From 2017 to 2021, scientists of the Karakalpak State University named after Berdakh and the Karakalpak branch of the Center for the Prevention of Plague, Especially Dangerous Infections of the Ministry of Health of the Republic of Uzbekistan organized several joint expedition trips to the dry bottom of the Aral Sea.

Before the expedition, a task was set aimed at studying the state of the emerging biogeocenosis - zoocenosis, phytocenosis and edaphic factors, on the basis of which to give a scientifically based assessment of the natural resources of the dried sea bottom that has developed at the present stage of development for use in the national economy. Based on the analysis of the collected materials, give a scientifically based assessment of the environmental and epidemiological situation.

During the expedition, the southern part of the dried-up seabed adjacent to Zhylytyrbas Lake, the Terbenbes Upland, the territories of the Takhtakupyr, Karauzyak and Chimbay regions were examined. Here, along the dried bottom of the sea, they penetrated from Terbenbes up to 80-70 km to the

north and arched out to the northern edge of Lake Zhylytyrbas, 20-30 km north of it.

The expedition covered the territory from the city of Muynak (South) to Vozrozhdeniye Island (North) with a length of 220 km one way. At the same time, as the axial line of movement from south to north, they used the road made by oil and gas exploration drillers, laid out of stones and shells.

The distance traveled was measured according to the readings of car speedometers, which were clearly recorded when changing routes (biotopes) in the log. The zigzags of the center line roads were noted by the JPS instrument. Installed next to the front glass of a car, which were processed using an Internet program on a computer.

Each landscape (biotope) was filmed with a photo and video camera with a mark of the length in kilometers, a description of the relief, soil, vegetation and the number of animal species found in biotopes.

Every 30-50 km, depending on the nature of the landscapes, short lateral accounting landscapes (5-10 km) were laid with a description of the terrain and relief, soil, vegetation and animals encountered or their fresh traces, burrows, etc.

Recording routes were laid according to the method of zoological mapping of the territory for the settlement of terrestrial vertebrates (Tupikova, Komarova, 1979; Rudenchik et al., 1968; Asenov et al. 2002).



The main volume of work on the study of the territory inhabited by animals, covered with plants, was carried out on the territory of Vozrozhdeniye Island.

The territory of the Renaissance Island is mainly represented by a wavy plateau with solid soil overgrown with a dense vegetation cover - keureuk, buyurgun and wormwood, very rich in herbs of various types.

In some places there are whole plantations of astragalus occupying a significant area. The island is rich in flora and fauna. The main species are the red-tailed gerbil, yellow ground squirrel, the number of which in places reaches 5-10 animals per hectare. There are four-stripe snake, oriental boa, rhubarb plants, the size of one leaf reaches a length of 1 meter and wild poppy forming a plantation in some places, typical for the fauna and flora of Ustyurt.

During the expedition, the Muynak Peninsula was completely explored. The sands of the upland smoothed and fixed by shrubs and semi-shrubs are evenly covered with rare bushes of black saxaul, keireuk, buyurgun and wormwood, boyalych. The adjacent territories of the dried bottom are covered with a dense forest of saxaul, tamarisk, karabarak. The Muynak peninsula is evenly inhabited by red-tailed and midday gerbils, the number of yellow ground squirrels reaches 5-10-15 animals per hectare. The expedition obtained the following results in a short time:

- a huge area of the dried-up seabed in the area of Lake Zhylytyrbas - the Terbenbes highlands in the South and the territory between the Muynak Peninsula and the Vozrozhdeniye Island;
- very valuable information was obtained on the state of the soil cover, vegetation, and terrestrial animals for assessing the natural resources of the dried seabed;
- the difference in the complexes of flora and fauna in different parts of the territory of the dried bottom was revealed;
- collected material that paves the way for further work; collected information about the active formation and development of biogeocenosis, which forms the basis of the proposed Aralkum desert;

The results obtained give a scientifically based idea of the ecological and epidemiological

situation at the present stage of development of the natural environment of the Southern Aral Sea region.

Analysis of the results obtained by a scientific expedition allows us to draw the following conclusions:

1. The area of the dried bottom suitable for the development of plants and the settlement of terrestrial vertebrates in its Karakalpak part is about 70% of the territory.
2. The territory of the Vozrozhdeniye Island and the Muynak Peninsula is distinguished by the normal development of the vegetation cover. Open plains are evenly covered with keureuk, buyurgun and wormwood, where a dense population of red-tailed gerbil, yellow ground squirrel, many tolai hares, caraganka fox, traces of ungulates were found. There are separate areas of sand with a dense saxaul forest (tugai), wet, swampy places with small lakes in the form of a thick saline solution, where several coots and ducks, and shelduck are noted.
3. The southern part of the dried seabed is characterized by the predominance of typical psammophilic and psammophytic species of the great and midday gerbil, shaggy and comb-toed jerboa and sand boa, which are absent on the territory of Vozrozhdeniye Island and the Muynak Peninsula.

Thus, based on the above, it is important to organize and conduct monitoring studies to study the dynamics of the formation of these faunal complexes and draw up a program and plan for monitoring (stationary) observations on the dried bottom of the Aral Sea. And also on the dry bottom, it is necessary to expand the territory for conducting research work on the study of the bioecology of terrestrial vertebrates and higher plants.

## LITERATURE

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