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Lake Devkhona is as hydrobiological object

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Abstract
This article presents data on the geographical location, the highest prominent the composition, of zooplankton and distribution of lake Devkhona in the Bukhara region. As a result of research, it was found that the water reserves of the lake are 765 million m3, the average depth is 15-17 m, the maximum depth is 30-38 m. As a result of research, it was found that there are about 20 species of Zooplankton in Devkhona lake, belonging to 3 families.

Keywords: manifold, biocenosis, sadok, gidrobiont, higher plants, cattail (*Turhalatifolia)*, zooplankton

Introduction
It is known that in the 2 half of the 20 century, numerous artificial anthropogenic Lakes began to form as a result of the re-use of water resources by Regions, the acquisition of new lands and a number of influences. At present, in the regions located in the central qasm of the Republic (as a result of the expansion of the irrigated field of crop fields), the level of groundwater has increased over the years, as a result of which new ponds are formed from the account of water flows and zakh in the areas, there are cases of radical changes in the Such changes are especially noticeable in Bukhara, Kashkadarya, Navoi, Sirdarya, Jizzakh regions of the Republic.

Bukhara region is located in the south-west of Uzbekistan, the main water supply is the AMU-Bukhara channel. The Collector water in Bukhara region is formed as a result of irrigation of lands and salt washing, amudarya water is used to reduce the level of soil salinity, meet the water demand of agricultural crops. As a result of the irrigation process, salt washing, a large amount of sizot water is formed. These waters accumulate and form large artificial lakes. Only in 1978 year in the Bukhara region the volume of collector waters amounted to 1494 million m3. The emergence of artificial lakes (Sea - Lake, Spruce, foot - agitation, Khadija, Devkhana, Zikri, Tuzkon, modern), formed from the meeting of these waters, led to the improvement and re-formation of water biocenosis in the area. [1]

Today, the establishment of swimming pool fish farms in the regions is also widely established. In the pools of such farms, about 10 species of industrial fish are bred and cared for under artificial conditions. In the pools, fish are cared for from larvae to 3 years of age, depending on the direction of specialization of the farm. In the pools, regular water content and levels are controlled, that is, water is poured into the farm pools and drained. On the territory of our region, such fish farms are organized in two districts, Bukhara district and Kagan district. The organization of these ponds leads to an increase in the number and species composition of water and predatory birds in the area along with fishery.

In conclusion:
the pools of fish farms established in our republic are being formed as a place of importance for the life of birds, which received water and water in the territory, along with the fact that over the past short period of time their population is of great importance for the satisfaction of their need for fish products.

In terms of the size of the area occupied by these lakes and the number of kidrobions (zooplankton species composition), Lake Devkhona occupies a special place.

Research methods: the object of the research work is to determine the species of Devkhona Lake in Bukhara region and its zooplankton. In determining the ecology and Hydrobiology of the lake, methodological recommendations were used on “intensive fish feeding in the buxoro voxa natural water bodies-the Sadok method in the yaylov aquaculture”. [1]

Analytical Chemistry promishlennix stochnix vod [2] was used in the study of water composition and gidrobions. Zooplankton samples were collected using Djedi net.(gas №46). The samples were fixed in place with 4% formalin. Zooplankton samples "Opredelitel zooplanktona i zoobentosa presnix vod Avropeyskoy Rossii"in the determination of zooplankton species [3].

Results of the study: studies on the identification of Devkhona Lake and its zooplankton species were conducted in 2017-2019 years.

Coordinates: 39° 11'N 64° 39'E
Height: 251m

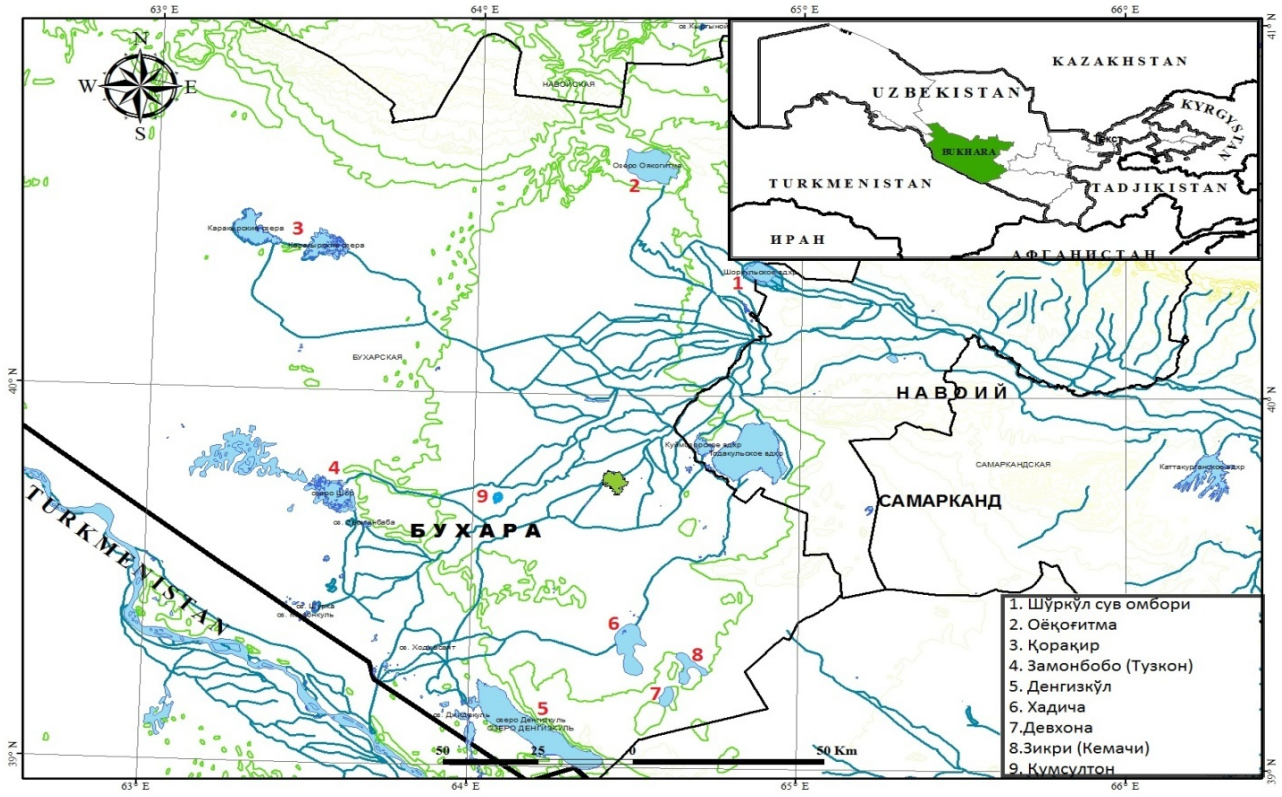

Fig 1: Devkhona Lake is located in the territory of the Karavulbazar District of Bukhara region

Overview of lakes of Bukhara region

The area is 1700 hectares. Its water reserve is 765 million m^3. Average depth 15-17 m, maximum depth 30-38 m. The source of water intake is the Central collarbone and the central channel of the Sentry. [8] From the shores of the lake to the depths of 5 meters, various high plants grow on their fields. Until this period, the list of these plants was compiled and no systematic analysis was made. As a result, some confusion is encountered in plant species. Because for the nutrition of herbivorous fish in natural reservoirs, this is very important. On the shores of the devkhona reservoir, high plant species in the area up to a depth of 3-5 meters and along the water are studied. In the lake it can be seen that mainly Reed and Ram species predominate. 45 species of high water plants belonging to 21 families have been identified in devkhona Lake. [4] these species studied serve as an important basis in the study of zooplankton of the lake, in the study of hydrobiological studies on the lake.In this pond, which is among the deep lakes, birds are much less than season, the water heats slowly. Even if Devkhona Lake is located in the south of the region, nerest will last from July to August. The reason is that the Lake consists of a full Pelagial zone, the Litoral zone is not well formed. In this regard, it is possible to establish the term nerest depending on the warming of the water of natul go to the taogen feeding, they switch to the feeding of simple animals, and then zooplankton. So zooplankton is considered the most necessary nutrient object for fish life. If the amount of zooplankton is not enough, then the fish will develop. The following fish species: *Aristichthys nobilis* (Richardson), *Ictiobus cyprinellus* are fish with zooplankton until the end of its life. Therefore, in order to make use of zooplankton productivity in the water area, it is worthwhile to fish with chipor *Aristichthys nobilis* (Richardson) segolettes. Depending on zooplankton biomass and productivity, you can Climate a *Ictiobus cyprinellus*. Because *Ictiobus cyprinellus* is sharply different with its quality meat product.

The method of sampling depends on the type of object from which water is taken (Lake, Reservoir, flowing water, etc.), its depth, volume. Samples of zooplankton in large and medium - sized ponds (lakes, reservoirs) with slow water exchange (lakes, reservoirs), along with the djeddi net in terms of the quality of the djeddi net, are common in shallow ponds (lakes, small forest lakes, lagoons) with a depth of no more than 3-4 m. Zooplankton samples were collected using Djedi net. (gas №46). The samples were fixed in place with 4% formalin. Formalin should not be precipitated. Samples can not be stored in hot places, zooplankton samples are in an alcoholic

state. In the glass, the water content for this is reduced to 96% ethyl alcohol concentration 70%. Each zooplankton sample should be carefully labeled and kept in a special journal or field journal. The label is written on parchment paper with a pencil or ink. The label cover is inserted under the hose. The number in the sample corresponds to the number written in the field journal. Observations should include all biological seasons. Due to the fact that the species composition and quantitative development rate of zooplankton have significant changes, based on the analysis of the group of zooplankton, it is possible to obtain samples 1 times in the winter, spring and autumn periods and three times in the summer as a result of the study of the effects of pollution.

The acquisition of Ichthyological and gidrobiological research results from Lake devkhona was carried out in 2017-2019, when the this mainly covered three seasons from March to April, from September to October, and the practical results were considered in laboratory conditions. As a result of the research, more than 120 samples were collected in the spring, summer, autumn of 2017 2018 year. In the Spring, Summer, Autumn 2018-2019 year, more than 40 samples were collected.

It is the natural nutrient base of the fish, which is the whole plant and animal organism that "eats" fish in the pond.

A variety of samples were collected to evaluate the natural feed base of the Fish Pond Farm-owned waters.

Table 1: Devxona Lake zooplankton in Bukhara region seasonal variation of Tour content

т/р	The species of zooplankton	Seasons		
		Spring	Summer	Autumn
	Rotatoria			
1	*Brachionus quadridentatus* Hermanu	+	-	-
2	*Brachionus calyciflorus* poll	+	-	-
3	*Brachionus usseus* (linne)	+		-
4	*Brachionus nilsoni* Ahlsrom	-	-	+
5	*Oeratella quadrata* O.F.M.	+	+	-
6	O. vulda (Mull)	+	+	-
7	*Notholca acuminata* Ehrenberg	+	-	-
8	*Testudinella patina* hermann	+	+	-
9	*Asplanchna priodonta* Gosse	-	-	+
10	*Secane nana* Myrrai	+	+	-
	Cladocera			
11	*Diaphanosoma brach* sievin	-	-	+
12	*Daphnia longispina* O.F.M.	+	+	-
13	*Daphnia pulex* De Geer	-	+	+
14	*Simocephalus vetulus* O.F. Mull	+	+	+
15	*Moina rectirostris* Sendig	-	+	+
16	Ceriodaphnia reticulata O.F.M.	+	+	+
17	*Macrofix Spinosa* Normanu	-	+	-
18	*Chydorus sphaericus*	+	+	-
	Copepoda			
19	*Cyclops vicinus* Jlianin	+	+	+
20	*Mesocyclops crassus* –Mull	+	+	-
21	M.M. leufarti –Claus	+	+	+
22	*Acantodiaptomus salinus*. Dadau	+	+	+
	Total	15	15	9

Zooplankton is spread hanging in the water, it is mostly from crustaceans: from cuttings-Copepoda,from the mustache-Cladocera and round worm-Ratatoriaconsists of. Of the dominant types of these, the Diaphanasoma brachynrum, Daphnia

longispina, Ceriodaphnia reticulata, Moina rectirostris, Chydorus sphaerycus,Acanthodiomomus salinus, Cyclops vicinus, Mesocy clubs crassus, Brachionusangularis, Keratella quadrato and others. It is planned to determine the amount, biomass and yield of these, and then to fish with a large amount of *Aristichthys nobilis* (Richardson)or *Ictiobus cyprinellus* segolettes.

One of the simplest representatives in zooplankton are crustaceans. Among those who live in freshwater bodies, in this group, Cladocera and Soreroba crustaceans are of particular importance. We can take as an example Cyclops and diamuses from representatives of the most common of the Soreroba. Of the signs of their adaptation to the aquatic environment, the most important are their movement, we can observe the movement of their body with the help of several pairs of legs located on the chest. Another representative of zooplanktones is the movement of Cladocera (Daphnia) with a horn-shaped mustache, while the mustaches located in the head part of the body, and their horns, which make up the body in the water an eagle-like movement.

Fig 2: Daphnia (Daphnia) from samples brought from Devkhona Lake the appearance of longispina) on a microscope

This is due to the fact that the hairs on their mustaches become a base during swimming. Observations of the aquatic environment show that these crustaceans, which seem simple, adapt very well to the changed environment. [5]

The specific nutrition of Gidrobionts is that water is fed through special organs, the filtered waste is squeezed like a crumb and falls into the mouth through which it is introduced into active filtrators in keeping the natural environment clean and in the indicator pressure and in the way of finding shrimp food. Because bacteria, microscopic algae, organic hanging swimmers serve as nutrients to them. The shrimp itself is also important in the natural pond food chain, in addition it is an object that is important to reproduce in small laboratories, while for fish of artificial basins it is considered a quality and nutritious food, especially for larvae periods, while for fish it is a nutrient to fish. [7] now, for many of us, the economic and aesthetic significance of fish nutrition is partly to dwell on the ways in which living organisms reproduce. Currently, living organisms use zooplankton and phytoplankton as an important indicator in their natural nutrition. At us in the natural environment as a maintenance object in freshwater pools use plankton crustaceans–cyclopian, Daphnia, diaphtomuses, brachionuses, moina and artemia.

Conclusion

The research carried out on the lake is a scientific basis in determining the species of zooplankton, including living organisms that exist in the water. Zooplankton is a natural nutrient that retains 40% protein in its composition and is the main source of protein in the diet of Fish and Sturgeon. An increase in phytoplankton content in the lake indicates an increase in the content of zooplankton species, which in turn can increase the production of Fish and fish products rich in protein. [6] therefore, every head of the farm must look for ways to increase the stock of natural nutrients. To do this, it is desirable to introduce such species as artemia salina, mizid, neries, molluska.

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