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High-Aquatic Plants as Herbivorous Fish Feed

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Annotation
The article analyzes materials collected during 2018-2023. New information is presented about the ecological groups of aquatic plants of Lake Khadichkha in the Bukhara region. In particular, the importance of dominant species in fisheries has been determined.

Keywords: Uzbekistan, Bukhara, Higher aquatic plants, Kyzylkum, Southwestern, hygrophytes, Hydrophytes, Hydatophytes, Flora of the area, Reservoirs.

Enter. When monitoring the ecological condition of water bodies in our republic, special attention is paid to continuous monitoring of the biodiversity of hydrobionts in it, especially to the study of the flora of water bodies, and to the use of its useful species in the leading sectors of the national economy. In this regard, among other things, important results are being achieved in terms of studying biological properties of useful and medicinal plants growing in water bodies, species used in animal husbandry, poultry farming, fisheries and pharmaceuticals, reproduction and supply of raw materials for industry.

The latest information about the flora of Bukhara region can be found in the information of H.K. Esanov and others. These articles provide information on the distribution and importance of 59 families, 294 genera, and 529 species of plants found in the research areas.

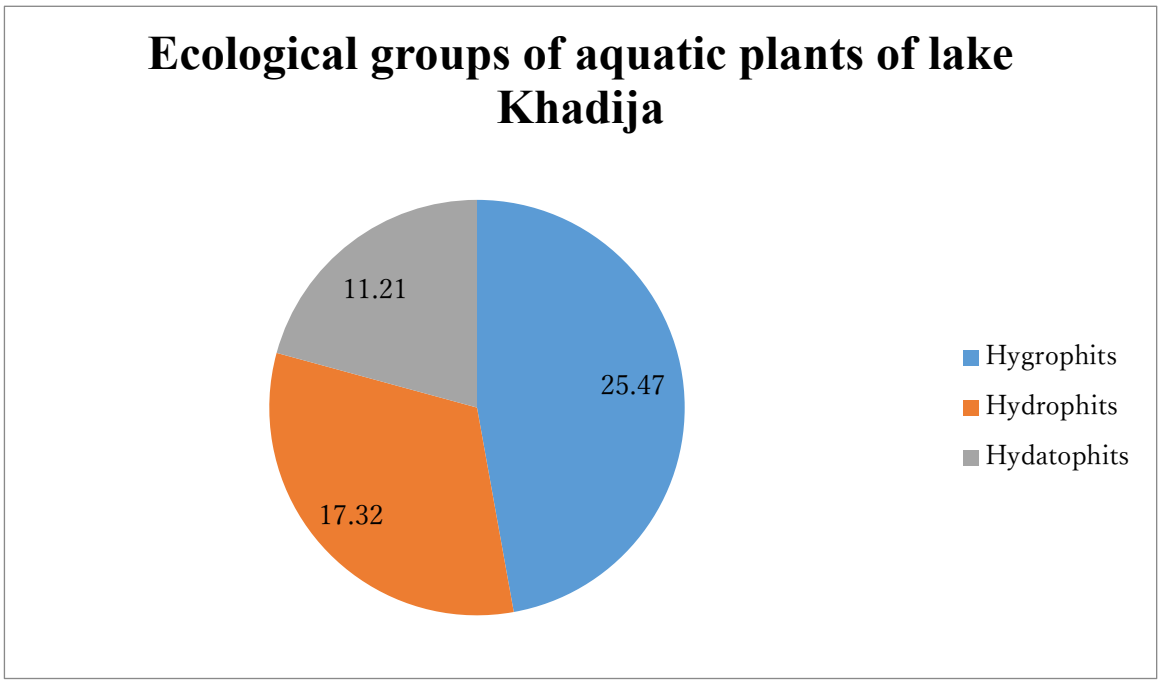
The main part of the South-Western Kyzylkum region is the Bukhara region. Among the flora of this region, it is possible to note high water plants found in the waters of reservoirs. These aquatic plants play an important role in maintaining the biodiversity of water bodies. High water plants There are 70 types of high plants belonging to 24 families in South-Western Kyzylkum water bodies [2].

T.N. According to Kholmuradova, a preliminary list of high-water and waterside plants distributed in the Kashkadarya water basin was given, and it was determined that 77 species of high-water and waterside plants belonging to 24 families and 44 genera are distributed [1].

Lake Khadichha is one of the abandoned lakes in the Bukhara region, located in the south-east of the region. This lake is the largest lake in the Qarovulbazar oasis. Lake Khadija is located on the right

Volume: 2 Issue: 11 | Nov – 2023 **ISSN: 2720-6866**
http://journals.academiczone.net/index.php/rjtds

bank of the Amu-Bukhara Motor Canal (ABMK) near the Havana bridge (Havana most). Khadichha lake was created in the place of ancient valleys (deep depressions) of the Kashkadarya basin. Lake Khadicha is separated from ABMK by a 50-100 m wide road. But the water of ABMK does not fall into Khadicha Lake. The water source of Lake Khadichha is mainly the Karshi collector (flowing from the territory of Kashkadarya region). Water comes through 5 pipes with a diameter of 1 meter. However, the amount of water poured into the lake from this collector is not evenly distributed throughout the year. Oil and gas drilling is carried out 10-15 km from the Khadicha Lake area, and a collector formed from waste water of an oil refinery at a distance of 50-65 km also discharges its water into a separate ditch. As a result of our scientific work carried out in 2018-2023, a list of 53 species of high water plants belonging to 22 families was compiled for the first time in Khadicha Lake, located in Bukhara region. Until now, the aquatic and wetland vegetation of water bodies in Uzbekistan has not been fully studied. Therefore, during our research, we studied the high-water and waterside plants of Lake Khadichha, Bukhara region. 25 types of hygrophytes, 11 types of hydrophytes, and 17 types of hydatophytes were found for Lake Khadicha. (1 picture)



1 picture. ***Ecological groups of aquatic plants of Lake Khadija***

There are 10 species of dominant macrophytes in Khadicha lake. Dominant species are notable for serving as the main food base of herbivorous fish. These types include:

1. Ceratophylum demersum
2. Myriophyllum spicatium L

Volume: 2 Issue: 11 | Nov – 2023 ISSN: 2720-6866
http://journals.academiczone.net/index.php/rjtds

3. Phragmites communis
4. Potamogeton perfoliatus
5. Potamogeton crispus
6. Potamogeton pectinatus L
7. Potamogeton lucens
8. Typha angustifolia
9. Typha latifolia
10. Typha laxmannii

Upland and wetland plants differ from other forage plants in their nutritional value and productivity. For example, reed gives 250 t of wet or 100-110 t of dry mass per 1 ha of water during the growing season, and sorghum gives 50-100 t of wet or 10-12 t of dry mass, and sedge gives 60-300 t of wet or 6-25 dry mass up to t, rdests give up to 20-40 wet or 2.5-3.5t dry biomass. Ryaska biomass contains 21.9-30.4% protein, 45% fat, 20-35% starch, 263.4-612.1mg/kg carotene, V1, V2, V6, E, RR and other vitamins, calcium-1, 1-6%, phosphorus-0.48-2.25%, magnesium-0.35-2.11% and other mineral elements are found [1].

In limnological studies, there are the following views (Thienmanu, 1926 Gaevskaya, 1966, Nazarov, 1966, Niyazov, 2003), that is, a certain part of all high-water plants is a food object for hydrobionts (fish). However, according to most pisciologists, white carp, carp, do not eat the hard part of reeds. However, H.Yu. Ahmedov (2006) proved in his experiments that two-year-old breeds weighing 450-500 g eat white carp.

Based on the materials available in the literature, it is noted that their biological productivity increases due to the fact that the reserves of aquatic plants are not fully used as fish food (Komilov, 1985, 1984, Aliev, 1976, 1963, Akhrorov, 1986).

All ditches are covered with tall aquatic plants. These ditches disrupt the filtration function, slow down the water flow.

There are mechanical, chemical and biological control methods against aquatic plants. The method of mechanical struggle is more expensive, it is harvested with the help of a rake. But today it is possible to use such technology. The use of chemical methods is extremely dangerous for the life of hydrobionts. The method of biological control is not scientifically based. In the past (1990-2004), fish of 50-75 g were placed in the ponds, because when fishing with small fish of 50-75 g, roach, lux, and reed are not eaten enough. 450-550 ek/ha, weighing 400-500 g, were fished with two-year-old white carp in the "Baliqchi" farm of Tashkent region. As a result, it paid off. Fish productivity

Volume: 2 Issue: 11 | Nov – 2023 **ISSN: 2720-6866**
http://journals.academiczone.net/index.php/rjtds

reached 15.3 tons in 2006. But additional natural food is also fed with ryaska and azolla. But in natural ponds, 8-10 white carp are fished with segolets weighing 35-50 g per 1 pond. Mainly, the diet of predatory fish in the water is not taken into account. Because of this, all segolets became prey.

In conclusion, we can say that it is of great importance to study biological resources, which are the main elements of the existing natural aquatic ecosystem, and to use them rationally in the field of fisheries, and to increase the groups that will be the objects of necessary fish food.

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