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ECOLOGY AND ECONOMIC IMPORTANCE OF FISH

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Abstract: This article provides a brief description of what fish are and how they are adapted to their environment. At the same time, the ecological and nutritional importance of fish in human life and in the food chain is expressed.

Keywords: Chords, fins, rockfish, flounder, fins, pelagic, lethargic, abyssal, salmonids, sea bass, fishmeal.

Introduction: Fish, like all benthic chordates, spend their entire lives in water. If they are removed from the water, they will quickly suffocate and die. Only a few species of fish can stay alive outside the water for several hours with the presence of special adaptation organs. Fish are cold-blooded animals living in sea and fresh water. Fish breathe with the help of gills. His throat was pierced by 5-7 pairs of lacerations. The mouth of the fish is equipped with movable jaws. In addition, fishes differ from slow-moving roundmouths in that they move quickly and nimbly through the water with the help of a pair of pectoral and a pair of abdominal fins. Fishes live in the waters of the high mountains and in the depths of 10,000 meters of the oceans. As water is a strong solvent, it dissolves atmospheric air and many organic and inorganic substances. It is known that the water flow, temperature and oxygen content in the water are very important in the life of fish. The formation of seasonal ice covers in water bodies plays both a positive and negative role for fish. Therefore, water is the only environment where fish live and it has a number of unique properties.

1. Water can dissolve atmospheric air. Because of this, fish breathe dissolved oxygen.

2. Water is a strong solvent, so fish can make substances and aquatic organisms in water suitable for consumption by fish.

3. When water creates steam, there is latent heat, so when water evaporates, its upper layer quickly cools and begins to sink. This causes the water to circulate.

4. Due to the high heat capacity of water, its temperature changes less than atmospheric temperature depending on the day and season.

5. The specific gravity of water is close to the specific gravity of fish. Accordingly, most fish spend their entire lives in the water and do not need a

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substrate. Water temperature, oxygen and salts are of great importance in the life of fish living in water.

Whales are cold-blooded animals, their body temperature is not constant, but varies directly depending on the temperature of the environment. This depends on the physiological characteristics of organisms, including the heat generation process. The process of heat generation in fish is very important and this process takes place very slowly. It should be said that there is a certain temperature limit for each fish. Some species of fish can withstand changes in water temperature and continue to live, such fish are included in the group of eurythermic animals, while other types of fish die even if the temperature of the water changes slightly, these are included in the group of stenothermic animals. Seawater is usually saturated with oxygen, and some seawater is supersaturated with oxygen. Conversely, the amount of oxygen in the waters within the continents is different. Therefore, there are many freshwater fish that have different oxygen requirements. Fish are divided into four groups based on their oxygen demand.

1. Fish that require a lot of oxygen, i.e. fish that live in places with 7-11 cm^3 of oxygen in one liter of water, are examples of fish such as gilmoy, kumja, peskar, nalim and galyan. These fish live in cold and fast-flowing rivers. The waters of Shokhokhar mountain rivers are always saturated with air.

2. Fishes that require a lot of oxygen, that is, in places where there is 5-7 cm^3 of oxygen in one liter of water, we can find mainly crayfish, pescal and stonefish.

3. Fishes that require relatively little oxygen, i.e. in waters with 4cm^3 of oxygen per liter of water, mainly bream, perch and rockfish are found.

4. Fish that require very little oxygen, they live in stagnant waters with very little oxygen, that is, 0.5 cm3 of oxygen in 1 liter of such water. In such waters there are common fish, lin and tobo fish. If there is a lack of dissolved oxygen in the water, these fish quickly rise to the surface, inhale atmospheric air through their mouths, and enrich the water entering the cavity with this air. That is, there is a type of fish called vyun, which lives in old river beds and small lakes, and does not breathe air directly like the above fish, but absorbs atmospheric air. passing through it, it loses part of the oxygen and leaves the anus, this oxygen is absorbed in the middle and later sections of the intestine, supplied by a thick network of capillaries. Some freshwater fish also breathe through their intestines in this way.

Sound conductivity of water is also very strong. Fish make good use of this and have highly developed sound signaling. In fish, sound signaling to each other in water is highly developed. One type of fish gives information to each other by making sounds from the water. It should also be said that the sounds made by fish

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can also have echolocation value. It is also interesting that the sound transmission capacity of water is 4-5 times higher than that of air. In order to determine the ecological groups of fish, it is necessary to first know the relationship of fish to the amount of salt in water and their habitats in water bodies. Despite the diversity of living conditions in the aquatic environment, fish can be divided into three ecological groups: pelagic, abyssal and littoral.

1. Fish living in the pelagic-open water environment live in the depths of the water from the surface to 150-200 meters. Most of them are very active and swim fast. It has a long, tufted body and feeds on aquatic organisms and breeds in shallow water bodies or near water banks. These fish swim fast because they live in open water. Sharks, mackerel, salmons, sardines, herrings, cods and whiting are found in the ecological group of oelagic fishes. Pelagic fish have a dark back, silvery belly, and clear glass larvae. Pelagic fish include passively living sunfish.

2. Littoral fish group. Fish belonging to this group live near the shores of water bodies, that is, near the shore and to some extent connected with the bottom of the water. It finds food and grows here. All kinds of stones on the bottom of the water, crevices on coral islands, algae, sand and mud are shelters for these whales. In contrast to the pelagic group, littoral fish are less mobile. The structure and appearance of these fish are also different, that is, some of them have flat bodies and live at the bottom of the water. Examples of littoral fish include scats, flounder, and fish such as anemone, bullfish, and dogfish. Most of the littoral fishes have suction cups formed from a modified flipper. In species that live on the bottom of the water, the pectoral fins of the sea devil fish and the three-spined fish have become organs of movement that crawl on the bottom of the water. The group of littoral fish living in fresh water includes many carp. In the species that live in the water and find food by digging the bottom of the water, they have whiskers that perform the function of feeling. Among them are various types of lakka fish, peskar and zogora fish. Some fish, which live by digging mud in the bottom of the water, have a long body like a snake. Such fish mainly include eels. Among the extremely strange shaped fishes that live at the bottom of the water, we should also mention the seahorse. This fish lives among the algae, wrapped in seaweed with its tail like a snake. Interestingly, two types of breathing fish also belong to this group, and they sleep for months outside the water.

3. Abyssal fish group. There are not many species of fish belonging to this group. They mainly live at great depths at the bottom of the seas and oceans. The main characteristics of such a great depth are the very high pressure, the complete absence of light and the lack of flow of water. According to some data, some fish

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species live in the deepest depths of the ocean, that is, at a depth of 10,500 m. When such fish are brought to the surface of the water, their bodies swell, their intestines protrude from their mouths, and their eyes protrude from their sockets.

Fish that live at such great depths are either blind or have large telescope-type eyes that can perceive the darkness of deep water, and some species have light-emitting organs that help them find food. will give. Fish belonging to this group have a poorly developed muscular and skeletal system and a large mouth.

In addition to the information given above, fish are also divided into 4 groups depending on their relationship to the amount of salt in the water.

1. Marine fish that spend their whole lives in saltwater.

2. Freshwater fish that spend their whole life in rivers, lakes and ponds.

3. Transient fish, that is, these fish live in the sea, but go to the river to reproduce.

4. Immature transient fish.

There are many species of marine fish and they live in saltwater seas and oceans all their lives. Such fish die quickly if transferred to fresh water. Marine fish mainly include flounder, herring, cod, scat and shark.

Freshwater fish live their whole life in fresh water, they are not found even in slightly salty sea water. This group includes most carp, which are divided into 3 groups depending on the types of water bodies.

- Pond and lake freshwater fish. This group includes sole, siga and lin. They live in various ponds, ponds and lakes.

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- A group of freshwater fish. This group includes gulmoy, whitefish and other fish.

- Common freshwater fish group. This group of fish lives in stagnant and slow-flowing waters. This group includes trout, pike, pike and other fish species. They also live in stagnant, that is, non-flowing water, so for this group of fish, the lack of water flow is not so important.

Fish are of great economic importance on our planet. Fish accounts for 17% of the total animal products. "Fishmeal" is made from the residues obtained from fish in the food industry for feeding to other animals. Medicinal and technical fish oil is obtained from the liver of many species, especially codfish and sharks. The skins of sharks, scats, thighs and pelugas are very important for the leather goods industry. Caviar from fish is the most nutritious food.

In addition, the fishing industry around the world has improved a lot, and 25,000 tons of fish are caught around the world per year. In order to increase the fishing industry, many artificial water bodies are being created.

Fishing In the next 20-30 years, many new water bodies are being built in Uzbekistan, especially in Kashkadarya due to the development of new lands. This further develops fishing in our oasis.

There are more than 20,000 species of fish on Earth, and they make up about 50% of all vertebrates. Fish live in freshwater and saltwater and hot springs all over the world. Water temperature is also very important in areas where fish live and spread. Fish are divided into two groups based on the importance of water temperature.

1. Eurytherm - fish distributed in aquatic ecosystems of temperate climate zones,

2. Stenotherm - an example of this is fish distributed in aquatic ecosystems of polar and tropical climatic zones.

Summary: From the information given above, we can conclude that nuts are the main part of food in human life and the main link in the food chain. Many vitamins, proteins and fats found in fish are of great importance in the national economy and medicine. That is why we should pay great attention to the ecological importance of fish and create the necessary and comfortable conditions for them. Because each created favorable conditions leads to the spread of many valuable fish species and their reproduction.

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USED OF LITERATURE:

1.Мирзакаримова M. M. Замонавий шароитларда умумтаълим фанларини тадбиркорликка йуналтириб ўкитиш тизими//Science and Education. -2020. -T. 1.-N_.4.- C. 216-222.

2. Mirzakarimova M. M. The Necessity to Develop Students' Entrepreneurial Skills in English Classes//Telematique.-2022.-C.7128-7131.

3. Mirzakarimova M. EFFECTIVENESS OF STUDENTS'ENTREPRENEURIAL SKILLS DEVELOPMENT THROUGH CLIL TEACHNOLOGIES//Академические исследования в современной науке. -2023. -T

4. Madaminjonovna M. M. Innovative Methods and Tools for Developing Students' Entrepreneurial Skills Using CLIL Technologies//International Journal of Human Computing Studies. -2023. -T. 5.-N_.3.-C.15-17.

5. Мирзакаримова M. M. ESSENTIAL COMPOSITION OF ENTREPRENEURSHIP FUNCTIONAL LITERACY //INTERNATIONAL SCIENTIFIC AND TECHNICAL JOURNAL "INNOVATION TECHNICAL AND TECHNOLOGY", -2020. -T. 1.-C.63-65

6. Dadayev. S, Saropov. Q. "Zoologiya (Xordalilar 2-qism) ". - T. : Choʻlpon nomidagi nashriyot -matbaa ijodiy uyi. Toshkent-2011

7.Toʻxtayev. A. " Ekologiya asoslari va tabiatni muhofaza qilish ".- T.:Oʻqituvchi nashriyoti. Toshkent-1994

8.Toʻxtayev. A. " Ekologiya", - T. : Oʻqituvchi nashriyoti. Toshkent-1998

9. Toʻxtayev. A. C. "Ekologiya, -T. :Oʻqituvchi nashriyoti. Toshkent-2001

10.Мирзакаримова M. M. Умумтаълим фанларини тадбиркорликка йуналтириб ўкитиш тизими//Science and Education. - 2020.-T . 1.-N_.4.-C.97-103.