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A VARIETY OF AMPHIBIANS AND REPTILES LIVING IN THE FISH FARMING OF BUKHARA.

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Abstract: The article describes information on the diversity of vertebrate animals, namely amphibians and reptiles found on the territory of the Bukhara fishing industry. There is a taxonomic analysis, taxonomy and description of the vertebrates found in the territory. listed in the Red Book of Uzbekistan.
Keywords: vertebrates, taxonomy, group, amphibians, frog, toad, reptiles, snakes, lizards,Anura, Pelophylax ridibundus, Ranidae, Bufonidae, Sauria, Serpentes, Cryptodira, agamidae, Echkemars-varanidae, altacesidae lacertidae, Boidae, Colubridae, testudinidae.

1. **Introduction**. Vertebrates, especially mass species, play an important role in the life of the surrounding nature, and therefore in the human economy. Their meaning is very multifaceted. By feeding on plants and other animals, they have a significant impact on the course of natural processes. Most amphibians and many reptiles destroy pests of fish farming, thereby providing an invaluable service to humans.

Literature review. Representatives of tailless amphibians are widespread throughout the territory of the Bukhara oasis and are found in all localities. Despite their widespread distribution, the amphibians of Uzbekistan remain relatively little studied. The study of amphibians of Uzbekistan is contained in the works of Massino (1927), Belyakov et al. (1938), Pigulevsky (Pigulevsky, 1944-1945; Pigulevsky, 1952), Kogai (1961), Siddikov (1984), Ikramov (1992), Vashetko and Siddikov (Vashetko, Siddicov (1999)). E. F. Ikramov, D. A. Azimov (AMPHIBIAN HELMINTHS OF THE FERGHANA VALLEY OF UZBEKISTAN)

Methods. The study used methods of hydrological, hydrobiological, ecological, ichthyological, statistical and comparative analysis.

Analyses. A variety of amphibians living in the fish farming of Bukhara. Amphibians were the first vertebrate animals to move from an aquatic to an aquatic-terrestrial lifestyle. Most species are able to live both in and out of the water. Many amphibians, being aquatic animals at the larval stage, subsequently become terrestrial.

Amphibians originated in the Lower or Middle Devonian, more than 300 million years ago. Their ancestors were ancient brush-finned fish. The main branch of fossil amphibians is labyrinthodonts. Tailless amphibians, Anura, contain the largest number - about 1800 - of species that have adapted to moving overland by jumping with the help of elongated hind limbs. In the fishing industry, you can often find a lake frog.

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The lake frog Pelophylax ridibundus is a species of tailless amphibian from the family of true frogs - Ranidae (Fig.1). Lake frogs are one of the largest modern amphibians. Body length is up to 20 cm, weight is up to 700 g.

The body is elongated, the skull is oval, the muzzle is slightly pointed. From above, the body is painted in a brown-green color of different shades with dark spots. Most individuals (up to 90%) have a light stripe of varying severity along the head and spine. The lower part of the body is colored dirty white or slightly yellowish, in most cases with numerous dark, sometimes black spots. The eyes are bright golden in color. The tadpole is light olive in color, pear-shaped, green or other colors. The lake frog is one of the important animals for fish farming, its larvae, eggs and adults are protein-rich food for predatory fish.

Fig.1. Lake frog- Pelophylax ridibundus

Phylum : Chordate- Chordata
Class: Amphibians- Amphibia
Squad: Tailless Amphibians- Anura
Family: Real frogs- Ranidae
Genus: Green frogs- Pelophylax
Species: Lake frog- Pelophylax ridibundus

Toad- Bufonidae -grey skin with warts. The toad is 10-13 cm long and 7 cm wide. Her body can be divided longitudinally into two similar parts. Thus, they are bilaterally symmetrical. Toads usually have shorter legs and rougher and thicker skin. The toad's body can be divided into two parts: the head and the trunk. **(Fig. 2**).

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Fig.2. Toad- Bufo

Phylum**:** Хордовые- Chordata

Class: Amphibians- Amphibia

Squad: Tailless Amphibians- Anura

Family: Toads- Bufonidae

Type: Toad- Bufo

She doesn't have a neck. An adult toad has no tail, and its toes lack claws. Toads, or real toads- Bufonidae- are a family of tailless amphibians, the only one in which all representatives are called "toads". Just like frogs, they are food for some predatory fish farming animals. They are not often found on the territory.

A variety of reptiles living in the fish farming of Bukhara. In fish farming, sandy soils are rich relative to the ecological group of reptiles found in the biotope, the ecological group of reptiles found in the biotope with moistened water, the ecological group of reptiles found in the biotope with brackish soil, the ecological group of reptiles found in the rocky (gravel, gypsum) biotope. This indicator is primarily due to the geographical location of the territory. The ecological group of reptiles found in the saline soil biotope on the territory of the fishery includes 3 subspecies (Lizards-Sauria, snakes –Serpentes, turtles with a hidden neck - Cryptodira), 6 families (Agamas – agamidae, Echkemars-varanidae, original altacesidae lacertidae, rattlesnakes - Boidae, water snake - Colubridae, land turtles - testudinidae), 13 species of the genus have been identified.

Soil moisture and salt content have little effect on the life of reptiles. This condition is explained by the breadth of the reptilian food spectrum.

The **sand lizard - *Phrynocephalus interscapularis.*** A small lizard; one of the smallest species of the genus, the body size from the tip of the muzzle to the tip of the tail usually does not exceed 9 cm. The body is very slender, the tail is strongly flattened throughout. The nostrils are located on the upper surface of the muzzle, gradually descending forward, and are clearly visible from above. The dorsal scales are small with well-marked ribs; the throat and thoracic

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sometimes bear faintly noticeable ribs turning into spines. The abdominal scales are smooth. There is no transverse fold of skin on the upper surface of the neck. On the sides of the head and neck are groups of enlarged scales with strongly developed, sometimes flattened spines. On the sides of the trunk, in particular, on the longitudinal skin fold, scales with ribs more developed than those surrounding the scales, turning into spikes, may also occur. It is characterized by the development on the posterior edge of the thigh and on the sides of the base of the tail of a series of strongly plucked white scales forming a peculiar fringe: The tail scales are arranged in transverse rows. The hind limbs are very long; the fourth toe of the hind foot is covered from below with a longitudinal row of sub-finger plates, each of which is equipped with one longitudinal, relatively poorly developed rib. On each side of this finger, strongly elongated and flattened scales form scallops. On the third toe of the hind leg, the scallops are only on the side facing the fourth finger, and the longitudinal row of high ribs turning into spikes on the finger plates is strongly shifted towards the second finger. The color of the upper side of the body is sandy yellow with a brown tinge in dark and light glasses and rusty-ochre or brown spots; on the back near the shoulder blades there is a characteristic pinkish or rusty-ochre oval spot, usually surrounded by a purple border. The underside of the body is white. The tail is underneath with two to four black transverse stripes, black at the end. The sandy roundhead is a typical inhabitant of the exposed and scattered, almost vegetation-free sands of the territory of the fish farming region of Bukhara. This strictly psammophilic lizard is usually found in the form of isolated settlements on small island dunes, often located quite far from each other. It usually adheres to the tops of the dunes, only occasionally running over to areas of more fixed sands with sandy vegetation, saxaul and other sparse vegetation. It is found on sand deposits among takyrs and on sands broken under the influence of human economic activity (overgrazing, road network). The population is generally high everywhere: up to 10 individuals were counted per hour tour. Minks are used as shelters, which are an inclined passage up to 20 cm long, with a small slit-like entrance. It can also sink into the sand, pushing it apart with the help of rapid oscillatory movements of the trunk, which has special folds of skin around the edges, directing sand particles to the back. Individual plots range from 30 to 180 sq. m. (**Fig.3**).

Fig.3. Sand roundhead - Phrynocephalus interscapularis.

Type: Vertebrates-Vertebrata
Class: Reptiles, or Reptiles — Reptilia
Order: Scaly — Squamata
Suborder: Lizards — Sauria
Family: Agamaceae — Agamidae
Genus: Roundheads — Phrynocephalus
Species: Sand Roundhead — Phrynocephalus **interscapularis**

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The nimble lizard is Lacerta agilis. A moderately large lizard with a body length of up to 114 mm and a half to two times longer tail. The interdigital flap almost always does not come into contact with the nostril. Posterior nasal shields 1-3, non-nasal shields 1-3. Zygomatic 1-2, less often there are none at all. In front of the suborbital 5, less often 3 or 5 upper labial shields.

The grains between the superior and supraorbital scutes are absent in most of the range, and where they are present, their number does not exceed 12. The central temporal shield is usually pronounced, and the tympanic one, as a rule, is not developed. The anterior upper edge of the subglacial shield does not reach the level of the anterior edge of the eye. Two more or less equal in size upper-level. The throat fold is slightly pronounced.

The serrated collar consists of 7-12 scales. There are 14-25 scales along the midline of the throat. The dorsal scales are narrow, with well-defined ribs, and quite clearly differ from the wider dorsal-lateral scales. There are 33-54 scales around the middle of the body. The anal flap is surrounded in front by one or two rows of preanal ones. Femoral pores in the number 9-18 always reach the knee fold (**Fig.4**)

Fig. 4. Nimble lizard - Lacerta agilis.

Type: Vertebrates-Vertebrata
Class: Reptiles, or Reptiles — Reptilia
Squad: Scaly — Squamata
Suborder: Lizards — Sauria
Family: Real Lizards — Lacertidae
Genus: Real Lizards — Lacerta
Species: Nimble lizard — Lacerta agilis

Juveniles are brownish-gray or brown above with one or two darker stripes running along the ridge, bordered by narrow light lines. As the animal grows, the dark dorsal stripes break up into separate irregularly shaped spots arranged in one or two parallel rows. There are usually well-defined rows of light spots with dark edging on the sides of the body. The general body color of males varies between yellowish-brown, light green, greenish and bright green, females — yellowish-brown, brown, brownish-gray and less often — green. The underside is greenish, yellowish or bluish, usually with small dark spots. During the breeding season and in autumn, the green tones of the males become brighter. There are some specific types of coloration, of which two are the most common: the middle of the back without a pattern, plain rusty brown, reddish brown or coffee color, in males with a greenish tinge; and the coloration, characterized by a completely monochrome, without any pattern, with a mouse-colored or brown body in females and bright green in males.

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Geckos- Gekkonidae or geckos, or tenacious- are an extensive family of small and medium-sized very peculiar lizards, characterized in most cases by biconcave (amphicellous) vertebrae, loss of temporal arches, as a rule, paired parietal bones, absence of a parietal opening, as well as to some extent expanded collarbones, usually with holes on the inner edges.

On the head of geckos there are numerous granular or small polygonal shields; large lidless eyes covered with a fixed transparent shell; a wide tongue with a small notch in front, covered with small papillae on top; in most species nocturnal activity; capable of making sounds (**Fig.5.**).

This animal is very common in the fishing industry of Bukhara. Especially in the sandy part, on the side of the roads, I met even more on small thickets of shrubs and semi-shrubs, in some parts of anthropocenoses.

Fig.5. Sand Gecko-Gekkon

Type: Vertebrates
Class: Reptiles, or Reptiles-Reptilia
Squad: Scaly-Squamata
Suborder: Lizards-Sauria
Family: Geckos-Gekkonidae
Genus: Abbesses-Lacerta
Type: Gecko-Gekkon.

The water snake is Natrix tessellata. The upper side of the body is olive, olive-gray, olive-green, olive-brown, brownish, or, extremely rarely, reddish-orange in color, usually with dark, more or less staggered spots or narrow transverse stripes on the back. In rare cases, spots form 2 longitudinal dotted or solid lines along the sides of the back to the tail. On the back of the head, unlike the common snake (Natrix natrix), it does not have characteristic orange-yellow temporal spots. In their place there is a V-shaped black spot facing forward. Unicolored individuals without a pattern are also not uncommon. In adult males, during life, the belly is often pink-red or orange-yellow, and in females it is orange or orange-yellow with dark, more or less rectangular spots. There are also completely black individuals. In fish farming, fry are often hunted (**Fig.** 6).

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Fig 6. Water snake-Natrix tessellata

Type: Vertebrates-Vertebrata
Class: Reptiles, or Reptiles — Reptilia
Squad: Scaly — Squamata
Family:Grass snakes- Colubridae
Genus:Snakes- Natrix
Type: Water snake - Natrix tessellata

The striped runner is Coluber spinalis. A relatively small, slender and slender snake with a body length of up to 860 mm and a tail length of up to 250 mm. The tip of the muzzle is bluntly rounded. The interdigital flap is loosely wrapped on the upper side of the head. There are 17 scales around the middle of the body, 188-207 abdominal shields, 91-101 pairs of tail guards. The anal flap is divided. The abdominal scales are smooth. In fish farming, the poloz was found in the dry gravelly-wormwood part of the reservoir, near rodent burrows, it is also found along the banks, on overgrown with shrubs of the agrocenosis, as well as in sparse grassy formations (**Fig-7**).

Fig.7. Striped runner - Coluber spinalis

Type: Vertebrates-Vertebrata
Class: Reptiles, or Reptiles - Reptilia
Squad: Scaly - Squamata
Family:Grass snakes- Colubridae
Genus: Slender Runners - Coluber
Species: Striped poloz - Coluber spinalis

Isolated finds of this species are concentrated on the shore with thickets of reeds, sagebrush and a nearby grassy swamp, as well as on the edge of the agrocenosis. Frogs and lizards

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predominate in the diet of the striped poloz. The clutch consists of 4-9 eggs and usually occurs in early July. It's not poisonous. So, in the process of studying the desert part of the fish farm, an arrow snake and a boa constrictor were also noticed.

Results and discussion. This study was carried out in accordance with the priority direction of the development of science and technology of the republic "Agriculture, biotechnology, ecology and environmental protection".The scientific significance of the research results is explained by the fact that the species composition of reptiles and amphibians of the Bukhara fisheries has been identified, their diversity, conservation, and nutrition biology have been determined.

The practical significance of the research results is explained by the fact that the results obtained serve to develop ways of rational use of biological resources of our republic, development of the territory by vertebrates, ensuring the conservation of vertebrate biodiversity in the territory, their preservation in changing habitat conditions.

More than 15 species of reptiles have been studied, of which;

-phytophages-1 type;

-insectivores-11 species;

-predatory-2 species;

-phyllophages-5 species.

Ttable -1. Ecological groups of reptiles found in the territories of the Bukhara fishery, depending on the type of food.

№	species	Phytophagous	Zoophags		Polyphages
			Insectivores	Predatory	
	Reptiles – Reptilia				
	Scaly - Squamata				
	Lizards - Sauria				
	Geckos –Gekkonidae				
1	Crested-toed gecko - Crossobamon eversmanni		+		
2	Turkistan gecko - Tenuidactylus fedtschenkoi		+		
3	Gray gecko - Mediodactylus russowi		+		
4	Scincus geckos - Teratoscincus scincus		+		
	Agama families – Agamidae				
5	Takyr roundhead -Phrynocephalus		+		

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	helioscopus				
6	Sand roundhead - Phrynocephalus interscapularis		+		
7	Turkistani agama - Paralaudakia lehmanni		+		
	Vanidae families – Varanidale				
8	Gray Monitor - Varanus griseus			+	
	Family of true lizards – Lacertidae				
9	Rapid foot and mouth disease - Eremias velox		+		
10	Striped foot-and-mouth disease - Eremias scripta		+		
11	Lined foot and mouth disease - Eremias lineolata		+		
Family Scincidae					
12	Desert Holloweye - Ablepharus deserti		+		
	Suborder Snakes – Ophidia				
	Family Pseudopods – Boidae				
13	Eastern boa - Eryx tataricus				+
14	Sand boa - Eryx miliaris				+
	Family: Snake – like- Colubridae				
15	Multicolored skid-Hemorrhois ravergieri				+
16	Arrow snake -Psammophis lineolatus				+
17	Water snake- Natrix tessellata				+
18	Patterned skid- Elaphe dione			+	
	Squad:Turtles- Testudines				
	Suborder: Hidden Heads- Cryptodira				
	Family: Land turtles - Testudinidae				
19	Central Asian turtle -Agrionemys horsfieldii	+			
	Total	1	11	2	5

1-diagram

Distribution of reptiles found in the agricultural lands of the Bukhara aquaculture farm, in the context of ecological groups, depending on the type of food.

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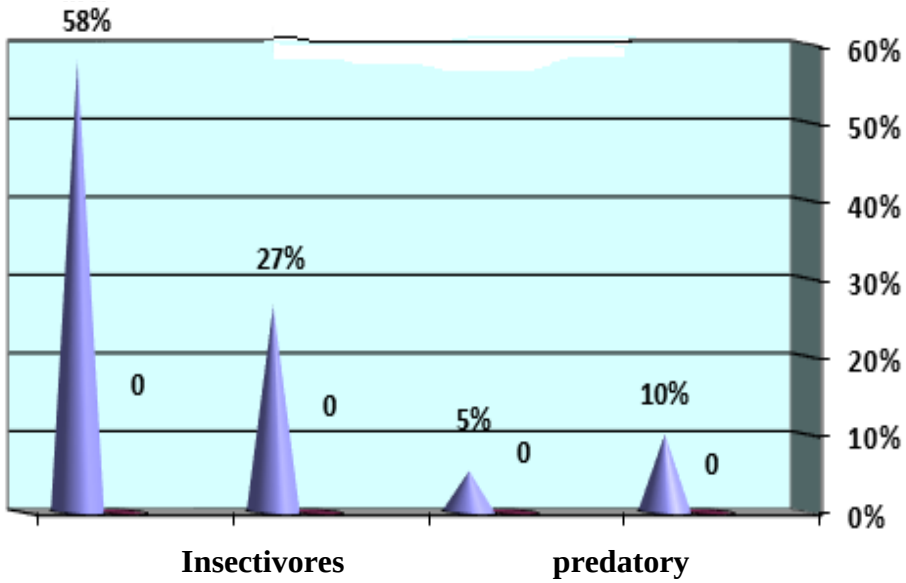

Conclusion. The use of modern research methods in the analysis of samples collected as a result of scientific research is explained by the fact that the results obtained by hydrobiological, ornithological, geographical, ecological methods correspond to theoretical and practical data, are analyzed on the basis of modern statistical programs, the results are published in leading scientific publications, practical results are confirmed by competent government agencies.

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