

Taxonomic Analysis of Hunting Milk Markers in Uzbekistan

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Abstract

*Of the 19 species of mammals allowed to hunt in Uzbekistan, 13 species have been identified in Bukhara region. In particular, the taxonomic analysis of mammals hunted in the region revealed that 5 species of mammals were hunted on the basis of appropriate permits, 4 species of mammals were hunted illegally. Of these, 3 species (*Canis lupus*, *Felislibyca*, *Ondatrazibethicus*) and 1 species (*Gazellasubgutturoza*) were identified as hunting in the Red Data Book of the Republic of Uzbekistan. [1].*

Keywords: *Susscrofa*, *Melesmeles*, *Lepus capensis*, *Canis aureus*, *Vulpesvulpes*, *Felislibyca*, *canis lupus*, *Ondatrazibethicus*, *Gazellasubgutturoza*

INTRODUCTION

The article provides information on the ecology of seasonal and territorial distribution of mammals hunted in the desert biocenoses of Uzbekistan, the environmental factors affecting them and the patterns of adaptation of mammals to these influences. Due to the growing interest in hunting various animals in the world, in particular, hunting tourism, much attention is paid to improving the management system of hunting farms, special reproduction and protection of game species and the introduction of best practices in the field. In this regard, the economic efficiency of the farm has been improved, including through the management of hunting farms, the organization of hunting, maintaining their stability through special reproduction of game species and the introduction of hunting tourism. As a result of the use of modern methods and technologies in the activities of hunting farms, the number of species and the stability of their habitat have been maintained.

RESEARCH METHODS

Commonly accepted methods and materials of the scientific literature were used in the identification of animal species, their number per unit area and the collection and processing of ecological materials. The counts were selected and analyzed according to the habitat, behavior, and ecology of the species. The main methods of zoology (stationary, 5-minute and route methods) and ecology, as well as the questionnaire method, statistical and comparative analysis methods were used in the research. The results of the animal count were extrapolated to a 10-hectare measuring area, and the density of the animal community was determined according to the following formula:

$$D = \frac{n}{2 \cdot L \cdot W};$$

where D is the density; n is the number of birds encountered; L is the route length; W is the width of the route, or the distance from the route axis to the boundary of the calculated corridor. Multiplication 2 was used in the formula to account for mammals to the left and right of the route axis, but the results of our calculations were taken from one side of the route axis, given the specificity of the desert biocenoses[2;3;4;8;9].

DISCUSSION

During the calculation, it is necessary to move slowly along the route, without noise, from time to time, stopping to walk around. Accordingly, what mammals encountered during the route calculation will be recorded on a daily basis. Observations and calculations were carried out on designated routes and in stationary observation sites. Shagomer and large-scale maps were used to determine the length of the routes. The length of the routes belonged to hunting farms and in other lakes along the coast was 1-5 km, the width of the route was 100-300 meters, in desert biocenoses the length of the route was 1-20 km, the width of the route was 50-200 meters. The counting was carried out in the open air from 6.00 to 10.00 and from 17.00 to 20.00. The use of wildlife is very multifaceted, and in Uzbekistan this activity is carried out mainly by hunting mammals for amateur, partly for sports and other (scientific, medical) purposes [5; 6; 7].

The Order of the State Committee for Ecology and Environmental Protection of the Republic of Uzbekistan No. 27 of March 22, 2006 "On Approval of the Rules of Hunting and Fishing in the Territory of the Republic of Uzbekistan" presented in groups. Taxonomic analysis of this list revealed that 19 species of vertebrate mammals are allowed to hunt in Uzbekistan (Table 1).

Table 1

Meeting and hunting of mammals allowed to hunt in Uzbekistan in Bukhara region

Species allowed to hunt in Uzbekistan	Species officially hunted in Uzbekistan	Occurrence and hunting of permitted species in Bukhara region
<i>Susscrofa</i> (Linnaeus, 1758)	O	O
<i>Capra sibirica</i> (Pallas, 1776)	O	H
<i>Capreolus pygargus</i> (Pallas, 1771)	O	H
<i>Hystrixindica</i> (Kerr, 1792)	O	H
<i>Lepus capensis</i> (Linnaeus, 1758)	O	O
<i>Myocastor coypus</i> (Molina, 1782)	HO	HO
<i>Ondatrazibethicus</i> (Linnaeus, 1786)	HO	HO

	<i>Spermophilopsis leptodactylus</i> (Lichtenstein, 1823)	HO	HO
	<i>Spermophilus fulvus</i> (Lichtenstein, 1823)	HO	HO
	<i>Spermophilus pygmaeus</i> (Pallas, 1778)	HO	HO
	<i>Spermophilus relictus</i> (Kaschkarov, 1923)	HO	H
	<i>Vulpes vulpes</i> (Linnaeus, 1758)	O	O
	<i>Canis lupus</i> (Linnaeus, 1758)	O	HO
	<i>Canis aureus</i> (Linnaeus, 1758)	O	O
	<i>Felis libyca</i> (Forster, 1780)	HO	HO
	<i>Felis chaus</i> (Gueldenstaedt, 1776)	HO	HO
	<i>Meles meles</i> (Linnaeus, 1758)	O	O
	<i>Matres foina</i> (Erxleben, 1777)	HO	H
	<i>Mustela vison</i> (Schreber, 1777)	HO	H

Note: O is the officially hunted species; NO - occurs, non-hunting species; ON - occurs, not officially hunted species; N – A rare species in Bukhara region.

19 species of mammals allowed to be hunted in Uzbekistan have been identified. In Bukhara region, 13 species belonging to 1 class, 4 families and 9 families were registered. These data show that the first development will lead to positive developments in the field. (Table 2).

Table 2

Taxonomic analysis of mammals hunted in Bukhara region

No	Class	Category	Family	Number of species
1	<i>Mammalia</i>	Lagomorpha	Leporidae	1
		Rodentia	Sciuridae	3

			Myocastoridae	1
			Criceidae	1
		Carnivora	Canidae	3
			Mustelidae	1
			Felidae	2
		Artiodactyla	Suidae	1
Al 1	1	4	9	13

Although 13 species of animals were found in Bukhara region, hunting of 5 species was detected. As a result of the investigation, it was revealed that 4 species of mammals were illegally hunted in Bukhara region. Of these, 3 species (*Canis lupus*, *Felis libyca*, *Ondatra zibethicus*) are allowed to be hunted in Uzbekistan, but in 2014-2020 there were no quotas for hunting these species in the region, 1 species (*Gazella subgutturosa*) is included in the Red Data Book of Uzbekistan. were identified on the territory of farms and outside them.

Canis lupus is a wild mammal belonging to the dog family. It enters the territory of Bukhara region every 2-3 years in pairs. From our observations, we know that it is most often encountered around the Black Sea. They do not move far from areas where livestock are grazed. The wolves rest during the day and go hunting in the evening, starting in January. The wolf is a monogamous animal. The pair will last a long time. If these animals are not controlled in time, it will cause great economic damage to livestock. In order to prevent this, special hunters are involved and work is carried out against them. The wolf is a strong, resilient and agile animal with well-developed sense of smell and hearing. When he attacks a herd, he kills many sheep. Several wolves hunt together or in groups.

Felis libyca Desert cat is a relatively small predator. The female is smaller than the male. The body is yellowish-brown, the back is covered with round dark spots, the tail has 6-8 dark rings. Uzbekistan is found in all regions, ie in the deserts, in the reeds near the lakes, in the foothills, and rarely in the mountains. It is widespread in the south-eastern part of the Kyzylkum and around Aydarkol. The desert cat lives in reeds around abandoned lakes in Bukhara region. During the breeding season, foxes, jays, and badgers live in abandoned nests. The desert cat lives mainly at night. It feeds on rodents, birds, lizards, large insects, eats berries, jiida and other plants.

In some cases, he steals chickens. During the hunt, he slowly goes to the prey and is suddenly thrown. From our observations, it became clear that among hunters, due to the low hunting culture, lack of experience, they often shot animals that suddenly came out. We also observed a desert cat being hunted aimlessly. It was in January 2018 that we witnessed 1 wild cat being hunted.

Gazella subgutturosa. As a result of our observations, it was found that the gazelle is relatively more common in the region's fortified sands, rocky flat hills where wormwood grows. It feeds mainly during the day, rests at night, and is active in the morning and evening in the summer, sometimes even at night. During the day he rests behind sand dunes or in the shade of bushes. They usually form small herds during feeding and rest, and such herds move 4-7 times in summer and 8-10 times in winter, sometimes in pairs or separately.

In the spring, wild-growing cereals were observed, in summer the species of sagebrush and

wormwood, in autumn and winter the plants were fed with straw, the bushes with fruits, seeds and branches. Jayro's migration to nutrient-rich areas is widespread in the desert zone of the province due to its use of artesian wells and collectors in addition to lakes as a beverage. Such a spread leads to their poaching and by hunters, which complicates the control of this hunt. Studies have shown that shepherds catch newborn gazelles with the help of shepherd dogs.

Observations at the Karakol forestry and hunting department also revealed that the gazelles living there in semi-captivity died as a result of a sore in the throat area. At the same time, there is a lack of preventive measures to prevent this disease. It is likely that such disease can also occur in gazelles living in the wild and cause their extinction.

Ondatrazibenthicus. It is a widespread species in Bukhara region, in addition to hunting farms, it is found in lakes and ditches. Hunting begins in late autumn and lasts until the end of winter. Due to the high demand for fur, it was hunted in large quantities in 1985-2000. Overfishing, weak hunting controls, a sharp drop in water levels in reservoirs and sometimes drying up in the summer months have led to a decline in the number of muskrats today and their extinction in some places. The end of industrial hunting, despite the decline in demand for its fur, was noted for poaching in the country, including in Bukhara region. In December 2018, it was revealed that 98 head of muskrats were illegally hunted in Karakir Lake. Illegal hunting of this species is observed every year in the collectors of the region. According to the data, in 2019, 1505 muskrat fur caught in Uzbekistan was smuggled to neighboring Kazakhstan. In recent years, there have been various opinions that muskrats are harming the fishing industry by feeding on fish, participating in bioremediation in irrigation systems. In our opinion, these issues require in-depth study on a scientific basis and the need to allocate quotas for hunting this species in the region.

CONCLUSION

In the formation of a new worldview in the new Uzbekistan, as well as in research, to change attitudes, to protect animals from suffering and death, to prevent the brutal killing of animals. Ensuring the safety, rights and legitimate interests of citizens. Put as much restrictions as possible on the use of animals for educational, scientific and medical purposes. It shows that animals should not be left in a state of need. Improving the fauna of mammals hunted in Uzbekistan, their distribution, number, bioecological characteristics, the impact of anthropogenic factors, reduction of species protection and sustainable use.

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