ISSN NO: 2771-8840
Date of Publication: 20-06-2023

Ecological Assessment of Animal World of South Usturt National Park

Tleumuratov Sultanbek Axmetovich- Deputy director for scientific affairs and environmental education of the Southern Ustyurt National Nature Park
Uzaqov Batirbek Nietbaevich- Chief specialist of the Department of Science and Environment Monitoring

Abstract: This article includes the results of zoological research conducted in South Ustyurt National Nature Park in 2021. From zoological and ecological methods generally accepted in scientific research (Formozov, 1952; Novikov, 1953; Smirnov, 1964; William, 2006). Scientific research work was carried out in the spring, summer, autumn and winter seasons of 2021 in the territory of the South Ustyurt National Nature Park.

Key words:

Today, global climate changes and anthropogenic factors, which are increasing worldwide, affect the state of the animal world, including bird populations. Especially the lack of water resources in natural ecosystems, their improper use and their pollution are causing the number of species living in this environment to decrease or disappear. Accordingly, comprehensive research of birds living in water and pre-water ecosystems, preservation of habitat, development of recommendations for their rational use, and improvement of ways of effective use in the national economy are of great scientific and practical importance. In our republic, great attention is paid to the preservation of biological diversity of the South Aral Bay and the rational use of the animal world. In particular, the Lower Amudarya state biosphere reserve was established to preserve the forest ecosystem and its biodiversity, and the Sudoche-Akpetki state reservation reserve was established to protect rare and endangered birds.

The Ustyurt Plateau is one of the oldest and largest deserts of Central Asia, and it differs from other deserts by its geographical location, terrain, natural conditions, flora and fauna. Its total area is 21 mln. ha, of which the section belonging to Karakalpakstan is 7.1 mln. is ga. By Resolution No. 707 of the Cabinet of Ministers of the Republic of Uzbekistan dated November 11, 2020, the "Southern Ustyurt National Nature Park" with an area of 1,447,143 sq. Its area of 443,044 hectares is reserved for conservation, recreation and economic purposes, and rare species that are included not only in the Red Book of the Republic of Uzbekistan (2019), but also in the Red List of the International Union for Conservation of Nature (IUCN) live in this area. But until now, the geographical distribution, biology and ecology of the vertebrates of the Ustyurt plain have not been fully studied. For this reason, a comprehensive study of the vertebrates of this region is of great scientific and practical importance.

This article includes the results of zoological research conducted in South Ustyurt National Nature Park in 2021. From zoological and ecological methods generally accepted in scientific research (Formozov, 1952; Novikov, 1953; Smirnov, 1964; William, 2006). Scientific research work was carried out in the spring, summer, autumn and winter seasons of 2021 in the territory of the South Ustyurt National Nature Park. Observations were carried out on two continuous routes, and the length of the route is 452 km (Fig. 1).

ISSN NO: 2771-8840
Date of Publication: 20-06-2023

1 picture. Scheme of zoological research conducted in South Ustyurt National Nature Park, blue line 1 route, red line 2 route.

To date, a number of scientists have conducted zoological and ecological research in the Ustyurt Plain, including the South Ustyurt National Nature Park and its surroundings (Rustamov, 1951; Kolesnikov, 1952; Kostin, 1956; Salikhbaev, 1959; Mambetjumaev, Mambetjumaev, 1993; Kashkarov, 2010 ; Aymuratov, Pirzhanova, Matekova, 2009, Bikova, Yesipov, 2012; Marmazinskaya et al., 2012, Grisina, Marmazinskaya, Soldatov, 2016; Matekova, Ametov, Jumanov, 2017).
In our researches, 1 species of water and land inhabitants, 2 species of reptiles, 30 species of birds, 9 species of mammals were recorded (table 1).
1 table

Animal species registered in South Ustyurt National Nature Park

№	Animal species	Number				Total
		I-quarter	II-quarter	III-quarter	IV-quarter	
Inhabitants of water and land - Amfibiya						
1	*Bufo viridis*		1	1		**2**
The reptiles -Reptiliya						
2	*Testudo horsfieldi*		5	5		**10**
3	*Psammophis lineolatus*		4	4		**8**
birds - Aves						
4	*Podiceps cristatus*		5	7		**12**
5	*Phalacrocorax carbo*	4	12	8		**24**
6	*Phalacrocorax pygmaeus*		4	3		**7**
7	*Phoenicopterus roseus*		168	186		**354**
8	*Cygnus olor*	10	31	28	20	**89**
9	*Tadorna tadorna*		19	23		**42**
10	*Anas platyrhynchos*	36	33		38	**107**
11	*Anas clypeata*		78	76		**154**
12	*Netta rufina*	59	61		100	**220**

ISSN NO: 2771-8840
Date of Publication: 20-06-2023

13	*Aythya ferina*	42	40			**82**
14	*Oxyura leucocephala*				34	**34**
15	*Aquila nipalensis*	1	10	9		**20**
16	*Aquila chrusaetos*		2	2		**4**
17	*Aquila heliaca*				2	**2**
18	*Haliaetus albicilla*	2	5	2	10	**19**
19	*Falco tinnunculus*		2	3		**5**
20	*Fulica atra*		53	62	800	**915**
21	*Chlamydotis undulate*		2	2		**4**
22	*Limosa lapponica*	14	12		64	**90**
23	*Pterocles alchata*	2	1			**3**
24	*Columba livia*		6	8		**14**
25	*Bubo bubo*		1	2		**3**
26	*Larus ridibundus*		28			**28**
27	Sterna hirundo		11	14		**25**
28	*Larus cachinnans*	20		8	14	**42**
29	*Apus apus*		48			**48**
30	*Galerida cristata*	12	19	7		**38**
31	*Motacilla personata*		9	13		**22**
32	*Phylloscopus trochiloides*		4	2		**6**
33	*Oenanthe oenanthe*		2		14	**16**
Sutemizuvchilar- Mammals						
34	*Hemiechinus hypomelas*		2	2		**4**
35	*Lepus tolai*		3	3	6	**12**
36	*Rhombomys opimus*			4		**4**
37	*Canis lupus*	2	2		3	**7**
38	*Vulpes vulpes*	2	5		8	**15**
39	*Sus scorfa*				6	**6**
40	*Ovis vignei arkal Eversmann*		1	2	27	**30**
41	*Gazella subgut-turosa*	3	221	218	459	**901**
42	*Equus hemionus*	2	6	4	37	**49**

Among the listed reptiles are the desert tortoise Testudo horsfieldi, the birds Phalacrocorax pygmaeus, the flamingo Phoenicopterus roseus, the white swan Cygnus olor, the white duck Oxyura leucocephala, the desert eagle Aquila nipalensis, the eagle Aquila chrusaetos, the black swan Aquila heliacal, white-tailed osprey Haliaeetus albicilla, blanket tawny Chlamydotis undulate, white-tailed deer Pterocles alchata and long-needle hedgehog Hemiechinus hypomelas from mammals, Ustyurt sheep Ovis vignei arkal Eversmann, gazelle Gazella subgut-turosa, kulan Equus hemionus Republic of Uzbekistan Red are included in the book (2019).

According to the data in the table, during the research period, the largest number of birds was recorded: the ruffed grouse Fulica atra (915 individuals) and the gazelle Gazella subgut-turosa (901 individuals) among mammals. Among the average number of birds are the apple-headed Netta rufina (220 individuals), and from the mammals the owl Equus hemionus (49 individuals) and in a small number of birds the Black Aquila heliaca (2 individuals), the white-throated pterocles alchata (3 individuals), and the long-needle hedgehog Hemiechinus from mammals. hypomelas (4 individuals) was registered. Below we will focus on some of these types:

Ovis vignei arkal Eversmann. According to the data of 1978, the number of Ustyurt sheep in Uzbekistan was 330. As a result of poaching and predation by wolves, their numbers have decreased. It is included in the Red Book of the Republic of Uzbekistan (2019) 1 (CR) with the status of a species on the

ISSN NO: 2771-8840
Date of Publication: 20-06-2023

verge of complete extinction. It is also included in the Red List of the International Union for Conservation of Nature and Annex II of the SITYeS Convention.

According to Marmazinskaya et al. (2012), the number of Ustyurt sheep is 59 individuals living in Kuruk Kol and Kaplankyr regions of the Ustyurt Plain. During our research, we registered 30 individuals of the Ustyurt sheep in Kuruk kol and Kaplankyr areas of the Ustyurt plain. 18 of the registered Ustyurt sheep were observed in the Kaplankyr region, and 12 were found in Kuruk Kol. Also, the Ustyurt sheep regularly falls on the photo traps installed in these areas.

Gazella subgut-turosa. In the 1950s, the number of gazelles in the Ustyurt Plain was 6,000 (Kostin, 1956). 30 gazelle individuals were registered during the research conducted in 2009-2010 in the Uzbek part of the Ustyurt plain (Tashibaev, 2012).

In recent years, as a result of climate change, land acquisition and poaching, gazelle numbers have decreased. The gazelle is included in the Red Book of the Republic of Uzbekistan (2019) with the status of 2(VU:D) weakly declining mosaic species. It is also included in the Red List of the International Union for Conservation of Nature.

In the course of our researches, it has been found regularly in the area of the Southern Ustyurt National Nature Park, in the vicinity of Lake Sarikamish, Kuruk kol, Kulon Takir, areas near Kaplankir and Aseke Audan. During the research period, 901 gazelles (average 225 individuals) were registered. As for the geographical distribution of gazelles, 446 individuals were found around Sarikamish Lake and Kuruk Kol, 320 individuals were found from Kuruk Lake to Kulon Taqir and Kaplankir, and 135 from Kaplankir to Aseke Audan. The main reason for such a spread of gazelles is probably related to the food base and water resources of the region. The reason is that the surroundings of Lake Sarikamish are rich in nutrients compared to other regions.

Drought caused by climate change has a negative impact on the biological diversity of this land. Therefore, it is necessary to dig new artesian wells to supply the region with water. Also, we consider the introduction of phytonomics activities to restore the number of animals as one of the issues that cannot be postponed

Literature

1. Aymuratov R.P., Pirzhanova R.K., Matekova G.A. Sostoyanie bioraznoobraziya ecosystem yuzhnogo podrayona plateau Ustyurt v usloviyakh teknogennogo i anthropogennogo pressa. Vestnik KKO ANRUz, 2009. #3. -p. 48-51.
2. Ametov M.B. Ptitsy Karakalpakii i ix okhrana. - Nukus, izd. "Karakalpakstan", 1981. 138 p.
3. Bykova E.A., Esipov A.V. Sostoyanie redkix vidov kopytnykh plateau Ustyurt (Uzbekistan) i uroven ix nezakonnoy dobichi // Zoologicheskie i okhotovedcheskie issledovaniya v Kazakhstani i sopredelnykh stranax, Materialy Mejdunarodnoy nauchno-prakticheskoy konference, 1-2 times, 2012. - Almaty, 2012. - S. 73-75.
4. Gritsyna M.A., Marmazinskaya N.V., Soldatov V.A. Opyt monitoringa ustyurtskogo barana (Ovis vignei arkal) s pomoshchyu fotolovushek na yuge Karakalpakskogo Ustyurta // Teriofauna Rossii i sopredelnyx stran. Materialy mejdunarodnogo soveshchaniya. - Moscow, 2016. - S. 94.
5. Kashkarov R.D. Otsenka sostoyaniya ornitofauny Yuzhnoy chasti plateau Ustyurt letom 2010 g. // Otchet o provenii polevykh issledovaniy. Fauna & Flora International / Obshchestvo okhrany ptits Uzbekistana. - Tashkent, 2010.
6. Kolesnikov V.P. O pozvonochnyx jivotnyx yujnogo Ust-Yurta i ix khozyaystvennom znacheniy // Trudy Sredneaziatskogo universiteta. Novaya series. - Tashkent, 1952. Vyp. 32. S.13-26.
7. Kostin V.P. Materialy po fauna mleklopitayushchikh levoberezhya nizovev Amudari i Ustyurta i essay raspredeleniya vidov pozvonochnyx jivotnyx // Trudy In-ta zool. and parasitol. AN UzSSR. - Tashkent, 1956. Vyp. 8. - S. 5-77.
8. Kostin V.P. Zametki po ornitofaune levoberezhya Amudari i Ustyurta // Trudy In-ta zoo. and parasitol. AN UzSSR, -Tashkent. 1956. Vyp. 8. - S. 79-127.
9. Krasnaya kniga Republic of Uzbekistan. Volume II. Live. Tashkent, 2019.
10. Matekova G.A., Ametov Ya.I., Jumanov M.A. Ecological factors vozdeystvuyushchie na ptits plateau Ustyurt // Voprosy okhrany ptits Uzbekistana. Matt. Res. conf. - Tashkent, 2017. - P.76-80.

ISSN NO: 2771-8840
Date of Publication: 20-06-2023

11. Mambetjumaev A.M. Ornitologicheskoe nablyudenie na Ustyurte i v Kyzylkumax// Sb. Ecology ptits and milk-producing valleys of Amudari, Ustyurta and Kyzylkumov. -Nukus, Izd-vo "Jurnalist", 1993. P.16-28.
12. Marmazinskaya N.V., Gritsyna M.A., Mitropolsky M.G. Novye dannye po redkim vidam mlekopitayushchikh yuga Karakalpakskogo Ustyurta i severa Sarykamyshskoy kotloviny (Uzbekistan) // Nazemnye pozvonochnye jivotnye aridnyx ecosysteum. Materialy mejdunar. conference, posvyashchennoy pamyati N.A. Zarudnogo, g. Tashkent, October 24-27, 2012. - Tashkent, 2012.-S. 204-211.
13. Novikov G.A. Methodology of field research and environmental ecology. Moscow, 1953. - 501 p.
14. Rustamov A.K. Novye dannye po zoogeografii i avifauna Yuzhnogo Ustyurta // Izv. AN KazSSR. The series is zoological. Vyp. 10. - Alma-Ata, 1951. #105. P.61-71.
15. Salikhbaev H.S. Obzor fauna ptits Karakalpakii // Materialy po proizv. Greetings to Uzbekistan. - Tashkent, 1959. - Vyp. 10. - S. 298-309.
16. Tashibaev E.S. Chislennost i rasprostranenie dzheyranov v Yujnyx oblastyax Kazakhstan // Zoologicheskie i okhotovedcheskie issledovaniya v Kazakhstani i sopredelnyx stranax. Materialy Mejdun. Practical conference. Almaty, 1-2 times in 2012. - Almaty, 2012. - S. 184-188.
17. Smirnov B.C. Methody ucheta chislennosti mlekopitayushchix // Tr. in-ta biol. Ural. elephant. AN USSR. - Middle Uralsk: Kn. izd-vo, 1964. Vyp. 39.- S. 32-83.
18. Formozov A.N. Methody ucheta chislennosti i geograficheskogo raspredeleniya nazemnyx pozvonochnyx. - Moscow, 1952. - 392 p.
19. William J. Ecological Census Techniques. – Sutherland: Cambridge, 2006. 432 p.
20. www.iucnredlist.org