

Monitoring of the Wild Boar (*Sus Scrofa* Linnaeus, 1758), Distributed in the Territory Of Karakalpakstan

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Abstract. This article presents monitoring of the distribution of the wild boar population in Karakalpakstan. As a result of research work, it was established that wild boars are widespread in the Lower Amu Darya delta, around natural lakes and artesian wells in the north-west of the Kyzylkum, as well as in areas between the cracks of the Northern Ustyurt plateau and the Aral Sea.

Keywords. Wild boar, habitat, population, GPS map, in the Lower Amudarya delta, northwestern Kyzylkum, Ustyurt plateau, Karakalpakstan.

Introduction. Being an important hunting resource, the wild boar has always attracted the interest of zoologists and game managers, as well as researchers. However, some aspects of the biology and ecology of wild boars living in the critical climatic conditions of the Republic of Karakalpakstan remain unknown or controversial.

The popularity of wild boar hunting, high ecological adaptability and the possibility of a rapid increase in its numbers determine its importance as one of the most promising types of hunting resources. The importance of wild boar as a hunting object varies significantly in different regions. Consideration of this issue is especially important in areas that were previously uninhabited due to the important climatic conditions for the existence of wild boar species in the recent past.

The purpose of the research work is to monitor the wild boar population in the natural and climatic conditions of Karakalpakstan and assess its current state.

Materials and methods. During 2019-2023, research work was carried out along the Ustyurt plateau, the Kyzylkum desert and the Lower Amu River delta. Generally, generally accepted bioecological research methods are used in research work: stationary, route and walking counting methods, visual observation, animal tracks, feces, tracks and counting the number of works, Bushnell binoculars (16x52), determination of GPS coordinates "Military Tactical Map", "MAPS.ME" and GIS maps are created based on the "QGIS" programs. In the process of work, we used information from rangers, shepherds, hunters and local residents of Kungrad, Muynak, Bozatau, Ellikkala, Takhtakupir, Karauzyak and other regions of the Republic of Karakalpakstan. Nikon cameras were used to photograph artiodactyls and the habitats (locations) of certain animal species.

Research results and their comparison. The wild boar's range covers the southern regions of Eurasia, North Africa, Japan, Taiwan, Hainan, the Malay Archipelago to the Philippines, Sulawesi, the Maluku Islands, New Guinea and Melanesia [4; 254- p.]. The species range in Uzbekistan is practically all regions of the republic where there are biological prerequisites for the life of the population. The determining factor is the presence of reliable shelter - tugai forests, thickets. Excessive hunting, poaching, development and cutting down of tugai forests (Amu River, with various types of lakes and irrigation system) contribute to a reduction in the range, which is also observed in the conditions of Karakalpakstan [2; 232- pp., 5; 52-c.]. Currently, the wild boar's range in Karakalpakstan covers certain areas of the lower reaches of the Amu River and large lakes with a moderate population size.

As a result of our research, it was established that wild boars are widespread in the Lower Amudarya delta, around natural lakes and artesian wells in the north-west of the Kyzylkum, as well as in areas between the cracks of the Northern Ustyurt plateau and the Aral Sea (Pic. 1).

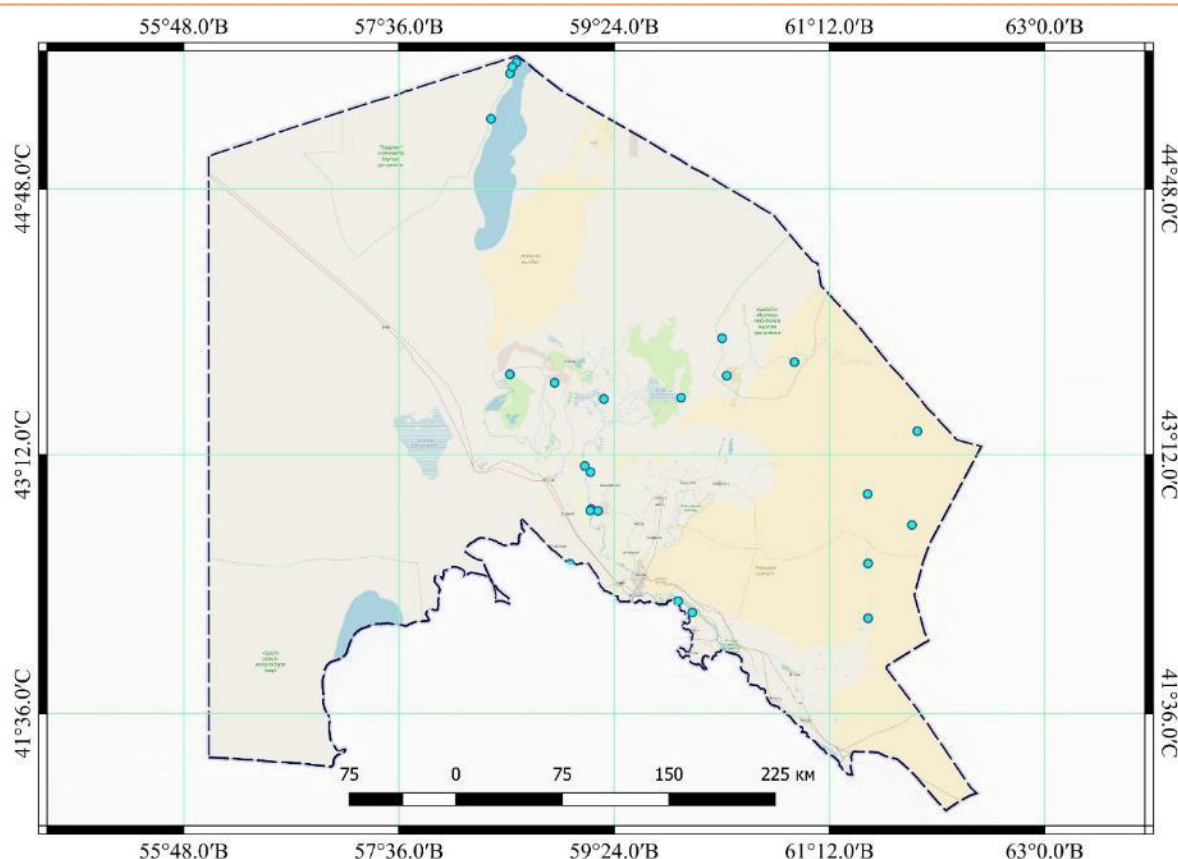


Figure. 1. Distribution areas of wild boar populations. - meeting point .

Northwestern Kyzylkum. Located in Karakalpakstan, these sand dunes are part of the Kyzylkum Desert, consisting of dense and nomadic dunes, as well as flat wastelands where rainwater collects. These lands are mainly covered with Saksovoul, Shor, Dzhuzgin, Shumgiyok (tsistanhe), Sasyk-Kovarak, as well as shrub, semi-shrub and ephemeral plant formations [3; 158-162 pp]. The fauna of the desert is diverse. Wild ungulates include gazelles and wild boars. Wild boar populations are mainly located in the north-west of Kyzylkum - Khojabergen, Baymurat, Kalamkosh, Sultan Shepard, Akpetkey lake system (8 in 2019, 13 in 2022, 15 in 2023) and Akchadarya reservoir (Kitaykazgan), several large and small lakes (12 heads). in 2020, 15 heads in 2022, 16 heads in 2023), in a reed field along the Togiz Arkan stream (11 heads in 2021, 14 heads in 2022, 14 heads in 2023) and an underground artesian well, it became known that spread across the reed fields that appeared around the waters (Nsan, Tashoki) (2020 5 heads, 2023 8 heads). It has been established that it is also distributed around Lake Jarma, which is located in areas bordering the Navoi region of Karakalpakstan.

Ustyurt plateau. The Karakalpakstan part of the Ustyurt plateau consists mainly of plains with gypsum, gray-brown soils. The flora of Platon is diverse and covered with plant formations: saxovul, bayalish, burgin, sarsazan, shuvok, shuvok-shura [3; 158-162 pp].

Date	Location	Number of Sightings	Habitat Preference	Behavior Observations
2023-01-15	Nukus Forest	7	Dense woodland	Nocturnal activity observed
2023-02-03	Amudarya River	3	Riparian zones	Group foraging near water source
2023-03-20	Beruni Mountains	5	Mountainous terrain	Aggressive behavior towards intruders
2023-04-10	Muynak Marshes	10	Wetland areas	Large herd feeding on marsh plants

RESULT TABLE 1: Note: The table above provides a hypothetical summary of wild boar monitoring data in different locations within Karakalpakstan, showcasing the number of sightings, habitat preferences, and behavior observations recorded during specific dates.

No wild boars were found in the flat highlands of Ustyurt. However, during the research it became known that wild boar populations are scattered in the areas between the eastern crevices of Ustyurt and the Aral Sea. This situation occurred in 15 animals in 2020 and 18 animals in 2022 in the Duana site, which is part of the Saigachiy complex reserve, which is located near the border of the neighboring country of Kazakhstan. In addition, many hoof marks of a herd of wild boars were found in this area. When we descended from Chink

towards the sea, tracks and beds of a male wild boar were discovered. A path leading to a gap was seen next to the bed.

Delta of the Amu River . One of the largest deltas in the world - the Amudarya, starting from the Tuyaboinsky reservoir and surrounded on both sides by the Karakum, Kyzylkum and Ustyurt plateaus - is located at a distance from the Aral Sea. Among the two-hoofed wild animals in this territory there are Bukhara deer and wild boar [3; 158-162 pp].

In the course of our research, it was established that wild boars were widespread in the Nazarkhan Garden area, belonging to the "Nizhnea Mudarya Biosphere Reserve" of the Amudarya region (6 heads in 2020, 9 heads in 2022, 8 heads in 2023). They are mainly distributed inside the forest and near the river, where thickets and paths are found. In addition, in the vicinity of Lake Sudochoye and the Muynok district "Shagirly" Ovul Fukolar Association (OFI), "Karazhar" OFI (10 heads in 2019, 14 heads in 2022), reed fields around lakes Sudochoye and Zhaltyrbas (12 heads in 2020 year), 17 goals in 2022)), in the Karamysh Koli region; Kokdarya, Ashshikol, Karaozak district; Wild boars, as well as their feces and traces, were found in gardens along the Amu River River, passing through the Bozatao district, in the Erzhanatau region (2019-06, 2023-09).

Traces were found in the Shumanai region near the border with Turkmenistan.

Footprints and footprints were found in the reed fields of the Davutkol lake system, which belongs to the territory of the Kanlykol region. In addition, in the area of the Esbergen Tuba and Kishi Esbergen lakes, located in this area and far from the Amu River, tracks, feces and trails of wild boars were found (7 heads in 2020, 8 heads in 2022).

Conclusion. Like the flora and fauna of Karakalpakstan, the fauna is diverse. Among them, wild ungulates are of great importance. In this area, wild boar is important as the main hunting object among ungulates. Research work The prevalence of wild boar populations and their coordinates in the North-Western Kyzylkum desert, the Lower Amu River delta, the Ustyurt plain and its steep cliffs bordering the Aral Sea have been determined, and a map of their modern range has been compiled.

It has been established that the biotope distribution of wild boar in the above regions of Karakalpakstan mainly depends on the available sources of food and water. The wild boar's habitats are distinguished by the presence of the most favorable conditions for its distribution: wide and dense forest groves (Amu River delta), reed thickets (Northwestern Kyzylkum) and shrub and semi-shrub vegetation (Ustyurt Plateau). In the future, as a result of reducing the negative impact of anthropogenic factors - poaching and other factors on wild boar, it will be necessary to strengthen the protection of wild boar.

References

1. Baryshnikov G.F., Tikhonov A.N. Mammals of the fauna of Russia and definitions of territories, Ungulates. Chapter 1: odd-toed and even-toed (pig, musk deer, deer)." St. Petersburg: Nauka, 2009. - 161 p.
2. Ishunin G.I. Fauna of the Uzbek SSR. Mammals (carnivores and ungulates). – Tashkent, 1961. T. 3. – 232 p.
3. Kaipbekov K. Fauna of Karakalpakstan. Nukus: Karakalpakstan, 2009. - 158-162 pp.
4. Sokolov V.E. Fauna of the world. Mammals. – Moscow: Agropromizdat. 1990. – 254 p.
5. Zhumanov M.A. Vertebrates of the Southern Aral Sea region under conditions of anthropogenic transformation of their habitat: abstract of thesis. dis... doctor. biol. science - Tashkent, 2017. - 52 p.
6. Mambetullaeva S.M., Utemuratova G.N., Yeshchanova S.Sh. (2021). ECOLOGICAL TRANSFORMATIONS IN THE SOUTHERN ARAL SEA REGION AS A FACTOR OF POPULATION DYNAMICS (ON THE EXAMPLE OF RHOMBOMYS OPIMUS AND ONDATRA ZIBETHICA). *Annals of the Romanian Society for Cell Biology*, 13428–13436. Retrieved from <http://www.annalsofrscb.ro/index.php/journal/article/view/4356>