

**CLASSIFICATION OF ANIMAL SPECIES LISTED IN THE "RED BOOK" AND  
DISTRIBUTED IN SURKHANDARYA REGION***Jamolova Dildora Javlon qizi**Termez State Pedagogical Institute  
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**Abstract:** This article examines the rare and endangered animal species found in the Surkhandarya region and listed in the "Red Book" of the Republic of Uzbekistan. The paper provides detailed information on the biodiversity, distribution range, ecological significance, and conservation measures related to these species. Based on regional monitoring data, the current status of the species has been analyzed, and practical scientific recommendations for their protection are proposed. The article is of particular interest to biologists, ecologists, and professionals involved in wildlife conservation.

**Keywords:** Red Book, Surkhandarya region, rare animals, biodiversity, conservation, ecological monitoring, distribution range.

The territory of the Republic of Uzbekistan is rich in biodiversity and is home to many rare and endangered animal species. Currently, global climate change, intensified human activity, urbanization, and the shrinking of natural habitats are contributing to the decline—and in some cases, the extinction—of numerous animal species. For this reason, the government of Uzbekistan has taken significant steps to preserve rare and endangered flora and fauna, including the regular updating of the "Red Book of the Republic of Uzbekistan."

Surkhandarya region, located in the southern part of Uzbekistan, stands out for its unique ecosystems comprising mountains, deserts, and river systems. A number of endemic Central Asian animal species are found in this area. In particular, the Hissar mountain ranges, Boysun Mountains, the Surkhan River basin, and the Dashtijum Nature Reserve serve as natural habitats for many rare species.

This article scientifically analyzes the current status, biological and ecological characteristics, distribution areas, and conservation conditions of animal species listed in the Red Book and distributed across the Surkhandarya region.

The purpose of this article is to classify the animal species listed in the Red Book and found in the Surkhandarya region, to study their current distribution, to identify threat factors, and to develop scientifically grounded recommendations for their conservation.

A comprehensive ecological and zoological analysis was carried out in the research. The study was conducted based on the following methods:

**1. Literature Review:**

Key documents were examined, including the Red Book of the Republic of Uzbekistan (2021 edition), national environmental legislation, previous scientific studies, and

available biological monitoring data specific to the Surkhandarya region. Special attention was given to comparative analysis of species records in the Dashtijum, Boysun, and Surkhan nature reserves.

2. **Field Observation and Monitoring:**

During 2024–2025, expedition-based fieldwork was conducted in important natural areas of Surkhandarya, including the Boysun mountain range, Dashtijum reserve, and Sherobod valley. Species were recorded through direct observation and tracking signs in their natural habitats. Some large mammals, such as the snow leopard (*Panthera uncia*) and striped hyena (*Hyaena hyaena*), were monitored using camera traps.

3. **Taxonomic and Statistical Analysis:**

Recorded animal species were classified systematically by families, orders, and species. Their distribution areas were mapped using GIS technologies. Each species was assessed for its threat level, population status, and ecological importance.

4. **Expert Interviews:**

Consultations were held with specialists from the Surkhandarya Regional Department of Ecology, the Forestry Service, and staff of the Dashtijum Nature Reserve. Practical insights provided by these experts helped refine and verify the research findings.

Throughout the study, only scientifically validated and evidence-based data were used. The results presented in this article provide a valuable foundation for future biodiversity monitoring efforts and the development of conservation strategies.

During the study, a total of **34 animal species** listed in the Red Book of the Republic of Uzbekistan were recorded in the Surkhandarya region. These include mammals, birds, reptiles, amphibians, and fish. It was found that the distribution, population size, and conservation status of these species vary significantly.

1. **Mammals (Mammalia)**

Among the 11 mammal species listed in the Red Book and recorded in the Surkhandarya region, one of the most notable is the **snow leopard (*Panthera uncia*)**, which occurs in small populations in the Boysun and Hissar mountain ranges. The presence of the snow leopard has been confirmed exclusively through camera trap footage. In addition, species such as the **striped hyena (*Hyaena hyaena*)**, **grey wolf (*Canis lupus*)**, and **Eurasian otter (*Lutra lutra*)** were observed. Their population numbers are unstable, and their habitats are shrinking due to increasing anthropogenic pressure.

2. **Birds (Aves)**

A total of 13 rare bird species were recorded in the region. Among them, the **saker falcon (*Falco cherrug*)**, **mute swan (*Cygnus olor*)**, certain species of larks, and the **golden eagle (*Aquila chrysaetos*)** are of particular ecological importance. Most bird species are found in the Surkhan River basin and foothill areas. Some species enter the region briefly during spring and autumn migration periods.

3. **Reptiles and Amphibians**

Reptiles listed in the Red Book, such as the **Hissar tortoise (*Testudo horsfieldii*)** and the **Iranian racerunner (*Eremias strauchi*)**, inhabit desert and mountain foothill areas. Although their numbers are low, they are consistently observed in certain local habitats.

#### 4. Fish and Aquatic Species

Certain fish species found in the Surkhan River and its tributaries—such as the **Amu Darya shovelnose sturgeon (Pseudoscaphirhynchus hermanni)** and the **Amu Darya sturgeon (Pseudoscaphirhynchus kaufmanni)**—are on the brink of extinction. Their populations are critically low and are observed only in controlled water flows under limited conditions.

The results of the study once again confirm that the Surkhandarya region possesses a unique biodiversity. In particular, the presence of rare and endangered species listed in the Red Book, along with the scientific assessment of their ecological status and distribution, is considered one of the most urgent tasks in contemporary wildlife conservation.

The unique geography of the Surkhandarya region—featuring a combination of mountainous, desert, and river ecosystems—provides favorable habitats for numerous rare animal species. However, the existence of these species remains under constant threat. The fact that large mammals such as the **snow leopard (Panthera uncia)**, **striped hyena (Hyaena hyaena)**, and **Eurasian otter (Lutra lutra)** are only observed in limited areas indicates a significant decline in their populations. This situation is linked both to the reduction of natural habitats and the increasing intensity of human activities.

Birds are also of special ecological importance as bioindicators. Some large birds of prey, such as the **golden eagle** and **saker falcon**, are found exclusively in high-altitude areas. Observations show that their range has been shrinking in recent years. Meanwhile, fish and aquatic species face serious threats due to water pollution, decreasing water levels, and unregulated management of river flow systems.

Research findings also reveal that only a portion of the region's protected areas and national parks provide adequate safety for endangered species. While **Dashtijum** and **Boysun** reserves offer relatively stable habitats for certain species, enhanced supervision and systematic monitoring in these areas are urgently needed.

It is also important to emphasize that the protection of species listed in the Red Book cannot rely solely on government intervention. Raising public awareness, promoting environmental education, and fostering local community engagement are essential components of successful conservation efforts. Without such measures, the natural populations of these species may face complete extinction.

Based on the findings of this study, the following conclusions were drawn:

1. The Surkhandarya region is one of the most biologically diverse areas in Uzbekistan, home to more than **30 rare and endangered species** listed in the Red Book.
2. Species such as the **snow leopard**, **striped hyena**, **Eurasian otter**, **saker falcon**, **golden eagle**, and **Hissar tortoise** have considerable ecological and scientific value, yet most of them exist under high anthropogenic pressure.
3. The decline in natural habitats, illegal hunting, water scarcity, and pollution are major threats causing a significant decrease in the number of various animal species.



4. Existing reserves in the Surkhandarya region (e.g., Dashtijum, Boysun) are of critical importance but require more extensive monitoring, scientific control, and active participation from the local population.
5. Effective conservation of Red Book species demands not only strong state policies but also **community involvement, environmental education, and sustainable resource use strategies.**

Therefore, it is recommended that the scientific findings of this article be translated into practical proposals and incorporated into the region's environmental policy planning.

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