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## ECOLOGY OF MAMMALS AND THEIR IMPORTANCE IN NATURE

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Annotation: Mammals are one of the important components of ecological systems, they play a major role in maintaining the food chain and ecosystem balance in nature. This article analyzes the ecological aspects of mammals, such as their habitat, population dynamics, and the impact of human activity. It also discusses their importance in the biosphere, including their impact on plant pollination, soil fertility, and other animal populations. Measures to protect mammals and preserve biodiversity are also considered. The article highlights the role of mammals in the natural environment and their importance in ensuring ecological stability.

**Key words:** mammals, component, ecosystem, population, biosphere, Triassic, cynodonts, cloacals, Jurassic, pantotheria, marsupials, ungulates, monkeys, tigers, elephants, camels, fennec foxes, rodents, dolphins, whales, polar bears, wolves, deer, rats, foxes, cats, marmots, opossums, moles, voles, marmots, mink, water voles, duck-nosed voles, muskrats, walruses, seals, bats, herbivores, carnivores, omnivores, detritivores, bears, raccoons, tigers, wolves, lions, rabbits, insectivores, foxes, hares, hares, otters, sables, minks, beavers, martens, raccoons dogs, water raccoons, moose, boars, roe deer, deer, reindeer, saigas, sable, mink, nutria, chinchillas, black-eyed raccoons, red steppe, bushuyev, simmental, Swiss, Kazakh Akbashi, Santa Gertrude, Shorthorn, Yaroslavl, Kholmogor, Alatov, Romanov sheep, Askania sheep from Merino sheep, Kazakh fine-wool sheep, Hissar sheep, Karakol sheep, Vladimir breed, Karabayir, Akhaltaka, Orlov, Russian Yorgos, Yavmut, Lakai breeds.

# SUTEMIZUVCHILARNING EKOLOGIYASI VA TABIATDAGI AHAMIYATI

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Annotatsiya: Sutemizuvchilar ekologik tizimlarning muhim komponentlaridan biri boʻlib, ular tabiatdagi ozig-ovgat zanjiri va ekotizim muvozanatini saglashda katta rol o'ynaydi. Ushbu magolada sutemizuvchilarning yashash muhiti, populatsiya dinamikasi va inson faoliyati ta'siri kabi ekologik jihatlari tahlil gilinadi. Shuningdek, ularning biosferadagi ahamiyati, jumladan, oʻsimliklarning changlanishiga, tuproq unumdorligiga va boshqa hayvonlar populyatsiyasiga ta'siri muhokama gilinadi. Sutemizuvchilarni muhofaza gilish va biologik xilma-xillikni saqlab qolish boʻyicha choralar ham koʻrib chiqiladi. Magolada sut emizuvchilarning tabiiy muhitdagi oʻrni va ekologik bargarorlikni ta'minlashdagi ahamiyati yoritilgan.

Kalit so'zlar: sut emizuvchilar, komponent, ekotizim, populatsiya, biosfera, Trias, sinodontlar, kloakalilar, yura davri, pantoteriya, xaltalilar, yoʻldoshlilar, maymunlar, yoʻlbarslar, fil, tuya, fenek tulkisi, kemiruvchilar, delfinlar, kitlar, og ayig, bo'ri, bug'ular, kalamush, tulki, mushuk, suvsar, olmaxon, yumrongoziglar, krotlar, ko'rsichgon, gopchigli krot, norka, suv kalamushi, o'rdak burun, ondatra, mori, tyulenlar, ko'rshapalaklar, herbivorlar, karnivorlar, omnivorlar, detritivorlar, ayiglar, rakun, yoʻlbars, boʻri, sher,tovushgonlar, hasharotxo'rlar, tiyin, og tulki, guyon, ko'k suvsar, latcha, sobol, norka, gunduz, sug'ur, ondarta, yenotsimon it, suvchaygar yenotlar, los, to'ng'iz, elik, maral, shimol bug'usi, sayg'oglar, sobol, norka, nutriya, shinshillalar, gora-ola, gizil dasht, bushuyev, simmental, shvis, Qozogʻiston oqboshi, santa-gertruda, shortgorn, varoslavl, xolmogor, olatov, romanov go'yi, merinos go'ylaridan askaniya go'yi, gozog mayin junli goʻylari, hisor go'yi, gorakol go'ylari, vladimir zoti, gorabayir, axaltaka, orlov, rus yorgasi, yovmut, laqay zotlari.

Introduction: Mammals (Mammalia), a class of vertebrates. They originated from predatory reptiles-cynodonts at the end of the Triassic. From one group of cynodonts, polychaetes (extinct), and from the other, cloacals appeared. It is assumed that pantotherians arose in the Jurassic period from polychaetes, and from them modern marsupials and placentals. Mammals (mammals) are an integral part of the ecosystem, they play an important role in maintaining balance. They participate in the food chain, support biodiversity and have a great impact on human life.

Main part: Mammals (Mammalia) are one of the most advanced classes of the animal kingdom and play an important ecological role in various ecosystems. They participate in various stages of the food chain and contribute to the maintenance of biodiversity.





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**Mammalian ecology.** Mammals are a diverse group of organisms that live on land, in water, and in the air, each of which plays a role in the ecosystem. Mammals are adapted to a variety of natural environments.

Forest ecosystems - animals such as monkeys, tigers, and elephants live in them.

Desert ecosystems - camels, fennec foxes, and rodents have adapted to live in them.

Aquatic ecosystems - dolphins, whales, and amphibians live in them.

Tundra and polar ecosystems - polar bears, wolves, and reindeer live in them.

Urban ecosystems - animals such as rats, foxes, and cats live in them.

Each species has its own characteristics to adapt to its environment.

Terrestrial mammals: the largest group of mammals, occupying all land on Earth. They are mainly adapted to live in all forests and shrubs, as well as in open areas.

Arboreal: eats food in trees, spends a lot of time working, rests, and uses tree cavities to build nests for reproduction. For example, rodents such as the apple tree squirrel, some carnivores such as marmots, many species of monkeys, and others live in trees.

Open-air: this group includes ungulates that live only on the ground, as well as ground-dwelling mammals such as opossums, ground squirrels, most carnivores, and voles.

Underground: spends all or most of their lives underground. Mammals in this group have undeveloped eyes and auditory ossicles. The tail is short and hairless or completely absent. The front legs are also well developed.

Underground: moles, bats, and marsupial moles.

Aquatic animals: morphologically less adapted to life in water, such as mink, polar bear, water rat, duck-nosed duck, muskrat, walrus and seals, which are more adapted to life in water, and cetaceans, which are completely adapted to life in water, deserve attention. In particular, cetaceans are mammals that are fully adapted to life in an aquatic environment. If they accidentally get ashore, they die. The wool layer and sweat glands on their skin have disappeared. There are no hind legs.

Aerial animals: only corymbiformes or bats are included. To fly in the air, bats have wings as their flight organ, and the sternum is located on the surface of the petrous bone. The bones of the skull skeleton are fused.

Mammals play various roles in the food chain:



1. Herbivores (herbivores) - feed on plants and prevent their excessive reproduction. (deer, rabbit, elephant).

2. Predators (carnivores) - regulate the population of their prey and ensure the stability of the ecosystem. (tiger, wolf, lion.).

3. Omnivores (omnivores) - feed on both plants and animals. (humans, bears, raccoons.).

4. Detritivores (detritivores) - feed on dead organisms and contribute to the turnover of substances. (rats, some bats). Predators prevent the overpopulation of their prey, ensuring the stability of the ecosystem.

Mammals maintain the balance of the ecosystem. Predators and herbivores maintain the natural balance. Affect the growth of plants. Herbivores contribute to the spread of plants. Help keep water bodies clean. Aquatic mammals clean the aquatic ecosystem by consuming plankton and small organisms.

Importance to human life: Agriculture and food source - Livestock provide products such as meat, milk and wool. Transport and freight - horses, camels and donkeys have long been used as means of transport. Scientific and medical research - mice and rats are used in medical experiments. Tourism and economic benefits - dolphins, whales and wild animals play an important role in ecotourism.

Mammals are often threatened by human activities: Deforestation - animals are losing their habitat. Hunting and poaching - illegal hunting for products such as ivory and tiger skins is taking place. Air and water pollution - chemical waste and plastic are harming dolphins and whales. Climate change - worsening the living conditions of animals such as polar bears.

**Importance in humans and nature.** Of course, most mammals bring great benefits to humans and nature in one way or another. Out of 350 species of mammals, 150 are hunted in the CIS, and in this respect the CIS ranks first in the world.

The most hunted mammals include representatives of the rodent (35 species), predators (41 species), artiodactyls (20 species), artiodactyls (13 species), ungulates (5-8 species) and insectivores (5 species). To obtain the most valuable fur, the following animals are hunted: weasel, fox, white fox (peses), hare, sable, blue marten, latcha, sable, mink, beaver, badger, ondarta, raccoon dog, and water raccoon, and these animals form the basis of the fur industry.

In addition to fur farming, the hunting of ungulate mammals is well developed in the CIS. Every year, about 500-600 thousand ungulates are hunted for meat, skin and medicinal products. For example, moose, boar, roe deer, deer, reindeer and saigas are among them. Domesticated and domesticated mammals



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are of great importance in human life. Sable, mink, white fox, nutria and chinchillas are bred for their fur on special fur farms. Of the cattle breeds raised in Uzbekistan, the following breeds are bred: black-and-white, red-steppe, bushuyev, simmental, Swiss, Kazakh white-headed, Santa-gertrude, shorthorn. In addition, Kostroma dairy and meat breeds, Yaroslavl dairy breed, Kholmogory dairy breed, Alatovsky dairy breed and several other cattle breeds are widely used by humans as a source of food. Some species of mammals (horse, donkey, ox, dog, elephant) are of great importance in human life as working animals, sports and guard animals.

As a result of domestication, about 150 breeds of sheep have been created. Among these breeds, the Romanov sheep, the Askania sheep from the Merino sheep, the Kazakh fine-wool sheep, the Hissar sheep, and the Karakul sheep are noteworthy. The ancestor of all breeds of domestic pigs is the wild boar. There are also more than 200 breeds of horses, including the Vladimir breed, the Karabayir, the Akhaltaka, the Orlov, the Russian Yorgasi, the Yavmut, and the Lakai.

**Conclusion.** Mammals play an important role in increasing soil fertility, dispersing plant seeds, eliminating insect pests, and acting as sanitation workers. Mammals perform important functions such as maintaining ecosystem stability, balancing the food chain, and directly affecting human life. As a result of human activities, their habitats are decreasing, so protecting mammals is important for ecological stability and future generations.

## **REFERENCES USED:**

1. S. Dadayev, Q. Saparov; OʻzR oliy a oʻrta-maxsus ta'lim vazirligi. T.Choʻlpon nomidagi nashriyot-matbaa ijodiy uyi, 2011. - 512 b.

2. S.Dadayev/O. Mavlonov; O'zR oliy va o'rta maxsus ta'lim vazirligi, Nizomiy nomidagi Toshkent Davlat pedagogika un-ti. TIQTISOD-MOLIYA" 2008, 184 b.

3. S. DADAYEV, S. TO'YCHIEV, P. HAYDAROVA 0'zbekiston faylasuflari milliy jamiyati nashriyoti Toshkent — 2006

4. Haqberdiyeva S. T. The role of pedagogy and psychology in improving the methodology of teaching biology based on a general approach to secondary schools //Texas Journal of Multidisciplinary Studies. – 2022. – T. 6. – C. 115-118.

5. Haqberdiyeva S. T. Improving the Teaching Methods of Biology in General Secondary Schools on the Basis of A Competency-based Approach //Academicia Globe. – 2022. – T. 3. – N $_{2}$ . 03. – C. 132-136.



https://journal-index.org/index.php/ajasr

6. Tursunaliyevna H. S., Nozima A. Effectiveness of using innovative technologies in teaching the morphology of bacteria //Journal of Universal Science Research. -2023. -T. 1. -N<sup>o</sup>. 10.-c. 60-66.

7. Xakberdiyeva Hilola Abdusaid qizi 2022 METHODS OF FISH GROWING AND STUDY IN FISHERIES. EURASIAN JOURNAL OF MEDICAL AND NATURAL SCIENCES Issue 02 22-28.

8. Xakberdiyeva Hilola Abdusaid qiz 2021 Fish growing in Yangiyer fishing farm of syrdarya region of the republic of uzbekistan Galaxy international interdisciplinary research journal (giirj) Issn (e): 2347-6915 1311-1316 bet.