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# ЕКОЛОГІЧНІ ПРОБЛЕМИ МЕГАПОЛІСУ

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## THE MODERN CONDITION AND PRESERVATION OF BIODIVERSITY IN THE ANTHROPOGENIC TRANSFORMED LANDSCAPES OF UKRAINE INCLUDING THE CHERNOBYL ZONE

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In the paper the numbers of different species of flora and fauna inhabiting the areas of Ukraine are presented. The reasons of biodiversity petering in Ukraine are defined.

*Key words: biodiversity, rare species, Chernobyl zone, preservation.*

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### СУЧАСНИЙ СТАН БІОРИЗНОМАНІТТЯ ТА ЙОГО ЗБЕРЕЖЕННЯ У ЗМІНЕНОМУ АНТРОПОГЕННОМУ ЛАНДШАФТІ УКРАЇНИ, ВКЛЮЧАЮЧИ ЧОРНОБІЛЬСЬКУ ЗОНУ

У статті наведено результати підрахунків різних видів флори та фауни, які мешкають на території України. Досліджено причини зменшення біорізноманіття України.

*Ключові слова: біорізноманіття, рідкий вид, Чорнобильська зона, збереження.*

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### СОВРЕМЕННОЕ СОСТОЯНИЕ БИОРАЗНООБРАЗИЯ И ЕГО СОХРАНЕНИЕ В ИЗМЕНЕННОМ АНТРОПОГЕННОМ ЛАНДШАФТЕ УКРАИНЫ, ВКЛЮЧАЯ ЧЕРНОБЫЛЬСКУЮ ЗОНУ

В статье приведены результаты подсчетов различных видов флоры и фауны, обитающих на территории Украины. Исследованы причины уменьшения биоразнообразия Украины.

*Ключевые слова: биоразнообразие, редкий вид, Чернобыльская зона, сохранение.*

The biodiversity has a fundamental value in functioning of ecumene, maintenance of stability of a climate and life on a planet as a whole. Given the scale of the problems associated with environmental degradation, the United Nations Organization has proclaimed 2010 year as International year of biodiversity.

The biodiversity of Ukraine in totals consist over 27 thousand species of flora (including about 7 thousand species of vascular plants, there is more than 15 thousand species of mushrooms and myxomycetes, more than 1 thousand species of lichens, almost 800 species of bryophytes and about 4 thousand species of algae) and 45 thousand species of fauna (from them over 35 thousand species of hexapods, almost 3,5 thousand species of other arthropods 1800 – the protists, 3320 – the worms, about 200 species of fishes and cyclostomates 17 – amphibious, 21 – reptiles, nearly 400 – birds and 108 species of mammals), that in the sum compounds not less than 35 % of a biota of all Europe. Such considerable variety is caused by those, that in Ukraine in rather small terrain (the country occupies 6 % of the area of Europe) there are 4 different natural zones which considerably differ on flora and fauna. As a result on the biodiversity indication, the Ukraine are excels

almost all European countries and consequently can be considered as one of powerful reservation for restoration of a biodiversity of all Europe. The greatest biodiversity is observed in steppe zone of Ukraine which occupies 34 percent of terrain of the country. Unfortunately, catastrophic reduction of the area of terrains of natural steppe ecosystems which have remained only in several reservations and on abrupt slopes of mountains, not suitable for agriculture is now observed. Other steppe fields are occupied under agricultural lands or under city and industrial agglomeration.

At the same time, the modern state of a biodiversity of Ukraine under intensifying of anthropogenic pressure upon connatural ecosystems causes a great anxiety and requires the use of cardinal measures. Through an anthropogenic load on environment the species diversity are promptly decreases for as animals, and plants. In Ukraine under the threat of petering now there is a significant amount of the rare species (in the last edition of the Red data book of Ukraine, published in 2009 year, 826 species of plants and mushrooms and 542 species of animals are included).

The main threat for a biodiversity of Ukraine is compounded by human activity. So; on the considerable areas destruction and degradation of environments of existence of animals and places of growth of plants owing to ploughed up the earths, to cutting down the forest, artificial infringement of a hydrological mode of terrains, large-scale industrial and housing construction which leads to a fragmentation of landscapes, environmental contamination as a result of industrial and agricultural activity, wearisome use of a biodiversity components, diffusion of illnesses, depredators and parasites, adventive species are observed. Migration routes of animals that compounds threat for a biodiversity not only for Ukraine, but also for many other countries are broken. Invasive alien species negatively influence a biodiversity almost each typical ecosystem on the Earth and is one of the greatest threats of biological variability, first of all lead to decrease in number or elimination of aboriginal species and break a normal functioning of ecosystems.

The biggest anthropogenic pressure upon a biodiversity in the conditions of connatural and contaminated landscapes of megacities is observed. Here the building density is essential increases, number of urban population and quantity of motor transport grows, etc. Therefore necessity of implementation of urgent actions for defense and preservation of a biodiversity of the mentioned terrains is arises. Research of landscape and biological variety of urban terrains and revealing of the most significant influences of the anthropogenic nature on their dynamics allows receiving specifications for not wearisome use of recreation potential of wood, forest-park and park areas. These terrains require augmentation of qualitative and quantitative structure of a biota in urbanized cenosis and creation of necessary conditions for reproduction and support of artificial and seminatural ecosystems which are an indispensable and necessary component of medium of existence of the modem person.

In urban ecosystems the plants and animals undergo considerable changes because here an environment operates as a negative stressful factor in their life. In urbanized cenosis the acclimatization of plants are carried out at the expense of infraspecific differentiation and rearrangement of their population structure. In the forest region of Ukraine there is the urban technogenic aridization of a climate in city ecosystems which actually change to zones of steppes and even semi-deserts.

In natural conditions of Ukraine there is a strong tendency to reduction of number of large mammals. For example, number of the moose from 14 thousand in 1990 now has decreased almost to 4 thousand. Combined number of the priority kind of rare mammals of Europe – the auroch which exists in Ukraine in free conditions, has reached the highest level at 1992-1993 years (664 individuals). It compounded over half of their world quantity, but now number of aurochs has decreased more than in 2 times. For the last 10 years the number of hoofed animals has decreased on one third. Has sharply decreased and continues to decrease number of the brown bear and a lynx (modem number about 340 and 360 individuals accordingly). And the unique representative of one of the world's most endangered marine mammals – a seal-monk does not meet any more in waters of our country since 50th years of 20th century, and consequently it is necessary to consider, that from a fauna of Ukraine this kind has disappeared.

Now from reservoirs of Ukraine the bastard sturgeon and the sterlet have completely disappeared. The beluga (European sturgeon) is on the verge of petering. Number of the Azov sturgeon for the last 15 years has decreased from 14 million up to 0,2 million exemplars, Azov starry sturgeon - from 360 thousand up to 80 thousand exemplars.

The basic means for preservation of a biodiversity at populational-species level is: conservation or restoration of natural conditions of medium of existence of a biota; restoration and support of natural populations of species of plants; mushrooms and animal, including the most rare species from the Red data book of Ukraine; prevention of anthropogenic degradation of natural ecosystems; essential augmentation of terrains of Natural Reserve Fund to Central European level; optimization of an interrelation of natural and artificial ecosystems in frame of agrolandscapes.

On an example of Chernobyl zone, which became as natural reserve, it is possible to observe the powerful serai processes which have led to fast restoration of a feral fauna and flora; especially it concerns regenerations of a diversity and number of large mammals. On the other hand, Chernobyl region continues to remain strong threat of diffusion of radioactive materials. Owing to Chernobyl accidents it is polluted by radionuclides .about 4 million hectares of woods. In particular, forest fires lead to spread of the radioactive dust which has collected in fulcrums and branches of trees, together with a smoke on huge distances and can get even to the remote countries of Europe. Therefore the decision of a problem of liquidation of consequences of Chernobyl accident should be solved at the international level, at least on all-European.

The important mechanism of achievement of the purposes of conservation of a biodiversity is the International cooperation within the limits of global, regional and bilateral conventions, agreements, programs, etc., in particular, the Convention on Biological Diversity and Pan-European Biological and Landscape Diversity Strategy.

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