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STRUCTURAL AND FUNCTIONAL DIVERSITY OF THE ECOSYSTEMS IN ROMANIA

DIVERSITATEA STRUCTURALĂ ŞI FUNCŢIONALĂ A ECOSISTEMELOR IN ROMANIA

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There are considerable number of damaging practices and activities affecting biodiversity in Romania and the possibilities for reducing damage to biodiversity are large. The existence or absence of pollutants is related to the technology applied in different industrial branches, which proved to be inadequate in keeping the surrounding environment safe. Keeping the polluted vegetation at the best life parameters require taking urgent actions in order to prevent or to stop its degradation processes.

Key words: ecosystems, structure, functionality

Introduction

The extensive range of ecosystems types in Romania is largely the result of the influence of climate and elevation. In total 17 major terrestrial ecosystem formation exist including the entire major ecosystem types existing in Europe. There is also rich diversity of aquatic ecosystems including river floodplains, glacial lakes, coastal wetlands, bogs and Mountain Rivers. Depicts the 21 ecoregions identified in Romania. In the more humid region climate there are the steppe grasslands and in the mixing zone between the two regions there is a zone which include four main types: the nemoral, with broad-leaved forests, boreal (horizontal) with coniferous forests, sub alpine (vertical) and alpine (vertical).

Romania has a high level of plant diversity it is particularly important as a centre of population density for a variety of threatened and endangered animals. Of greatest significance is the high density of bears, wolves and lynx. The population of these animals (which have been extirpated from most areas of Europe) are the highest on any country in Europe (excepting Russia).

Although rich in biological resources and important as a corridor for the movement of species, Romania has suffered the consequence of human activity. Pollution, the damming of rivers, industrial agriculture, overexploitation of natural resources, among other factors, have all taken their toll in decreasing biodiversity.

Materials and Methods

The following are important chemical factors affecting ecosystems: supply of water and air in the soil (land ecosystems); supply of plant nutrient dissolved in soil moisture and in water; level of toxic substances dissolved in soil and in water; salinity of water; level of dissolved oxygen. An ecological principle related to the law of tolerance is the limiting factors principle: two much or too little of any a biotic factor can limit or prevent growth of a population even if all other factors are at or near the optimum range of tolerance. Such a factor is called *limiting factor*

In most of the polluted species, the pollution damages are causing their regress and the unsettlement of natural interspecies relationship. Once with the presence of the polluted factors, in certain geographical area, the process of destruction of the whole vegetation also begins, with serious effects on the nature and human activity.

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Limiting factors in terrestrial ecosystems include temperature, water, and light and soil nutrients. For example, suppose a farmer plants corn in phosphorus-poor soil. Even if water, nitrogen, potassium, and other nutrients are at optimum levels, the corn will stop growing when it uses up the available phosphorus. Here, phosphorus determines how much corn will grow in the field. Growth can also be affected by too much of an a biotic factor. For example, plants can be killed by too much water or too much fertilizer

Results and Discussions

Human impact on Ecosystems. In modifying natural ecosystems for our use, we usually simplify them: we plow grasslands, clear forests, and fill in wetlands. The we replace their thousands of interrelated plant and animal species with one crop or with one kind of tree–called monocultures, or with buildings, highways and parking lots. Our action should take into account the second law of ecology, or principle of connectedness: everything is connected to and intermingled with everything else; we are all in it together. There is no independence in nature. Cultivation is not the only way people simplify ecosystems. Another problem with the simplified ecosystems and habitats we create is that they leak. Nutrients are quickly lost from monoculture crop fields, tree farms, cities and suburbs and most be replaced at great financial and environmental cost.

Rehabilitating and restoring ecosystems. Another face of sustainable living is to help heal wounds we have inflicted on nature. Luckily much of the environmental damage we cause is reversible. Forest can be replanted, topsoil can be replenished, streams can be cleaned up, and wetlands can be restored. Researchers are creating a new discipline of rehabilitation and restoration ecology devoted to renewing damaged areas and ecosystems.

When a degraded ecosystem is abandoned, in most cases it will eventually recover, at least partially, through ecological succession. But natural restoration usually takes a long time.

By studying how natural ecosystems recover, scientists are learning how to speed up our repair operations. Rehabilitation involves making degraded land useful for human again on sustainable basis, including stopping soil erosion and desert creep, and allowing the land once again to produce food or wood for fuel and timber.

Romania is a meeting place for many ecosystems and a territory through which many species have spread their distribution. The largely unbroken Carpathian mountain chain and the Danube River and its tributaries are particularly important in providing a corridor for spread of biodiversity.

We can also tell that, through its impressive biodiversity of habitats and life forms, housed in a relative limited space, Danube Delta constitutes a real biodiversity museum, a natural gene bank of inestimable value for natural universal patrimony. A lot of vegetal or animal species were important natural resources, economic exploited by the humans since ancient times

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Conclusions

The differences in physical environment affect rates of disturbance and nutrient cycling, which translate into variations in recruitment, productivity, and competitive balance among species. The depths to which these edge effects penetrate differ among processes and ecosystems. Wind effects, for example, may penetrate more deeply from an edge than would availability of mycorrhizal propagules.

Small areas of forest are typically cleared of most trees and burned to release organically bound nutrients. The soil is left untilled, causing little loss of soil organic matter. Crops are planted in species mixtures, with multiple plantings and harvests (Vandermeer 1990). As soil fertility drops, and insect and plant pests encroach, often within 3-5 years, the agricultural plots are abandoned and allowed

to regrow to forest. The re-growing forests provide fuel and other products for 20-40 years until the cycle repeats. Shifting agriculture generates landscape heterogeneity at many scales, ranging from different aged patches within a forest to different crop species within a field

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