



RODENT SPECIES IN AGRICULTURAL ECOSYSTEMS FROM THE CENTRAL PART OF THE REPUBLIC OF MOLDOVA AND BACAU COUNTY, ROMANIA

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Introduction. Rodents are the most widespread group of mammals and are important elements of terrestrial ecosystems, being the dominant vertebrate species in various types of ecosystems, especially in agricultural ones. Many rodent species are pests of agricultural crops, thus influencing the food supply of humans and domestic animals. In the central part of the Republic of Moldova and in Bacau County, Romania, the agricultural landscape occupies large surfaces.

The aim of the study was to reveal the differences between the structure of small rodent communities in agrocenoses from central part of Moldova and Bacau district, Romania.

Material and methods. The studies were conducted from 2009 to 2019 in several types of agricultural crops such as alfalfa, wheat, and corn, in the central part of the Republic of Moldova and Bacău County. The rodents were caught using snap traps and live traps, which were placed in lines at a distance of 5-8 meters from each other.

Results. In both areas 14 rodent species were registered: *Spermophilus citellus*, *Apodemus sylvaticus*, *A. flavicollis*, *A. uralensis*, *A. agrarius*, *Mus musculus*, *M. spicilegus*, *Rattus norvegicus*, *Mycromys minutus*, *Cricetulus migratorius*, *Microtus arvalis*, *M. subterraneus*, *Clethrionomys glareolus* and *Dryomys nitedula*. The diversity of rodent fauna was higher in Bacau cultivated lands (11 species) in comparison to central Moldova agrocenoses (9 species). In crops from central Moldova the species *S. citellus*, *R. norvegicus*, *M. minutus* and *M. subterraneus* were not registered, while in Bacau crops the species *A. uralensis*, *C. migratorius* and *D. nitedula* weren't recorded. In alfalfa crop the dominant species in both regions was the field vole, in wheat and corn *A. sylvaticus* was the dominant species in central Moldova and *A. agrarius* was dominant in Bacau County, due to more favorable humidity conditions.

The European ground squirrel is a critically endangered species in the Republic of Moldova, while in Romania it is vulnerable, being rather spread in Bacau County. The brown rat was registered in low numbers in cultivated lands near villages. The presence of forest species *M. subterraneus* in Bacau crops was due to the proximity of natural forest ecosystems, which cover much larger areas in comparison to the central part of Moldova. The harvest mouse is a rare species in the Republic of Moldova [VU], although in the past century it was often found in haystacks. In central Moldova *A. uralensis* is rather spread in various types of agricultural ecosystems. *C. migratorius* was registered in corn crops, while in Romania it is a rare species [VU]. Although *D. nitedula* is a forest species, it was recorded in sectors with tree and bush vegetation at crop boundaries.

Conclusions. In both areas, 14 rodent species were registered. The differences between the species diversity and composition can be explained by various microclimatic and environmental conditions. The occurrence of some rare species in Bacau crops indicate on better ecological conditions in the area. The high diversity of rodent species in agrocenoses is conditioned by favorable trophic conditions during the reproductive period.

Note: The studies were conducted within the project 20.80009.7007.02 "Evolutionary changes of economically important terrestrial fauna, of rare and protected species in the conditions of anthropic and climatic modifications".