

701. GENETIC DIVERSITY OF GREAT BUSTARD (OTIS TARDA) POPULATIONS IN HUNGARY

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Great Bustard is as a globally endangered Palearctic bird whose populations have declined markedly in the 19th and 20th century due to hunting and anthropogenic habitat-changes. Nowadays, major populations persist only in Spain, on the steppes of Ukraine and Russia, and in the Carpathian Basin. During the last decades, the Carpathian Basin population suffered dramatic declines, with a recent population size of approximately 1200 specimens in 9 fragmented subpopulations. As flagship of the Hungarian conservation biology, Great Bustard received much attention and conservation effort, genetic diversity of the Hungarian population was, however, not yet investigated.

Here we present a molecular analysis of the mitochondrial control region of Great Bustards from different Hungarian subpopulations. Analysis of a 606 bp control region segment revealed a very low level of mitochondrial sequence diversity within the whole population. Hungarian haplotypes were not to differentiate from the haplotypes of the bustards' living on the Russian steppes, Carpathian Basin population can be therefore considered as a part of this great East European steppe population (where genetic diversity is much greater).

702. THE ESTIMATION OF POPULATION DENSITY OF GOLDEN JACKAL (CANIS AUREUS L., 1758) BY ACOUSTIC METHODS IN TWO DIFFERENT AREAS OF SOUTH-HUNGARY

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The golden jackal listed in the Hungarian Red Data Book has resettled spontaneously since the nineties. In our work we studied its fluctuation of population density between 2004-2005 on its two typical spreading areas. We used acoustic methods every half year (in spring and autumn), there were 18-20 locations in the district of Hajós-Szentgyörgy and 18-30 near Kétújfalu. If we count 1 km earshot, then the walked area ranged between 56,52 km²-94,20 km² on each territory. We observed 25 lone answering individuals. According to earlier publications we counted 4 individuals for the families answering in choir. Depending on this we estimated the density in every half year and in each area. There were 13 answers from 22 locations in Hajós, in the spring of 2004, the estimated population density (d) was 0,95 specimen(sp)/km² (Kétújfalu (K):12/28, d=0,86 sp/km²). 4 answers were from 21 locations in autumn, d=0,33 sp/km² (K:16/30, d=0,70 sp/km²). Next year, in spring we heard 10 answers from 18 locations in Hajós, d=0,85 sp/km² (K:6/20, d=0,25 sp/km²). There were 11 answers from 18 locations in autumn, d=1,31 sp/km² (K:9/18, d=1,36 sp/km²). On both research areas the density was above the highest fox density (2002: 1,30 sp/km²) ever estimated on Transdanubia, according to the results of autumn (2005).

703. LONG-TERM LIGHT TRAP STUDIES ON THE MACRO-MOTH (LEPIDOPTERA: MACROHETEROCERA) FAUNA OF THE AGGTELEK NATIONAL PARK

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We analyzed the night-active Macrolepidoptera fauna in the Tohonya valley (ANP) near Jószafo by Jermy-type light-trap in 1990 and during 1999-2004. In each year the trap functioned from 5 March until 5 November. During the seven years we collected altogether 115.392 specimens belonging to 585 species. 218 species occurred in each studied year. The species

of families Noctuidae and Geometridae were the most abundant. Arctiidae, Lasiocampidae, Notodontidae and Sphingidae were also represented in a considerable proportion. The analysis of the flight curves shows two summer peaks and also a smaller spring and an autumn peak. The zoogeographical composition of species and their abundance, respectively, is the following: Transpalearctic (48.55%, 56.87%), Boreo Continental (18.8%, 8.15%), South Continental (2.05%, 0.79%), West Palearctic (28.72%, 33.83%), Xeromontane (0.85%, 0.04%) and Extrapaleartic (1.03%, 0.32%). The faunal components: euryoecious (12.14%, 19.91%), silvicolous (17.09%, 20.47%), nemoral (8.55%, 10.11%), quercetal (11.96%, 12.25%), helophilous (5.64%, 1.8%), boreo-montane (1.2%, 1.13%), altoherbosa (5.47%, 4.69%), meso-hygrophilous (7.18%, 6.07%), steppe (10.43%, 6.04%), lichenophagous (2.05%, 14.09%), other (18.29%, 3.44%).

704. THE ROLE OF TRADITIONALLY MANAGED CHESTNUT ORCHARDS AS FORAGING AND ROOSTING AREAS FOR THE MIGRATORY BAT NYCTALUS LEISLERI

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Woodland habitats have undergone major changes during the last century by abandonment of traditional management practices and increase in intensively cultivated plantations. In Southern Europe traditionally managed chestnut orchards form a particular park-like landscape structure with mature trees providing roosts for many species. We found the migratory bat species *Nyctalus leisleri* during pre- and post-lactation periods remarkably abundant (97% of 990 bats) in 200 bat boxes in managed chestnut orchards compared to their occurrence in unmanaged orchards. In order to explain this pattern we investigated a) habitat selection in foraging areas, b) roost microclimate and c) roost availability by means of radio-tracking and roost temperature loggers. The 12 radio-marked *Leisler's* bat selected deciduous woodlands over coniferous woodlands, pastures and settlements. But within woodlands there was no significant selection of managed orchards as foraging area although chestnut woodlands were frequently used habitats. There were no temperature differences between bat boxes in differently managed orchards and the observed roost use revealed no differences in the availability of natural shelters in differently managed woods. Thus we suggest that for the lek-mating system of *Leisler's* bat an optimal arena is presented by the accumulation of roosts with the semi-open vegetation structure in managed chestnut orchards.

705. REGULATION OF NATIONAL AND NATURE PARKS IN EUROPE

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Hungary is full of natural treasures. For decades the countrywide network of national parks has protected these treasures. Our research studied national and nature park regulation in Europe. We tried to compile Hungary's possibilities to protect its nature reserves and alter its regulations. We analyzed various positions, such as the goals, methods and content of regulations for protected areas; planning systems and the parks' tasks; the authorities responsible for protection; natural resource management methods; etc. Our experiences show that Europe's countries cannot be grouped into a single unified classification system. Each country uses different regulations to achieve their primary goal, to protect their natural resources, but common ground can be