

Comparative study of the number, reproduction and nutrition of the Golden Jackal (*Canis aureus* L., 1758) and the Red fox (*Vulpes vulpes* L., 1758) in the Upper Thracian Lowland and Dobrudzha

(Summary)

The thesis contains described some basic population parameters of the most common meso-predators in Bulgaria – Golden jackal (*Canis aureus*) and Red fox (*Vulpes vulpes*) in two sympatry regions - Upper Thracian Lowland and South Dobrudzha at the expansion of the Golden Jackal conditions.

To estimate the population dynamics of the abundance index, using the available data from the official results of spring game counts, carried out over the country during the period 2000-2015 and in the study areas during the 2006-2015. There were significant increasing trends of abundance indices for golden jackal and red fox at the National and at the study areas level. The small differences in the trend of increase in the abundance indices of both species in the studied areas, due to differences in the type and intensity of land use, the different proportions of natural and agricultural vegetation, the available of unlimited food resources, especially anthropogenic, and the intensity of human presence and hunting.

Stomach content analysis of 234 foxes and 256 jackals resulted in identify of 21 and 22 food items, respectively. Rodents were the most consumed food item for red fox and golden jackal (27% and 21%, respectively). Secondary food items were herbaceous plants (11%) and wild birds (8%) for red fox, and apples (6%), carrion (9%) and waste (8%) for jackals. Diets and distribution of food components of the investigated species in both studied regions were almost similar. Significant differences of food niches breadth in both species were identified, and the wider one was detected for the jackal. The level of the food niches overlap was high for the two study areas. Probably this is the reason for the withdrawal of foxes in areas with higher altitude when reaching a high density of jackals in the sympatry areas such as the Upper Thracian Lowland and Dobrudzha.

Breeding status of *C. aureus* and *V. vulpes* was assessed by placental scars counts. Mean number placental scars were 4,8 (\pm 2,57) at jackal females and 5,0 (\pm 2,51) for foxes. The difference in the breeding parameters of both species were expressing in the higher percentage of breeding females of the Red fox (65%) than in females of the Golden Jackal (41%) and in the minimum number of placental scars 4 and 2 respectively. Intensive human persecution, decreasing of small game number, and competition with the Golden Jackal in sympatry conditions, is the reason to a compensatory increase the number of pups of the fox and reduce the number of non-breeding females. According to data for jackal and fox reproduction their populations are increasing in the survey period as well as in analyzes of the official game counts.

The interference competition between two meso-predators is asymmetrical and probably was expressing in a spatial separation of the ecological niche as the Red fox has the possibility to migrate to areas with higher altitudes and the Golden Jackal from the position of the larger of the two species, has earned the place of a top predator in the sympatric habitats.

The available of practically unlimited food resources and the flexibility of the omnivorous opportunists as the Golden jackal and the Red fox is likely allowed these two closely related, medium-sized predators to coexist in the sympatric areas in Bulgaria.