Synurbization of medium and large mammals in the city of Kraków

The urban environment is usually characterised by a wide variety of spaces. Some of wildlife species have managed to adapt to living in an urbanised environment. The process of wildlife adaptation, called synurbization, has been observed in Kraków for years.

The aim of the thesis was to record the presence of medium and large mammals in the urban environment of Kraków and to identify factors that have a significant impact on their adaptation to urban life and, consequently, on their behaviour. The thesis also attempted to determine the age and sex structure of the recorded animals, related to issues concerning the dynamics of the studied populations. It also analysed the abundance and harvest of big game (deer, roe deer and wild boars) and the ontogenetic quality of roebucks and wild boars hunted in the city.

The tasks were carried out in the area of Kraków in the years 2015-2019, in the game shooting district No. 70 (now 54) mainly by means of photographs of animals taken by camera traps placed in 9 permanent feeding points. Source documents in the form of annual hunting plans were used as the basis for the analyses of changes in the abundance and harvest of big game between 2014/2015 and 2018/2019. In order to determine the phenotypic characteristics of hunted male roe deer, shooting correctness assessment sheets and antler measurements were analysed. Wild boar weights were assessed based on measurements of carcasses of animals obtained by shooting. The influence of the phase of the Moon, time of year, time of day and temperature were considered as factors that could significantly affect animal activity in the city.

The results obtained identified the presence of 7 species of medium and large mammals in the city. The most numerous species recorded in the city was the wild boar. The highest animal activity was recorded in winter, during the night hours and at temperatures between -4° C and 5°C. Animals started foraging most often late in the evening, and in spring, their foraging time at feeding points was the longest. The activity of the animals in the different age and sex groups and the size of the groupings formed by the animals varied seasonally. The phase of the Moon had no significant effect on the start time and length of foraging by animals. The weight of the carcass and the weight of the antlers of roebucks harvested in the study area were significantly higher in roebucks at the ages of 4-5 and 6 years and older than in specimens at the ages of 2 and 3 years. At the same time, in the group of 3-year-old roebucks, the evaluated parameters were significantly higher than their values in the youngest roebucks -2 years old. The carcass weight of roebucks from Kraków was higher

than that of roebucks from the areas of Poznań, Zielona Góra, Opole, Masuria, Upper Silesia, Puławy and Lublin. Kraków's roebucks were also characterised by a high weight of antlers, which included medal trophies. The carcass weight of wild boars hunted in Kraków was increasing with the age of specimens, and its average value ranged from 27.45 kg in the youngest wild boars (squeakers), through 43.30 kg in middle-aged specimens (pigs of the sounder), to 82.76 kg in older boars. The carcass weight of wild boars differed significantly between seasons. The carcass weight of squeakers was significantly heavier in winter than in autumn, and specimens hunted in autumn were also significantly heavier in winter than in summer and spring. The pigs of the sounder were significantly heavier in autumn and summer than in spring. The carcasses of the oldest wild boars, at the age of 3 or 4 years, were significantly heavier in winter and autumn than in spring. Among the wild boars hunted in the study area, there were specimens exceeding 100 kg in weight, as well as specimens with medal carcasses.

Key words: roe deer, red deer, wild boar, city, synurbization