Trend in the gonadosomatic index of some large mammals in Croatia

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Summary

This contribution deals with the annual changes in the gonadosomatic index (GSI) for most species of large mammals in Croatia, which includes their pre-rutting, rutting and post-rutting period. It provides a comparable value of the GSI in relation to weight and age of the animals. The actual testicular mass of 61 roe deer, 34 red deer, 87 wild boars and 3 bears was obtained after animals have been shot in legal hunt. Recorded measures were used to calculate the GSI as relation of gonad mass and body mass (in grams). Statistical analysis, test and calculations were performed using STATA/ic 12 for UNIX software package. Mean GSI values were calculated by two age groups (young and adult) for all analyzed species. Difference of mean GSI values between species was determined using ANOVA, regardless to the age group (young $F_{2,62}=3.39$, $P>F$ 0.0401; adult $F_{2,62}=101.94$, $P>F > 0.001$), with the highest GSI mean value recorded in wild boars (young 0.32; adult 0.58). High positive correlation coefficient between gonad and body mass was recorded in wild boar (0.8746) and somewhat lower in roe deer (0.6693). Correlation coefficient values of two other analyzed species do not indicate any possible link between body mass and the mass of the gonads. Peak GSI values, as well as peak gonad mass values that closely match specie's mating period, were recorded in age group of adult roe deer, while young category of the same species reaches GSI peak values in period one month earlier.

Key words: Croatia, GSI, mammals, testes, mass, correlation

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