

Summary

Despite the widespread view of the negative influence of parasites on living organisms, the impact of parasites on free-living animals is still not well understood. This issue was a premise for conduct of this research.

The aim of the study was to examine the impact of helminths of the digestive tract on the condition of free-living birds and to determine the relationship between the host condition and the level of the helminth infestation.

The test material consisted of 197 tufted duck and helminths isolated from their digestive tracts (10.445 individuals in total, of which 3.333 were trematodes, 5.792 tapeworms and 1.320 nematodes). The statistical analysis includes two sets of variables for the studied ducks: the first data set containing variables describing morphological characteristics of ducks (sizes of individual body parts and the mass of their internal organs) and the second data set containing variables describing the number of parasites (trematodes, tapeworms and nematodes) present in individual parts gastrointestinal tract of ducks. Within the first set of variables, absolute measurements (such as length and mass) and relative measurements (ratio of length or mass to another length or mass) were taken into account.

Based on the collected biometric parameters, the overall condition of the studied tufted duck was evaluated as good, and depending on the type of parameters used, two (better and worse) or three (better, medium and worse) condition groups with numbers depending on the chosen classification method were distinguished. 12 biometric parameters and 4 proposed indexes were selected which best described the condition of the studied tufted duck. This parameters included length of the: beak, keel, tarsometatarsus, wing, keel measured by body coating; weight of the breast muscle, kidney, liver, heart, lung, visceral fat and also head height and the ratio of kidney weight to body length, body weight to body length ratio, length ratio of the keel measured through the body coating to the keel length and the ratio of visceral fat weight to body length.

The extensiveness of infection was high (EW = 94.9%), while the intensity of infection which is the share of the helminth group parasites in the gastrointestinal tract and their location in the gastrointestinal tract, was depended on the age and sex of the studied birds.

Statistical analysis showed that parasites do not adversely affect the condition of free-living birds, and worse condition does not increase the chance of being infected with parasites.

Dzierzba Emil