

Abstract

Presented thesis is mainly concerned with the conspecific brood parasitism (CBP) in birds. CBP is an alternative reproductive strategy when a parasitic female lay egg or eggs to other (host) female's nest of the same species. Then the parasitic female leaves the host's nest and does not provide any energetic investment in a subsequent parental care. Distinguish parasitic eggs or young is problematic because there are no obvious morphological differences. Thus, the use of molecular method is crucial for proper determination of CBP. CBP can be used as 'a best-of-bad-job' when female does not have her own nest or lost her nest for example through predation. Other option is that female can increase her fecundity ('fecundity enhancement' hypothesis) when she lay parasitic egg/eggs and care about her own clutch afterward.

Two different model species were studied. The first one was a precocial diving duck - the common pochard (*Aythya ferina*; Anseriformes; Anatidae). Protein fingerprinting was used for detection of CBP and for distinguishing between eggs of individual females. It was found that the rate of CBP was relatively high in this species (91%, 72%; **Chapter 1, 4**). Further results indicated that the host clutch size decreased with the number of parasitic eggs in the clutch. The study of individual reproductive tactics revealed that females used parasitism in different context. Some females laid eggs only parasitically but others combined parasitism and normal nesting. On the other hand, some females laid their eggs only in own nest and did not parasitize. These three reproductive tactics were overall in balance and females could change them between years. Moreover, it was found that females with different reproductive tactics varied in their reproductive effort. Finally, it was tested if a detection of parasitic eggs and parasitized nests is possible by using egg morphology (Eadie's method; **Chapter 3**). The results showed that the egg morphology was not suitable for a reliable determination of CBP in the common pochard and that the method could be impacted by relatedness between parasitic and host female.

The second species under study was an altricial songbird - the barn swallow (*Hirundo rustica rustica*; Passeriformes; Hirundinidae). For detection of parasitic young were used microsatellite DNA typing. The frequency of the CBP was lower than in the common pochard (22%; **Chapter 2**). Additionally, it was found that the rate of CBP increased with a breeding synchrony. About 28% of the parasitic young were fertilized by the nest attending male (quasi-parasitism = QP). Parasitic females had more offspring per breeding attempt than was the population average as same as the quasi parasitic males. On the other hand, host females suffered decrease in the number of offspring per breeding attempt.

In conclusion, the presented thesis brings new information about CBP in two different study species (the common pochard and the barn swallow) revealed by molecular methods.