Summary

Investment in reproduction is considered to be crucial component of life history traits. Reproductive success is however constrained by generally unpredictable environmental conditions. Based on "*bet hedging*" theory, individuals are forced to eliminate such unpredictability via the mixed strategy to maximize their long-term fitness. Predation represents underlying factor affecting individual reproductive success, and it undoubtedly lies behind the evolution of alternative reproductive strategies such as extra-pair paternity and conspecific brood parasitism. Behavioral mechanisms related to nest defense are thought to be investment in reproduction in accordance with trade-off between actual and residual reproductive value. Despite the extensive interest in the principles associated with parental investment into the nest defense, studies describing in detail the pattern of particular antipredator strategies are rare. Similarly, mechanisms responsible for maintenance of egg-viability during prolonged egg-laying period in species delayed the onset of incubation are poorly understood. In accordance with mentioned themes, this thesis includes publications aimed at aspects of reproductive biology and antipredator behavior in Mallards (*Anas platyrhynchos*). Particular publications concretely documented: a) occurrence and distribution of conspecific brood parasitism and extra-pair paternity in breeding population of Mallards, and discussed potential factors affecting them; b) underlying role of nest vegetation concealment, time of day and sleeping postures on sleep/vigilance behavior in incubating Mallards; c) proposed theoretical model solely based on proximate approach considering predator-mediated visual stimuli, vegetation cover and predator´s moving pathway as model´s parameters; d) intermittent incubation and clutch covering by nest lining feathers have no effect on the probability of bacterial trans-shell infection, however we revealed trans-shell infection, intermittent incubation and clutch covering significantly affect offspring phenotype and documented beneficial effect of intermittent incubation on hatchability of eggs.