Abstract

Microorganisms are considered to be a significant selective factor affecting bird's life strategies. The body cover, including feather, is occupied by a wide range of bacteria that are in their host in different interactions. Group of microorganisms degradate keratins of feather is still most studied and most species of birds have them in feather. This feather degrading bacteria can disrupt the wear and its function and thus cause great losses to its fitness. Therefore, it seems likely that these feathers degrading bacteria and microorganisms generally play a significant role in creating defence mechanisms against their negative effects. One of the most important defence mechanisms to protect feathers against the action of microorganisms is the deposition of melanin pigments. This diploma thesis deals with the analysis of the total bacterial load in feathers and its resistance against bacterial degradation in 47 species of birds trapped in afromontan areas of western Cameroon. The specific aim of the thesis was to determine differences in the total number of bacteria in plumage in species with different life strategies, especially feeding and reproductive strategies. At the same time, the phtilochronological analysis of the quality of the plumage was performed and in vitro experiments were tested for the ability to resist against bacterial degradation. The impact of individual components of life strategies on the intensity of bacterial load in feathers, the rate of degradation and the level of feather melanisation in target species of birds was evaluated based on the obtained data. The intensity of the bacterial load in feathers was not related to any of the examined factors. In contrast, the results of this study show that intraspecific variability in melaninization is a key factor influencing the ability to resist bacterial degradation, and that penetration rate, in particular the "feather holes" correlates with penetration of melanins in the feather. The results of this work are unique and valuable, especially since a similar comparative study on the tropical bird species has not yet been established.