

ABSTRACT

Aposematic species of true bugs (Heteroptera) have multimodal signalization, which warns potential predators. This signalization consists of optical (coloration), chemical (unpalatable or repugnant substance) and acoustic (stridulation) warning signals. The aim of this thesis was to test whether the selected chemical substances have antipredatory function towards avian predators. Antipredatory function is anticipated in the chemical substances that form the majority in secretion in many taxa of true bugs (aldehydes and tridecane). In experiments with wild-caught great tits (*Parus major*) and blue tits (*Cyanistes caeruleus*) we tested if chemical substances and age of birds have influence on the latency related to the first manipulation with the prey. It was found that both species of tits reacted aversively to the mixture of aldehydes (2-decenal, 2-octenal, 2-hexenal) and to the total secretion of metathoracic glands of *Graphosoma lineatum*, whereas the mixture of the aldehydes with tridecane did not have any effect. The effect of age was not significant. We also tested the influence of immediate experience with striated shieldbug *Graphosoma lineatum* on naive great tits and their reactions to the prey with olfactoric signal of the shieldbug. Additionally, we investigated whether tested chemicals cause innate aversion in young naive birds and how these chemicals influence the aversion learning of the birds. After having the experience with the striated shieldbug, young naive birds reacted aversively to the prey with total striated shieldbug secretion, whereas they did not react to the prey with the mixture of aldehydes.

Key words: chemical signalization, warning signals, aposematism, *Graphosoma lineatum*, avian predators