Abstract:

The ability to memorize and recognize edible prey from inedible prey is essential for an individuals survival. Many species use aposematic signals for their defense. These are most often represented by distinctive colors or contrast patterns. The aim of this study was to find out in which time the memory consolidation for aposematic pray is achieved and if color or pattern increase its memorability. The choosen model species was the Great tit (*Parus major*). The comparision was done between handreared naïve birds and wild-caught adults of different age and sex. During the discriminatory task of consolidation experiment, birds were simultaneously presented with palatable and unpalatable prey in the form of paper dummies of bugs, differing in color (red versus green). The birds were divided into three groups with a different interval (0, 1 or 3 hours) for consolidation. The results of consolidation test show that adult birds were more successfull in solving the task than juvenile birds. The only difference between the experimental groups was that the group with one-hour interval achieved better results than other groups. The effect of color of palatable and unpalatable prey on discrimination learning was also found only in adults. Memorability of warning signals was tested using paper bugs of different color and pattern and birds were re-tested after one month, during which they did not come into contact with test stimuli. The results of the long-term memory test indicate that birds are able to retain the information about aposematic prey even for longer periods of time, even though this information fades in time.

Key words: warning signals, aposematism, avoidance learning, signal memorability, long-term memory, memory consolidation