

This thesis is focused on selected mechanisms, which affect predators' search for cryptic prey. The purpose was to compare information concerning existence, content, duration and circumstances related to formation of a visual search image and its existence in relation to other sensual modalities. The search image research was carried on many animal species, both invertebrates and vertebrates, with most experiments being carried on birds, specifically blue jays (*Cyanocitta cristata*) and pigeons (*Columba livia*). There are many alternative explanations for the results of those experiments, either negating the search image's existence or just adding to it. The majority of studies agrees upon the existence of search image, but the circumstances of its formation, as well as its duration and content are specific both for different kinds of predators (depending on their foraging strategies) and different kinds of prey. The differences can also be found in the search image's duration, depending on

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predator's foraging strategy and encounter frequency with target prey. A decrease in this frequency results in disappearance of search image for the given prey. The experiments also show that the information content concerning the searched target, an essential part of the search image, depends on the prey's characteristics and its change of general appearance and discriminability from background.