

Visual perception holds the dominant position among other senses in amphibians. It provides vital information about any potential prey or predators in the surrounding area. Any information, gained through optical sensors, is then directly evaluated in brain, activating different behavioral reactions: prey catching or predator avoidance behaviour. Decision is based on individual parameters of stimuli. In case of identifying a prey stimulus an innate behavior pattern is activated. There are many prey catching strategies in amphibians. Their selecting may vary due to many aspects including food preferences, mechanical constraints or a phylogenetic position of the species. Habitat may also have an influence over hunting strategy or even morphological characters of species, mostly regarding their oral system. Tongue plays an important role in almost every prey catching movement in terrestrial and also in some aquatic amphibians. There are different types of tongue elongation in amphibians that are divided into several categories, which can affect the hunting strategy for each species. Apart from creating a summary about visual perception and hunting mechanisms, this thesis includes a mapping of different types of tongue elongation on a phylogenetic tree of amphibians. The main goal of this task is to find a theoretical way of evolution of this trait and to put it into comparison of habitat and food preference among species.