

Predation is one of the crucial forces determining success of an organism – its survival and number of offspring. This is caused not only by possible killing by the predator, but also by various modifications of prey behavior, life strategies or morphology caused by the threat. Each anti-predator modification is costly, such as decrease of feeding rate caused by looking for a refuge. This is the reason why individuals should precisely recognize the strength of the risk. They can get this information by recognizing the chemical trace of predators (kairomones). The nature and concentration of chemicals released by predators to environment can inform an individual about their type and density, and indirectly, about degree of the risk. When receiving chemical information about degree of the risk by individuals is analyzed, additional factors modifying predation risk are ignored. The decrease of hunting effectiveness caused by predator stress (i.e. fear of a predator from next trophic level) is one of them. The main aim of the study is to check if such mechanisms exist and information about fear is chemically transferred down through the trophic chain (fear cascades). Our experiments will be conducted on animals from a simple freshwater food web: small cladocerans *Daphnia*, odonate larvae from two groups (individuals from one group prey on individuals from the other, and all prey on conspecifics and *Daphnia*) and fish that prey on both *Daphnia* and odonates.