ABSTRACT

In mountain lakes, which were affected by acidification in the past or in the present, invertebrate species have become top predators and they influence the whole community. This thesis deals with foraging strategies of three of these predators, *Cyclops abyssorum* and *Heterocope saliens* (Crustacea: Copepoda) and *Glaenocorisa propinqua* (Insecta: Heteroptera) in the model localities Černé lake, Plešné lake and Prášilské lake. The main aim was the determination of food composition and food preferences of these predators.

The quality and quantity of consumed food I investigated with a microscope using a method which has not been published yet. To make a microscope preparation I used Potassium hydroxide or Lactic acid in order to dissolve soft organic matter, so that the chitinous particles were well visible. The found food of animal origin was subsequently compared with the prey availability with the use of Jacobs' index. In addition to this research, a feeding experiment with *G. propinqua* was carried out.

The food of all the invertebrate predators was dependent on food availability or eventually on the season of the year. *G. propinqua* mostly preferred as a prey members of Daphniidae family and then the species *Polyphemus pediculus* (Cladocera), if they were available (Prášilské lake). In Plešné lake, where this prey is not available sufficiently, the most preferred were Chydoridae. Parts of Copepoda individuals were only scarce to find. *C. abyssorum* in Prášilské lake preferred Daphniidae as well. In Plešné lake cannibalism was detected, which probably helps to maintain the population of *C. abyssorum* in particular parts of the year. *C. abyssorum* and *G. propinqua* fed mostly on vegetable food, if proper animal prey was not much available. Before reintroduction of *C. abyssorum* to Plešné lake, *H. saliens* consumed Rotifera and Chydoridae, after that Copepoda (juvenile individuals of *C. abyssorum*) became the main animal food. Obviously, littoral species are important components of foraging strategy of *G. propinqua* and *H. saliens*. Results of the feeding experiment suggest that *G. propinqua* is not a suitable species for laboratory breeding. Another result of the thesis is indirect evidence of the presence of *Polyphemus pediculus* population in Plešné lake, where it has not been found up to now.