

SUMMARY

Acidification of freshwater ecosystems peaked in 1980. There were overall changes in the chemistry of surface waters. As a result, some fish and sensitive species of zooplakton and zoobenthos disappeared. After the peak, emissions of major pollutants (SO₂, NO_X a NH₃) declined significantly, which started the process of recovery from acidification. Nevertheless, biological recovery proceeds very slowly and it is not clear whether it is a completely reversible process.

Chironomids serve as a very useful tool to assess acidification and recovery processes, mainly due to their toletance and also sensitivity of species to low pH, concentration of dissolved oxygen, nutrient content and adaptability to changes in food supply. Chironomids have in general high adaptability of species to harsh conditions. Food supply and concentration of dissolved oxygen are likely the main factors which influence the assemblages of chironomids in freshwater ecosystems. Chironomids are suitable for use in surface water research and biomonitoring due to their world-wide distribution, high species diversity and density. In comparison to other families of zoobenthos there is far less studies of chironomid assemblages, because of demanding determination. The CPET method, which uses collection of pupal exuviae, has great potential for biomonitoring because of easier determination.

This bachelor thesis summarizes current knowledge about chironomids and their significance in freshwater ecosystems and their importance in scientific disciplines. The thesis focuses on larval stages in connection with acidification and relation of chironomids to various environmental factors.

Key words: Chironomids, acidification, mountain lakes and streams