Abstract

Synura petersenii represents a complex of pseudo-cryptic species. These are planktonic colonial organisms belonging to the class Chrysophyceae. The species are abundant in spring and autumn, when they produce golden-brown blooms in oligo-mesotrophic waters. In this thesis, I focused on investigating the effect of temperature to growth parameters of four selected species: *S. petersenii, S. americana, S. glabra* and *S. conopea*. Several temperature experiments were performed and statistically analyzed. According to growth curves the temperature 25 ºC was mostly stressful for these organisms. Only *S. petersenii* sensu stricto was sometimes able to growth at this temperature. In general, the significant differences in growth rates were detected between *S. petersenii* and *S. americana*. In all experiments, *S. petersenii* had the lowest growth rate. This ubiquitous species probably acts as a K-strategist. *S. americana* grew generally very quickly, especially at temperature 13 ºC that is obviously optimal for it. Further, I observed a significant strain specificity, which is largely a well-known phenomenon in the ecophysiology. Significant differences in growth rates were noted between temperatures 13 ºC and 16 ºC, where all tested species grew best, as well. This is in accordance with a general recognition of *Synura* species as psychrophilic organisms. *S. conopea* is perhaps a sole species having narrow ecological niche, preferring peat biotopes. My observations are in agreement with formerly published data concerning the distribution of these organisms.

Key words: distribution, ecophysiology, growth rates, species complex, strain specificity, *Synura petersenii*, temperature