

ABSTRACT OF THE THESIS
Effects of Grazing by Anuran Tadpoles
on Periphyton Assemblages
in Experimental Pond Communities
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Previous work in artificial ponds has shown that grazing by anuran tadpoles significantly reduces the standing crop of periphyton, as measured by chlorophyll *a* abundance. In this study, the effects of grazing by high (300 tadpoles/1000 l) and low (150 tadpoles/1000 l) densities of Rana sylvatica and Pseudacris crucifer (= Hyla) on algal community composition were measured. Grazing by Rana significantly lowered algal taxonomic richness and reduced the abundance of diatoms, Coleochaete species, and unicellular green algae. Grazing by Rana also altered algal successional patterns, particularly of diatoms. The abundance of the dominant filamentous alga, Oedogonium, was not significantly affected by either frog species at either density. Pseudacris generally had no detectable effect on algal abundances. These results suggest that anuran tadpole herbivory can have a strong

effect on algal community structure, however the ability of tadpoles to organize algal communities is strongly species-dependent. Anuran tadpoles play as important a role in structuring temporary pond communities as do grazers in other terrestrial and aquatic systems.