Abstract:

This work deals with competition as well as mechanisms of coexistence of species. The introduction presents comtemporary coexistence theory. There are two types of differences – niche and relative fitness differences. Fitness differences increase inter-species competition. This is a novell result, current theory expected differences decrease competition in any case.

This work summarized results of experimental works that have investigated various aspects of co-existence theory, with special focus on protists. Competition was found to be an important mechanism in creating patterns of community assembly, unfortunately drawing common results is complicated. According to competition-relatedness hypotheses, within some competition lines competition decreased with relatedness. This relation however does not hold always. There are two conditions: functional traits must bear a phylogenetic signal and must be evolutionally conserved.

Studies on protists imply that higher number of species should be included instead of pairwise combination tests in order to get valid information on relation of species. This could be similar for traits. Plants experiments have shown that competition may be affected by traits only in complex systems with a number of traits included. Such experiment involving protists have not been carried yet and seems to form a good direction for future investigation.

Key words: competition of species , coexistence of species, niche, phylogenetic distance, contemporary coexistence theory, competition-relatedness hypothesis, niche differences, relative fitness differences, trait, protists