EFFECT OF VEGETATION ON HOPPER (AUCHENORRHYNCHA) COMMUNITIES IN CALCAREOUS FENS OF MARITIME LOWLAND

Andris Ziemelis
University of Latvia, Faculty of Biology
Address: Kronvalda bulv. 4, LV 1586, Riga, Latvia
e-mail: andris_ziemelis@inbox.lv

In Latvia in calcareous fens invertebrates are studied little, and hoppers as taxonomic group nobody investigates in Latvia. The aim of the work is to determine impact of calcareous fens vegetation on hopper species communities. The research was done in calcareous fens of the Maritime lowland, collecting hoppers with entomological net and determining the projective cover of plant species.

50 hopper species collected in calcareous fens. Nine new species detected for Latvian fauna: *Arthaldeus arenarius, Aphrodes diminuta, Aphrophora major, Calamotettix taeniatus, Cicadella lasiocarpae, Limotettix atricapillus, Macropsis viridinervis, Pentastiridius leporinus, Kelisia punctulum.*

By feeding strategy 12 % of all hopper species were olygophagous, 19 % – polyphagous and 54 % were monophagous hopper species. Of the monophagous hopper species there were 37 % that feeds on *Carex sp.*, 22 % that feeds on *Phragmites australis* and 4% – on *Molinia coerulea*.

Three hopper species dominated: *Delphax crassicornis* 37 %, *Lepyronia coleoptrata* 19 %, *Cicadella viridis* 19 %, and three hopper species were subdominant: *Paralimnus phragmitis* 8 %, *Calamotettix taeniatus* 5 % un *Philaenus spumarius* 4 %.

General linear model analysis showed, that expansive plant species *Cladium mariscus* and *Molinia coerulea* has a negative impact on hopper abundance in habitats. However *Carex spp.* and *Phragmites australis* has a positive impact on abundance. *Cladium mariscus* reduces hopper species richness, but *Carex spp.* conversely – increases. The height of vegetation has a negative impact on hopper species richness and a positive impact on hopper abundance. Number of plant species positively impact hopper diversity, but has a negative impact on hopper abundance. Plant diversity positively has impact on hopper abundance, but has a negative impact on hopper diversity.

It was found, that it is important in which fen the plot (habitat) is. The lowest hopper diversity and species richness was found in the Kaņieris and Platene fens. Also low hopper species richness was found in the Slītere fen.