

GRASSHOPPERS AND LOCUSTS IN THE CALCAREOUS FENS IN LATVIA

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Orthoptera was not properly investigated in Latvia since studies of Princis (1932, 1939, 1943). In accordance with unpublished data (Matisons 2005) 44 species present in Latvia. Fens of maritime Lowland are unique because of originated before ca. 4000-4500 years after the receding of Lithorina Sea.

Grasshoppers and locusts were investigated as a by-catch during investigation of grass-dwelling and epigeic arthropods in eight fens (Kaņieris, Engure, Apšuciems, Slītere, Platene, Vītuņu pļavas, Ječu and Ķirbas fen) of the Maritime Lowland in Latvia from 2009 to 2012. 28 sample plots were selected in fens with different vegetation. All plots were selected in the Natura 2000 sites, thus represented natural conditions. Species identified after Holst (1986).

Two to five sample plots sizing 10x20 m were selected in the fens. Sweep netting and pitfall-trapping were used to study various invertebrates in these plots. Vegetation was described according Braun-Blanquet method. Detrended Correspondence Analysis (DCA) or Principal Component Analysis (PCA) was used to characterise Orthoptera assemblages and influencing factors in 2011.

Twelve Orthoptera species were recorded: *Chrysochraon dispar*, *Conocephalus dorsalis*, *Euthystira brachyptera*, *Mecostethus grossus* were the most common, *Chortippus montanus* abundant locally (all these species are characteristic for damp places), while *Metrioptera roeselii*, *M. brachyptera*, *Chortippus biguttulus*, *Ch. dorsatus*, *Stenobothrus stigmaticus*, *Tetrix bipunctata*, *T. subulata*, were represented by few individuals.

DCA ordination of sample plots did not show definite groups, the plots of particular fens were situated more or less close to each other, thus showing similarity. DCA ordination of Orthoptera data revealed that tall plants (*Frangula alnus*, *Molinia caerulea*, *Myrica gale*) are important for *Euthystira brachyptera* and *Chrysochraon dispar*, while *Conocephalus dorsalis* and *Mecostethus grossus* avoided such vegetation. PCA ordination of Orthoptera species and dominating plant species showed that only *Sesleria caerulea* had importance. Thus plant species composition did not influence Orthoptera assemblages significantly. In further studies larger samples should be taken.

References

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