

Insect and spider distribution modelling by using remote sensing and machine learning methods: A case study in Apšuciems mire, Latvia

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Our study proposes a novel and multidisciplinary approach of studying the spatial distribution of insects and spiders in mire habitats. In this approach we used the “traditional” ecological methods which are extensively utilized by ecologists to examine ecological communities, and we coupled these methods with the ones that are rather unfamiliar and quite new to ecologists – the geospatial techniques (i.e., remote sensing) and the computer science technologies (i.e., machine learning), and as a result we developed a unique approach of studying insect/spider communities in mires. Overall, our method has a potential to transform the nature protection in Latvia by offering a brand new approach that might potentially be applied in endangered insect/spider species distribution studies in terrestrial habitats in Latvia, as well as for managing environmental resources in general.

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