

STUDY ON SOME INSECT GROUPS ON HUNGARIAN HIGHWAYS IN RELATION TO CLIMATE CHANGES

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A detailed study on arthropod communities on highways was started in Hungary to determine indicator insect species and to understand insect movement on the highways. We also made some surveys till Athens (Greece), Vienna and Bratislava, which are also important points for study of some of our indicator species. These surveys concentrated the Athens-Brussels and Rome-Kiev axis of Europe. The changes of insect communities on these axis could serve as an insect thermometer, to indicate the effect of climate change on insect species distribution. In Hungary, 53 points were studied in detail on highways, including M0, M1, M3, M5 and M7). In the present work we show some results of the studies on scale insects. Number of scale insect species found on Hungarian highways is 102 which is 53,68% of the Hungarian scale insect fauna and much more than expected. Among these insect species, there are several new for Hungarian fauna, and there is a protected species, as well. Some species occurred at too high population densities on sown grasses. It was determined that the infestation on woody plants was also extremely high in some places, too. The heavy infestation of young trees by insects (conifers, ashes, thuyas, junipers, prickwoods, etc) at newly opened highway stops indicates that the planting materials were already infested. We identified new sites in Hungary during the pheromone trapping of white peach scale (*Pseudaulacaspis pentagona*). The number of males on highways was much lower compared to the ones in the towns. Our data support the assumption of spreading white peach scale by vehicles (“transport vector”). The three studied in detail invasive species of Mediterranean origin (*Planococcus citri*, *P. ficus* and *Pseudococcus comstocki*) were not detected on highways so far. However some new Mediterranean species as *Carulaspis minima* or, *Dimargarodes mediterraneus* appeared in some places.

Keywords: Hemiptera, scale insects, climate change, Athen-Brussel axis.

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