

A study on some insect groups in Hungarian highway margins (Orthoptera, Coccoidea, Auchenorrhyncha)

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As opposed to flightless vertebrates, highways do not represent an isolation line for most of the insect populations. On the contrary: plant covered highway margins and rest areas are suitable habitats for a number of small bodied animals. These habitats may serve for them as a corridor of spreading or as a refuge in an intensive agricultural or urban landscape. To understand better the role of highways for insect populations we investigated the faunistic composition of five main Hungarian highways (M0, M1, M3, M5, M7) on more than 50 collecting points since 2007. The study was focusing on three groups of insects (Coccoidea, Orthoptera and Auchenorrhyncha) representing different levels of vagility. Our first results have shown that highway margins are unexpectedly species rich habitat for scale insects: 102 species (54 % of the Hungarian fauna) were found during the two starting years of the study, while in Orthoptera 45 species (36 %) were detected. The occurrence of protected or rare species was also demonstrated (e.g. *Porphyrophora polonica*, *Gampsocleis glabra*, *Calliptamus barbarus*, *Acrida hungarica*). Apart from evaluating natural values, monitoring of insect assemblages of highway ecosystems gives also the opportunity to follow the spreading of some newly introduced pest species. The citrus planthopper (*Metcalfa pruinosa*) was firstly found in Hungary in 2005 in the centre of Budapest. In our 2009 survey this species occurred in 5 collecting points in the vicinity of Budapest (<50 km), and in one more point at the Croatian-Hungarian state border (M7, Letenye). Scattered specimens of the Moroccan locust (*Doclostaurus maroccanus*) – causing formerly several outbreaks in the Carpathian Basin – were also detected, surprisingly. Our first results have shown that highway insect assemblages should be further explored for evaluating the opportunities incidentally offered by these large-scale human constructions for insects.