

The biodiversity of Auchenorrhyncha in the Czech Republic – between past and future

I. Malenovský

Department of Botany and Zoology, Faculty of Science, Masaryk University, Kotlářská 2, 61137 Brno, Czech Republic

The Czech Republic is a land-locked country in central Europe covering an area of 78,866 km². It has a long history of Auchenorrhyncha research starting with Johann Daniel Preyßler's description of *Tettigometra leucophaea* (Preyßler 1792). In the 19th century, two leading Auchenorrhyncha taxonomists, Franz Xaver Fieber (1807–1872) and Leopold Melichar (1856–1924) were active on the territory of what is today the Czech Republic but most of detailed faunistic and taxonomic work on the Czech fauna was done later in the 20th century by Veleoslav Lang (1913–1993), Jiří Dlabola (1922–2016), and Pavel Lauterer (1933–2016). The burgeoning quantities of data were progressively summed up in a monograph (Dlabola 1954), a check-list (Dlabola 1977), and a number of smaller papers. Continuous field work, identification and revisions of museum collections, improving knowledge of the taxonomy and biology of central European species and the expansion of exotic species, have led to new records of relatively many additional Auchenorrhyncha species in recent years as well. Currently, 581 species of Auchenorrhyncha are known from the Czech Republic (Malenovský *et al.* in press), including 136 spp. of Fulgoromorpha (Achilidae: 1, Caliscelidae: 1, Cixiidae: 23, Delphacidae: 97, Dictyopharidae: 1, Flatidae: 1, Issidae: 3, Tettigometridae: 8, and Tropiduchidae: 1) and 445 spp. of Cicadomorpha (Aphrophoridae: 13, Cercopidae: 3, Cicadellidae: 420, Cicadidae: 6, and Membracidae: 3). Among them, 14 spp. are alien species, some invasive and already widespread in natural habitats, others restricted to ornamental plants in urban habitats. A few native and alien species represent threats to local agriculture as vectors of agents of plant diseases (in parentheses): *Hyalesthes obsoletus* (potato stolbur phytoplasma) and *Psammotettix alienus* (wheat dwarf virus), which are periodically causing economic damage, *Scaphoideus titanus* (grapevine flavescence dorée phytoplasma), which has very recently expanded its range into the country, and *Philaenus spumarius* and other native xylem-feeders, which have been, also very recently, attracting attention as potential vectors of the introduced bacterial pathogen *Xylella fastidiosa*. On the other hand, populations of many (45%) species can be considered as declining and more or less threatened by extinction in the country because of habitat loss (Malenovský & Lauterer 2017). Many of them are confined to semi-natural species-rich grasslands, open xerothermic woodland, and wetlands and have been disappearing either due to intensification of agriculture and forestry or due to ecological succession after traditional ways of management of these habitats (*e.g.*, grazing and mowing for grasslands) were abandoned for economic reasons. Many of these species nowadays depend on active conservation measures.

References

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