Abstract

The thesis is focused on phylogeny of the family Torymidae (Hymenoptera: Chalcidoidea) and evolution of their life-strategies. The study consists of general introduction to the phylogeny and classification of the family Torymidae chapter, four published papers in international journals and one manuscript prepared for submission. Firstly, our aim was to figure out the phylogenetic position of Torymidae as well as the position of other chalcidoid families inside superfamily Chalcidoidea (paper I and II). The supermatrix of sequencies of two ribosomal genes (18S rDNA and 28S rDNA) were developed for 649 species of chalcidoid taxa. However, family Torymidae was considered as polyphyletic group with the subfamily Megastigminae unrelated to the subfamily Toryminae (paper I). Monophyly of Torymidae was corroborated in another study (paper II) focused on molecular and morphological characters. We used a web-based, systematics workbench mx database for scoring 233 characters of 300 members of all chalcidoid families. Contrary to our previous only DNA-based study, we revealed also potential sister relationships of Torymidae with Ormyridae+Colotrechninae or Cerocephalinae+Diparinae respectively. Other paper (paper V) was focused on detailed study of Torymidae phylogeny. A total of 5 genes (18S rDNA, 28S rDNA, EF1α, COI and Wg) of altogether 226 ingroup taxa representing 45 of the 67 recognized genera from two accepted subfamilies (Megastigminae and Toryminae) of Torymidae were used to reconstruct Torymidae phylogeny. The monophyly of Torymidae was not confirmed again. We recovered only all known tribes and classified two new tribes (i.e. Boucekini, trib. nov. and Glyphomerini trib. nov.) of subfamily Toryminae. Mapping of selected characters onto phylogenetic tree postulated the larvae of Toryminae originally as exoparasitoids of gall-forming insects in Palaearctic region with several derived traits throughout the Toryminae phylogeny. The life strategy, hosts and distribution of the common ancestor of Megastigminae is still uncertain. Besides the phylogenetical studies, the thesis also contains two taxonomic papers (paper III and IV) where two new genera (*Boucekinus* Janšta & Hanson, 2011 and *Chileana* Janšta & Křížková, 2013) and 6 new species from South America are described. These new taxa represent phylogenetically and evolutionarily very interesting and important lineages of Torymidae.