

Abstract

Superfamily Chalcidoidea (chalcid wasps) represent the most species-rich group of the Hymenoptera and includes 22 families. Family Torymidae is one of those families and its monophyly is currently intensively discussed.

This particular thesis aims at the tribe Microdontomerini (Torymidae: Toryminae). Species of this tribe are usually minute inconspicuous wasps (body length ranges from 2 to 4 mm). Recent progress in phylogenetics of chalcid wasps allows us to formulate robust hypothesis of Microdontomerini evolution, as a component of broader study of Chalcidoidea phylogeny and classification.

My approach combines molecular and morphological evidence to formulate the most plausible evolutionary scenario. Dataset of 35 mostly morphological characters for 33 taxa including all existing Microdontomerini genera and 10 outgroups has been scored. Almost all characters has been studied and documented using Hitachi S-3700N-VP scanning electron microscope. In 117 taxa, 5 nuclear genes segments (18S, 28SD2, 28SD3-5, EF1alfa, Wingless) and 3 mitochondrial genes segments (COI-LCOHCO, COI-JerryPat, CytB) were sequenced, to get together the final molecular dataset of 387 Kbp. Molecular trees were built using maximum likelihood and Mr.Bayes algorithms. Evolution of morphological characters were mapped on the most congruent tree in order to establish the most parsimonious hypothesis for characters evolution.

My results shows us nullity of the original hypotesis. None of the original Microdontomerini taxa was excluded, but I added some, formerly classified as *incertae sedis*. The monofyly of Microdontomerini, as presented here, is very well supported by high posterior probability and by bootstrap value. None of morphological characters, previously proposed as shared for the tribe Microdontomerini, seem sto be valid. However, several morphological characters explored in this particular thesis seem to be specific for the tribe Microdontomerini.

Keywords: Torymidae, Toryminae, Microdontomerini, molecular characters, morphological characters, phylogeny