

Abstract

Currently there are almost 4000 described species of rose chafers (Scarabaeidae: Cetoniinae) but larvae of less than 200 species are described. In this work we studied larval morphology of 86 species belonging to 58 genera with focus on the tribe Goliathini. The larvae of 21 genera were studied for the first time. 77 morphological characters on head, mouth parts, legs and thoracal and abdominal segments were studied. This resulted into large matrix of morphological characters, which were further tested in separate phylogenetical analyses. A checklist of studied characters and their states and also large databasis of photographs of the characters are also amongst the results of the thesis. Five independent datasets were tested, three were based singly on morphology, one on molecular sequences and one on a combined dataset. The phylogenetic analysis was made by three methods, maximum parsimony, maximum likelihood and bayesian interference. Eleven different phylogenetic trees were obtained as a result, based on which we tried to reconstruct the relationships between the inner groups of Cetoniinae with focus on relationship of subtribes of tribe Goliathini. Monophyly of the tribe Goliathini as well as some other groups could not be confirmed, as well as the alleged basal position of the genus *Xiphoscelis*, which is here investigated for the first time. It remains clear that the group is in desperate need of re-definition of its internal classification, but prior to that a comprehensive study including the morphological and up to date molecular approaches is needed.