

Abstract

My bachelor thesis deals with the wing reduction in cockroaches and the causes of its appearance. Order Blattaria is the insect order with the third highest occurrence of apterous and brachypterous species. Yet still only a minimum of publications were performed to cover this topic. Therefore, I analyse in several chapters both the types of wing reduction as well as generally accepted theories explaining the reasons of its evolution in insects. Then I discuss their relevance in the case of order Blattaria. Namely, ecological theories, regarding interactions of insect and its habitat, and physiological theories, describing life history trade-offs and constrains related to wings. I present examples of species to every theory which are probably concerned. There are also examples of species which maintain the macropterous state, although no longer capable of flight and theories that explain the retention of macroptery.

As a part of the thesis I have also included a phylogenetic tree of cockroaches with marked wing condition for each sex, which outlines evolutionary trends of individual groups within the order.

Keywords: Blattaria, reduction, macroptery, brachyptery, aptery, habitat, life history trade-offs