DRAGONFLIES (ODONATA) OF HIGH MOUNTAIN HABITATS

KAMIL HUPAŁO, GRZEGORZ TOŃCZYK

Department of Invertebrate Zoology and Hydrobiology, Faculty of Biology and Environmental Protection, University of Lodz, Banacha 12/16, 90-237 Łódź, E-mail: hrupeq@gazeta.pl

Summary

The aim of this article is to characterize the odonatofauna in the mountainous areas and to examine variations in the diversity of Odonata species in different regions of the world. Dragonflies are widespread on all continents except of Antarctica. However, the fossils found in Antarctica suggest that dragonflies were there present 150-200 million years ago. Their diversity reaches its peak in the tropics and in the Oriental regions. Due to the hard environmental conditions present at high altitudes, dragonflies of high mountain habitats have developed a number of adaptations that enable their development and reproduction even at the height of 5000 m. Dragonflies are merolimnic, so the main factor limiting their occurrence is the lack of water. The highest altitude at which any dragonfly was found was in Himalayas, where at 6300 m a single individual of the common species *Pantala flavescens* (Fabricius, 1798) was collected.

In the distribution of the odonatofauna in high mountain habitats in different world regions there occur both some differences and similarities. On the every continent, with an increase in the altitude the number of species diminishes. However, the diversity of dragonflies occurring at certain heights varies depending on the continent and the mountain chain. So, for example, at the altitude of 3500 m different species are present in the Andes Himalayas, and Cordillera. These differences are mainly due to location of the mountain ranges in different climate zones and on different continents.