

Distribution of Bees (Hymenoptera, Apoidea) Along the Altitudinal Gradient on the Slopes of the Greater (Stepantsminda Area) and Lesser (Goderdzi Pass) Caucasus

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Abstract

Bees belong to the class Insecta and the order Hymenoptera. They are part of the suborder Apocrita and the superfamily Apoidea. According to modern classification, nine families of bees are currently recognized. Bees are flying insects. There are rare species in which representatives of different sexes or castes have short wings, making flight difficult or impossible; however, wingless forms of bees do not exist in nature. The role of bees in plant pollination is of utmost importance. A decline in the population of this insect group significantly reduces not only the productivity of agricultural crops but also the reproduction and fertilization processes of flowering plants in natural ecosystems. The study of apifauna has become particularly relevant due to the significant global decline in wild bee populations. Today, this is considered a global ecological problem, and both apidologists from different countries and international organizations are implementing necessary and effective projects for the conservation of bees as major pollinators. Despite previous studies, bee species (Hymenoptera, Apoidea) on the slopes of the Greater Caucasus (Stepantsminda area) and the Lesser Caucasus (Goderdzi Pass) have been insufficiently studied, and, most importantly, there is a lack of up-to-date scientific data. The aim of this study was to investigate the apifauna of the main habitats of Stepantsminda and Goderdzi Pass; to determine the taxonomic structure of the fauna according to modern systematic nomenclature; and to examine bioecological aspects of this insect group. As a result of our field expeditions, 290 specimens of bees were collected in the study area. The studied fauna belongs to 6 families, 14 genera, and 41 species of bees. 13 species were identified for the first time on the Khulo-Goderdzi transect, while 9 species were newly identified in the Gudauri-Stepantsminda study area. The research showed that altitude and the associated vegetation cover play a greater role in the distribution of bee species than geographic proximity. The conservation status of the identified species was also assessed. One species new to the Georgian fauna — *Osmia ligurica* — was recorded in the study area.