

The land snail fauna of the National Park Gesäuse Ecology of the alpine land snails, with a special focus on endemic species

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Summary

The National Park Gesäuse is located in the eastern part of the Alps in the north of Styria (Austria). With the size of about 110 square kilometers, this national park is the fourth biggest in Austria. Established in 2002, it is characterized by high limestone mountains and the Enns, a river which separates the National Park in a southern and a northern part. Because of its location, the NP is home to a high number of landsnails, featuring also several endemic species. As previous studies have been conducted in this area beforehand, the first part of this paper summarizes the literature on landsnail-fauna. Afterwards, habitat- and elevation-preferences of all alpine landsnail-species were examined by fieldwork in the summer of 2014. Thus, 54 locations (18 limestone, 18 grassland and 18 mixed) with a size of 16 square meters were investigated. Additionally, small squares (1.600 cm²) in each location were removed, sieved and surveyed for snails. The results show that several species are restricted to a certain elevation. The total number of species decreases with increasing elevation. On the other hand, the mean number of species and mean biodiversity (Shannon Index) increases at the beginning with ascending elevation and decreases at 1900 meters. The mean number of individuals increases significantly in higher altitude, which was also shown in previous studies. In addition, several landsnail communities in Kalkschutt- / -block-habitats and Kalkrasen-habitats were described for the first time in this area.

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