

THE EFFECT OF VEGETATION STRUCTURE ON GROUND-DWELLING COLEOPTERA ALONG A GRADIENT FROM UNBURNT AND BURNT FOREST TO OPEN HABITATS

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Changes in the composition and structure of vegetation lead to corresponding changes in the structure and composition of animal communities. Coleopteran communities are very sensitive to these changes, especially when the forest areas change to open habitats. The present study examined changes in the structure of Coleopteran communities (Carabidae and Tenebrionidae at the species level and the rest at family level) along a gradient of vegetation structure from forest to open habitats in two mountainous areas. The first area included a fir forest, a subalpine meadow and the ecotone between them. The second area included another fir forest, an adjacent burned forest and the intermediate ecotone. The first aim of the study was to ascertain the presence of common structural patterns of the assemblages between these two areas. The second aim was to identify the source of the assemblages that were established after the fire. Coleoptera were collected using pitfall traps every two weeks in each season.

At the class level, the highest values of abundance were observed during spring while the lowest during autumn. The two areas showed a different pattern of abundance as far the whole class is concerned. The burnt area had lower abundances in relation to the respective forest and the ecotone, while the subalpine meadows and the ecotones had significantly higher abundance values of Coleoptera in relation to the adjacent forest. However, the various families presented different patterns of abundance which are related to the ecological characteristics of each group, and especially to their feeding habits. The largest differences in the composition of Carabidae and Tenebrionidae species were observed between the two different areas as a response to altitude, while within the same area, the pattern of change of the structure of the communities followed the respective pattern of the vegetation structure