

ESTIMATING GROUND BEETLE (COLEOPTERA: CARABIDAE) COMMUNITY COMPOSITION IN ABANDONED LAND IN THE AREA OF PINDOS MOUNTAINS: ARE BIOGEOGRAPHICAL OR HUMAN DRIVEN PARAMETERS MORE IMPORTANT?

Sylvia Zakkak ¹, Apostolos Trichas ² & Vassiliki Kati ¹

¹ University of Western Greece, Dept. of Environmental & Natural Resources Management, Seferi 2, GR-301 00 Agrinio, Greece. Email: zak.sylvia@gmail.com

² Natural History Museum of Crete, University of Crete, Knossos Av., P.O. Box 2208, GR-714 09 Irakleio, Greece

In this study we investigate the diversity patterns and community structure of the ground beetles in abandoned agricultural ecosystems of Pindos mountains. We randomly selected 20 sites of 1km² that represented four categories of land abandonment in terms of forest encroachment (5 sites per vegetation cover category: 0-25%, 25-50%, 50-75% and 75-100%), while grazing was taken into consideration. Additionally, in order to account for geographical variation, we grouped the study sites according to the mountain they were located (Chasia, Voio, Grammos and Central Pindos). Within each site we placed 15 pitfall traps, at 10–20m intervals, which remained active for 60 days, May to July 2011. A total of 13260 individuals of Coleoptera were captured, out of which 25% were carabids of 74 different species. Four genera out of 26 identified included almost 70% of the individuals captured (*Carabus*, *Harpalus*, *Brachinus* and *Pterostichus*). Species richness, as well as ground beetle abundance was significantly affected by the geographical location of the sites, with the area of Chasia being the most differential in terms of species composition. The succession stage was the second most important factor affecting ground beetle community within each defined geographical area. In conclusion, the community of ground beetles is strongly defined by long-term biogeographic processes and secondarily by human land use, such as agricultural use and grazing regimes.