

## BIOCOMMUNITY OF OWLS IN MEDITERRANEAN AGROSYSTEMS

Efi Armeni <sup>1</sup>, Giannis Kontogeorgos <sup>1</sup> & Stavros Xirouchakis <sup>2</sup>

<sup>1</sup> Dept. of Biology, University of Crete, Irakleio, Greece. Email: ef.armeni@gmail.com; ikontogeo@edu.biology.uoc.gr

<sup>2</sup> Natural History Museum of Crete, Irakleio, Greece. Email: sxirouch@nhmc.uoc.gr

The objective of the present study was to collect information on the distribution, population density and habitat preferences of nocturnal birds of prey in a typical agricultural area of the Mediterranean. Systematic surveys were conducted from February to May 2010 in central Crete (Heraklion prefecture) covering all major rural habitats of the area which totaled 1080 km<sup>2</sup>. The species recorded, by the aid of playback calls, were the Barn owl (*Tyto alba*), the Little owl (*Athene noctua*), the Long-eared owl (*Asio otus*) and the Scops owl (*Otus scops*). The number of territorial pairs detected was on average 651±127 which produced an estimated density of 1 territorial pair/ 1.66 km<sup>2</sup>. The most abundant species were Scops owl and Barn owl with 446±100 pairs (territory size: 2.5 km<sup>2</sup>) and 188±46 pairs (territory size: 5.6 km<sup>2</sup>) respectively. Thereafter we constructed a set of generalized linear models (GLMs) by using habitat variables acquired from the Corine Land Cover database and elaborated by geographical information system software. The ecological implications of results was that olive groves harbour the highest density of owl species (i.e. 1 pair/ 0.6 km<sup>2</sup>) followed by mixed cultures (1 pair/ 1.1 km<sup>2</sup>). The study pinpoints the conservation value of olive groves and mosaic agrosystems, unlike monocultures which are characterized by intense seasonal population fluctuations. Moreover, we support that the community of nocturnal raptors could be used as a bioindicator for the environmental quality of Mediterranean landscapes.