

Fallow deer distribution and habitat in the Mediterranean landscape of Rhodes island as determined by a track survey: preliminary data

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ABSTRACT: Little is known about fallow deer distribution and habitat on the island of Rhodes; no systematic survey has ever been conducted. Preliminary data concerning fallow deer presence in the southern part of Rhodes were derived from a track survey conducted during the winter and early spring of 2003. The study area was divided in 260 quadrats of 1 km² area and within each quadrat, transects of up to 1km length were established along forest roads. In a few cases, track counts were undertaken in five sites of agricultural land, which were surrounded by dense vegetation. In both cases, track surveys were undertaken after rainfall. In order to define habitat relationships of deer, deer presence was correlated with habitat types occurring in the study area. Based on vegetation sampling, habitat types were classified into three categories: forestland, shrub land and agricultural land.

1 INTRODUCTION

Fallow deer is considered to be one of the most widespread species of deer (Chapman and Chapman 1975). However, Rhodian fallow deer population is the only free ranging population in Greece and the law protects it (Ioannidis and Bousbouras 1992). Little is known about fallow deer distribution and habitat in the Mediterranean landscape of the island of Rhodes. The only data available emanate from a short study conducted by Ioannidis and Bousbouras (Bousbouras et al 1991, Ioannidis and Bousbouras 1988).

The aims of the present study are the following: (a) to define the distribution of fallow deer in the southern part of Rhodes on a presence/absence basis and (b) to describe at a broad-scale fallow deer habitat.

2 STUDY AREA

The study was carried in the southern part of Rhodes island during the winter and early spring 2003. Three habitat types, forestland, rangeland and agricultural land characterize Rhodian landscape, which intersperse each other, forming a pronounced patchy landscape. Forestland is mainly composed of *Pinus brutia*, with a shrub layer usually present at the understorey; occasionally it forms mixed stands with *Cupressus sempervirens*. Rangeland includes characteristic plants of phrygana and maquis vegetation such as *Cistus* spp, *Erica manipuliflora*, *Salvia fruticosa*, *Genista acanthoclada*, *Pistacia lentiscus*, *Arbutus* spp, *Myrtus communis* etc (Carlstrom 1987). As far as the agricultural land is concerned, the main crops intensively cultivated are olive trees and wheat.

3 METHODS

3.1 Track Survey

The study area was divided in 260 quadrats of 1 km² area and within each quadrat, transects of up to 1km length were established along forest roads. 500 m of the chosen transect was searched thoroughly for fallow deer tracks on foot; if no tracks were recorded, another 0.5 km of transect was searched by car. In the cases where a quadrat did not contain forest roads or their length was not sufficient, track counts were undertaken in five sites of agricultural land, which were surrounded with dense vegetation. In both cases, track surveys were undertaken after rainfall.

3.2 Vegetation Sampling

In order to describe fallow deer habitat at a broad-scale, point sampling (Chalmers and Parker 1989) was undertaken on aerial photographs of 1:5000 scale. Based on ground-based vegetation observations, habitat types occurring within fallow deer range were classified into three categories: forestland, rangeland and agricultural land.

4 RESULTS AND DISCUSSION

Based on the presence/absence track survey, presence of deer was confirmed in 179 quadrats, while in 49 quadrats no deer tracks were found. Also, in a few quadrats (35) deer presence was considered to be probable, but due to large numbers of livestock tracks the identification of fallow deer tracks was not clear. By comparing the present records with those mentioned by Ioannidis and Bousbouras (1987), it is concluded that present fallow deer distribution is more expanded and covers an area of more than 179 km².

According to the point sampling technique, the main habitat type occurring in the fallow deer range is the forestland (48.99%) and in a lesser degree rangeland (34.97%), followed by agricultural land (16.04%). These results show that deer habitat is not homogeneous, but is characterized by complexity and patchiness. Fallow deer occurrence in composite and patchy habitats is common and accounts for meeting of different ecological needs of the species (Apollonio et al 1998, Thirgood 1996, Focardi et al 1995, Thirgood 1995, Chapman et al 1985).

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