

**PRELIMINARY RESULTS OF THE EXAMINATION OF BARN OWL (*Tyto alba*)  
FOOD PELLETS FROM TWO CAVES IN CENTRAL CRETE, GREECE**

By  
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Introduction: A considerable number of barn owl food pellets and pellet remains were collected in 1987 from two caves in north - central Crete. Two hundred and fifty of them, containing 576 individuals of various animals, have been carefully examined, in order to collect information about their distribution in these two sites.

Description of the sites: The caves are located in quite different biotopes. "Spiliara" cave, in Agia Irini village near Knossos, is located in a fully cultivated area (mostly with olive trees and vineyards), near a permanent flowing stream. "Natural" vegetation can be found only along the stream banks. "Agia Paraskevi" cave near Skoteino, is located within a large phryganic and evidently overgrazed area. The overall diversity of the Agia Irini biotope is much greater than the Agia Paraskevi.

Materials and methods: The data derived from the examination of 250 food pellets were grouped as Birds, Insectivores and Rodents (setting apart the two species found, *Mus musculus* and *Rattus rattus*) for both sites. We avoided to separate Insectivores in species, because of the uncertain status of the genus *Crocidura* in Crete (Richter 1970, Pieper 1978 and Hutterer 1979) and the very low proportion of *Suncus etruscus* in the pellets. The data have been tested for statistical significance by the t-test.

Results and Discussion: The comparisons between the percentages of each group in the food pellets for the two sites (fig.1) provide interesting information on the faunal composition of the groups examined. The t-test showed that only Insectivores had a similar composition per pellet in the two biotopes while the other groups as well as the total number of individuals per pellet were represented by statistically significant different numbers (Table 1). The results can be explained (with the admission that the hunting ability of *T. alba* does not vary over the two biotopes) as follows:

a) The vegetation of the stream in Agia Irini as well as the cultivations support considerably larger populations and number of bird species in comparison with the degraded grazed lands of

*Πρώτα αποτελέσματα της εξετάσεως εμεσμάτων της γλαυκός Tyto alba από δύο σπηλαια της κεντρικής Κρήτης  
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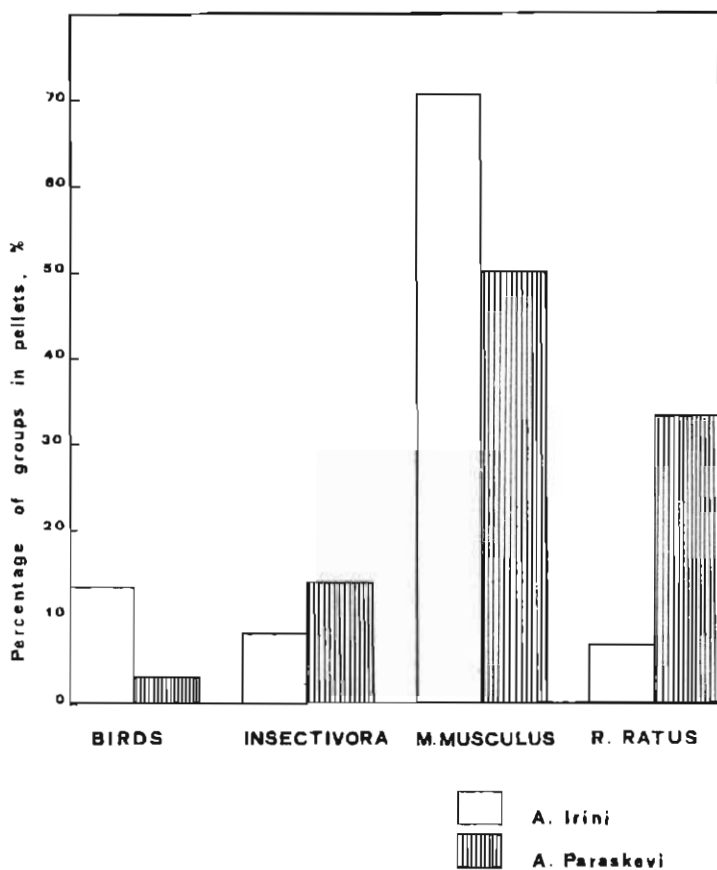


Fig.1: Percentage of groups in pellets

	BIRDS		INSECTIVORA		M.MUSCULUS		R.RATTUS		TOTAL	
	I	II	I	II	I	II	I	II	I	II
MEANS										
(INDIV. / PELLET)	.36	.05	.22	.29	1.80	.92	.19	.63	2.63	1.97
STANDARD										
DEVIATION	.58	.23	.56	.61	1.35	1.02	.41	.54	1.21	1.23
DEGREE OF										
DIFFERENCE		■				■		■		■
(■ = $p < .05$ )										

Table 1: T-test results. I. Agia Irini, II. Agia Paraskevi

Agia Paraskevi.

b) The density of *M. musculus* and *R. rattus* in pellets shows some interesting points: In the site of Agia Irini, *M. musculus* is represented with a significantly larger number of individuals than in Agia Paraskevi, while for *R. rattus* the situation is reversed. This can be explained as a result of competition of the two species. Considering that they have the same habitat preferences, it is expected that the less competitive species will preserve larger populations in more diverse biotopes.

c) The total number of individuals per pellet for the two sites were significantly different. This can be explained as a result of the fact that the proportion of the larger species is greater in Agia Paraskevi. Thus, in Agia Paraskevi *T. alba* forages for fewer individuals per meal.

#### LITERATURE

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#### ΠΕΡΙΛΗΨΗ

Στην εργασία αυτή γίνεται μια σύγκριση του περιεχομένου ενός αριθμού εμεσμάτων (pellets) της κουκουβάγιας *Tyto alba* που συλλέχθηκαν από δύο σπηλιές της βορειοκεντρικής Κρήτης το 1987. Οι δύο σπηλιές βρίσκονται σε αρκετά διαφορετικούς βιοτόπους. Η "Σπηλιέρα", κοντά στην Κνωσό, βρίσκεται σε καλλιεργούμενη περιοχή με "φυσική" βλάστηση μόνο κατά μήκος του παρακείμενου ρυακίου, ενώ το σπήλαιο της Αγ. Παρασκευής σε μια μεγάλη υπερβασκημένη περιοχή.

Αναλύθηκαν 250 εμέσματα και βρέθηκε ότι περιείχαν 576 άτομα από διάφορα είδη ζώων, τα οποία χωρίστηκαν σε ομάδες (Πτηνά, Εντομοφάγα, σπιτοποντικοί και αρουραίοι). Από την σύγκριση των ποσοστών κάθε ομάδας στα εμέσματα κάθε περιοχής προκύπτουν ορισμένα συμπεράσματα για την πανιδική σύνθεση των περιοχών αυτών (Table 1, Fig.1).