

# Diet of the Barn Owl ( *Tyto alba*) in eastern Peloponnese

Haralambos Alivizatos<sup>1</sup>, Georgios Tryfonopoulos<sup>2</sup>, Argyrios Boglis<sup>2</sup>, Efstratios Bourdakis<sup>3</sup>

<sup>1</sup>Ornithological Monitoring Team in Mt Parnon and Moustos wetland Management Body, 4 Zaliki Str., 115 24 Athens, Greece

<sup>2</sup>Mt Parnon and Moustos Wetland Management Body, GR 22001 Astros, Greece

<sup>3</sup>Ornithological Monitoring Team in Mt Parnon and Moustos Wetland Management Body, Kaisareias 7, 17237 Athens, Greece

### Introduction

Many owls feed mainly of small mammals and regurgitate the indigestible parts of them, as well as those of other prey, as pellets. The study of pellets provides a relatively easy way to study the micro-mammalian fauna. Pellets of the Barn Owl ( *Tyto alba*) are particularly useful in this regard, as this species preys on a great variety of small mammals and their bones in its pellets are quite well preserved, facilitating a comparatively easy analysis.

### Study area-Methods

The diet of the Barn Owl was studied in was studied in Moustos wetland near Astros Arkadias in Eastern Peloponnese (Mt Parnon and Moustos Wetland Protected Area). The broader Moustos Wetland, a NATURA 2000 area, has been also designated as “Strict Nature Reserve” by the Greek Law, where animal trapping and killing is strictly prohibited. The area is characterized mainly by the wetland’s waterside vegetation, farmland and garrigue. Pellets were collected in two caves in a limestone area near garrigue and farmland, where the owls nested and roosted (see Map). The pellets were analyzed with the help of suitable guides. Identification relied mainly on characters of the skulls and teeth for the small mammals.

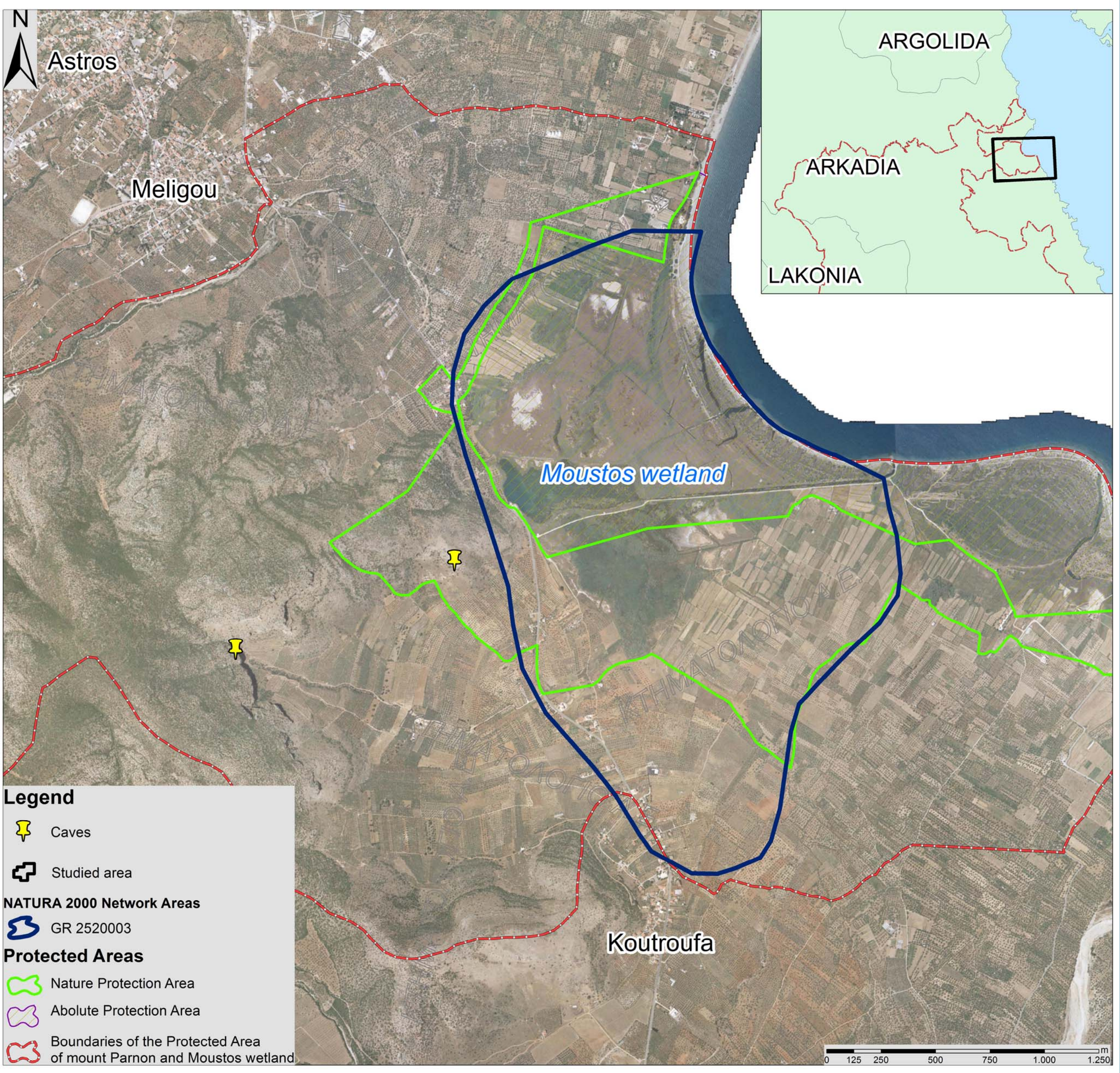


Table 1: Prey number and biomass

PRAY	2012		2013		2014		2015		TOTAL	% number	% biomass
INSECTS	8	%	10	%	1	%	4	%	23	1,6	0,2
Tettigoniidae	1		6		-		4		11	0,8	0,1
Gryllidae	1		-		-		-		1	0,1	<0,1
<i>Gryllotalpa gryllotalpa</i>	5		2		1		-		8	0,5	0,1
Mantidae	-		1		-		-		1	0,1	<0,1
Carabidae	-		1		-		-		1	0,1	<0,1
Scarabaeidae	1		-		-		-		1	0,1	<0,1
BIRDS	2		12		3		3		20	1,4	2,1
<i>Erithacus rubecula</i>	1		3		-		1		5	0,3	0,4
<i>Saxicola</i> sp.	-		1		-		-		1	0,1	0,1
<i>Cyanistes caeruleus</i>	1		-		-		-		1	0,1	0,1
<i>Sturnus vulgaris</i>	-		1		-		-		1	0,1	0,3
<i>Passer domesticus</i>	-		4		2		-		6	0,4	0,7
<i>Emberiza</i> sp.	-		1		-		-		1	0,1	0,1
Passeriformes indet.	-		2		1		2		5	0,3	0,4
MAMMALS	515		383		169		351		1.418	97,1	97,8
<i>Erinaceus roumanicus</i>	-		-		1	0,59	-		1	0,1	1
<i>Crocidura leucodon</i>	25	4,85	10	2,6	12	7,1	6	1,7	53	3,6	2,1
<i>Crocidura suaveolens</i>	75	14,6	27	7	32	18,9	14	4	148	10,1	4,3
<i>Suncus etruscus</i>	61	11,8	8	2,1	1	0,59	4	1,1	74	5,1	0,7
<i>Microtus thomasi</i>	2	0,39	-		-		-		2	0,1	0,2
<i>Apodemus sylvaticus</i>	70	13,6	74	19	32	18,9	135	38	311	21,3	30,4
<i>Apodemus epimelas</i>	6	1,17	7	1,8	5	2,96	1	0,3	19	1,3	3,7
<i>Rattus rattus</i>	5	0,97	17	4,4	4	2,37	7	2	33	2,3	9,7
<i>Mus musculus</i>	35	6,8	5	1,3	2	1,18	4	1,1	46	3,1	2,7
<i>Mus macedonicus</i>	213	41,4	233	61	70	41,4	175	50	691	47,3	40,6
<i>Mus</i> spp.	23	4,47	2	0,5	10	5,92	5	1,4	40	2,7	2,3
TOTAL	525		405		173		358		1.461	-	-

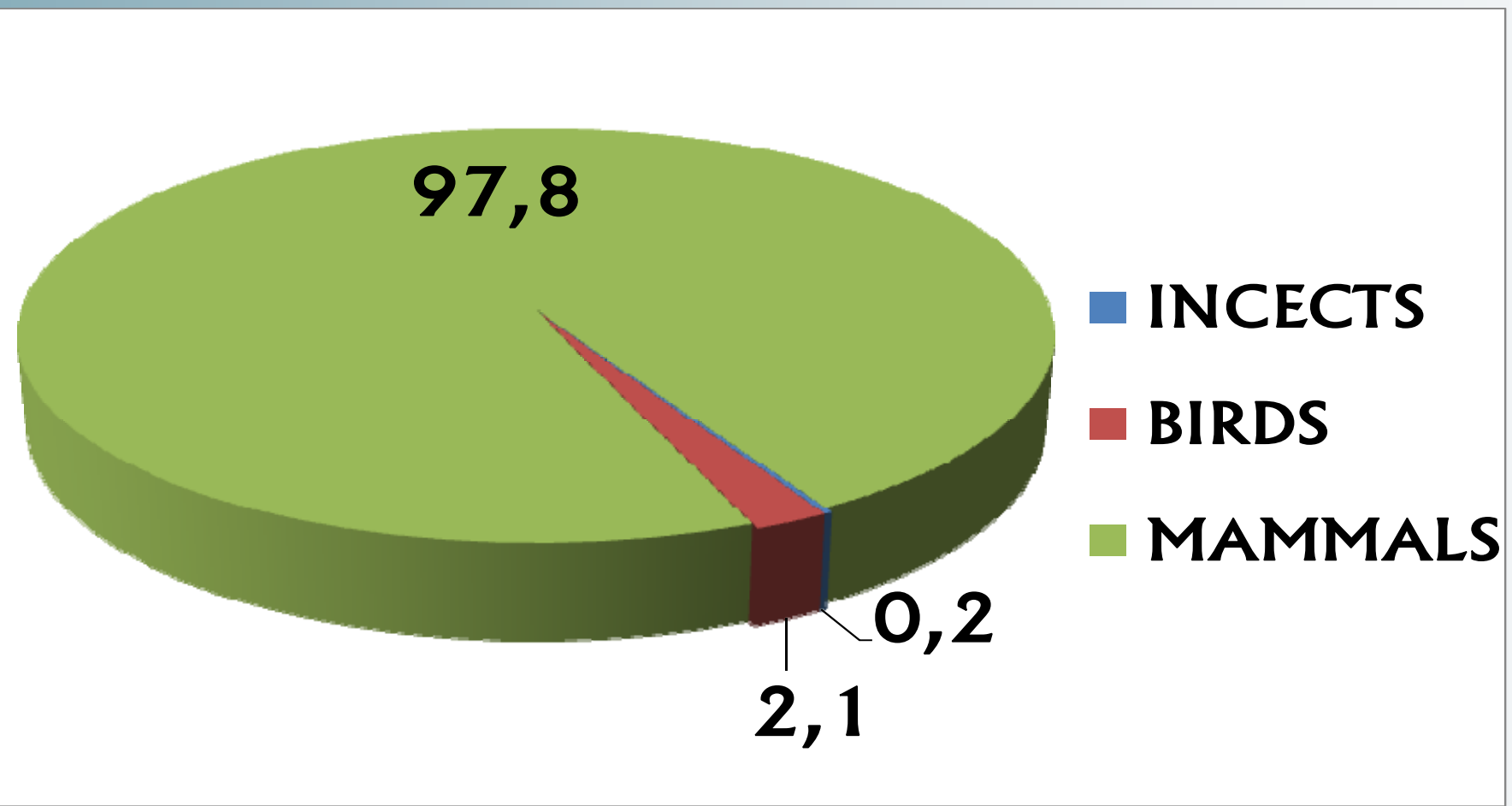


Figure 1: Biomass percentages of total prey



Figure 2: Mammalian species recorded

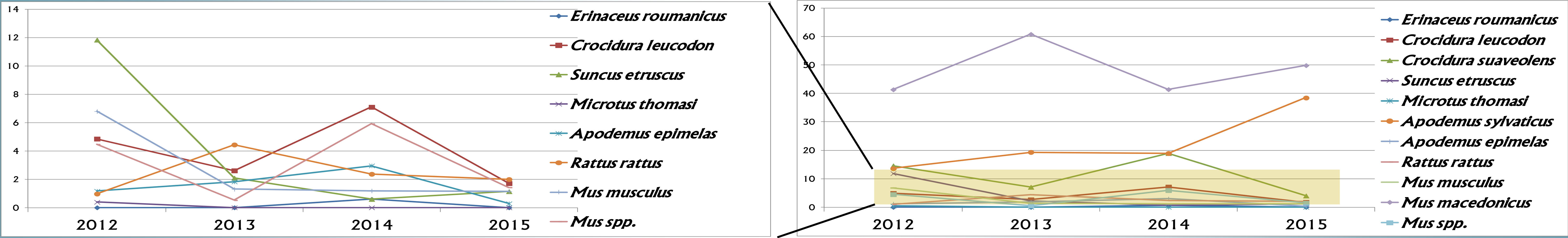


Figure 3: Percentages of mammalian taxa recorded per year

### Results-Discussion

In total, 1,461 prey items were recorded (Table 1). By number mammals made up almost 97%, and birds and insects 1,5% each of the total prey, while in terms of biomass the percentages were 98, 2 and < 1, respectively (Fig. 1). Ten mammalian species were identified (Fig. 2). The main prey species accumulatively for the four years were, by number, *Mus macedonicus* (47%), *Apodemus sylvaticus* (21%), *Crocidura suaveolens* (10%) and *Suncus etruscus* (5%). In terms of biomass, the main prey was *Mus macedonicus* (41%), *Apodemus sylvaticus* (30%), *Rattus rattus* (10%), *Crocidura suaveolens* (4%) and *Apodemus epimelas* (4%). In total, 10 mammalian species were recorded. The proportions of the main prey genera (*Mus*, *Apodemus*, *Crocidura*, *Suncus* and *Rattus*) were significantly different in the four years of study ( $\chi^2 = 198,687$   $p < 0,001$ ); in particular the variation of *Apodemus* was great in 2015 while the variation of *Suncus* was great in 2012 (Fig. 3). The composition of the Barn Owl diet in the study area is considered typical of a Mediterranean area. No significant changes in the land uses of the broader area of Moustos wetland have been recorded the last 5 years, largely due to the designation of the area as “Strict Nature Reserve” by the Greek Law. Consequently, fluctuations in the populations of small mammals are probably accountable for the yearly differences of the main prey species.



Operational Programme “Environment & Sustainable Development 2007-2013”  
Protection and preservation of the biodiversity of mount Parnon and Moustos wetland



European Union  
EFRD

Co-financed by Greece and the European Union