

# The reptile fauna of the Fourni Archipelago (Eastern Aegean, Greece)

Die Reptilienfauna des Fourni-Archipels (Ost-Ägäis, Griechenland)

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## KURZFASSUNG

Aus der Literatur und aufgrund unserer Beobachtungen auf 10 der 11 Inseln des Fourni-Archipels (Ost-Ägäis, Griechenland) sind sieben Reptilientaxa für diese Inselgruppe bekannt. *Hemidactylus turcicus* wird erstmals von den Inseln beschrieben. Für die häufigen Arten werden Angaben über die beobachteten Individuendichten in verschiedenen Habitattypen gemacht. Die größten Dichten wurden in der Macchie beobachtet. Das Artenspektrum ist vergleichsweise arm und zeigt enge Beziehungen zu den Herpetofaunen der Inseln der Ost-Ägäis und des Dodekanes.

## ABSTRACT

Based on literature data and own observations made in 10 out of 11 islands of the Fourni complex (eastern Aegean, Greece), seven reptile taxa are known to occur on this Archipelago. The presence of *Hemidactylus turcicus* was not known before. Concerning the most abundant forms, densities of individuals observed in the various habitat types are presented. Highest densities were observed in the maquis vegetation. The spectrum of reptile species is comparatively poor and indicates close affinities to the herpetofauna of the eastern Aegean and Dodecanese islands.

## KEY WORDS

Reptiles; *Hemidactylus turcicus* (new record), *Cyrtopodion kotschy*, *Laudakia stellio*, *Ablepharus kitaibelii*, *Ophisops elegans*, *Coluber caspius*, *Eirenis modestus*; Fourni Archipelago, Aegean, Greece

## INTRODUCTION

The Fourni Archipelago is a complex of eleven small islands (at about 37°40'N, 26°30'E) somewhat half-way between the islands of Ikaria and Samos in the eastern part of the Aegean Sea (fig. 1). Two of these islands are clearly larger than the rest: Fourni and Thymaina. All together cover a terrestrial area of 45 km<sup>2</sup>. The highest peak is that of Korakas mountain (514 m a.s.l.) on Fourni island. The climate is typical Mediterranean (mean annual precipitation 870 mm, mean annual minimum mean and maximum temperature 15.7, 19.3, and 22.5 °C, respectively) (DAFIS & al. 1995). The islands are covered by phrygana vegetation, with the characteristic species being *Genista acanthoclada*, *Centaurea spinosa*, *Sarcopoterium spinosum*, and low maquis vegetation with *Pistacia lentiscus* and *Juniperus phoenicea* being typical.

Information on the herpetofauna is rather scarce. WETTSTEIN (1937, 1953), WERNER (1938), ONDRIAS (1968), XYDA (1983), and CLARK (1996) contributed to the knowledge of the herpetofauna of the islands of Fourni, Thymaina, and Alatonisi and mentioned 6 reptile taxa occurring in the Archipelago.

The present paper reports on our herpetological observations made on 10 out of 11 islands and, thus, covers the island complex more completely. Nonetheless, just one more reptile taxon could be added to the known reptile inventory.

In autumn 1997 (6 - 10 September) and spring 1998 (26 - 31 May) the following islands of the Fourni island complex

were visited: Fourni, Thymaina, Thymainaki, Alatonisi, Kesiria, Makronisi, Plaka, Strongylo, Megalos Anthropofagos, and

## MATERIALS AND METHODS

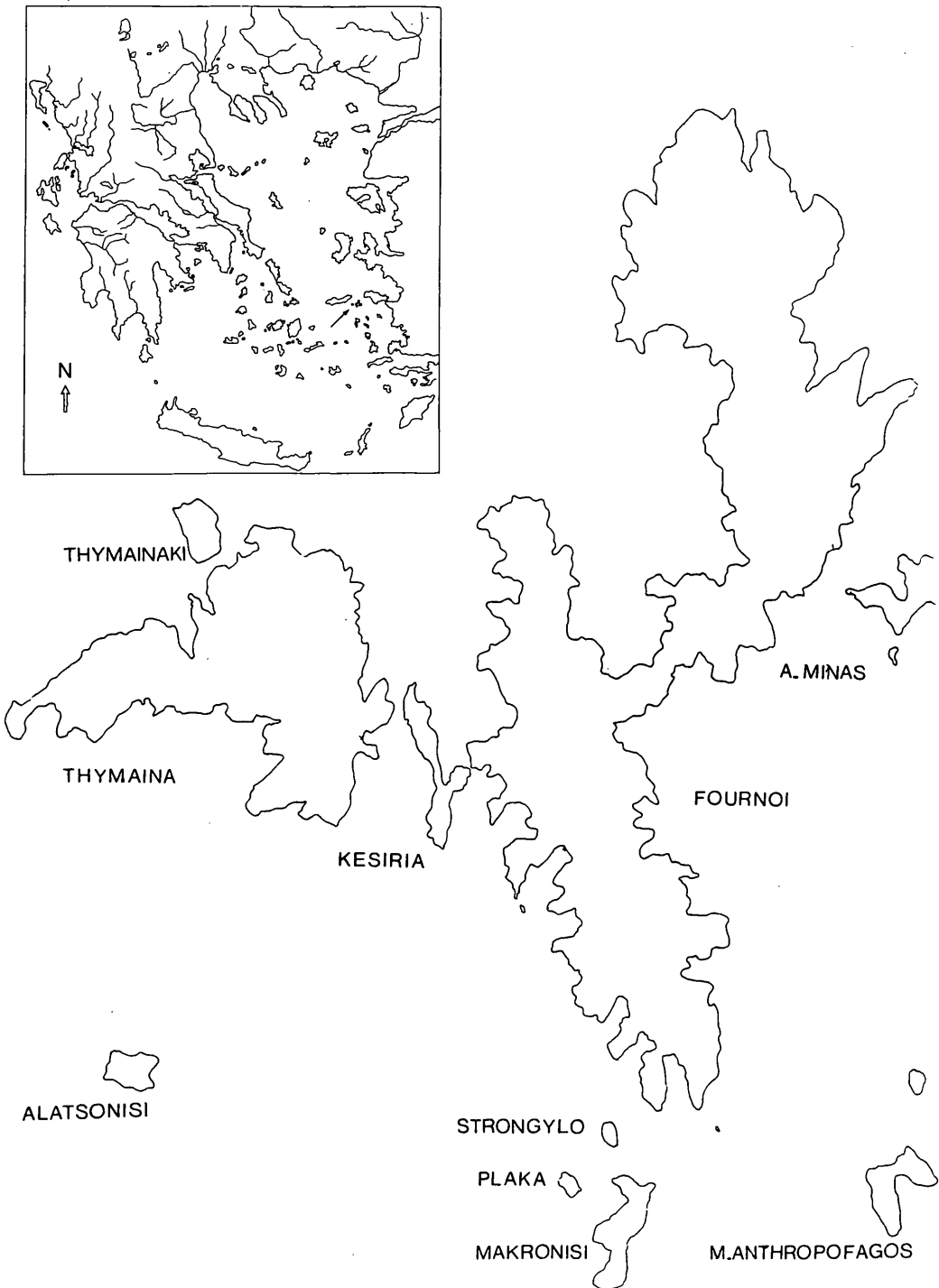


Fig. 1: The islands of the Fourni Archipelago (eastern Aegean, Greece).  
Abb. 1: Die Inseln des Fourni-Archipels (Ost-Ägäis, Griechenland).

Agios Minas. Daily field work started at 08:00 / 08:30 and ended at 22:00 / 23:00. Abundance of individuals was estimated by

applying the transect method (PIANKA 1970). Distances were measured with a pedometer. For transect description see table 2.

## SPECIES ACCOUNT

### *Hemidactylus turcicus* (LINNAEUS, 1758)

This is the first report on the occurrence of this species on the Fourni island complex. Four individuals were observed on Fourni island (Fourni village, Chrysomilia) and two on Thymaina (near the village Thymaina). These geckos were exclusively found in anthropogenic environment (in stone walls, on a staircase).

### *Cyrtopodion kotschy beutleri* BARAN & GRUBER 1981

*Cyrtopodion kotschy* is a very common lizard in this region. Earlier reports of this species refer to Fourni island (WERNER 1938; CLARK 1996) and Alatonisi (WERNER 1938). We observed Kotschy's Gecko almost everywhere in the phrygana and maquis vegetation under stones and on stone walls: on Fourni island (Kambi, Chrysi Akti, Fourni village, Chrysomilia), on Thymaina (Keramidou) and on the islets of Kesiria, Strongylo, and Makronisi.

### *Laudakia stellio daani* BEUTLER & FRÖR, 1980

This agama has been reported from Fourni island (WETTSTEIN 1953; XYDA 1983; CLARK 1996) and Thymaina (WETTSTEIN 1953; XYDA 1983). We observed it on Fourni island (Fourni village, Kamari, Kambi, Koumara, Chrysomilia), on Thymaina and for the first time on Agios Minas island. *Laudakia* was common near villages, in the maquis and phrygana vegetation, but also near cultivations and in ravines.

### *Ophisops elegans macrodactylus* (BERTHOLD, 1842)

ONDRIAS (1968) reports on the occurrence of this species on the Fourni islands.

During our visit we found it on Thymaina, Agios Minas, and Alatonisi. On Thymaina it was observed near the sea at Keramidou and Agios Nikolaos, on Alatonisi in a stony region with phrygana and on Agios Minas in phrygana and low maquis.

### *Ablepharus kitaibelii kitaibelii* BIBRON & BORY, 1833

This species has been known from the Fourni Archipelago through WETTSTEIN (1953). We found this skink on Fourni island (Fourni village), Agios Minas and Strongylo.

### *Coluber caspius* GMELIN, 1789

CLARK (1996) reported on the occurrence of this species on Fourni island. We did not see it there, but were the first to find the snake on Thymaina island (near Thymaina village and Agios Nikolaos).

### *Eirenis modestus modestus* (MARTIN, 1838)

WETTSTEIN (1937, 1953) was the first who reported this snake species to occur on Alatonisi island; later (1938) WERNER published a record from Fourni archipelago and CLARK (1996) found it on Fourni island. We observed *E. modestus* on Fourni (between Chrysomilia and Kamari, near Aspa and Vitsilia) and on Alatonisi in dry regions with low shrubs and stones and in ravines with maquis vegetation. The Alatonisi population was originally described as a subspecies of its own, *E. modestus wernerii* WETTSTEIN, 1937. According to BARAN (1976) this name must be considered a synonym of *E. modestus modestus*.

## RESULTS AND DISCUSSION

In the Fourni island complex, seven reptile species have been known to occur so far: from these, six were observed on

Fourni island, 5 on Thymaina, 3 on Agios Minas and Alatonisi, 2 on Strongylo, and 1 on Kesiria and Makronisi. On Thymai-

Table 1: Reptile records and number of species in the islands of the Fourni Archipelago (eastern Aegean, Greece). X - this study; + - mentioned in the literature; <sup>1</sup> - globally mentioned for the Fourni Archipelago in the literature.

Tab. 1: Reptiliennachweise und Anzahl der Arten auf den Inseln des Fourni Archipels (Ost-Ägäis, Griechenland). X - diese Untersuchung; + - Literaturangabe; <sup>1</sup> - in der Literatur allgemein für den Fourni Archipel angegeben.

Species	Fourni	Thymaina	Thymain- aki	Alatso- nisi	Kesiria	Makro- nisi	Plaka	Stron- gylo	Meg Anth- ropofagos	Ag. Minas	
<i>Hemidactylus turcicus</i>	X	X	-	-	-	-	-	-	-	-	2
<i>Cyrtopodion kotschy</i>	+X	X	-	+	X	X	-	X	-	-	6
<i>Laudakia stellio</i>	+X	+X	-	-	-	-	-	-	-	X	3
<i>Ablepharus kitaibelii</i> <sup>1</sup>	X	-	-	-	-	-	-	X	-	X	3
<i>Ophisops elegans</i> <sup>1</sup>	-	X	-	X	-	-	-	-	-	X	3
<i>Coluber caspius</i>	+	X	-	-	-	-	-	-	-	-	2
<i>Eirenis modestus</i>	+X	-	-	+X	-	-	-	-	-	-	2
	6	5	-	3	1	1	-	2	-	3	

naki, Plaka, and Megalos Anthropofagos no reptiles were found (table 1).

The number of reptile species observed was highest on Fourni and Thymaina which are by far the biggest islands of the Fourni complex.

Within the archipelago, *C. kotschy* shows a wide distribution (observed on 6 islands). This parallels the fact that *C. kotschy* is the most widespread gecko species in the Aegean (FOUFOPOULOS 1997).

*Hemidactylus turcicus* appears to be rare in the Fourni Archipelago. It was exclusively observed on the main islands Fourni and Thymaina which have harbors. This may be indicative for passive human transport and, thus, for a more recent colonization of the islands by this lizard.

It is remarkable that *Ophisops elegans* was not observed on Fourni island but on Thymaina, Alatsonisi, and Agios Minas. From Asia Minor, this Levantine species colonized the eastern Aegean where it is widespread (CHONDROPOULOS 1986).

*Laudakia stellio* is common in the central and eastern Aegean. This seems to be true for *A. kitaibelii* as well, although there are still no records from various east Aegean islands. Their presence on various islands of the Fourni complex was to be expected (CHONDROPOULOS 1986).

Besides an unvalidated report (THANOS in MINISTRY OF YOUTH 1984) on the occurrence of *Malpolon monspessulanus* (HERMANN, 1804) on Makronisi there are only two snake species on record for the island complex: *Coluber caspius* on the two main islands Fourni and Thymaina and *E. modestus* on Fourni and Alatsonisi.

*Coluber caspius* is widely distributed over Greece and found in many east Aegean islands (CHONDROPOULOS 1989). From its center of distribution in Asia Minor, *E. modestus* colonized the south-east Aegean islands and has been known from Leros, Kalymnos, Symi, Lesvos, Chios, Samos and Alatsonisi (CHONDROPOULOS 1989).

As far as we know until now, the reptile fauna of the Fourni island complex is poor when comparing the number of taxa to that of the neighboring islands of Ikaria and Samos. Nonetheless, the close herpetofaunal affinities to the Eastern Aegean and Dodecanese are clearly expressed by the species composition and the presence of *Ophisops* and *Eirenis* in peculiar.

The highest density of reptiles was observed in maquis and degraded maquis vegetation with the exception of *Ablepharus*, the highest density of which was observed in the phrygana (table 2).

ACKNOWLEDGMENTS

This study was carried out within the framework of Life '96 Project: "The Mediterranean Monk Seal in Greece: Conservation in Action", undertaken by "The

Hellenic Society for the Study and Protection of the Monk Seal". Many thanks to YIANNIS IOANNIDIS (Kifissia) for valuable comments on the manuscript.

Table 2: Number of individuals per 10,000 m<sup>2</sup> as calculated from counts (in parentheses) in four habitat types.  
Tab. 2: Individuenzahl je 10.000 m<sup>2</sup>. Berechnete Werte nach Zählungen (in Klammern) in vier Habitattypen.

Species Island/Transect [length/width (m)] Insel/Transekt [Länge/Breite (m)]	Habitat Type / Habitattyp			
	Phrygana	Cultivated Land Landwirtschaftsgebiet	Degraded Maquis Degradierete Macchie	Maquis Macchie
<i>Cyrtopodion kotschy</i> (mean/Mittel)	4.4	7.6	12.6	41.6
Fourni/Fourni village [1083/6]	7.7 (5)			
Fourni/Fourni village [2130/3]	1.6 (2)			
Fourni/Kambi [630/6]		2.6 (1)		
Fourni/Kambi [1059/6]		12.6 (8)		
Thymaina/Thymaina village [378/5]	5.3 (1)			
Thymaina/Thymaina village [120/4]				41.6 (2)
Thymaina/Ag. Nikolaos [1953/6]			0.8 (1)	
Kesiria [375/6]			8.9 (2)	
Kesiria [246/3]			13.5 (1)	
Kesiria [246/3]			27.1 (2)	
Makronisi [657/5]	3.0 (1)			
Strongylo [450/5]	4.4 (1)			
<i>Laudakia stellio</i> (mean/Mittel)	0.8	7.1	1.7	9.6
Fourni/Fourni village [2130/3]	0.8 (1)			
Fourni/Kambi [630/6]		2.6 (1)		
Fourni/Kambi [457/6]		10.9 (3)		
Fourni/Kambi [1059/6]		7.8 (5)		
Fourni/Kumara [1089/6]				1.5 (1)
Fourni/Kumara [1089/6]				7.6 (5)
Thymaina/Thymaina village [120/4]				20.8 (1)
Thymaina/Ag. Nikolaos [1953/6]			1.7 (2)	
Ag. Minas [1179/4]				8.4 (4)
<i>Ablepharus kitaibelii</i> (mean/Mittel)	8.9			8.3
Strongylo [450/5]	8.9 (2)			
Ag. Minas [201/6]				8.3 (1)
<i>Ophisops elegans</i> (mean/Mittel)	5.3		2.4	20.2
Thymaina/Thymaina village [378/5]	5.3 (1)			
Thymaina/Thymaina village [120/4]				20.8 (1)
Thymaina/Ag. Nikolaos [1953/6]			0.8 (1)	
Alatsonisi [1008/5]			3.9 (2)	
Ag. Minas [1179/4]				14.8 (7)
Ag. Minas [201/6]				24.9 (3)

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DATE OF SUBMISSION: March 17th, 1999

Corresponding editor: Heinz Grillitsch

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Band/Volume: [12\\_3\\_4](#)

Autor(en)/Author(s): Dimaki Maria, Legakis Anastasios

Artikel/Article: [The reptile fauna of the Fourni Archipelago \(Eastern Aegean, Greece\). 129-133](#)