

## NOTES ON THE HERPETOFAUNA OF SOME OF THE CYCLADES ISLANDS, GREECE

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### INTRODUCTION

The following account is a summary of the reptile and amphibian species observed during two visits to the islands of the Cyclades group, Greece. The islands were visited from 9th May to 4th June 1992, and the following year from 5th to 30th June 1993.

The Cyclades are probably the best known, herpetologically speaking, of the various island groups in Greece, though further research is still warranted as several islands are known only from old records, dating back mainly to the 1930's. Among these lesser known islands which I had the opportunity to visit can be included Folegrandos, Sikinos, Epano Koufonissi, and Schinoussa, also to a lesser extent, Kimilos. Other islands were visited because they are of particular herpetological interest. Milos, a well known locality for *Vipera lebetina schweizeri*. Santorini, where an endemic skink species, *Chalcides moseri*, has been recorded. Amorgos, which has an endemic ratsnake, *Elaphe rechingeri*, amongst its herpetofauna. Also visited was Naxos, the largest island of the Cyclades with a proportionally greater number of species than most of its neighbours. The location of these islands is shown in Figure 1.



Figure 1

KEY - M Milos, K Kimilos, S Santorini, N Naxos, A Amorgos, F Folegrandos, SI Sikinos, E Epano Koufonissi, SC Schinoussa.

The majority of these islands, i.e. Folegrandos, Sikinos, Epano Koufonissi and Schinoussa, can be generally described as hilly and very barren, dominant vegetation being low phrygana with dense, spiny shrubs such as *Calicotome villosa*. Natural water courses on these islands are virtually non-existent. Milos and Kimilos have seasonal gullies and valleys which are important habitats for species such as *Vipera lebetina*. Santorini is a volcanic island virtually devoid of natural vegetation, much of the island given over to vineyards. Naxos has much more diverse habitats with small mountains rising to almost 1,000 metres and, in contrast to most other islands, has significant areas of green and fertile land. Amorgos is less fertile being hilly and rugged with valleys holding seasonal water courses, and having large areas of olive groves and orchards. Nevertheless, even on the latter two islands, phrygana covered hillsides are still the dominant habitats.

Climate is typically southern Mediterranean, characterized by hot, dry, sunny summers, and moist warm winters (only one day of heavy rain was experienced during my two trips). An important climatic feature, especially relevant to herpetological surveys, are the frequent and very strong winds. Several days during my visits were frustratingly windy with subsequent reduced reptile activity, on one occasion being so severe as to cause cancellation of ferry sailings.

MILOS (9th-12th, 18th May 1992; 5th-8th June 1993)

*Tenuidactylus kotschyi saronicus* (Gekkonidae)

Very abundant. This diurnal gecko, formerly placed in the genus *Cyrtodactylus*, was the most frequently seen reptile on the island. Usually on dry stone walls and rockpiles, in some areas found under almost every large rock turned.

*Hemidactylus turcicus turcicus* (Gekkonidae)

Not particularly common, only six specimens found. Unlike the above species not seen active during daylight hours.

*Ablepharus kitaibelii kitaibelii* (Scincidae) Seven adults found under ground cover.

*Lacerta trilineata hansschweizeri* (Lacertidae)

Occasional. Ten adults seen on walls or near gullies with adjoining bushes. Variable, both brownish and green coloured individuals seen.

*Podarcis milensis milensis* (Lacertidae)

Very common, more so in cultivated areas, e.g. open fields with dry stone walls, than in phrygana type habitats.

*Elaphe situla* (Colubridae)

One blotched adult of 86cm total length caught, near Adamas, after being seen active at 0915 hours in a dry stone wall between corn fields and olives.

*Natrix natrix schweizeri* (Colubridae)

A complete sloughed skin found in dry scrub next to dry stone wall, southeast of Adamas. Appeared uniform with no markings, colouration of this snake on Milos being either all black, grey with large black spots, or black with light yellow markings (Dimitropoulos, 1992).

*Telescopus fallax fallax* (Colubridae)

Would appear to be common. Six specimens found under rocks in dry scrub areas, near gullies, and next to dry stone walls in cultivated areas. Little variation in appearance, grey or light fawn ground colour with prominent, regular, dark brown dorsal blotches, and alternating narrow blotches on flanks. Ranged in size from 25 to 80cm total length.

*Vipera lebetina schweizeri* (Viperidae)

Adult male of 55cm approx. found under large rock on top of dead scrub pile next to deep, dry gully 4km southeast of Adamas. Gray ground colour with distinct, brown, transverse dorsal blotches. Two adult females, of 70 and 79cm total length, found dead on road next to corn fields near Zefiria and Provatas. A juvenile of 27cm total length was found in rockpiles bordering corn field, 4km east of Adamas. Light gray ground colour, brown crossbars on dorsal alternating with bars on flanks, tail tip light greenish yellow, venter dark gray with darker speckling. Most of the seasonal gullies favoured by this viper were seen in the west of the island, which has been recommended as a biogenetic reserve (Stubbs 1985, Corbett 1989, Mook 1986). Threatened by habitat loss through open cast mining, also by the indifferent attitude of the local authorities towards illegal collecting.

Other species occurring on Milos include *Eryx jaculus*, which is known from records dating back to the 1930's (Chondropoulos, 1989).

KIMILOS (13th-17th May 1992)

*Tenuidactylus kotachyi saronicus* (Gekkonidae)

Extremely abundant.

*Hemidactylus turcicus turcicus* (Gekkonidae)

Five specimens found at Elinika, Aliko and Klima in the south of the island. Not previously mentioned in literature for Kimilos (Chondropoulos, 1986).

*Lacerta trilineata hansschweizeri* (Lacertidae)

Only three specimens seen. An adult male and female were observed basking together at the same refuge in a dry stone wall with thick bushes.

*Podarcis milensis milensis* (Lacertidae)

Common. Like *Vipera lebetina schweizeri* this species has a limited distribution, occurring on just a few of the Cyclades islands.

*Telescopus fallax fallax* (Colubridae)

Two specimens found under rocks near dry stone walls bordering fields. *Vipera*

*lebetina schweizeri* (Viperidae)

An adult female of 63cm total length caught when found under large rock in dry valley stream bed with *Myrtus communis* bushes. Dark gray with indistinct markings. Normally a placid snake, flattened its head and struck vigorously while being caught. Four other adults found dead, two dead on road and two of which had obviously been killed by locals. Two of the dead specimens were found near water troughs, this species probably being attracted to water like other vipers such as *V. xanthina*.

Also recorded on the island are *Eryx jaculus*, *Elaphe stiula* and *Natrix natrix schweizeri* (Chondropoulos, 1989).

SANTORINI (19th-21st May 1992)

*Tenuidactylus kotschyi solerii* x *T. k. saronicus* (Gekkonidae)

Found to be uncommon, only a few specimens being seen on agricultural outbuildings east of Karterados. Its occurrence on Santorini was regarded as doubtful by Fror & Beutler (1978), since when it has been recorded by Tiedemann & Haupl (1982) and also mentioned by Hingley & Castle (1991).

*Hemidactylus turcicus turcicus* (Gekkonidae) Fairly common in dry stone walls and rockpiles.

*Podarcis erhardii* (Lacertidae)

Extremely common and widespread. A versatile lizard, equally at home on the ground in open fields or on dry stone walls. Subspecific status controversial, considered belonging to either *P. e. naxensis* or *P. e. mykonensis* (Chondropoulos, 1986).

*Telescopus fallax pallidus* (Colubridae)

One adult found under ground cover in a vine field. Indistinct and pale markings, superficially resembling a nominate specimen in a pre-slough condition. Usually a docile species, gave a single, innocuous bite when picked up, only the second of the nine specimens caught to do so.

An attempt was made to find the endemic skink species. *Chalcides moseri*, which was only known from a single recorded specimen (Ahl, 1937). The locality given, between Gonia and Kamari, was carefully and extensively searched with a lot of ground cover turned, resulting in no skink species being found. The species has never been recorded by other researchers since its discovery and its presence on Santorini should now be regarded as doubtful. A further unusual recording was recently made by Hingley & Castle (1991), who found a robust gecko resembling *Eublepharis* spp. the single example found was considered to be possibly an introduced specimen from the Middle East or North Africa. The only other species definitely present is *Elaphe situla* (Clark 1972, Fror & Beutler 1978). The records of *Coluber jugularis caspius* and *Elaphe quatuorlineata* (Clark, 1968) on the basis of sloughs require confirmation.

NAXOS (22nd May 1992; 18th-20th June 1993)

*Mauremys caspica rivulata* (Emydidae)

Two adults found active in partly dry, valley stream.

*Tenuidactylus kotschy saronicus* (Gekkonidae)

Common in both cultivated areas on dry stone walls and in more natural rocky areas. Eggs laid in pairs and singly found under large rocks.

*Agama stellio daani* (Agamidae)

A common species on dry stone walls; all of the concrete outbuildings in cultivated areas investigated were inhabited by at least one adult specimen. A very timid species, difficult to approach closely.

*Lacerta trilineata trilineata* (Lacertidae)

Several seen during May though no specimens were seen in June. Clark (1989) states that in summer this lizard becomes especially shy, secretive and difficult to observe. It was generally found in habitats with dense vegetation and bushes bordering cultivated areas.

*Podarcis erhardii naxensis* (Lacertidae)

Very common. Probably as a result of the richer vegetation on this island, compared to most others investigated, this lizard showed an increased tendency to be bright green dorsally with only a few brown coloured adult males seen.

*Eryx jaculus turcicus* (Boidae)

One adult found under rock in rock scree on dry, scrub covered hillside south of Naxos town.

*Elaphe quatuorlineata muenteri* (Colubridae)

A distinctly blotched juvenile of 35cm approx. was seen at the base of thick bushes next to agricultural outbuilding. Active at 1000 hours, temp. 23°C.

*Vipera ammodytes meridionalis* (Viperidae)

One 42cm adult female caught when seen active at midday on same hillside as *E. jaculus*. Other species which are present, not found, include *Hemidactylus turcicus*,

*Ablepharus kitaibelii*, *Typhlops vermicularis*, and *Natrix natrixpersa* x *N. n. schweizeri* (Chondropoulos, 1986, 1989). Also there is a rather doubtful old record (Werner, 1938) of *Ophisaurus apodus*, the only record of this species on the Cycladean islands.

AMORGOS (23rd May - 2nd June 1992; 21st-24th June 1993)

*Bufo viridis* (Bufonidae)

Several adults found under rocks in valleys with small pools, in irrigated fields and in a dry stream bed. Large specimens up to 8cm total length found.

*Rana ridibunda* (Ranidae)

About a dozen individuals present at each of the small remaining pools in gullies of hillside valleys. Found in both May and June. This and the above species on Amorgos, were the only amphibians found on the two trips.

*Tenuidactylus kotschy solerii* x *T. k. saronicus* (Gekkonidae)

Extremely common, the most frequently seen reptile on the island. A few uniform gray specimens seen, the vast majority typically marked with dark gray crossbands.

*Hemidactylus turcicus turcicus* (Gekkonidae)

Very common. Sympatric with *T. kotschy* and *Podarcis erhardii*.

*Ablepharus kitaibelii kitaibelii* (Scincidae)

Common, particularly so in leaf litter of shady orchards and olive groves. *Podarcis erhardii*

*amorgensis* (Lacertidae)

Very common. Ventral surface of captured adult males variable, greenish to bright yellow, pale to bluish green, a few specimens bright orange, the majority being greenish white. Dorsal colouration also variable, uniform green upper and brown lower dorsal with light dorsolateral stripes, or darkly reticulated.

*Eryx jaculus turcicus* (Boidae)

Found to be very common and widespread during May with twenty individuals being found, usually under large rocks. In June only one specimen found, most of the rocks turned being too hot underneath to be used by snakes as cover. Largest specimen found 58cm total length, average total length of adults found being 42cm. Extremely docile. During two cloudy days in May several specimens were found active during midday. Although predominantly nocturnal, diurnal activity in this species has also been noted by Clark (1986b).

*Elaphe quatuorlineata* (Colubridae)

One adult of 107cm total length caught while active at 1745 hours, temp. 21°C, light cloud, in olive field adjoining well vegetated gully. In contrast to the mainland *E. quatuorlineata* I have caught this snake was very aggressive, flattening the head, hissing and striking repeatedly. Longitudinal stripes darker and more prominent than in typical Cycladean *E. q. muenterii* adults, Clark (1990) has suggested that Amorgos specimens may warrant subspecific status.

Also on record for Amorgos is *Telescopus f. fallax* (Werner, 1938), and the endemic ratsnake *Elaphe rechingeri*. This snake differs markedly from *E. quatuorlineata* in lacking the distinctive striping and in having a lower subcaudal count (see Clark, 1971, 1990). Originally described as a distinct species by Werner in 1932, this snake continues to be erroneously referred to in present day literature as a subspecies of either *E. quatuorlineata* or *E. longissima*.

FOLEGRANDOS (9th-12th June 1993)

*Tenuidactylus kotschy* (Gekkonidae)

Would appear to be uncommon, only five adults being seen in dry stone walls and on concrete outbuildings. Not previously recorded on Folegrandos (Chondropoulos, 1986).

*Podarcis erhardii naxensis* (Lacertidae) Very common and widespread.

*Eryx jaculus turcicus* (Boidae)

Two specimens found under rocks in olive fields.

No other species have been recorded on the island.

SIKINOS (13th-17th June 1993)

*Tenuidactylus kotschy saronicus* (Gekkonidae) Fairly common and widespread.

*Hemidactylus turcicus turcicus* (Gekkonidae)

Common in dry stone walls, rockpiles. Eggs visible in oviducts of captured females. *Podarcis*

*erhardii naxensis* (Lacertidae)

Very common. As on most islands investigated, variable in appearance. The majority of adult males were green on upper dorsal, brown on lower dorsal with prominent dorsolateral stripes. Females usually uniform brown with light dorsolateral stripes.

*Vipera ammodytes meridionalis* (Viperidae)

Would appear to be fairly common, seven specimens found. Cycladean specimens tend to be much smaller than mainland specimens, the largest adult caught on Sikinos being only 37cm total length. Five had the typical 'zig-zag' pattern, one specimen seen had a straight edged dorsal stripe as is illustrated for Sikinos specimens in Bruno (1985) and Dimitropoulos (1992). The other specimen found being intermediate between 'striped' and 'typical'. Often found on rocky hillsides with *Pistacia lentiscus* bushes.

The only other species recorded on Sikinos is *Eryx jaculus* (Chondropoulos, 1989).

EPANO KOUFONISSI (25th-28th June 1992) *Tenuidactylus kotschy solerii* x *T. k. saronicus* (Gekkonidae) Common and widespread.

*Hemidactylus turcicus turcicus* (Gekkonidae) Common in dry stone walls and rockpiles.

*Podarcis erhardii amorgensis* (Lacertidae)

Common and widespread, the majority of adult males being uniform brown dorsally. *Vipera*

*ammodytes meridionalis* (Viperidae)

Would appear fairly common, five specimens being found, mainly on rocky hillsides in the north of the island. During capture an adult, found under a large rock, showed signs of 'thermal shock' shortly after being moved onto the sunbaked open ground, going into convulsions and soon appearing limp and lifeless. It was quickly lifted back into shade and water poured over it to reduce body temperature, whereupon it soon recovered. Temperature under the rock was 16°C approx. the open ground substrate temperature being in excess of 35°C.

Also recorded on Epano Koufonissi are *Ablepharus k. kitaibelii* and *Eryx jaculus* (both species referred by Lotze, 1973).



Plate 1. - Juvenile *Vipera lebetina schweizeri*. Milos



Plate 2. - *Podarcis erhardii naxensis*. Folegrandos



Plate 3. - *Tenuidactylus kotschy*. Folegrandos

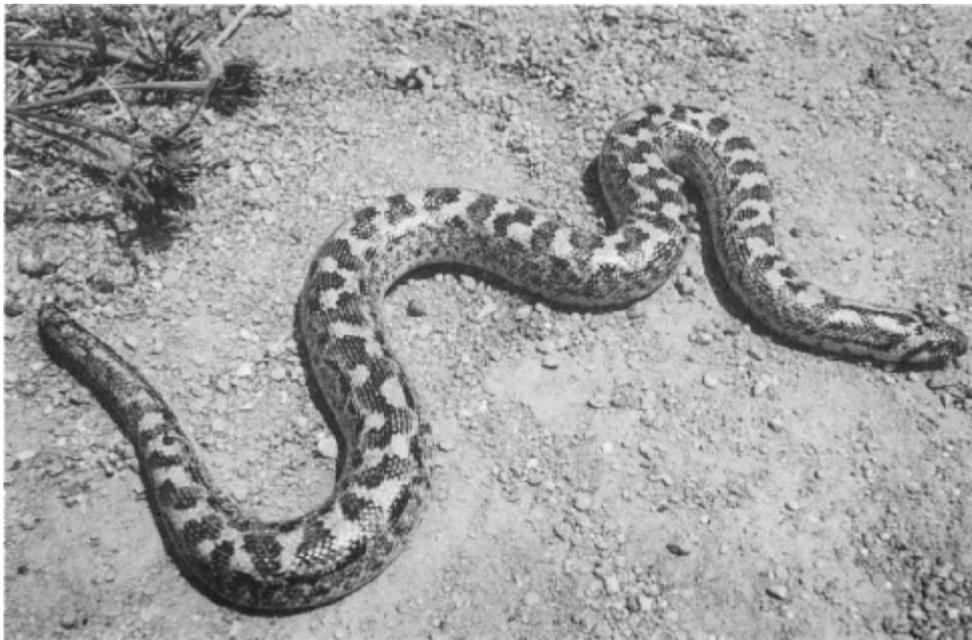


Plate 4. - *Eryx jaculus turcicus*. Naxos

SCHINOUSSA (29th-30th June 1993)

*Tenuidactylus kotschy solerii* x *T. k. saronicus* (Gekkonidae) Very common and widespread.

*Hemidactylus turcicus turcicus* (Gekkonidae) Several specimens found, presumably fairly common.

*Podarcis erhardii naxensis* (Lacertidae)  
Common, though less so than other islands with *P. erhardii* investigated.

Other species on record for Schinoussa include *Eryx jaculus* (Lotze, 1973), which according to locals I spoke to is very common. Lotze (1973) also listed *Elaphe quatuorlineata* amongst the islands species, based on local information. However, the locals I spoke to seemed unfamiliar with this snake and, though its occurrence is certainly possible, it is likely to be uncommon.

NOTE: Subspecific status of *Tenuidactylus kotschy* and *Podarcis erhardii* is as given by Chondropoulos (1986) though, as Chondropoulos points out, the subspecific status of these taxa is often controversial and in need of review.

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