

OBSERVATIONS ON SOME OF THE HERPETOFAUNA OF THE PELOPONNESE

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INTRODUCTION

The Peloponnese was visited for two weeks commencing the 7th of September, 1986 and for a further two weeks commencing the 6th of May, 1987. During the two field trips twenty two reptile and three amphibian species were observed. A checklist of the Peloponnese herpetofauna by Bringsøe (1985) has been followed for subspecific status used in this account. This paper which lists 48 taxa of amphibians and reptiles known to occur in the Peloponnese and the recent work by Chondropoulos (1986) include an excellent list of references concerning the Peloponnese herpetofauna. Due to its abundance of species Greece has long been popular with herpetologists and quite a lot of data has been published regarding its herpetofauna in comparison with many other European countries. However, there is still much to learn about its distribution, ecology and behaviour. This paper is a summary of the species seen, their localities with new locality records and general observations.

The Peloponnese is separated from the mainland of southern Greece by the Gulf of Corinth and due to the Corinth shipping canal severing its link with the Attic mainland is in effect a big island. The region is little affected by industry, agriculture and tourism being the chief sources of income. The wild rugged mountain ranges, the highest often snow-capped, and the low fertile plains provide a wide variety of habitats and climatic variation. Average daily maximum temperatures range from 31°C in July and August to 14°C in January. Temperatures are cooler in the mountainous interior. Generally it is very dry from July to October with most rainfall recorded from October to March.

PRINCIPAL SITES

Altogether eleven areas were investigated. The area locations are shown in Figure 1. The letters S and M before area numbers refer to September, 1986 and May, 1987 respectively.

- | | |
|---------|--|
| AREA S1 | Rion. N.W. coast. Moist area 1km W. of Rion near small river, adjoining dry areas. |
| AREA S2 | Loutra Kilinis. N.W. coast. Mainly dry, well vegetated and wooded area. |
| AREA S3 | Olympia. W. central. Grassy fields with olive trees and adjoining hillsides. |
| AREA S4 | Palea Epidavros. N.E. coast. Dry coastal area, well vegetated. |
| AREA S5 | Epidavros. Grassy fields with olive trees 2km W. of ancient Epidavros. |
| AREA M1 | Kiato. N.E. coast. Small river, orchards and fields. |
| AREA M2 | Lake Taka. Central. Large lake S. of Tripolis and adjoining orchards and fields. |
| AREA M3 | Pylos. S.W. coast. Grassy hills and plains with olive trees. |
| AREA M4 | Mystra. S. central. Base of Taigetos mountains. Dry scrub covered hills with olive trees. |
| AREA M5 | Skala. S. east. Well vegetated areas beside the Evrotas river. |
| AREA M6 | Nea Kios. N. east. 7km W. of Nafplio. Well vegetated and extensive marshy area adjoining Inahos river and dry grassy areas near coast. |

Figure 1.

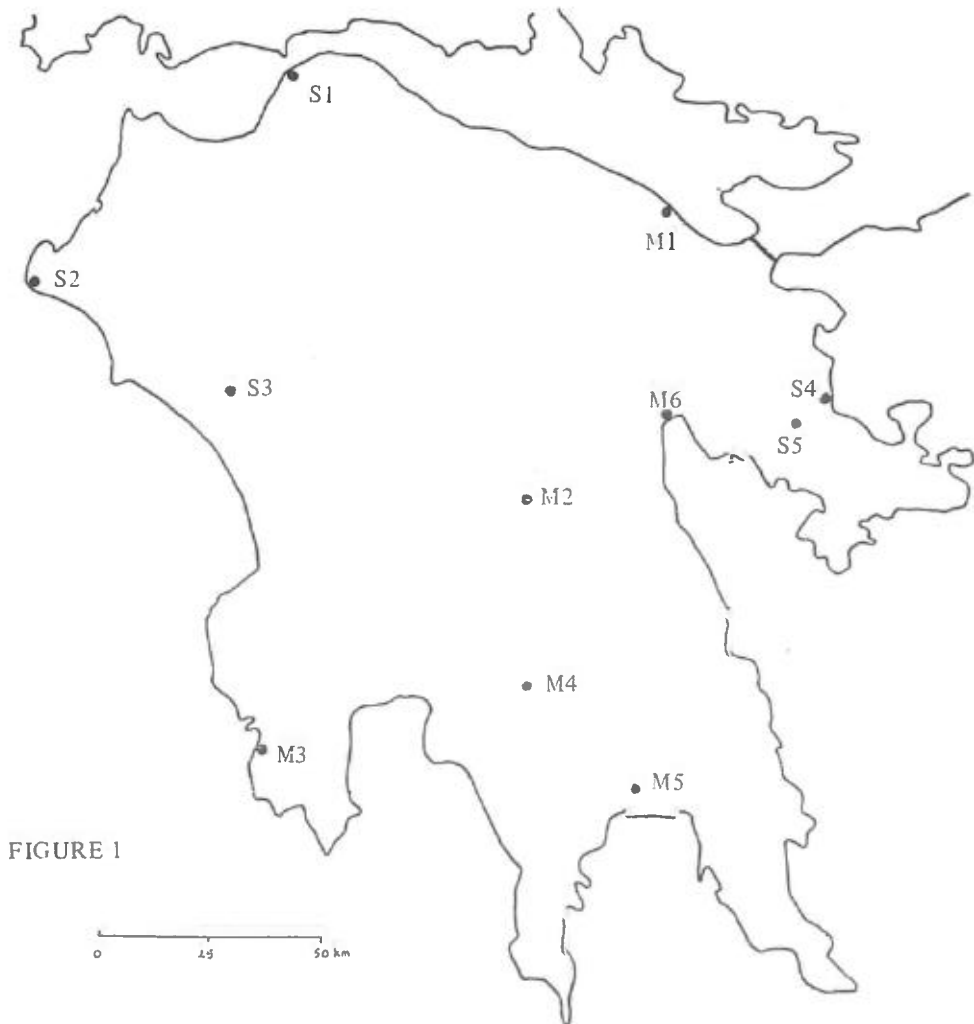


FIGURE 1

SPECIES LIST AND OBSERVATIONS

BUFONIDAE

Bufo bufo bufo (Linnaeus 1758). Common Toad

One gigantic specimen caught in area M5 in reed cover near the river at 13.40 hr., temp. 24°C, cloudy. Almost 15cm in length, 13cm wide and very obese. While being held for photography it emptied the contents of the urinary bladder, soaking my upper leg. Shortly after releasing the toad the skin on my left thumb swelled up slightly and became numb (see Harrison, 1986). It was still slightly numb a week later. I have never before experienced this effect from the toxins secreted from the cutaneous glands when handling the smaller *B. bufo* in England.

HYLIDAE

Hyla arborea (Linnaeus 1758). Common Tree Frog

The distinctive strident call of this frog was clearly heard in thick vegetation near small river in area M1 during mid afternoon though I failed to see a specimen despite thorough searching. Also probably heard at areas M2, M5 and M6 where it was difficult to distinguish due to the calls of numerous *Rana r. ridibunda*.

RANIDAE

Rana ridibunda ridibunda (Pallas 1771). Marsh Frog

Very common amphibian in the Peloponnese. Five specimens up to 9cm found in area S1. Six large specimens beside small stream in area M1. Very numerous at area M2 where specimens as large as 15cm approx. were common around Lake Taka. Common alongside the Evrotas river, area M5. Very abundant also beside the Inahos river in area M6 and adjoining marshy area. Also found in streams 2km S. of Tripolis (May, 87). Thousands of well advanced tadpoles and some juveniles seen on May, 87 trip.

TESTUDINIDAE

Testudo hermanni hermanni (Gmelin 1789). Hermann's Tortoise

One young specimen of 9cm carapace length and an adult of 18cm found in area S3 in grassy field with olive trees at mid-day, temp. 31°C. 20cm specimen found amongst long grass beside the Evrotas river in area M5 at 11.25 hr., temp. 24°C. Also a 16cm specimen found on scrub covered rocky hillside on the outskirts of Nafplio at 15.00 hr. on 16.5.87, temp. 25°C. All active at time of discovery.

Testudo marginata (Schoepff 1792). Marginated Tortoise

Two large adults of 25cm and 28cm carapace length found active on scrub covered hillside in area M4 during mid-day, temp. 22°C, cloudy. The slightly larger of the two had a noticeably more strongly flared carapace than the other, the female's carapace being only slightly flared compared to the male's (Hine, 1982). Another large 28cm specimen was found at 17.30 hr., temp. 24°C sheltering in the centre of a dense spiky shrub on high rocky hillside overlooking the hill where *T.h. hermanni* was found at Nafplio on same day. Hind quarters infested with ticks, the presence of sheep nearby a probable contributory factor to this condition.

EMYDIDAE

Emys orbicularis (Linnaeus 1758). European Pond Terrapin

Three adults, the largest 20cm carapace length approx. observed swimming in slow moving stream 2km S. of Tripolis at 17.20 hr. on 8.5.87 leisurely snapping up *R.r. ridibunda* tadpoles until they dived to the bottom when aware of my presence. Feeding behaviour slow and deliberate. Cold and cloudy, temp. 13°C.

Mauremys caspica rivulata (Valenciennes 1833). Stripe-necked Terrapin

Found to be abundant at the Evrotas river, area M5 where five specimens were first seen basking together on fallen tree in the river (Plate 1), temp. 25°C. Dived on being disturbed, some cautiously returning about half an hour later. Largest specimen seen 23cm carapace length approx. The Evrotas is a large, in parts, fairly fast flowing river beside which are numerous areas of dry sandy soil suitable for egg laying. All along the river area investigated terrapins could be seen and heard retreating into the water. Captured terrapins (Plate 2) were all *M.c. rivulata* and I was unable to ascertain whether any *E. orbicularis* co-existed among this healthy population. Young specimens were observed apparently eating water surface weed. Also found in area M6 at 14.00 hr., temp. 26°C where a single 16cm approx. adult was seen in a small dyke the water surface of which was blanketed with weed.

GEKKONIDAE

Tarentola mauritanica mauritanica (Linnaeus 1758). Moorish Gecko

A single 14cm approx. specimen seen on the corrugated iron wall of an old stable in lush field in area S1 at 17.30 hr., temp. 25°C. In the Peloponnese limited to the N.W. coastal region (Bringsøe, 1985).

Hemidactylus turcicus turcicus (Linnaeus 1758). Turkish Gecko

One young 5.5cm specimen found under rock debris at base of house in Olympia village, area S3 at 16.00 hr., temp. 31°C. Delicate gecko with pale rather translucent skin usually found in coastal areas.

Cyrtodactylus kotschyi bibroni (Beutler & Gruber 1977), Kotschy's Gecko

Adult of 9cm approx. seen on low wall in area S4 in shade of overhanging bush at 17.00 hr., temp. 27°C. Resembled small *Lacerta* at first glance. Also found in area M6 at 16.20 hr. near coast road basking amongst pile of discarded concrete, temp. 25°C. This 6cm approx. gecko lighter in colour with more distinct cross bands than first, larger specimen seen.

LACERTIDAE

Algyroides moreoticus (Bibron & Bory 1833). Greek Algyroides

Not an easily observed lizard due to its small size, plain colouration and secretive habits. First found among overgrown ruins in area M1 where five specimens were disturbed and briefly seen on ground amongst vegetation litter. A male and female were found together under a flat rock in same area, the male with distinct light spots on its dark flanks, the dorsal surface being plain dull brown. This sighting confirming identification. Seen at mid-day, temp. 22°C. Up to 5cm approx. snout-vent. Also found in area M5 where two specimens were briefly seen among pile of dead reeds next to the river at 17.30 hr., temp. 24°C. In both areas *Podarcis taurica ionica* was also found.

Lacerta trilineata trilineata (Bedriaga 1886). Balkan Green Lizard

Although found in eight of the eleven areas investigated a total of only eleven individuals were seen, this impressive lizard being solitary by nature. Found in variable habitats, near water as well as dry areas providing there was ample cover, typically being disturbed while basking whereupon it rapidly dashed to some handy nearby refuge, usually a dense bush. At areas S1, S3, S5, M1, M3 and M4 one specimen seen, two at area M5 and three at area M6. The dead specimen, possibly killed by a feral cat, in area M1 measured 14cm snout-vent and 42cm total length. Most specimens seen were slightly smaller. One male observed at area S3 had a vivid blue throat, this being yellow in the other specimens seen. The occurrence of the closely related *L. viridis* in the Peloponnese is considered doubtful (Arnold, Burton & Ovenden 1978, Bringsøe 1985, Chondropoulos 1986).

Lacerta graeca (Bedriaga 1881). Greek Rock Lizard

A single adult female caught in area M5 at mid-day beside the Evrotas river. Found on sandy riverbank with scattered plant growth near stony bank. Cloudy, temp. 23°C. 6.5 cm snout-vent, 21cm total length. As illustration 1a, plate 30 (Arnold et al 1978). When seen ran into grass clump where it was caught. *P.t. ionica* also found in nearby areas. Although predominantly found in the Taigetos mountains, the altitudinal range has now been extended to 0-1700m (Bringsøe 1985).

Podarcis taurica ionica (Lehrs 1902). Balkan Wall Lizard

Frequently seen in areas visited on the May, 87 trip though none were seen in localities searched during September, 86. From nine to fifteen individuals being seen in areas M1, M2, M4, M5 and M6. Also seen at Sparta (May, 87). Ground dwelling lizard found in dry grassy areas, fields, roadside and river banks. Gravid female caught in area M6 on 18.5.87. Typical specimens seen (Plate 3) were bright green with light dorsolateral stripes and light stippled olive brown flanks. Amount of green on dorsal surface variable, one specimen in area M1 being uniform grass green with no light dorsolateral stripes. Average total length approx. 18cm.

Podarcis peloponnesiaca (Bibron & Bory 1833). Peloponnese Wall Lizard

Found to be common in areas S2 (and Vartholomio), S3 and S4 with only single specimens being seen in areas M1 and M4, *P.t. ionica* being the most frequently seen lizard in areas searched during May, 87. Whether this reflects some unlikely difference in seasonal habits and temperature preference or is simply representative of the area visited and habitats searched is unknown, the latter explanation being most likely. Usually seen on stone walls, large boulders and rocky hillsides. The large males, up to 24cm approx. total length are the most attractively coloured small *Lacertid* I have seen in Europe with their bright orange throats and the blue spots extending from the forelegs often almost to the rear flanks. The females with prominent dorsolateral stripes averaged 17cm approx. total length. Bringsøe (1985) lists three subspecies and Chondropoulos (1986) four.

ANGUIDAE

Anguis fragilis peloponnesiacus (Stepánek 1937). Slow worm.

One specimen found dead on road near the lake in area M2.

Ophisaurus apodus thractus (Obst 1978). European Glass Lizard

First seen in area M3 on grassy hillside at 13.30 hr., temp. 24°C. Approx. total length 100cm, quickly disappeared into thick vegetation. Another similar sized specimen found dead on a nearby track. Adult male of 97cm total length caught in area M6 on grassy river bank beside the Inahos river next to orchard at 15.10 hr., temp. 24°C. Reacted to being caught by twisting its

body, protruding hemipenes and defecating copiously. Rich dark brown in colour with paler head, respiratory groove prominent on sides (Plate 4).

SCINCIDAE

Ablepharus kitaibelii kitaibelii (Bibron & Bory 1833). Snake-eyed Skink

A total of nineteen adult specimens seen. One found in area S1, three in area S3, one in area S5, eleven in area M1 and three in area M3. Most commonly found in dry open habitats with good ground cover into which it retreats with serpentine motion when disturbed. Lanka and Vit (1985) state that it is intolerant of members of its own species. However five specimens were found together under a flat rock on the railway embankment in area M1 on 7.5.87 though similar rocks in immediate area failed to reveal further specimens. Diurnal, found to be active at various times of the day especially mid to late afternoon. Very timid, only one captured. Two specimens unaware of my presence were observed basking in a dry ditch at 17.45 hr., temp. 24°C. Total length averaged 9cm approx. Captured skink uniform glossy bronze-brown with darker flanks.

Chalcides ocellatus ocellatus (Forskål 1775). Ocellated Skink

Three specimens disturbed in same area amongst dead leaves in citrus orchard at area M1 during early afternoon, temp. 24°C and slightly cloudy. Two specimens found in small field with short grass and dead leaves bordered by tall trees in area M6 at 12.35 hr., temp. 25°C, clear and sunny. Four were only briefly seen before rapidly moving into ground cover and effectively disappearing. The first specimen found in area M6 afforded a better sighting as I spent ten minutes pursuing it from one spot to another, relocating it in the short matted grass several times before it was lost. Very fast and agile. Average length approx. 17cm. The most noteworthy sightings of the trips as it has previously only been recorded from Korinthos (Bringsøe 1985). Chondropoulos (1986) lists no specific locality records for this species in the Peloponnese.

TYPHLOPIDAE

Typhlops vermicularis (Merrem 1820). Worm Snake

Fossorial species also known as the Blind Snake. 22cm specimen caught after turning rock partly submerged in clay type soil on dry rocky scrub covered hillside in area M4, temp. 24°C. Also a 24cm specimen found under rock on similar hillside habitat at Nafplio (May, 87), temp. 25°C. On both occasions I was searching habitat where I was hoping to find *Vipera ammodytes*. Actively tried to escape with quick movements when handled and released small amount of slightly smelling fluid from vent. Spine at tip of tail, an aid to locomotion, could be felt poking into hand. Uniform brownish colouration with paler underside.

COLUBRIDAE

Malpolon monspessulanus insignitus (Geoffrey 1827). Montpellier Snake

Two sloughed skins identified by narrow frontal scale and seventeen rows of dorsal scales at mid body found in area S5 in olive field. Three adults seen in area M1 on same day. A 128cm approx. specimen beside grassy bank in citrus orchard at 13.00 hr., temp. 21°C breezy. After being almost stepped on in thick vegetation between orchards a 140cm approx. specimen hissed loudly for several seconds after retreating a short distance before disappearing at 15.30 hr. At 17.00 hr. a 120cm approx. specimen sped into thick cover when seen on orchard track. A 93cm specimen found dead on road in village of Karassitsa, area M2.

Coluber gemonensis gemonensis (Laurenti 1768). Balkan Whip Snake

First specimen seen in area M1 where a 45cm approx. specimen was seen lying loosely coiled amongst small rocks basking on high roadside bank, temp. 22°C at 16.15 hr., escaped into undergrowth when closely approached. A 37cm approx. sub adult seen on grassy bank beside olive field in area M3 at 10.45 hr., temp 23°C. Dark blotches on anterior body more prominent than in larger specimens seen. Also in area M3 a 60cm approx. specimen disturbed in open area on grassy hillside at 17.15 hr., temp. 25°C. In area M6 a 88cm approx. specimen sped across track between stony banks in dry grassy field at 15.30 hr., temp. 25°C. Slight variation in ground colour, grey to yellowish brown with obscure dark anterior spots. Very fast moving snake.

Elaphe situla (Linnaeus 1758). Leopard Snake

Unfortunately the one specimen encountered was found dead on the railway track in area M1. A large adult of roughly 90cm as estimated by the girth of mid-body remains. Red dorsal spots divided in two with greyish ground colour. Local farm workers I spoke to reported seeing *E. situla* in this and other areas and hopefully this most beautiful of European snakes is not as scarce as it appears to be.

Natrix natrix persa (Pallas 1814). Grass Snake

Seemingly healthy population around Lake Taka, area M2 where five specimens were seen or caught despite the cloudy conditions during much of the time the area was investigated. All five seen during brief sunny spells between 11.20 and 13.00 hrs. when temp. averaged 17°C. Largest 120cm, average length approx. 90cm. Subadult of 46cm (Plate 5) caught and 100cm approx. specimen seen beside the Evrotas river, area M5 during mid morning, temp. 24°C. In this area *N. tessellata* was abundant. Despite the favourable habitat and vast number of *R. r. ridibunda* present only one 50cm approx. specimen was seen in area M6, swimming in the Inahos river at 11.45 hr., temp. 23°C. All had the two light dorsolateral stripes typical of this subspecies in S.E. Europe.

Natrix tessellata (Laurenti 1768). Dice Snake

Frequently seen at the Evrotas river, area M5 where eleven specimens were seen or captured. Seven adults, largest 88cm in length and four were juveniles of 24cm. Discovered at various times of the day usually under rocks beside the river or basking on large rocks. Average temp. 25°C. One adult observed swimming under water for long periods hunting for the numerous fish in the river. One 45cm approx. specimen was observed for half an hour on a grass clump in the middle of the fallen tree shown in Plate I coming to within 15cm of a large basking *M.c. rivulata* which showed little interest though occasionally drawing its head slightly back when the snake was approaching closely. I am not aware of any recorded cases of ophiophagy in European terrapins, though I would consider it likely that that occasionally occurs. Little variation, ground colour light to dark olive grey with dorsal pattern of evenly spaced dark bars, alternating dark and narrow light bars on flanks. Venter whitish yellow with dark chequering to almost entirely black.

NOTE

During the two trips on several occasions additional specimens were partly seen as they rapidly disappeared into cover, e.g. probable Montpellier and Whip snakes during May 87. All such sightings have not been included in the account. All captured specimens were released where first found.

ACKNOWLEDGEMENTS

I would like to thank Dr. C.J. McCarthy, British Museum (Natural History) London for providing copies of valuable references and Mrs. P. Whitley for typing the manuscript.

DISCUSSION

The effects of aestivation on the number of species seen can be clearly seen by looking at Table 1. During the September trip only eight species were recorded compared to twenty three in May. Snakes, frequently seen in May, were conspicuous by their absence during September when only one unidentified snake was briefly seen, activity being restricted by the constant high temperatures. *Chalcides o. ocellatus* is probably more abundant in the Peloponnese, at least in Korinthia, than present records suggest as it is said to be very common in the nearby mainland province of Attiki (Dimitropoulos & Gaethlich, 1986). This and other scarcely recorded species such as *Emys orbicularis* and to a lesser extent *Elaphe situla* may also be more abundant than presently recorded. A German tourist told me that when a small harmless snake was seen one evening near a taverna not only was it killed but a frantic search was carried out to try and find and destroy its mate. This fear of snakes and subsequent persecution is not unusual despite the fact that only *Vipera ammodytes* of the thirteen snake species to be found can be considered potentially dangerous. I would welcome any correspondence regarding the Peloponnese herpetofauna and comments on any of my observations in the species accounts.

TABLE 1

Summary of amphibians and reptiles observed in the Peloponnese and their site locations.

| SPECIES | SEPT. 1986 | MAY 1987 |
|---|-------------------------|-----------------------------|
| <i>Bufo bufo bufo</i> | | M5 |
| <i>Hyla arborea</i> | | M1, M2?, M5?, M6? (calling) |
| <i>Rana ridibunda ridibunda</i> | S1 | M1, Tripolis, M2, M5, M6 |
| <i>Testudo hermanni hermanni</i> | S3 | M5, Nafplio |
| <i>Testudo marginata</i> | | M4, Nafplio |
| <i>Emys orbicularis</i> | | Tripolis |
| <i>Mauremys caspica rivulata</i> | | M5, M6 |
| <i>Tarentola mauritanica mauritanica</i> | S1 | |
| <i>Hemidactylus turcicus turcicus</i> | S3 | |
| <i>Cyrtodactylus kotschy bibroni</i> | S4 | M6 |
| <i>Algyroides moreoticus</i> | | M1, M5 |
| <i>Lacerta trilineata trilineata</i> | S1, S3, S5 | M1, M3, M4, M5, M6 |
| <i>Lacerta graeca</i> | | M5 |
| <i>Podarcis taurica ionica</i> | | M1, M2, M4, Sparta, M5, M6 |
| <i>Podarcis peloponnesiaca</i> | S2, Vartholomio, S3, S4 | M1, M4 |
| <i>Anguis fragilis peloponnesiacus</i> | | M2 |
| <i>Ophisaurus apodus thracius</i> | | M3, M6 |
| <i>Ablepharus kitaibelii kitaibelii</i> | S1, S3, S5 | M1, M3 |
| <i>Chalcides ocellatus ocellatus</i> | | M1, M6 |
| <i>Typhlops vermicularis</i> | | M4, Nafplio |
| <i>Malpolon monspessulanus insignitus</i> | S5 (sloughs) | M1, M2 |
| <i>Coluber Gemonensis gemonensis</i> | | M1, M3, M6 |
| <i>Elaphe situla</i> | | M1 |
| <i>Natrix natrix persa</i> | | M2, M5, M6 |
| <i>Natrix tessellata</i> | | M5 |

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