

A REPORT ON HERPETOLOGICAL INVESTIGATIONS ON THE ISLAND OF SAMOTHRAKI, NORTH AEGEAN SEA – GREECE

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INTRODUCTION

A journey to Greece in the summer of 1990 enabled me to make observations on the amphibian/reptilian fauna in several areas: islands of Thassos, Samothraki and Levkas as well as the North Greek mainland mostly in the Pindos Mountains and Prespa lake region. An article on the mainland findings is in preparation but here I would like to mention two significant finds: *Elaphe l. longissima* at Prespa and *Lacerta agilis bosnica* from Pissoderi (1650 metres) near to Florina. This latter find was new to my records and the single specimen of *E.l.longissima* was only the third example of this snake that I have observed in Greece. On Levkas very little was seen. The island has had very little rain in recent years and was extremely dry. Only 1 *Algyroides moreoticus* was noted and an unidentified Colubrid snake seen disappearing into a dry stone wall. On Thassos the following were found; *Rana graeca*, *Mauremys caspica rivulata*, *Ophisaurus apodus thracicus*, *Lacerta viridis*, *Coluber jugularis caspius* and *Malpolon monspessulanus insignitus*. Andrew Laister (personal communication) has provided me with a list of his findings from Thassos which includes *Vipera ammodytes meridionalis*, the first record of viperine snakes from this island. This report deals with my research on Samothraki. The island was visited from July 4th to July 12th during which time I was able to make detailed notes on the occurrence and activity of the elusive lizard *Podarcis muralis*.

SAMOTHRAKI – PHYSIOGRAPHY

Since this island has received so little attention from herpetologists and is one of the most interesting in Greece I shall give a detailed description of it in the hope that this may be of assistance to future researchers.

Samothraki boasts the highest mountains in the Aegean and is dominated by the masif of Phengari with a summit of 1584 metres and lesser peaks of 1475 and 1455 metres. The island is roughly circular and is notable for its diverse topography, vegetation types and the fact that small rivers and streams flow throughout the year. The lowlands and plains in the west is an important olive-growing region. Along the S. and S.E. coasts the mountains descend precipitously to the sea with streams plunging down the cliffs. In the east is an area known as Ano Meria. This is richly fertile with several small hamlets, fields, orchards, walnut plantations and natural woodland. Along the north coast extend the plains and foothills of Phengari across which flow a number of small rivers which are thickly wooded along the water courses. There are also bodies of still water and in the spring these must be quite extensive. Although there are cultivated fields this area is heavily grazed by goats resulting in stony expanses with light phrygana vegetation. The lower mountain slopes and foothills contain dense and impenetrable evergreen scrub and there are remnants of ancient forests with some massive stands of oak. There is also limited oak woodland on the upper slopes of Mt. Koufoyllo but the higher peaks of Phengari are largely rocky and barren.

WEATHER CONDITIONS

The weather was quite variable and even unsettled at times. The high mountains attract cloud cover even in summer whenever the moister air is forced to rise against the steep slopes. On four days cloud was persistent with a few light showers. Consequently temperatures fluctuated a good deal with maxima on some days below 27°C. On July 12th only 25°C was recorded. Otherwise the mercury mostly exceeded 30°C with maxima of 36°, 35° and 32° on the 4th., 5th and 6th July respectively. Early morning, sunrise, temperatures were around 20-22° but lower on some days, viz. 18.6° on July 10th.

FOREWORD

References to the herpetofauna of Samothraki can be found in Werner (1938), Wettstein (1953) and Ondrias (1968). These refer to collections mostly made in the 1930s and 1940s and there is no detail as to under what conditions the animals were found, for the most part. We can say, therefore, that the herpetofauna of Samothraki was inadequately documented until 1988 when David Buttle visited the island and made some important observations (Buttle 1989). My visit in 1990 was a follow up to Buttle's trip. Most of the work done was on the north of the island. Other areas, along the south and up into the lower mountains, produced few observations. The mountain peaks could not be reached but I managed an excursion by foot up Mt. Konfoyllo to around the 1000 metre contour. The road system consists of a coastal route which is incomplete due to the steep mountain cliffs mentioned above. Other roads run a short way inland to the villages. The main mountain region can only be penetrated by ill-defined paths and local help is needed to find these.

SPECIES ACCOUNT

RANIDAE

Rana r. ridibunda (Pallas)

This was found in all streams and ponds visited. Most common in the latter whereas in running water more solitary. The colour varied from olive/brown with dark blotches (shaded locations) to bright green in sunlit ones. Active calling after dark on the 6th and 7th July at 22.00 with a temperature of 23.5°. Tadpoles seen in muddy pools in the Ano Meria region were presumed to be of this species.

EMYDIDAE

Mauremys caspica rivulata (Gmelin)

The Stripe-necked Terrapin was found at several sites between Therma and Akro Kipos in stagnant pools and ponds behind the shore line. None in running water. Some of the pools were quite polluted. Observed either on banks or in the water itself from just after dawn to late evening. Some quite sizeable colonies from large adults to juveniles.

TESTUDINIDAE

Testudo graeca ibera (Pallas)

Two specimens found in a grassy field near to Pyrgos Fonias were seen to be feeding on dry grasses and plants, 08.00, 23°C. Evidently ancient specimens, very dark in colour with the carapace almost black. The single thigh spur was unusually prominent. Single caudal plate, end of carapace not flared. A few tortoise ticks, *Hyaloma aegyptium*, were adhering to the thighs but infestation was light. Buttle (1989) found 6 specimens.

LACERTIDAE

Lacerta viridis (Laurenti) ? subsp.

The most common lizard on the island with dense population concentrations. Frequently found near streams in wooded areas but also in drier areas, both woodland, field perimeters, hedges and scrub. Active throughout the day in cooler, shaded environments. Also seen on road edges at dusk venturing onto tarmac surfaces. Colouration most variable, notably in females. Bright green males had a typical 'trilineata' jizz but with blue throats and necks. I found no evidence of *L. trilineata* (Buttle 1989) and doubt that this species occurs on the island. However I stand to be corrected on this point.

Podarcis erhardii (Bdriaga) ? subsp.

Only one example seen on a tree trunk close to the steam at Pyrgos Fonias, 18.00, 30°C where sympatric with *P. muralis*. Further investigation failed to discover more specimens. Buttle (1989) observed this species near Hora in stony scrub. It is extremely unlikely that the Samothraki form belongs to *riveti* which is found in western Macedonia and Epirus. Evidently most rare on Samothraki.

Podarcis muralis (Laurenti) ? subsp.

Apart from two examples found between 800 and 900 metres on Mt. Koufoyllo this lizard was only seen in shaded woodland near streams between Therma and Pyrgos Fonias – 3 sites in close proximity. Investigation in the Ano Meria region which provided suitable habitat

was negative and there was no evidence of it in dry woodland, rocky areas and scrub. Thus it would seem to have most particular habitat requirements. Apart from a few juveniles seen amongst dead leaves and debris it was always spotted on tree trunks several feet above ground level and never far from the water courses. Deep shade was preferred with some indirect sunlight and most were found around mid morning, late afternoon and early evening with temperatures $\pm 30^{\circ}\text{C}$. Apart from being reticent and secretive it was also solitary being seen in ones or twos at any one spot. This is in contrast to its habitats on the mainland where it can often be found in sizeable colonies and is gregarious. Most examples were easy to approach once they had been sighted and did not demonstrate the fussy, aggressive active behaviour normally attributed to this species. Population density was thin and *P. muralis* had to be sought with great persistence. Even so the number of individuals observed totalled only 9 males, 1 female and about 8 juveniles. The high proportion of males to females was of interest and could well, if this is an accurate assessment, be the reason for its scarcity. *P. muralis* is possibly a species in decline. I do not attribute the scanty observations to the season. On the mainland this lizard is fully active in the summer occupying a variety of habitats. It is worth noting that Buttle found only one specimen beside a stream near to Palcopoli. Whether this lizard is commoner at higher elevations I doubt: on Mt. Koufolyio, as stated above, I saw only two examples, one of which was on an open rock face which should have yielded plenty of material if the animal was at all common. In life *P. muralis* was coloured olive or occasionally brown with a greenish tint in sunlight. The dorsum was marked with black reticulations or broken black bars either side of the vertebral position which was plain. There was never any sign of a mid-dorsal dark stripe. The flank zone was darker grey/black with spots of the background colouration. Throat and venter marked prominently with red or orange. Neck and head with fine black lines. To what form these wall lizards belong needs resolving. They do not resemble *P. muralis* from the north Greek mainland, nor from other parts of the country visited by me (Pindos Mountains, Olympos and the Peloponnese). With the possible exception of Thassos, Samothraki is the only island known to contain *P. muralis* and we might well have here a completely distinct subspecies that needs naming.

COLUBRIDAE

Coluber jugularis caspius Gmelin

One medium sized adult crossed the tarmac road near Pyrgos Fonias (10.30 28°C) while on a cycle ride and was caught as it tried to escape up a bank covered with prickly scrub. Cultivated fields were on either side of the road. This was typical *caspius* with some red on the top of the head and the neck. Sex female. Total length 1335 mm. Body length 990 mm. Ventrals 205. Subcaudals 104. This species was not found by Buttle.

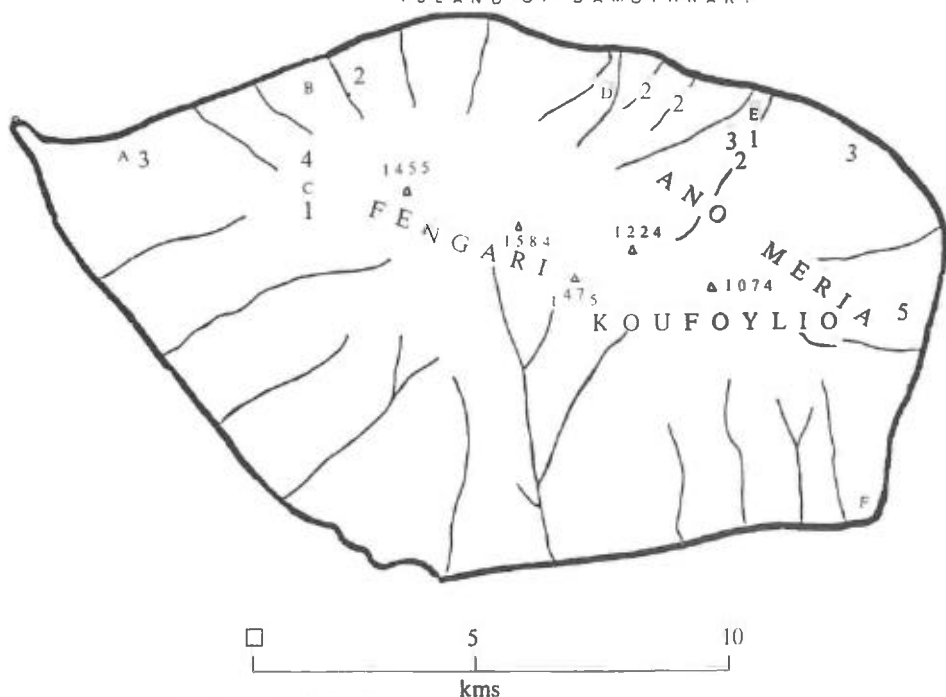
Natrix natrix (Linnaeus)

Three examples identified. One a small juvenile (patterned as *persa*) was seen swimming in a stream at Pyrgos Fonias in the mid afternoon, 35°C and shortly afterwards in the same stream was caught a melanistic specimen. The belly was checkered white and black. The labials were white and black and the eye was black. Total length 718 mm. Body 590 mm. Ventrals 174. Subcaudals 58. Of the 7 supralabials the 3rd and 4th bordered the orbit. There was a single preocular and 2 postoculars. Another melanistic example of about the same size was seen at 08.45 basking beside a pool behind the shoreline a few kilometers away. This could not be caught. Unfortunately no more were seen so it was not possible to determine if melanism in adults is the general trend on this island. Wettstein (1953 p.803) mentions a 'very large' specimen from Kamariotissa which was of the *persa* form. No mention is made of melanism. It would appear that melanism is a tendency demonstrated by some individuals. Much more material is needed to show how far this goes. *Natrix natrix* was found by Buttle in 1988.

Malpolon monspessulanus insignitus (Geoffroy)

A single adult was glimpsed as it disappeared into rocks and undergrowth near to Pyrgos Fonias, 08.30, 26°C . Buttle (pers.comm.) found a 1.5 metres example under a piece of cardboard on the stony beach in the N.W. of the island.

ISLAND OF SAMOTHRAKI



1455 altitude in metres

Localities for selected species;

1. *P. erhardii*
2. *P. muralis*
3. *Natrix natrix*
4. *E. longissima*
5. *E. quatuorlineata* (approximate)

Place names:

- A Kamariotissa
- B Palcopolis
- C Hora
- D Therma
- E Pyrgos Fonias
- F Akro Kipos

Streams and water courses

SUMMARY

A list of the herpetofauna of Samothraki is given in Table 2. In this list I have tried to include all amphibia and reptilia to which I can find certain references. Only two amphibians are known, *R. ridibunda* and *B. viridis*. I looked persistently for Brown Frogs but to no avail although conditions were suitable. The streams that run across to the north coast rise at fairly low altitude but the water is cool enough to support the life style of, say, *R. graeca*. Higher mountain streams might well contain Brown Frogs but these were not visited. The co-existence of two wall lizards that do not normally come together on islands is noteworthy: *P. erhardii* and *P. muralis*. Both seem uncommon or even rare and probably represent populations in decline. The snake-eyed Lizard, *Ophisops elegans*, is absent from Samothraki. This fact, and the occurrence of *P. erhardii*, demonstrates that this island did not receive faunal elements from Asia Minor. Regarding the snakes all species are what one might anticipate for this coastal island. An exception is *E. longissima* (Buttle 1989) which otherwise is not known from islands in the Aegean region. The presence of *E. quatuorlineata sauromates* (Wettstein 1953 p.800) is based on a sight identification but can be taken to be sufficient documentation to allow its inclusion, as with Buttle's siting of *E. longissima*. Viperine snakes have not been found.

TABLE 1 Species known to inhabit Samothraki

SPECIES	BUTTLE	CLARK	OLDER SOURCES
<i>Rana ridibunda</i>	+	+	+
<i>Bufo viridis</i>	+	—	—
<i>Testudo graeca</i>	+	+	+
<i>Mauremys caspica</i>	+	+	—
<i>Hemidactylus turcicus</i>	+	—	—
<i>Lacerta trilineata</i> (?)	+	—	—
<i>Lacerta viridis</i>	+	+	+
<i>Podarcis erhardii</i>	+	+	+
<i>Podarcis muralis</i>	+	+	+
<i>Coronella austriaca</i>	—	—	+
<i>Coluber jugularis</i>	—	+	+
<i>Elaphe longissima</i>	+	—	—
<i>Elaphe quatuorlineata</i>	—	—	+
<i>Malpolon monspessulanus</i>	+	+	+
<i>Natrix natrix</i>	—	+	+

N.B. 1) subspecific status omitted

2) + = present. — = not recorded.

REFERENCES

- Buttle, D. (1989) Notes on reptiles and amphibians of N.E. Greece and the island of Samothraki, *British Herpetological Society Bulletin* No. 29, pp. 49-53.
- Ondrias, J.C. (1968) Liste des amphibiens et des reptiles de Grèce. *Biol. Gallo-Hellenica* 1, pp. 111-135.
- Werner, F. (1938) Die amphibien und reptilien Griechenlands. *Zoologica Stuttgart* 94, pp. 1-117.
- Wettstein, O. (1953) Herpetologia aegaea. *Sitz-Ber-Usterr.Akad.d.Wiss., math.-naturw. Kl., Wien* 162, pp. 651-833.

N.B. The following was also used to help check localities although not referred to specifically:

- Arnold, E.N., Burton, J.A. and Oviden, D.W. (1978) *A field guide to the reptiles and amphibians of Britain and Europe*. London & Glasgow; Collins.