FURTHER NOTES ON REPTILES AND AMPHIBIANS OF THE PELOPONNESE

DAVID BUTTLE
3 Skoner Road, Clover Hill, Bowthorpe, Norwich NR5 9AX, England

INTRODUCTION

Following two earlier visits to the Peloponnese peninsula of southern Greece during which twenty five species of reptiles and amphibians were recorded at eleven localities (Buttle, 1987), a further trip was made, again with the intention of surveying the region's herpetofauna. On this latest trip from the 22nd of April to the 28th of May, 1988, twenty eight species were observed. The present paper is a further contribution to the known distribution of Peloponnesian species with brief notes on their ecology and behaviour. After being photographed all captured animals were released where found. For further information the checklist by Bringsøe (1985), which includes a comprehensive list of references, is recommended.

PRINCIPLE SITES

A total of fourteen areas were investigated, their locations are shown in Figure 1.

AREA 1 Kokonion. 22-24 April. Grassy fields with olive trees, orchards.
AREA 2 Diakopton. 25-27 April, Agricultural areas, railway banks and small river.
AREA 3 Kato Achäa. 28 April. Fields with long grass near coast.
AREA 4 Katakolon. 29 April-1 May. Coastal scrub covered rocky hills.
AREA 5 Tropäa. 2-4 May. Stony fields on steep slopes with dry stone walls, also Ladonas river valley W. of reservoir.
AREA 6 Megalopolis. 6-7 May. Well vegetated areas beside Ellison river, also ancient ruins.
AREA 7 Kyparissia. 8-10 May. Coastal scrub covered rocky hills, inland hills with olive trees.
AREA 8 Methoni. 11-13 May. Dry rocky scrub covered hills. Coastal scrub. Small dry riverbed.
AREA 9 Messini. 14-15 May. Banks of Pamisos river.
AREA 10 Gythion. 16-17 May. Small seasonal river and surrounding hills.
AREA 11 Monemvassia. 18-19 May. Rocky scrub covered hills.
AREA 12 Kastrion. 21-22 May. 940m altitude. Steep rocky roadside banks. Small grassy fields and vineyards.
AREA 13 Paralia Tyru. 23-26 May. Lower reaches of Parnon mountains. Rocky with dry stone walls, well vegetated.
AREA 14 Vivari. 27-28 May. Well vegetated rocky hillsides, cultivated areas.

SPECIES LIST

RANIDAE

Rana graeca Boulenger 1891. Stream Frog

Several 6cm approx. adults seen in area 5 on large rocks in fast running stream into which they dived when closely approached.

Rana ridibunda ridibunda Pallas 1771. Marsh Frog

Very common in areas 2, 6, 9 and 10. Several in areas 7 and 8. Many tadpoles (also area 1) and juveniles seen. Found in still or slow moving water. At area 8 thousands of tadpoles found dead in dried up pools of small riverbed. It should be noted that a new species, *Rana epeirotica*, has recently been described (Schneider, Sofianidou & Kyriakopoulou-Sklavounou, 1984). Sympatric and closely related to *R. r. ridibunda*, hybrids of the two forms occur. At sites so far investigated in the Peloponnese *R. epeirotica* was found to be the dominant species (Schneider & Sofianidou, 1986). Difficult to distinguish from *R. r. ridibunda* by morphological means and further investigations of the Greek population of green frogs will be required for definitive identification (Bringsøe, 1985).

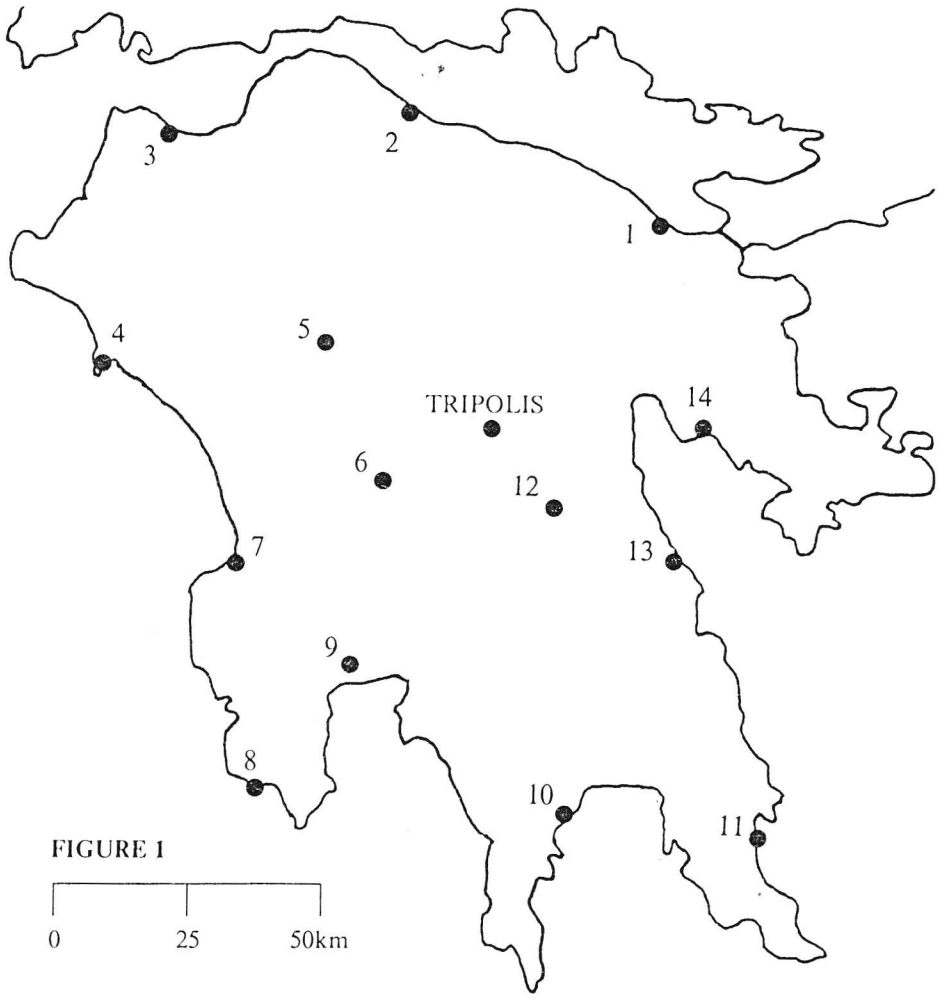

FIGURE 1

BUFONIDAE

Bufo viridis viridis Laurenti 1768. Green Toad

One adult seen at area 6 after being disturbed in its retreat by a *Coluber najadum* escaping into a hole in a low wall of the ruins.

HYLIDAE

Hyla arborea Linnaeus 1758. Common Tree Frog

In area 10 a recently metamorphosed 12mm specimen found on rocks in small pool between river and tall reeds. Several fast swimming tadpoles also seen.

EMYDIDAE

Emys orbicularis Linnaeus 1758. European Pond Terrapin

As there are few records of this terrapin in the Peloponnese the opportunity was taken to check on the population found at Tripolis last year (Buttle, 1987). In the small slow moving stream with thick aquatic vegetation, ten adults and one hatchling were seen (20.v.88).

Mauremys caspica rivulata Valenciennes 1833. Stripe-necked Terrapin

In area 10 seventeen adults seen in shallow water of drying river and the deeper water of nearby irrigation ditches. Average carapace length of five captured specimens was 19.6 cm.

TESTUDINIDAE

Testudo hermanni hermanni Gmelin 1789. Hermann's Tortoise

Ten found at area 6, eight at area 4, six at area 7, three at area 12, one at each of areas 3 and 8. The occurence at area 12 is of interest as it is generally considered rare at altitudes above 700m (e.g. Hellmich, 1956). Of the many specimens I have found in the Peloponnese none have exceeded 20cm.

Testudo marginata Schoepff 1792. Marginated Tortoise

At areas 8 and 14 four found, three at area 10, two at areas 7 and 11, one at area 4. Ranged

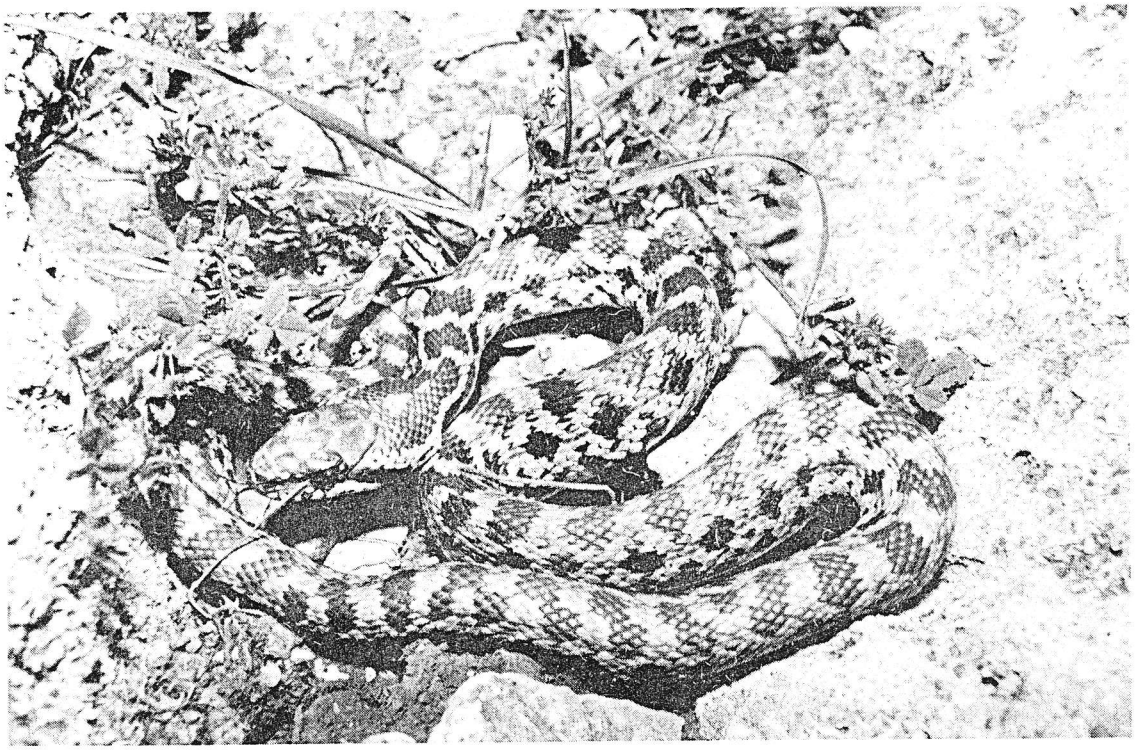

Plate 1. Juvenile *Elaphe q. quatuorlineata* found in area 4, a scarcely recorded snake in the Peloponnese.

in size from two animals of 5 cm, presumably hatched the previous year, at areas 8 and 14, to a very dark old male of 31 cm at area 10. Both species of tortoise found to be less active between 13.00 and 16.00 hours.

GEKKONIDAE

Cyrtodactylus kotschyi bibroni Beutler & Gruber 1977. Kotschy's Gecko

Apparently common at area 1 where thirteen were found. Two found at area 8 and one at area 5. Often found in association with concrete, e.g. agricultural outbuildings, on which this gecko is well camouflaged.

Hemidactylus turcicus turcicus Linnaeus 1758. Turkish Gecko

Of the seven specimens found, six at area 13 and one at area 8, all but one were seen on the walls of human habitations, the other being found in a dry stone wall. Unlike *C. k. bibroni* not found active during daylight hours.

ANGUIDAE

Anguis fragilis peloponnesiacus Stepánek 1937. Slow Worm

Two adults found together at area 2 under piece of cardboard on grassy railway bank. At area 13 two found killed, presumably due to their superficial resemblance to snakes.

Ophisaurus apodus thracius Obst 1978. European Glass Lizard

A large speicmen seen crossing a track at area 8 showed surprisingly agility in escaping by scaling a dry stone wall and dissapearing into bushes.

LACERTIDAE

Algyroides moreoticus Bibron & Bory 1833. Greek Algyroides

Inconspicuous lizard found at nine of the localities searched. Fourteen seen at area 1, twelve at area 2 and from two to six specimens at areas 3, 4, 5, 6, 7, 12 and 13. Most commonly found in coastal regions, inland seldom seen at low altitudes.

Lacerta graeca Bedriaga 1881. Greek Rock Lizard

Numerous at areas 5 and 12, quite common at area 13. Found together with *Podarcis peloponnesiaca* on dry stone walls, rocky hillsides and roadsides stony banks. In all three areas it was noted that *L. graeca* occupied positions that offered more shade. Also frequently found in humid habitats where *P. peloponnesiaca* was absent.

Lacerta trilineata trilineata Bedriaga 1886. Balkan Green Lizard
Found in all of the areas investigated apart from area 10. Especially abundant at localities 1, 2 and 6 where from fifteen to twenty five individuals were seen. Both uniform and striped juveniles found.

Podarcis peloponnesiaca Bibron & Bory 1833. Peloponnese Wall Lizard
Common in areas 5, 6, 7, 8 and 12, quite common at area 13 and a few seen in areas 10 and 11. Recently recorded in the north-western part of the peninsula (Buttle, 1987) where it was believed absent (Bringsøe, 1986).

Pondarcis taurica ionica Lehrs 1902. Balkan Wall Lizard
Found to be common in areas 1, 2 and 9. Also found at areas 3, 6 and 12. Often seen in low roadside vegetation. The basic dorsal colour of this lizard is subject to seasonal change (Chondropoulos & Lykakis, 1983).

SCINCIDAE
Ablepharus kitaibelii kitaibelii Bibron & Bory 1833. Snake-eyed Skink
The most common of the three Peloponnesian skinks. Six found in area 1, four in area 6, two in areas 7, 12 and 14, one in areas 8 and 9. Although I have usually found this skink in relatively dry areas, one was observed on a vegetated refuse pile in the centre of a riverside pool at area 6. Unaware of my presence it entered the water and swam comfortably on the surface for 1.5 metres to the waters edge, another seen dead on the bottom of same pool. Clark (1967) often found this species in damp localities or after rain.

Ophiomorus punctatissimus Bibron & Bory 1833. Greek Legless Skink
At area 2 one escaped when seen active in open field at 12.45 hours, temp. 20°C, cloudy, another found under half buried rock on rocky hillside with short grass. At area 8 one found on similar hillside under half buried rock in a nest of ants. One found at area 7 under rock in fine sand in rocky scrub adjoining the sandy beach, another found dead nearby under corrugated iron. Two captured specimens shed conspicuously striped tail almost immediately on being touched. Clark & Clark (1970), who collected extensively in the Peloponnese, only found this secretive skink at Akrokorinthos; recent lists (Bringsøe 1985, Chondropoulos 1986) show it to be widely dispersed.

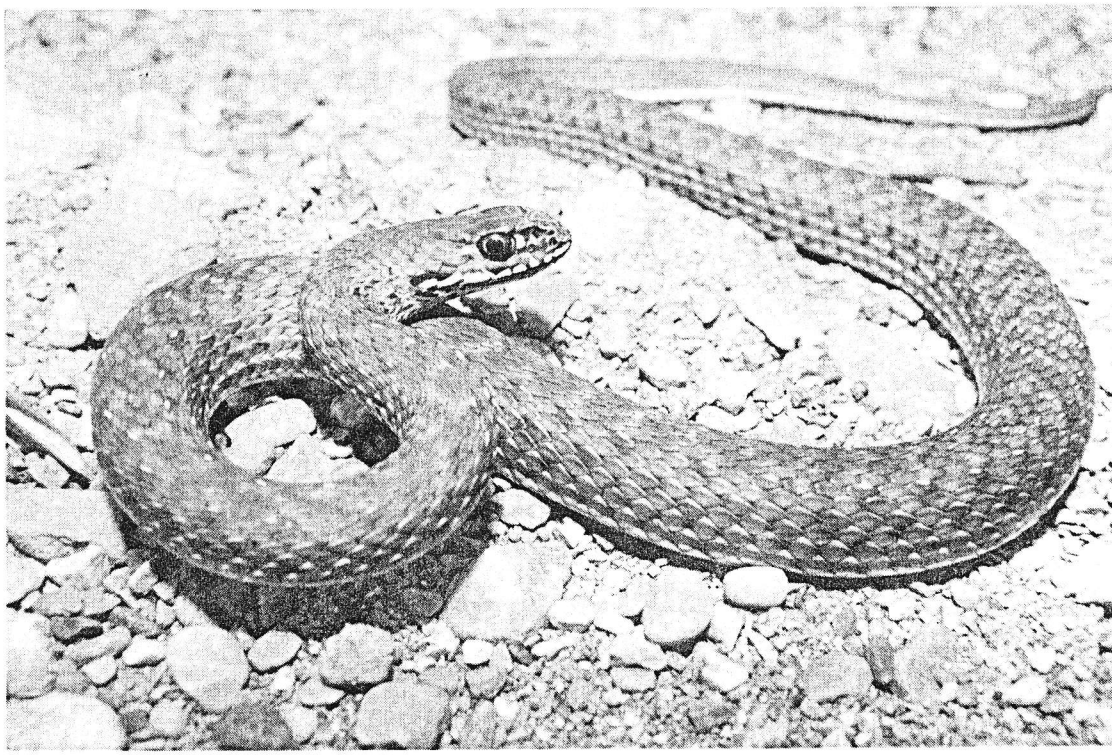

Plate 2. Sub-adult *Malpolon monspessulanus insignitus* from area 9, a common and widespread Peloponnesian snake.

TYPHLOPIDAE

Typhlops vermicularis Merrem 1820. Worm Snake

One found in area 2 under a half buried large rock on grassy railway bank; on returning two days later it was again found under the same rock. At area 13 one rapidly disappeared down a small worm-like burrow when a large rock was turned on dry grassy slope at 18.15 hours. On a grassy slope in area 14 another adult found also under half buried rock.

COLUBRIDAE

Coluber gemonensis gemonensis Laurenti 1768. Balkan Whip Snake

An adult seen in a grassy stony field at area 5 evaded capture and swiftly escaped into a large rockpile. At area 6 a 76 cm specimen was caught with some difficulty when seen basking on roadside grassy bank. Very aggressive.

Coluber najadum dahli Schinz 1826. Dahl's Whip Snake

A total of twenty two adults seen. Six at areas 4 and 6, three at areas 13 and 14, two at areas 7 and 8. Although not definitely recorded by the author on previous trips, several of the briefly seen, fast disappearing 'unidentified' snakes were probably of this species. Very alert, fast moving and difficult to approach closely. Found mainly in dry stony places with bushes.

Elaphe quatuorlineata quatuorlineata Lacépède 1789. Four-lined Snake

A very large specimen over 2m in length found basking on grassy bank with thick bushes next to the small river in area 2. Although grasped as it slowly retreated it was released, to avoid injuring the snake, as the forepart of the powerful muscular body was securely entwined in thick vegetation. At area 4 a 48cm juvenile was found an open rocky ground adjoining dense scrub eighteen metres from the sea. When seen, at 15.40 hours, temp. 18°C, breezy, it was in the act of swallowing a small bird, a Siskin *(Carduelis spinus),* which it regurtitated on being picked up. At area 5 a 137cm male was caught when seen moving in grassy stony field next to dry stone wall, large boulders, thick bushes and trees near small pond. Active at 15.30 hours, temp. 25°C, clear and sunny. Hen houses were present at both places where the adults were found. The most notable finds of the trip as apart from a single recent sighting the previous latest published records are from the 1930's (Bringsøe, 1985). Phlegmatic and docile, made no attempt to bite when captured.

Elaphe situla Linnaeus 1758. Leopard Snake

Single 76cm female of the spotted form found dead on road between olive grove and citrus orchard at area 2.

Malpolon monspessulanus insignitus Geoffroy 1827

Two found in areas 2 and 7, single specimens found at areas 6, 8, 9 and 14, two sloughed skins at area 11. An adult of 110cm approx. at area 6 was observed swallowing a large *Lacerta trilineata,* apparently already dead from the snake's venom.

Natrix natrix persa Pallas 1814. Grass Snake

Two adults found beside the river in area 9, a single juvenile found swimming in riverbed pool in area 10. All had the two light dorsolateral stripes typical of the subspecies.

Natrix tessellata Laurenti 1768. Dice Snake

Three adults found in the fast running valley stream in area 5. Two adults and three juveniles found under rocks beside the river at area 6.

VIPERIDAE

Vipera ammodytes meridionalis Boulenger 1903. Nose-horned Viper

Found at three coast localities. Adult female seen basking at 11.15 hours, temp. 21°C, in thick coastal rocky scrub at area 4. At area 7 a 45cm approx. male seen active in same habitat type at 09.25 hours, temp. 21°C. A 50cm female was caught in area 14 while active at 16.40 hours, temp. 23° on W. facing stony bank with scattered bushes. Slow moving; apart from occasional hissing remained calm while being photographed. All typically marked as shown on plate 40 in Arnold, Burton & Ovenden (1978).

DISCUSSION

In addition to the above, *Bufo bufo, Tarentola mauritanica* and *Chalcides ocellatus* have been

recorded by the author during earlier trips (Buttle, 1987). Among the thirteen remaining species known to occur in the Peloponnese that I have failed to find during two months intensive searching are: *Telescopus fallax,* which is believed to be widespread, and *Podarcis erhardii,* limited to the north-east. *Salamandra salamandra, Rana dalmatina* and *Pordarcis muralis* are found at high altitudes where very little searching was carried out, and two other montane species, *Triturus vulgaris* and *Coronella austriaca,* are known from only a few records. *Pelobates syriacus* has a limited distribution, *Eryx jaculus* has been recorded at five localities. Known from single localities are *Triturus alpestris* and *Elaphe longissima. Testudo graeca* has been reported from one locality, where it may have been introduced. Finally *Caretta caretta* has been found on the western and southern beaches. (Bringsøe, 1985).

ACKNOWLEDGEMENTS

My thanks to Henrik Bringsøe of Køge, Denmark, B. P. Chondropoulos of the University of Patra, Achilles Dimitropoulos of the Goulandris Natural History Museum, Athens for their encouraging and informative correspondence.

TABLE 1. Summary of species observed in the Peloponnese, April-May, 1988 and their localities

	SITES													
SPECIES	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Rana graeca					x									
Rana ridibunda	x	x				x	x	x	x	x				
Bufo viridis						x								
Hyla arborea										x				
Emys orbicularis	Tripolis													
Mauremys caspica										x				
Testudo hermanni			x	x		x	x	x				x		
Testudo marginata				x			x	x		x	x			x
Cyrtodactylus kotschyi	x				x			x						
Hemidactylus turcicus								x					x	
Anguis fragilis		x											x	
Ophisaurus apodus								x						
Algyroides moreoticus	x	x	x	x	x	x	x					x	x	
Lacerta graeca					x							x	x	
Lacerta trilineata	x	x	x	x	x	x	x	x	x		x	x	x	x
Podarcis peloponnesiaca					x	x	x	x		x	x	x	x	
Podarcis taurica	x	x	x			x			x			x		
Ablepharus kitaibelii	x					x	x	x	x			x		x
Ophiomorus punctatissimus		x					x	x						
Typhlops vermicularis		x											x	x
Coluber gemonensis					x	x								
Coluber najadum				x		x	x	x					x	x
Elaphe quatuorlineata		x		x	x									
Elaphe situla		x												
Malpolon monspessulanus		x				x	x	x	x		x			x
Natrix natrix									x	x				
Natrix tessellata					x	x								
Vipera ammodytes				x			x							x

REFERENCES

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

Bringsøe, H. (1985). A check-list of Peloponnesian amphibians and reptiles, including new records from Greece. *Ann. Musei Goulandris* 7: 271-318.

Bringsøe, H. (1986). *Podarcis peloponnesiaca* (Bibron & Bory, 1833) – Peloponnes-Eidechse. In: Bohme, W. *Handbuch der Reptilien und Amphibien Europas, Band 2/11 Echsen III (Podarcis):* 209-230. Aula, Wiesbaden.

Buttle, D. (1987). Observations on some of the herpetofauna of the Peloponnese. *British Herpetological Society Bulletin* **20:** 22-28.

Chondropoulos, B.P. (1986). A check-list of the Greek Reptiles. 1. The Lizards. *Amphibia-Reptilia* **7:** 217-235.

Chondropoulos, B.P. and Lykakis, J.J. (1983). Ecology of the Balkan Wall Lizard, *Podarcis taurica ionica* (Sauria: Lacertidae) from Greece. Copeia 1983 **4:** 991-1001.

Clark, R.J. (1967). Herpetofauna of the islands of the Argosaronic gulf, Greece. *Proc. Calif. Acad. Sci.* **35:** 23-35.

Clark, R.J. and Clark, E.D. (1970). Notes on four lizard species from the Peloponnese, Greece: *Algyroides moreoticus* (Bibron & Bory), *Anguis fragilis peloponnesiacus* (Stepánek), *Ophiomorus punctatissimus* (Bibron & Bory) and *Ophisaurus apodus* (Pallas). *British Journal of Herpetology* **4**(6): 135-137.

Hellmich, W. (1956). *Die Lurch und Kriechtiere Europas.* C. Winter, Heidelberg (English edition 1962). p.81.

Schneider, H. and Sofianidou, T.S. (1986). Bioacoustic study of water frogs (Ranidae) in Greece. In: Rocek, Z. (ed.) *Studies in herpetology* 561-564. Charles University, Prague.

Schneider, H., Sofianidou, T.S. and Kyriakopoulou-Sklavounou, P. (1984). Bioacoustic and morphometric studies in water frogs (genus *Rana*) of Lake Ioannina in Greece, and description of a new species (Anura, Amphibia). *Z. zool., Syst. Evolutionsf.,* **22**(4): 349-366.