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## OBSERVATIONS ON REPTILES AND AMPHIBIANS OF ANDROS (CYCLADES, GREECE)

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### INTRODUCTION

Despite its proximity and ease of access from the Greek mainland, just two hours by ferry from the port of Rafina, the island of Andros would appear to have been relatively overlooked by herpetologists in recent years. Brief references to the island's reptile and amphibian fauna are to be found in Boettger, (1888); Werner, (1930, 1937, 1938); Bird, (1935); Wettstein, (1953, 1957); a most useful and informative paper, dealing with the island's reptiles and amphibians in more detail, being that of Beutler & Frör (1980).

A large island covering an area of 380km<sup>2</sup>, Andros is the most northerly of the Cyclades, and a notable exception from the hilly, dry and sparsely vegetated islands so typical of this group. The interior rises to just over 1,000 metres, green valleys hold permanent rivers and streams, and as well as the familiar phrygana covered hillsides, wooded areas are still much in evidence, mainly of Chestnut *Castanea sativa*, and Plane Trees *Platanus orientalis*. Although situated just 12km south of the coastal island of Evia (Euboea), Andros is geographically a valid member of the Cyclades group, believed to have become separated from the mainland about 150,000 years ago (Beutler, 1979).

The present article is a summary of two weeks intensive investigation, commencing 4th May, 1996. Localities mentioned in the text are shown in Figure 1. After being examined and photographed, captured animals were released where found.

### SPECIES ACCOUNT

#### BUFONIDAE

*Bufo bufo* (Linnaeus, 1758)

Adult male found under rock on damp grassy bank next to river in Ateni valley. Large adult female in excess of 15cm found in water culvert under road in same area; thousands of tadpoles of around 22mm TL present in nearby still, shallow pools. Andros is the only Cycladean island where this species is known to occur.

#### RANIDAE

*Rana ridibunda* Pallas, 1771

Found to be common in the river, streams and pools along Ateni valley; seen in some numbers in the coastal freshwater marshes of Ateni bay and Vori bay; a few found in small pools near Batsi. Numerous tadpoles observed.

#### EMYDIDAE

*Mauremys caspica rivulata* (Valenciennes, 1833)

Often seen in quite large numbers, especially in still water pools, along the riverine Ateni valley, in hillside streams around Katakilos, and in pools of coastal marshes at the bays of Ateni and Vori.

## GEKKONIDAE

*Cyrtodactylus kotschy* (Steindachner, 1870)

As is the case on many of the Cyclades, this gecko was found to be the most abundant reptile species on the island. In suitable habitats, such as rocky areas and the ubiquitous dry stone walls of Andros, found at all of the localities investigated. Seventeen subspecies have been listed for Greece (Chondropoulos, 1986); those from Andros and neighbouring Tinos having been described as *C. k. tinensis* by Beutler & Frör (1980).

*Hemidactylus turcicus* (Linnaeus, 1758)

Fairly common at all localities searched; underneath rocks it was often found together with *C. kotschy*. This species was not listed for Andros in the checklist by Chondropoulos (1986).

## LACERTIDAE

*Lacerta trilineata* Bedriaga, 1886

Extremely timid and difficult to observe, this lizard was occasionally seen in small numbers (total of just 15 specimens recorded) in most of the areas investigated. Usually close to bushes in well vegetated habitats, often near streams in wooded gullies. Probable reproductive activity, display and pursuit of female by male observed (7th May). All specimens clearly seen appeared uniform green in colour and had blue throats. This latter feature is typical in the subspecies *L. t. citrovittata*, Andros animals having been regarded as such by Frör (1979).

*Podarcis erhardii* (Bedriaga, 1882)

Abundant, present in large populations in all areas investigated, in habitats varying from dry, scrub covered open hillsides with dry stone walls, to lightly wooded rocky gullies. Often seen in pairs, an actual mating being observed on 14th May. Andros animals have been assigned to the subspecies *P. e. mykonensis* (Werner, 1933).

## SCINCIDAE

*Ablepharus kitaibelii kitaibelli* Bibron & Bory, 1833

Common on some of the Cyclades islands, scarce or apparently absent on others of this group. It was rather infrequently seen on Andros, an average of just two or three specimens being found each day.

## TYPHLOPIDAE

*Typhlops vermicularis* Merrem, 1820

In the Cyclades recorded only on Andros and Naxos (Chondropoulos, 1989), recently from Delos (Dimitropoulos, 1992). No specimens could be found during the two weeks spent on Andros. This species was also not found during previous brief visits to Naxos (Buttle, 1993) and would appear to be something of a rarity among the Cycladean snake fauna.

## COLUBRIDAE

*Coluber jugularis caspius* Gmelin, 1789

The most abundant of the island's snakes, a total of twelve specimens being found plus numerous sloughs. Average length of adults seen was around 116cm, the largest being 150cm approx. Of interest was the variation in ground colour noted in adults. The most striking example of those clearly seen displayed a fairly bright, light olive green colouration, another specimen was straw yellow, two appeared light brown, the majority of adults being dark grey. All fairly uniform in colour apart from the typical longitudinal light narrow striping present through upper body scales; head region and venter yellowish to reddish. Found in variable habitats apart from heavily wooded areas,

presumably preferring more open biotopes.

*Elaphe quatuorlineata* (Lacépède, 1789)

At present the only evidence for this species' occurrence is a slough found on the island some thirty years ago, mentioned by Clark (1994). Due to the abundance of *C. j. caspius*, *E. quatuorlineata* is likely to be rare and localised on Andros, as it is fairly unusual for these two large colubrids to inhabit the same island (see discussion in Clark, 1990), though both have been recorded from the neighbouring island of Tinos.

*Elaphe situla* (Linnaeus, 1758)

A large adult was found active at Kalamaki, climbing the base of an olive tree at 14.50 hours, hazy sun, windy, temp. 23°C, next to a large dry stone wall on a terraced olive field with long grass. 102cm TL, dorsolateral stripes a rather dull dark brown. Usually attaining a TL of around 90cm, on Andros exceptional specimens approaching 120cm have been observed (Dimitropoulos, pers. comm. 1996). A further adult of 86cm TL, found under a large rock on the bank of a wheat field near Katakilos, displayed the more attractive colouration usually associated with this snake, having red dorsal blotches on a light grey ground colour. Several locals talked to falsely believed this snake to be highly venomous.

*Natrix natrix* (Linnaeus, 1758)

Fairly widely distributed on the island though appears to be localised and restricted to suitable habitats, e.g. the marshy areas and pools near Vori bay where it occurs in some numbers (Collinson, pers. comm. 1996). Listed by Chondropoulos (1989) as being intermediate between subspecies *N. n. persa* and *N. n. schweizeri*.

*Telescopus fallax fallax* (Fleischmann, 1831)

Only two individuals found. At Kalamaki a 32cm specimen under a large flat rock near dry stone wall of terraced grassy field, and a 20cm example near Batsi, a probable previous year's hatchling, under large rock in scree near wall on grassy hillside with scattered rocks and bushes. Ground colour grey, distinct brown dorsal blotches, venter pale dusty grey. One of the most widespread Cycladean snakes, though population density varies greatly from island to island. This seems to be directly related to the presence or absence of potential competitors, e.g. *Eryx jaculus* and *Vipera ammodytes*, for its predominantly lizard prey. On Andros the abundance of the ophiophagous *C. jugularis* may also be a significant factor in the relative scarcity of *T. fallax*.

## VIPERIDAE

*Vipera ammodytes meridionalis* (Boulenger, 1903)

A total of eight specimens found; four on rocky, scrub covered hills with dry stone walls near Batsi, two near to walls of terraced fields around Paleopoli, two on open, rocky hillsides near Vori bay. The largest specimen examined was an adult female of 48cm TL. Information supplied by a local doctor, practising in the central western area of Andros, suggests that serious snakebite incidents involving this viper are a fairly unusual occurrence, with just a single case requiring treatment during 1995. Excluding *Coluber jugularis*, would appear to be the most common and widespread snake species on Andros.

## DISCUSSION

Thirteen reptile species (1 terrapin, 5 lizard, 7 snake) and two amphibian species (1 toad, 1 frog) are presently recorded from Andros (see table 1). This represents a rich species assemblage by Cycladean standards, matched only on the similar sized island of Naxos, and exceeded only on neighbouring Tinos (16 species).



**Plate 1.** Biotope between Batsi and Katakilos



**Plate 2.** *Hemidactylus turcicus* on wall of disused building

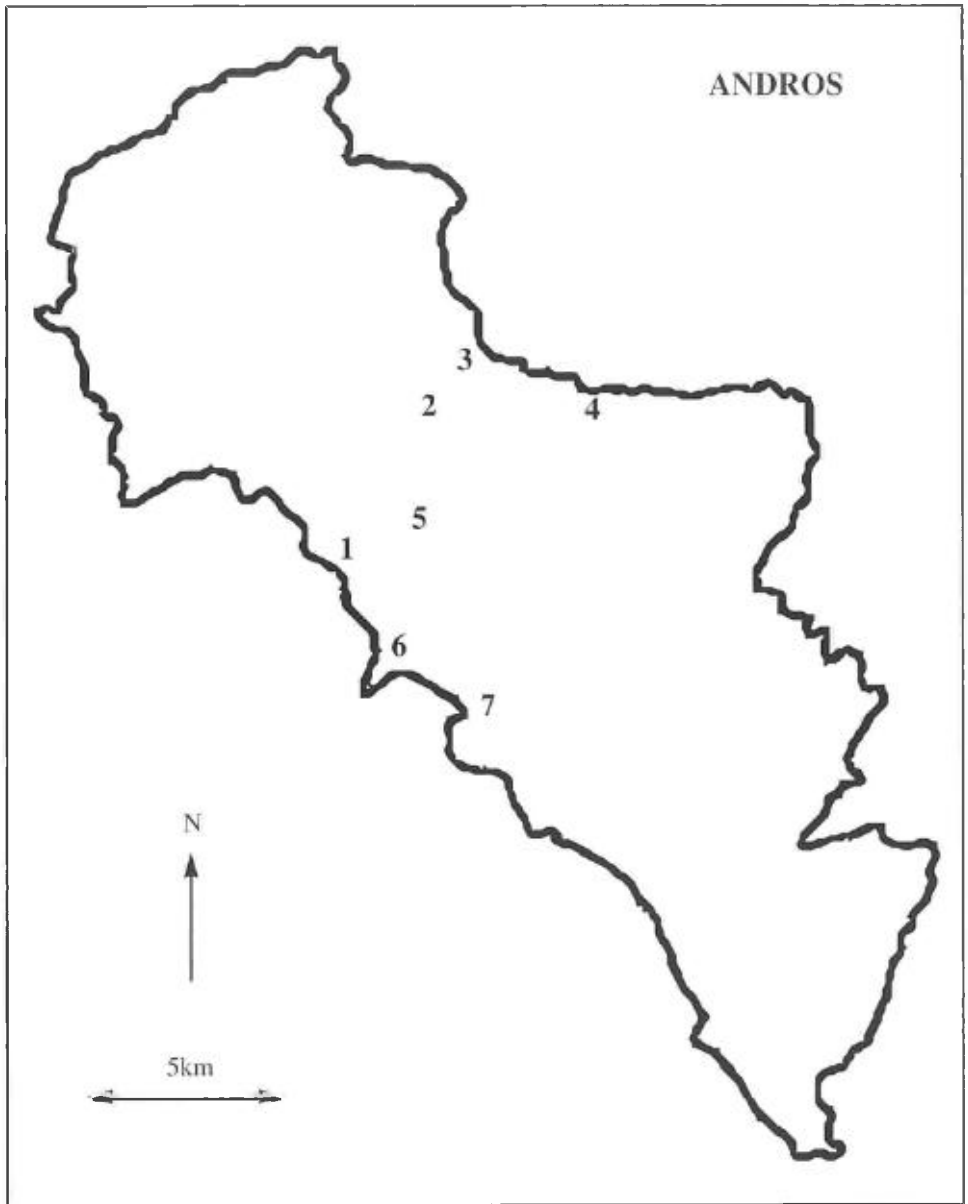




**Plate 3.** Adult male *Podarcis erhardii* basking on dry stone wall



**Plate 4.** Adult *Telescopus fallax*



**Figure 1**  
**MAP OF ANDROS**  
KEY - 1 Batsi, 2 Ateni Valley, 3 Ateni Bay, 4 Vori Bay, 5 Katakilos,  
6 Kalamaki, 7 Paleopoli

The species present on Andros are generally as might be expected for a northern Cyclades island. An obvious anomaly is the presence of *Bufo bufo*, its only Cycladean locality, and the apparent absence of *B. viridis*, the latter present on several Cycladean islands including neighbouring Tinos. Notwithstanding the comparative wealth of freshwater habitats available, amphibian diversity would appear to be as poorly represented on Andros as on other Cycladean islands. Apart from *Rana ridibunda*, *Bufo viridis* and *B. bufo*, just two other amphibian species have been listed for the Cyclades group, with doubt having been expressed about the present Cycladean occurrence of both these taxa. These are old records of *Hyla arborea* from Naxos and Tinos (Werner, 1938), regarded as questionable by Beutler & Frör (1980); also a very old record (Erber, 1867) of *Triturus vulgaris* from Tinos, considered doubtful by Werner (1938). Nevertheless, the possible occurrence of further amphibian species on Andros should not be excluded.

Further reptile species conceivably present on Andros, as yet unrecorded but known from nearby islands, including *Eryx jaculus* and possibly *Natrix tessellata*. The latter species is only known with any certainty to be present on Serifos among the Cyclades islands, though there is also an old record (Bird, 1935) from Tinos.

Given the island's size and diversity of biotopes, subsequent research is recommended, especially in the more remote and mountainous areas of Andros.

**Table 1.**  
**List of species recorded on Andros**

<i>Bufo bufo</i>	<i>Typhlops vermicularis</i>
<i>Rana ridibunda</i>	<i>Coluber jugularis</i>
<i>Mauremys caspica</i>	<i>Elaphe quatuorlineata*</i>
<i>Cyrtodactylus kotschy</i>	<i>Elaphe situla</i>
<i>Hemidactylus turcicus</i>	<i>Natrix natrix</i>
<i>Ablepharus kitaibelii</i>	<i>Telescopus fallax</i>
<i>Lacerta trilineata</i>	<i>Vipera ammodytes</i>
<i>Podarcis erhardii</i>	

\*record based on evidence of exuviae.

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