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Herpetological notes on the island of Amorgos (Cyclades, Greece)

The Cyclades Archipelago in the Aegean Sea covers about 24000 km². Among the Cyclades Islands, Amorgos, situated south-east of Naxos, ranks number six in size with its 123 km². The length of the island is 33 km, the width only 6 km, the highest elevation (Krikelos) being 821 m above sea level. In the carstic mountain range there is only 200–300 mm of annual precipitation. Therefore, the island is droughty. Today, practically all springs are captured, and the water is kept in cisterns. The vegetation consists of phrygana and garrigue. Woodland only exists as small stands of *Quercus macrolepis* and *Qu. coccifera* in the east of the island. A short overview about the island's natural history is given by DELFORGES (1997).

Early references to the herpetofauna of Amorgos were summarized in WERNER

(1938) who had visited the island and listed from Amorgos what he called *Bufo viridis* LAURENTI, 1768, *Rana ridibunda* PALLAS, 1771, *Gymnodactylus kotschy* STEINDACHNER, 1870, *Hemidactylus turcicus* (LINNAEUS, 1758), *Lacerta erhardi amorgensis* WERNER, 1933, *Eryx jaculus* (LINNAEUS, 1758) and *Elaphe rechingeri* WERNER, 1933. He believed to have seen also *Laudakia stellio* (LINNAEUS, 1758), but the presence of this species was never confirmed. *Mauremys rivulata* (VALENCIENNES, 1833) was cited by BEDRIAGA (1882), BOETTGER (1888) and BIRD (1935), all referring to ERHARD (1858). LOTZE (1970), the author of the only article fully dedicated to the herpetology of Amorgos, added *Ablepharus kitaibelii kitaibelii* BIBRON & BORY, 1839 but could neither find *M. rivulata* nor *L. stellio*.

The most conspicuous snake of Amorgos is a largely unpatterned colubrid the taxonomic status of which was seen controversially. WERNER (1932) described it from the island as *Elaphe rechingeri*. WETTSTEIN (1953) considered the snake a subspecies of *Elaphe longissima* (LAURENTI, 1768), endemic to Amorgos as did BUCHHOLZ (1961) and MERTENS (1961). LOTZE (1970) found another individual on the island and referred to it under the name *Elaphe quatuorlineata rechingeri*. The specimen had no stripes. CLARK (1990) retained the species status, while BÖHME & ŠČERBAK (1993) who discussed the taxonomic history of the snake in depth assigned it to *Elaphe quatuorlineata muenteri* BEDRIAGA, 1881. It is obvious that there are two phenotypes of this snake represented on the island, one striated, the other non-striated (BÖHME & ŠČERBAK 1993).

WETTSTEIN (1953: 808, 809) mentioned *Telescopus fallax fallax* (FLEISCHMANN, 1831) from the island, however, without details as to the source of information.

With the exception of *M. rivulata*, *L. stellio* and *T. fallax* BUTTLE (1993) (erroneously ascribing the reference of *T. fallax* to WERNER 1938) confirmed the presence of all the earlier observed herpetological species and so did CATTANEO (1999).

During our stay from 20 through 29 April 2006 most areas of the island were visited. There were windy days, and the weather was rather cold for the season. All

former observations on the presence of eight species of amphibians and reptiles currently recognized for the island (*Bufo* (*Pseudepidalea*) *viridis*, *Pelophylax ridibundus*, *Mauremys rivulata*, *Cyrtodactylus kotschyi*, *Hemidactylus turcicus*, *Laudakia stellio*, *Podarcis erhardii*, *Ablepharus kitaibelii*, *Eryx jaculus*, *Elaphe quattuorlineata muenteri*) can be confirmed. The rather cold temperatures were not conducive to snake observations. The only Four-lined Snake discovered was a stripeless individual observed above Arkesini in the vicinity of Stavros.

Special interest was focussed on the species related to water. The high quality map Anavasi © No. 10.27/2002 (ISBN 960-8195-310-4) with the new ArcGis-ArcInfo8 © software facilitated the detection of wetland sites. All hydrographical elements like springs, fountains, troughs, wells and water tanks are mentioned in this map.

Bufo (*Pseudepidalea*) *viridis viridis* LAURENTI, 1768.- The observations on Green Toads were concentrated on the basin of Katapola Bay, where we saw the toad at the following spots: North of the settlement of Xilokeratidhi, on cultivated land of the dry Fonia river and south of Rachidhi in the agricultural land at the foot of the dam of a water reservoir. On April 25, 2006, I found Green Toad larvae in transition to imago at the back of the shore of Katapola Bay, nearby also seven robust, adult specimens (over 9 cm in size). On the plateau between Vrotsis and Kamari and next to the monastery of Valsamitis, between 250 to 350 m above sea level, we found also animals in the surrounding of cisterns. LIEFTINCK (1974) mentioned the Green Toad from the bay of Eghiali.

Pelophylax sp.?.- The water frog of Amorgos has a similar, but vaster distribution on the island. We found this species in the basin of the Fonia river and further southeast in the Finikes, Tirokonos, Ag. Sarandes and Potamos Bays. A very interesting area for frogs is situated along the foot path between Katapola and the monastery of Valsamitis. Near Aghia Marina, a concentration of small swamps, fountains and the only running water at this time of the year were observed. Near the monastery of Valsamitis we found remarkable specimens at the borderline of cisterns. Some of

them were caught in cisterns due to their low water level.

Further observations were made on the plateau of Terlákia where we observed water frog tadpoles in a cistern and near Asodilitis on the way to Eghiali, where we found some tadpoles in a small pond near the road. Lastly, there was a very isolated population on the steep southern slope near Cape Poulopodi in a spring in a streambed.

The water frog seems to survive in small temporary pools and gullies of hillside valleys around Katapola, but is endangered by the construction of holiday homes which enclose the last existing springs. The Green Toad seems to be more threatened than the water frogs since it depends on the cisterns and continued agricultural activity, not so much utilizing the hillside streams like the water frogs do.

Today, there is no habitat suited for *Mauremys rivulata* on the island. TASSOS (2001) mentioned that in the 19th century woodland (*Juniperus phoenicea*) was still widespread. At this time, the woods retained water, but unfortunately this is no longer the case after the clearing of the forests. Thus, in earlier days, the plains of Katapola and Eghiali may well have comprised wetlands, which offered suited biotopes to the terrapin.

Testudo marginata SCHOEPFF, 1792.- On April 27, 2006 an adult Marginated Tortoise crossed the street between Amorgos (Chora) and the bifurcation to the monastery of Chozoviotisa. The Greek distribution area of *T. marginata* as summarized in BRINGSØE et. al. (2001) extends from the North of Greece to the Peloponnese including Evoia, some of the Northern Sporades and a few small islands in the Argo-Saronic Gulf and south of the Peloponnese. Among the Cyclades Islands, Paros (see CLARK 1970) is indicated as a reliable record locality while Andros, Syros, Naxos and Milos deserve verification. The observation on Milos (CATTANEO 1984) could not be confirmed by BROGGI (2000).

The colonization of the Cyclades Islands by *T. marginata* including a Pleistocene record from Crete are not finally discussed in BRINGSØE et. al. (2001). My personal view is that all Cyclades observations of this species refer to animals which were

released or escaped after they had come to the islands by human transportation from other parts of Greece. Many descendants of the islanders live in Athens now and spend the holidays on the islands, taking their pet tortoises with them. These animals may escape from time to time. We learnt this fact from a story we were told on Milos. I think that the natives of the islands have notion of the animals existing there, especially concerning tortoises. In many cases, interviews with the inhabitants helped to clarify the existence of chelonian populations (cf. BROGGI 1997). Inquiries on Amorgos were all negative. This means that we observed an escaped animal.

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