

The herpetofauna of Mathraki, Othonoi and Erikoussa, Diapontia Islets, Greece

The herpetofauna of Corfu (Kérkira), including the islets of Vido (Pithia) and Lazaretto (Ag. Dimitrios), is well documented (e.g., TOTH et al. 2002; RAZETTI et al. 2006; references therein) and the nearby island of Paxos (Paxoi) has recently been discussed by WILSON et al. (2014). In contrast, there is no published information on the herpetofauna of the neighboring Antipaxos and the Diapontia Islets.

The Diapontia archipelago, situated off the northwest coast of Corfu (Figure 1), consists of seven small islets of which the three main islets are Othonoi, Erikoussa and Mathraki. These islets have a small number of year round residents, whereas Platia, Trachia, Diaplo and Diakopo are very small uninhabited islets. The closest distance to Italy is 75 km (from Othonoi), to Albania 30 km (from Erikoussa) and to Corfu 8 km (from Mathraki).

The topography of Erikoussa and Mathraki is low-lying and hilly. Mathraki (2.9 km²) has several beaches and is surrounded by reefs and rocky islets. Erikoussa (3.7 km²) has two main beaches with sand-dunes, a long valley, the Megalo Livadi, that is crossing most of the island from the south to the northwest and several streams that become dry during summer. On Othonoi (10.5 km²) there is a small mountain, Merovigli, on the northwest side of the

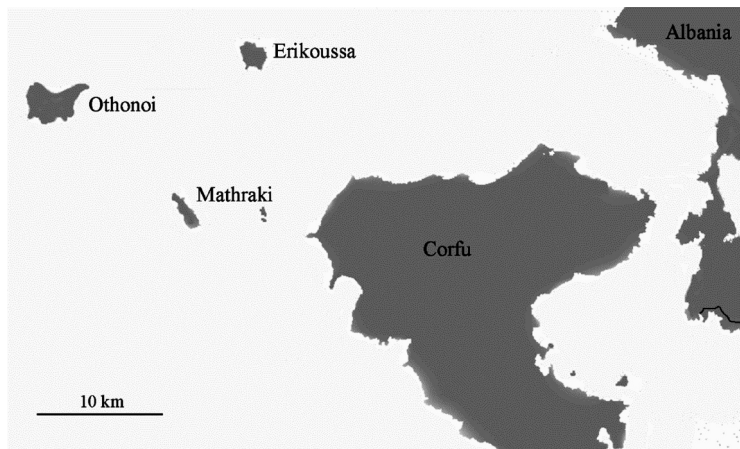


Fig. 1: Corfu and the three main Diapontia Islets of Mathraki, Othonoi and Erikoussa.

islet, a valley and a river crossing the islet in a southeast to northwest direction, and several small streams and rivers that become dry during the summer. The Calypso cave, said to be the place where Odysseus was kept prisoner, is situated on the west coast.

According to MAKRODIMITRIAS et al. (2010) the Diapontia Islets belong to the external Ionian zone of the Hellenides Mountains and are surrounded by faults and thrusts. The Borsh Khardhiqit strike slip fault is situated just north of the islands, the Ionian thrust borders the islands in the west, the Middle Ionian thrust traverses the mainland in the east and the margin of Corfu forms a boundary in the south. This means that the islands are situated on the hanging wall of the Ionian thrust creating a “piggy-back” basin where sedimentation continues. The external Ionian sedimentary zone consists of sandstone, mudstone, limestone and evaporites. The top soil is formed by sandy loam that when saturated keeps the water on the surface, forming temporary pools and puddles.

The Ionian Islands did not completely separate from the mainland until sometime during the Pleistocene period. Subsequently, the sea-level in the Ionian Sea was at its lowest during late Pleistocene (-120 m, 21,500 cal yr BP) when the last large glacial of the Weichsel/Würm ice age was at its maximum. During this period, Corfu and

the Diapontia Islets were connected to each other and to the mainland. At the beginning of the Holocene period (8,000 cal yr BP) the sea-level had risen and the coast-line in the study area looked very much like it does at the present time. However, the relatively low level of sea rise and the extensive sediment deposition in the area during this period extended the land sea-wards (PERISSORATIS & CONISPOLIATIS 2003) suggesting that the shores of the islands in this particular area were more extensive than they are today.

The vegetation of the Diapontia Islets is typical Mediterranean with coastal sclerophyllous forests, stands of *Cupressus sempervirens* and *Pinus halapensis* (the latter mainly on Erikoussa) and phrygana vegetation. A total of 558 species and subspecies of vascular plants have been reported from the islands, as compared to Corfu’s 1866 (PANITSA & ILIADOU 2013). *Erica manipuliflora*, *Myrtus communis*, *Rosmarinus officinalis*, *Salvia fruticosa*, *Spartium junceum*, *Anthyllis hermanniae* and *Euphorbia arborea* are examples of common species found on the islets. The climate is similar to that of Corfu with dry, rather warm summers, and extensive rains (approximately 1,000 mm annually; TOTH et al. 2002) mainly during the winter months.

The influence of human activity on the three studied islets seems much less exten-

sive than on, for example, Corfu. All the islets have been cultivated and olive production has previously been a main source of income, and on Othonoi, production of timber for export. Today the olive production and cultivation on the islets is kept to a small scale and the natural vegetation is becoming dominant. Furthermore, there are only a few hotels and no large tourist complexes, and the roads are small with only a few cars.

The Diapontia Islets were colonized during the second half of the 16th century, starting with Othonoi. The Othonoi harbor of Ammos was once busy with ships sailing the Adriatic, and from a tourist perspective there still seems to be a close connection to Italy (FAKAROS 1998).

During the spring of 2014 the authors visited Erikoussa (May 18 to 20), Othonoi (May 20 to 23) and Mathraki (May 23 to 24). The weather was favorable, partly cloudy sky with day temperatures ranging from 20 to 25 degrees Celsius. There was still open water on Erikoussa and Othonoi. On June 3 to 6, 2015 Erikoussa was revisited. The weather during this time was warm and sunny with day temperatures between 25 and 30 degrees Celsius. There was no open water on the island.

Erikoussa

Bufo viridis (LAURENTI, 1768) (Fig. 2) – several adult specimens as well as large numbers of tadpoles and newly metamorphosed specimens close to the harbor village of Porto in the southern bay of Erikoussa. The area in question seemed very beneficial to *B. viridis* featuring several shallow ponds with scarce or no vegetation, i.e., breeding sites preferred by this species. In 2015 large numbers of foraging adult *B. viridis* were observed at night throughout the village valley.

Hyla arborea (LINNAEUS, 1758) – a newly metamorphosed specimen was found on the road in the village at night.

Mauremys rivulata (VALENCIENNES, 1833) – an adult (20 cm) female was found at noon on the village beach, close to where the stream, now dried up, enters the sea. The only information obtained from locals was that a larger specimen in poor condi-

tion had been found in the village in mid-May.

The area around the village, which holds a very dense population of *B. viridis*, and the Megalo Livadi may very well support populations of *Hyla* and *Mauremys*. However, to clarify this a visit to the island during March-April, when streams and ponds are flooded, is required.

Hemidactylus turcicus (LINNEUS, 1758) (Fig. 3) – extremely common, occurring in all habitat types.

Algyroides nigropunctatus (DUMÉRIEUX & BIBRON, 1839) (Fig. 4) – common on the island. All adult males observed displayed orange-red throats and bellies, but were invariably missing the blue throat typically present during the mating season in, e.g., Corfu (also on Othonoi and Mathraki, see below). In 2015 all *A. nigropunctatus* observed were specifically checked for color pattern but no blue morphs were detected. Although the Diapontia Islets are well within the distribution range of the nominate race, the significance of the populations will require further studies.

Malpolon insignitus fuscus (FLEISCHMANN, 1831) (Fig. 5) – Five specimens were observed, one adult male and one adult female, close to the Pangini Beach in the northeast, two young males in the port village, and one juvenile in the center of the islet, all different habitats. The adult specimens were observed active between 14:00 and 19:00 h, 20 °C with light overcast sky, the juvenile was found hiding under a pile of roof tiles in mid-afternoon. One male was close to shedding. The number of longitudinal scale rows at mid-body was 17 in the two specimens examined. A male measured 106 / 133 cm (snout-vent- length / total length), which is well within the range for adult males in Corfu (pers. obs.). In 2015 four adult male *M. insignitus* were observed active throughout the day. One newly shed skin of a male was found.

Hierophis gemonensis (LAURENTI, 1768) has a wide distribution on the Ionian Islands (CHONDROPOULOS 1989), including Othonoi and Mathraki, and its most probable absence from Erikoussa may be a consequence of the presence of *M. insignitus*, a competitor of as well as a potential predator on *H. gemonensis*.



Fig. 2: *Bufo viridis* from Erikoussa.

Fig. 3: *Hemidactylus turcicus* from Erikoussa.

Fig. 4: Male *Algyroides nigropunctatus* from Erikoussa.

Fig. 5: Male *Algyroides nigropunctatus* from Othonoi.

Fig. 6: Male *Malpolon insignitus* from Erikoussa.

Fig. 7: Male *Hierophis gemonensis* from Othonoi.

Fig. 8: *Hemidactylus turcicus* from Mathraki.

Fig. 9: Male *Hierophis gemonensis* from Mathraki.

Othonoi

Bufo viridis – a large number of tadpoles in a small slow-flowing, sparsely vegetated stream that passes through the port village. In contrast to Erikoussa, no shallow ponds were observed, indicating that the toads are reproducing in the stream itself.

Hemidactylus turcicus – only four specimens in two localities, very much in contrast to the dense population on Erikoussa. All specimens were observed in more shaded areas such as abandoned olive groves.

Algyroides nigropunctatus (Fig. 6) – found in various habitats all over the islet. Pattern and color as in Corfu, males with reddish-brown belly, blue throat and head, females had the typical brown or grayish color with dark spots.

Lacerta trilineata BEDRIAGA, 1886 – four males, all observed in a rather restricted rocky coastal slope in the southwest part of the islet with phrygana vegetation, in which *Anthyllis hermanniae* and *Euphorbia arborea* represented the predominant plant species. The lizards were very cautious, sunning in dense vegetation or seen quickly passing the road. Identification was possible at one brief close encounter with a large male (stout body, broad temporal region, yellowish green color with dark vermiculate spots on the head without a hint of blue in the gular region, features rather speaking against *Lacerta viridis* (LAURENTI, 1768)), but no useful pictures were obtained. The behavior was somewhat unexpected since *L. trilineata* on Corfu is fairly easy to approach, but as very few people live on Othonoi, the lizards can be expected to be wary. In addition, numerous cats exist on the islet and are well fed during the tourist season from June to August. The cats may be a major threat to the lizards during the rest of the year when food is scarce, which could further increase lizard wariness.

Hierophis gemonensis (Fig. 7) – six active specimens observed between 15:00 and 18:00 h in the southwestern part of the islet, i.e., in the same area as *L. trilineata*. The specimens captured had very distinct head and front body patterns, more so than specimens from Corfu, Paxos and Mathraki.

Mathraki

In contrast to the previous islets, no open water was found and no amphibians were observed.

Hemidactylus turcicus (Fig. 8) – often observed inside common, small concrete constructions with metal lids, protecting water valves and meters.

Algyroides nigropunctatus – found all over the islet in various habitats. The specimens' pattern and color as in Corfu and Othonoi.

Hierophis gemonensis (Fig. 9) – Two individuals, similar in appearance to those of Corfu, but less conspicuous than the Othonoi specimens. Both were observed basking in the morning at 20 °C and overcast sky.

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