

First report on the herpetofauna of Meganissi Island (Lefkada, Ionian Islands, Greece)

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Meganissi is the largest satellite island of Lefkada Island in the northern Ionian Sea (Fig. 1A-B). It is a hilly island (highest elevation 284 m) with an area of about 20 km², and it is separated by a narrow strait of about 1 km from the south-eastern coast of Lefkada. Most of the island is covered by limestone rocks, and due to the strong karstification of the limestone, surface water is readily absorbed into the rocks. Tzortzakaki (2012) recorded seven natural coastal wetlands with permanent or seasonal backwaters with salty or brackish water on the island, but some of them are irreversibly degraded. The island is well vegetated. The natural vegetation is typically Mediterranean, with a prevalence of bushlands that are often degraded by overgrazing. Olive groves are widely distributed, but often abandoned. Stone walls are very developed. Only a narrow coastal strip of the island is included in the Natura 2000 Network as a Site of Community Importance (SCI), named “Internal Ionian Archipelago (Meganissi, Atokos, Arkoudi, Vromonas)” and coded GR 2220003 (<http://natura2000.eea.europa.eu/Natura2000/SDF.aspx?site=GR2220003>).

The herpetofauna of the internal Ionian archipelago, excluding Lefkada, is very poorly known (Lymberakis et al., 2018). An extensive bibliographic search yielded only a few published reports for Kalamos, Kastos, and the adjacent islet of Provati (Table 1), while no amphibians or reptiles have been reported in the literature for Meganissi, Arkoudi, Atokos and adjacent islets, or for the other satellite islands of Lefkada. The only source reporting data on the herpetofauna of Meganissi is an unpublished Masters dissertation detailing the edaphic fauna (Tzortzakaki, 2012), which includes a table listing the vertebrate fauna of Meganissi and its satellite islets Kythros and Thilia. Tzortzakaki (2012) reported nine

species of reptiles from Meganissi, including *Emys orbicularis* (Linnaeus, 1758), *Algyroides nigropunctatus* (Duméril and Bibron, 1839), *Hemidactylus turcicus* (Linnaeus, 1758), *Lacerta trilineata*, *Podarcis taurica ionica* (Lehrs, 1902), *Elaphe quatuorlineata* (Bonnaterre, 1790), *Hierophis gemonensis* (Laurenti, 1768), *Malpolon monspessulanus* (currently *M. insignitus* Geoffroy Saint-Hilaire, 1827[#]), and *Platyceps najadum* (Eichwald, 1831). In the Greek and English summaries, the author stated that “Qualitative data were also collected for reptiles and terrestrial (non-chiropteran) mammals”. Therefore, it seems these records are original data by the author, recorded between autumn 2010 and summer 2011.

In order to investigate the Meganissi herpetofauna, we carried out a brief field survey on the island (20–23 May 2019). We actively searched amphibians and reptiles in suitable habitats and along road transects both by day and night. During our visit to the island, we observed and confirmed a single species of amphibian and five species of reptiles. Finding points are mapped in Fig. 1C-D.

Bufotes viridis (Laurenti, 1768).—A living individual (Fig. 2A) and a mummified specimen were found in a manhole between Agios Ioannis and Spartochori on 20 May 2019. No trace of water was found during our survey, except two small lagoons with brackish waters near Elia Bay (in the north-eastern part of the island) and near Agios Ioannis (in the western part of the island), where no tadpoles were observed.

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[#] *M. monspessulanus* was splitted in two species: *M. monspessulanus* in the western Mediterranean and *M. insignitus* in the eastern Mediterranean and most of North Africa; in the Balkan Peninsula occurs *M. insignitus fuscus* (Carranza et al., 2006).

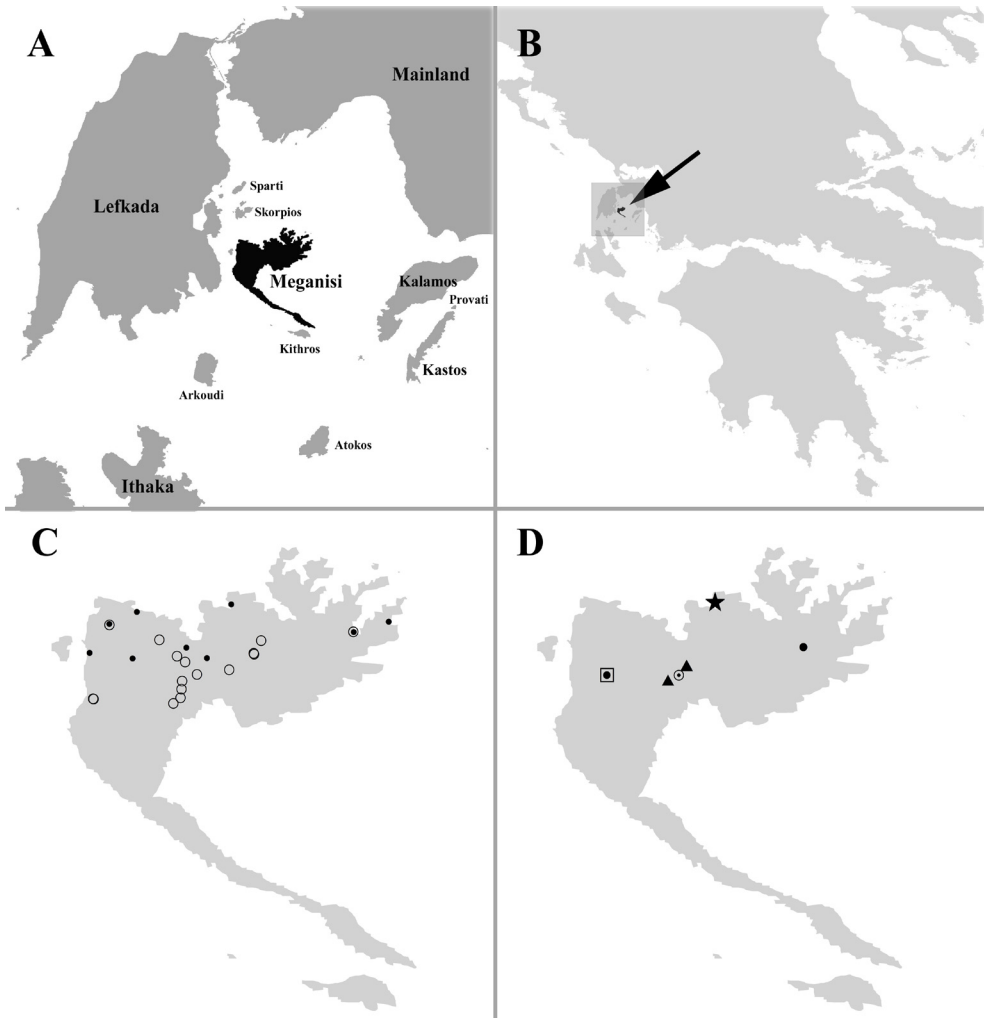


Figure 1. The study area and distribution maps. (A) The internal Ionian Islands and the nearby Greek mainland. Meganissi Island is highlighted in black. (B) Position of Meganissi with respect to Greece. (C) Records of *Algyroides nigropunctatus* (black dots) and *Lacerta trilineata* (open circles). (D) Records of *Bufotes viridis* (open square), *Elaphe quatuorlineata* (triangles), *Platyceps najadum* (star), *Hemidactylus turcicus* (black dots) and *Ablepharus kitaibelii* (circled dot).

Hemidactylus turcicus.—Five individuals were observed in a manhole between Agios Ioannis and Spartochori on 20 May 2019 and one female (Fig. 2B) was observed on a house at Katomeri on 21 May 2019.

Lacerta trilineata (Fig. 2C).—The species is widespread on the island. Many individuals were observed at different places on all days of the survey.

Algyroides nigropunctatus (Fig. 2D).—This species is also widespread on the island. Many individuals were observed in various localities on all survey days.

Table 1. The herpetofauna reported in literature for Kalamos, Kastos and Provati (Sources: 1 = Werner, 1938; 2 = Chondropoulos, 1986; 3 = Chondropoulos, 1989; 4 = Fritz, 2001).

Species	Kalamos	Kastos	Provati
<i>Testudo hermanni</i> Gmelin, 1789			4
<i>Mediodactylus kotschy</i> (Steindachner, 1870)	2		
<i>Lacerta trilineata</i> Bedriaga, 1886	2	2	1
<i>Elaphe quatuorlineata</i> (Bonnaterre, 1790)	1, 3		3
<i>Platyceps najadum</i> (Gmelin, 1789)	3	3	3

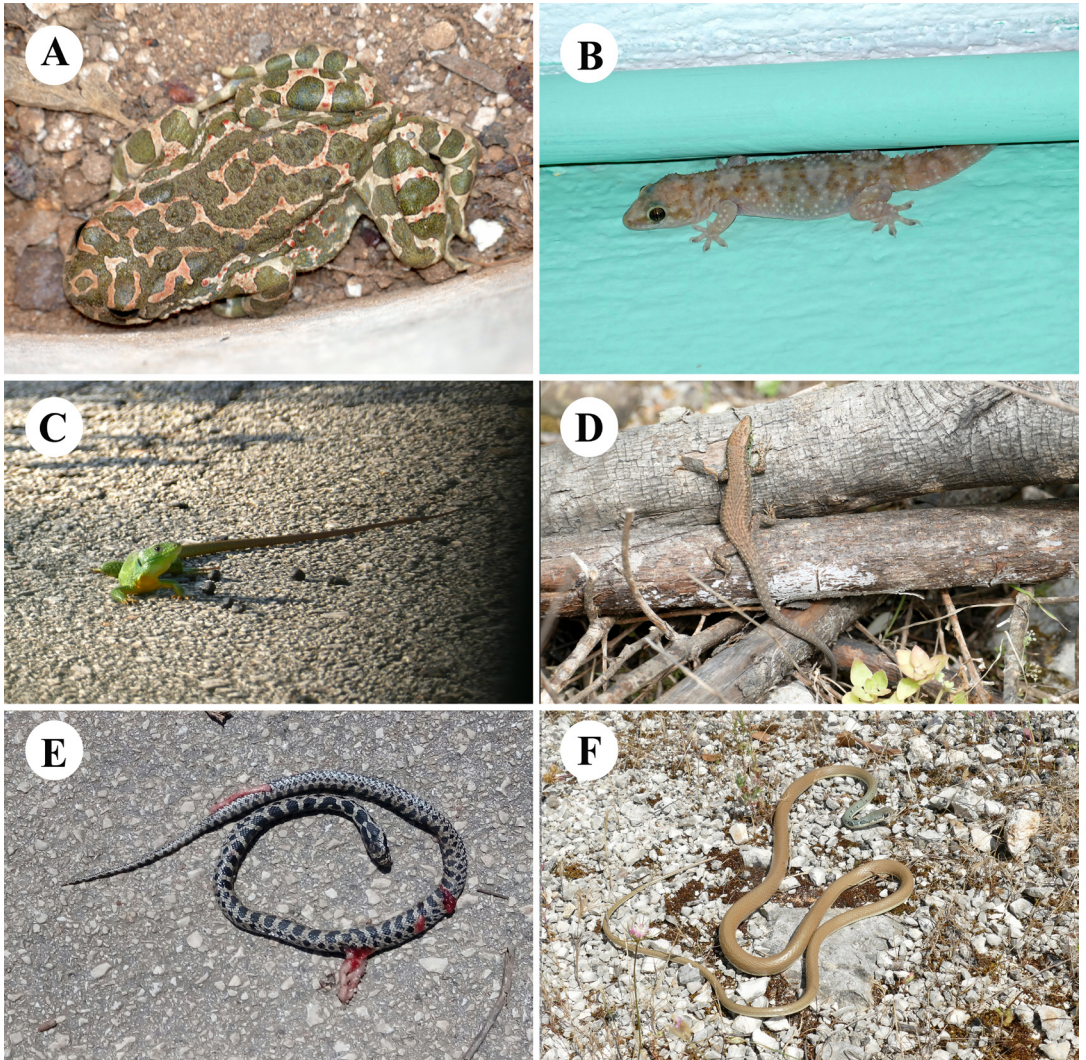


Figure 2. Amphibians and reptiles documented on Meganissi Island in the Ionian Islands of Greece. (A) *Bufotes viridis*. (B) *Hemidactylus turcicus*. (C) *Lacerta trilineata*. (D) *Algyroides nigropunctatus*. (E) *Elaphe quatuorlineata*. (F) *Platyceps najadum*. Photos by the authors.

Elaphe quatuorlineata.—Two individuals were observed south of Spartochori on 20 May 2019. One was a very large adult observed while crossing a dirt road, and the second was a road-killed juvenile found on 20 May 2019 (Fig. 2E).

Platyceps najadum.—A live individual (Fig. 2F) was observed near Platigiali, along the northern coast of the island on 22 May 2019.

In addition, we observed but could not document an individual of *Ablepharus kitaibelii* (Bibron & Bory St-Vincent, 1833) south of Spartochori on 22 May 2019.

Our work is the first published account of the herpetofauna on Meganissi Island, which includes one species of amphibian and ten reptile species. We report for the first time on the island an amphibian (*Bufotes viridis*), and we confirm, with additional sightings, the presence of five species of reptiles previously reported but not published by Tzortzakaki (2012). With respect

to her list, the occurrence of *Emys orbicularis*, *Podarcis taurica ionica*, *Malpolon insignitus*, and *Hierophis gemonensis* remain to be confirmed.

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