

## A NEW RECORD OF THE GRASS SNAKE, *NATRIX NATRIX* (LINNAEUS, 1758) (SQUAMATA, SERPENTES) IN KASOS ISLAND (DODECANESE, GREECE)

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### Abstract

The presence of the grass snake *Natrix natrix* (Linnaeus, 1758) (Squamata, Serpentes) is reported for the first time for the island of Kasos (Dodecanese, Greece).

**Key words:** Dodecanese, Kasos Island, grass snake, *Natrix natrix*.

### Introduction

Kasos is a small island of Dodecanese, SE Aegean. Its position, geological history, small size and extreme aridity lead to a rather poor herpetofauna containing one amphibian, the Karpathos-Kasos endemic *Lyciasalamandra helverseni* (Pieper, 1963) and six reptiles: *Mediodactylus oertzeni* (Boettger 1888), *Hemidactylus turcicus* (Linnaeus 1758), *Ablepharus kitaibelii fabichi* (Štěpánek 1938), *Telescopus fallax rhodicus* Wettstein 1952 (Cattaneo 2010a) and the recently discovered *Anatololacerta pelasgiana* (Mertens 1959) and *Chalcides ocellatus* (Forskål 1775) (Kornilios & Thanou 2016).

The European grass snake, *Natrix natrix* (Linnaeus 1758), is one of the most widespread snakes in the Palearctic, occurring from Portugal to Mongolia and from Algeria to Norway (Uetz & Hosek 2019). It prefers wet habitats that range in altitude from sea level up to 3,000 m and is typically found close to water bodies such as lakes, ponds or rivulets (Kabisch 1997). In Greece, *N. natrix* ranges throughout the mainland, where it is one of the most common snakes and at times occurs in dense populations (Kabisch 1997, Valakos et al. 2008). It is also found on several Ionian and Aegean islands (Chondropoulos 1989, Valakos et al. 2008). In the Balkans, and in the Aegean islands of Leros, Kos and Karpathos the species is represented by the subsp. *persa* (Pallas 1814), whose range extends to Transcaucasia, southern coast of the Caspian Sea and Turkey. It is characterized by two clearly marked stripes along the back, with the exception of the specimens from Karpathos which seem to be lacking the stripes (Pieper 1970, Bogaerts et al. 2018).

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### Study area

The Aegean archipelago lies in the eastern Mediterranean Sea, between the southern Balkan Peninsula (Greece) and Anatolia (Turkey). Among the Aegean islands, the Kasos-Karpathos island group is of particular interest. It is located at the southernmost Aegean region, between the island of Crete in the west, and the island of Rhodes and the southwestern edge of Anatolia in the east. Kasos is a small island (49 km<sup>2</sup>) characterized by arid limestone hills, with low shrub vegetation and no trees, except for the olive and fig trees cultivated in few and restricted valleys. The island can be considered as a typical example of environmental downgrading due to intensive grazing, which has resulted in extensive areas covered exclusively with phrygana (*Sarcopoterium spinosum*, *Thymbra capitata*, and *Genista acanthoclada*). Moreover, there are no permanent superficial water bodies on the island.



**Fig.1.** *Natrix natrix*, dead specimen, 5.VIII.2019, Kasos Isl.

### Materials and Methods

A dead specimen of *N. natrix* (Fig. 1) has been found on the island of Kasos by the authors on the 5<sup>th</sup> August 2019 and represents a new record for the island. The specimen, similar to those in Karpathos, lacked the longitudinal stripes (Bogaerts et al. 2018). It was found close to the harbor in a locality named Fry, at the edge of a paved road bordering a fallow field (35°24'52,70"N - 26°55'20,71"E). Fieldwork was performed according to international standards and the conditions described in the Presidential Decree PD 67, 23//30181 for field research in Greece.

### Results and Conclusion

The strong aquatic character of the species shapes its diet. *Natrix natrix* feeds mainly on amphibians, but has been known to supplement its normal diet with fish (Hutinek & Mebert 2011). Lizards and rodents are also eaten (Filippi et al. 1996). Furthermore, in the grass snake, as in other snakes, the taxonomical composition of the prey proved to change with age (Santos et al. 2000, Byars et al. 2010, Brown et al. 2014). The prey of young individuals consisted of tadpoles, whereas the adult preyed on adult anurans, fish, lizards and rodents (Filippi et al. 1996). However, water is a rare commodity on Mediterranean islands, especially on those located in the Aegean Sea (Catsadorakis & Paragamian 2007, Vervust et al. 2013). As a result, the grass snake is absent from many small islands, which often lack water sources (Broggi 2008, 2009). However, it is well documented that *N. natrix* in arid islands, where the occurrence of amphibians is reduced, survives mainly feeding on lizards, geckos and small mammals (Schweizer 1935, Kratzer 1974, Gruber & Fuchs 1977, Cattaneo 1984, 1989, 1998, 2010b, Gregory & Isaac 2004, Luiselli et al. 2005). *Natrix natrix* is known to consume also poisonous prey like fire-bellied toads, *Bombina* sp. and fire salamander *Salamandra salamandra* (Maxinova et al. 2018). The presence of grass snake in Kasos is most probably due to unintentional human translocation, also considering the daily ferry connections between Karpathos and Kasos. The same applies for the occurrence on Kasos of the lizard *Anatololacerta pelasgiana* and of the ocellated skink *Chalcides ocellatus*, which are most likely the

result of many anthropogenically assisted dispersal events (Kornilios et al. 2010). Nevertheless, it cannot be excluded that Kasos hosts a population of *N. natrix* and more in-depth research will clarify the situation.

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