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***Tarentola mauritanica* (SQUAMATA: PHYLLODACTYLIDAE)  
CONQUERING THE GREEK MAINLAND: THREE NEW POPULATIONS  
FROM AETOLOAKARNANIA, WESTERN GREECE**

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*Tarentola mauritanica*, also known as Moorish Gecko, is a trans-Mediterranean gecko with a large distribution, ranging from Israel and North Africa, to southern Europe, as well as on many large Mediterranean islands. In Greece, the Moorish Gecko is distributed across several islands, and the only mainland occurrences reported are from the Peloponnese (in the west and north) and very recently, from Athens. Here we present three new records of the Moorish Gecko from localities in the Aetoloakarnania prefecture (Western Greece), and briefly discuss potential scenarios of introduction and expansion of this species on the Greek mainland.

**Keywords:** Moorish Gecko; distribution; range; extension; reptile; lizard; new record.

*Tarentola mauritanica* (Linnaeus, 1758), commonly known as the Moorish Gecko, is a trans-Mediterranean gecko species of the family Phyllodactylidae, having a wide distribution. It ranges from Israel and the northern part of Africa, to the southern part of Europe, and many large Mediterranean islands (e.g., the Balearic Islands, Sicily, Corsica, Sardinia, Malta and Gozo; Radovanovic, 1941; Bons and Geniez, 1996; Martinez-Rica et al., 1997; Arnold and Ovenden, 2002; Harris et al., 2004; Rato et al., 2015; Fig. 1A). It has also been introduced to various localities overseas, outside its native distributional range (Achaval and Gudynas, 1983; Mahrtdt, 1998; Arredondo et al., 2014). In Greece, *T. mauritanica* occurs on the western and northern coasts of the Peloponnese, on Crete and on the Ionian Islands of Kephallonia, Ithaca, Zakynthos and Strofades (Chondropoulos, 1986; Valakos and Mylonas, 1992; Valakos et al., 2008; Fig. 1B). Recently, new established populations have been reported from Corfu isl. (Ionian Sea; Macat et al., 2014), Lesbos isl. (N. Aegean; Mizerakis and Strachinis, 2017) and the

city of Athens (Strachinis and Pafilis, 2018). The later population was the first mainland one in Greece recorded outside of Peloponnese. It was most likely passively in-



**Fig. 1.** (A) Map showing the approximate range of *Tarentola mauritanica* (according to Speybroeck et al., 2016; Mizerakis and Strachinis, 2017; Strachinis and Pafilis, 2018). Introduced populations outside the Palearctic are not shown. (B) Map of Greece depicting all regions where *T. mauritanica* is hitherto known to occur, including the new discovered population from Aetoloakarnania. Red dots: AG, Agrinio; ME, Mesolongi; AP, Agios Polykarpos.

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**Fig. 2.** (A) A Moorish Gecko (*Tarentola mauritanica*) from Agrinio city, Greece (photographic voucher No. NHMC80.3. 86.149, Natural History Museum of Crete; photo by N. Paterekas). (B) An adult Moorish Gecko from Mesolongi, Greece (photo by I. Strachinis).

roduced by human mediated transportation (Strachinis and Pafilis, 2018) rather than active dispersal, since the Peloponnese peninsula is isolated from the rest of the mainland by a narrow sea strait. In this document we present three newly discovered mainland populations of Moorish Gecko from Aetoloakarnania prefecture, Western Greece.

On September 7, 2018, one individual of *T. mauritanica* was observed basking at midday on a house wall at the south edge of Agrinio city (38.6135° N 21.4121° E). A week later, on September 14, 2018, we spotted five more individuals basking on walls of both inhabited and uninhabited houses of the same block. Photographs of the observed individuals were deposited and accessioned in the Natural History Museum of Crete (Photographic voucher numbers: NHMC80.3.86.149 – 150; Fig. 2A). One more individual was found in a house at the east edge of the city, and photographed by a resident of Agrinio (38.6258° N 21.4188° E; D. Anastasopoulos, personal communication). This area is located 1.5 km north-east of the first locality, indicating that the species' colo-

nization is not very recent, but possibly established several years ago.

Since then, two more new locality records of Moorish Gecko were made within the prefecture of Aetoloakarnania, some 30 km south of Agrinio city. Specifically, on August 19, 2019, an adult individual was observed on a house wall late in the afternoon, in the area of Agios Polykarpos, SE Aetoloakarnania (38.3506° N 21.7037° E). The animal was active, foraging on the wall, but unfortunately, we failed to obtain any samples or photos. In addition, one more population was confirmed in the town of Mesolongi on March 3, 2020, during a herpetological survey, when two adult individuals were observed and photographed in a memorial garden (“Garden of Heroes”; 38.3742° N 21.4308° E; Fig. 2B). The above locality was pointed out by a citizen who initially contacted us asking for species identification of a Moorish Gecko which was photographed in the particular area (S. Tokatlidis, personal communication).

The Moorish Gecko is known for its intense synanthropicity (Arnold and Ovenden, 2002). This characteris-

tic explains continuous introductions and easy population expansions throughout southern Europe by anthropogenic activities (Harris et al., 2004) and the frequent discoveries of new populations outside its known range (e.g., Jesus et al., 2008; Arredondo et al., 2014; Mizerakis and Strachinis, 2017). There are several possible scenarios on how the Moorish Gecko has arrived and colonized Aetoloakarnania. The nearest Peloponnese population of the species occurs at Rio which is connected with the opposite mainland coast by the Rio-Antirio cable-stayed bridge constructed in 2004. The road distances from Rio to Ag. Polykarpos, Mesolongi and Agrinio are 10, 38, and 72 km, respectively. In addition, the nearest insular populations are located on Ithaca and Kephallonia which are connected by ferry boat with the mainland through Astakos harbor, located 30 km west of Agrinio. Thus, the populations of Aetoloakarnania could have originated from colonizers from either/both the Peloponnese and Ionian islands, most likely through human mediated transportation. However, introductions from other countries cannot be excluded as recent introductions of lizard species have been observed from the city of Athens, namely, *Podarcis siculus* (Rafinesque-Schmaltz, 1810) (Adamopoulou, 2015) and *Podarcis vaucheri* (Boulenger, 1905) (Spilani et al., 2018).

What is for certain, is that the Moorish Gecko has overcome geographical barriers to actively disperse onto the Greek mainland which is no surprise given it is a known successful and adaptive colonizer. Since there are no immediate geographical obstacles, the species has the potential to rapidly expand its range to many parts of mainland Greece, as it has done across southern Europe (Harris et al., 2004). A strong indication of the species' ability to expand speedily is the fact that it has already colonized the cities of Pireaus and Elefsina (M. Vergetopoulos and T. Nasopoulou, personal communication) which is further than 10 km from the recently discovered populations in Athens. Monitoring these newly discovered populations could provide us with an understanding of how the Moorish Gecko and the other native geckos of Greece (i.e., *Hemidactylus turcicus* and *Mediodactylus kotschy*) may compete. There are cases where the three gecko species have been witnessed coexisting in sympatry and often sharing the same microhabitat (Ilias Strachinis, personal observation; see Strachinis and Artavanis, 2017).

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