

The herpetofauna of the Island of Rhodes (Dodecanese, Greece)

Die Herpetofauna der Insel Rhodos
(Dodekanes, Griechenland)

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KURZFASSUNG

Die Herpetofauna von Rhodos wird aufgrund von Literaturdaten, Sammlungsmaterial des Naturhistorischen Museums in Wien sowie Ergebnissen diverser herpetologischer Exkursionen aufgelistet. Verbreitungskarten aller nachgewiesenen Arten sowie eine aktuelle herpetologische Faunenliste werden erstellt. Folgende Arten wurden regelmäßig und wiederholt festgestellt: *Bufo viridis*, *Hyla arborea*, *Pelophylax cerigensis*, *Mauremys rivulata*, *Hemidactylus turcicus*, *Laudakia stellio*, *Ophisops elegans*, *Lacerta trilineata*, *Anatolacerta oertzeni*, *Ablepharus kitaibelii*, *Chalcides ocellatus*, *Trachylepis aurata*, *Blanus strauchi*, *Typhlops vermicularis*, *Dolichophis* sp., *Platyceps najadum*, *Hemorrhhois nummifer*, *Zamenis situla*, *Natrix natrix*, *Telescopus fallax*. Der taxonomische Status der Springnatter wird diskutiert. Aufgrund mehrerer aktueller Funde wird *Mediodactylus kotschyi* ergänzend zur Herpetofauna von Rhodos hinzugefügt und das Auftreten folgender Arten, deren Vorkommen in der Literatur regelmäßig für Rhodos angegeben wurde, in Frage gestellt: *Testudo graeca*, *Pseudopus apodus*, *Natrix tessellata*. Aktuelle Einzelfunde gelangen von *Chamaeleo chamaeleon*, *Malpolon monspessulanus*, *Testudo graeca* und *Testudo hermanni*, deren Status diskutiert wird.

ABSTRACT

Based on several recent herpetological surveys, as well as data from the literature and the collection of the Natural History Museum in Vienna, the knowledge about the herpetofauna of Rhodes is summarized and a new species list is prepared. The following species have regularly been encountered: *Bufo viridis*, *Hyla arborea*, *Pelophylax cerigensis*, *Mauremys rivulata*, *Hemidactylus turcicus*, *Laudakia stellio*, *Ophisops elegans*, *Lacerta trilineata*, *Anatolacerta oertzeni*, *Ablepharus kitaibelii*, *Chalcides ocellatus*, *Trachylepis aurata*, *Blanus strauchi*, *Typhlops vermicularis*, *Dolichophis* sp., *Platyceps najadum*, *Hemorrhhois nummifer*, *Zamenis situla*, *Natrix natrix* and *Telescopus fallax*. The taxonomic status of the occurring whip snakes is discussed. *Mediodactylus kotschyi* has been added to the island fauna because of some records in the South part of the island. The occurrence of *Testudo graeca*, *Pseudopus apodus* and *Natrix tessellata* was put into question because their mention in older literature remained unconfirmed. Recent single records of *Chamaeleo chamaeleon*, *Malpolon monspessulanus*, *Testudo graeca* and *Testudo hermanni* are listed and their status is discussed.

KEY WORDS

Amphibia; Reptilia; Greece, Dodecanese, Rhodes, herpetofauna, distribution; list of species, *Mediodactylus kotschyi*, new island record, *Coluber caspius eiselti*

INTRODUCTION

The Island of Rhodes is part of the southeastern Aegean island complex also known as Dodecanese. With a length of 80 km, a width of 35 km, and a covered area of about 1400 km² Rhodes is the largest island of the south Aegean and the fourth biggest island in Greece. The human population in 2004 was estimated at 130,000 with more than 50 % living in the city of Rhodes. The triangle in between Rhodes town - airport - Faliraki is densely populat-

ed, contrary to the central and southern parts of the island where traditional farming dominates. The few remaining forests are seriously affected by human activity and large areas are wasted by bushfires. Noteworthy mountains occur on the western and central parts of the island - the highest peak, Attaviros, reaches an elevation of 1,215 m. The short distance of 18 km to the Turkish mainland constitutes the zoogeographical alliance to Asia Minor.

MATERIALS AND METHODS

Literature sources and vouchers

Several sources of literature are available to obtain knowledge about the herpetofauna of Rhodes. More than 100 years ago ERBER (1868) and VON OERTZEN (1887) visited Rhodes and reported about its rich herpetofauna (cit. in BOETTGER 1888 and WERNER 1930). The Italian biologists FESTA (cit. in CALABRESI 1923), ZAVATTARI (1929) and TORTONESE (1947, 1973) also led faunistic excursions to Rhodes and gave an early survey about the reptiles and amphibians of the island. Also British herpetologists (FRAZER 1965, CLARK 1968, LAMBERT 1970) published papers on south Aegean reptile species. The Austrian biologist WERNER (1930, 1933, 1935) summarized old literature data and published early faunistic lists of the Aegean islands. WETTSTEIN (1952, 1953, 1964, 1965) worked on the herpetofauna of the Aegean and described several island forms as new subspecies and CAPPOCACCIA (1955), MERTENS (1959) and SCHLÜTER (2004) produced papers devoted to the lizards of Rhodes. All of these references confirm the occurrence of a rich herpetofauna for Rhodes. Interestingly, for unknown reasons, various species are absent from this large island despite their presence on some smaller surrounding islands or the near Turkish coast. The most recent herpetofaunal list of Rhodes (IOANNIDIS et al. 1994) seems to be inaccurate, and despite the recent release of the Greek herpetofauna book (VALAKOS et al. 2008), we believe our current herpetofauna research still raises unanswered questions. The initiation of further research will help to better understand the herpetofaunal composition of Rhodes, one of the most popular holiday islands in the Aegean Sea.

In addition to the literature we studied materials of the Natural History Museum in

Vienna (NHMW) which houses a huge collection of several thousand amphibians and reptiles of the eastern Mediterranean region.

Excursions and mapping

The island of Rhodes was visited by the first authors for one week in April (11-19) 2004 (BADER & RIEGLER 2004) and by HG in June 1985. During three days of our trip the temperature was low (about 15°C) and it was very windy. In this time we could only observe three species of amphibians and four of reptiles. The rest of the week was sunny and warm (about 25°C) and so we managed to observe 20 species in total. Herpetologists who visited Rhodes during the last decades (dates in parentheses) contributed with their personal observations both in litteris [B. TRAPP, Wuppertal (17.-19.4.2006); P. OEFINGER, Düsseldorf (10.-16.4.2005, 17.-24.3.2007); L. BERGENDORF, Helsingborg (4.-11.7.2004); M. DIMAKI, Kifissia (observations made by IOANNIDIS); P. F. KEYMAR, Wien (12.-21.8.1989, 10.-15.2.1995); J. LOMAN, Lund (06.1986); CH. PROY, Netting (07.1983); B. ARENFELD, Essen (14.-21.9.08); J. NOHL, Pastida (26.02.2008)] and by oral communication [K. BILEK, Wien (20.4.-6.6.1963, 3.-12.7.1969, 2.-16.5.1971, 1.-2. & 21.-25.10.1977, 13.-18.4.1978)]. References by HELMDAG (1993), IOANNIDIS et al. (1994) and REIFF (1995) were supplemented by unpublished details provided by the above authors.

Based on these references distribution maps were prepared for all observed species. Records from the literature and museum specimens were only considered if detailed record locations were available. Doubtful observations, without subsequent confirmation, were critically reviewed, and the species list by IOANNIDIS et al. (1994) was revised.

SPECIES ACCOUNT

Lyciasalamandra helverseni (PIEPER, 1963)

A German philological study mentions that a dark, toad-like lizard is named

“kurkutávla” by the inhabitants of Rhodes (ROHLFS 1964 zit. in PIEPER 1970). PIEPER (1970) suspects this to be a hint to the occurrence of Luschan’s Salamander on Rhodes, the missing bridge between the records of

Lyciasalamandra helverseni on the near islands of Karpathos, Kasos and Saria and the mainland of Asia Minor (FRANZEN et al. 2008). DIMAKI (in litt. 2008) clarified, that the word “kurkutávla” (better kourkou-távlos) is one of the Greek names for the Hardun, *Laudakia stellio* and does not denote a salamander (but compare VALAKOS et al. 2008). Up to now, no reliable evidence for the occurrence of this species could be provided, even though it was searched in the most promising period when the salamander is active on the surface (November to February) (BILEK in the 1960's, KEYMAR in 1995).

Bufo viridis
LAURENTI, 1768

Sources: CALABRESI (1923): Kattabia, Koskino, Agios Isidoros, Rodi; WERNER (1930 cit. CALABRESI); TORTONESE (1948, 1973): Campochiaro, Platania, Rodini, Rodi; WETTSTEIN (1953, 1965): Lindos; FRAZER (1965); IOANNIDIS et al. (1994); REIFF (1995): Salakos; VALAKOS et al. (2008); NHMW 4937, 4942, 4943, 5040 - Embona, 15.V.1935; 20265 - Lindos, III.1972; 22892 - Genadion, 24.X.1977; 23227 - ruins of Kamiros near Kritina, 15.IV.1978; 27916 - 4 km SW Laerma, 6.V.1975; 27917 - W Istrios, 7.V.1975; 29865 - between Lindos and Kattavia, 21.VI.1985; 29865 - between Vation and Gennadion, 25.VI.1985; 29865 - pine forest at Mandrikon near Kritina, 22. VI.1985; pers. obs. in 2004: Fileremos, Paradissi, Sgourou, SE of Pastida, Kalithies, N Dimylia, S Gennadio, Vathies, Agios Pavlos; Loman in 1986: Rhodos; KEYMAR in 1995: Kalithea, Psinthos, Elousa, Soroni, Dimylia, Petaloudes, Archipolis, Kattavia, Agios Pavlos; BERGENDORF in 2004: dam near Apolakkia; OEFINGER in 2005: Tsambika Bay.

The Green Toad (Fig. 1; 39 sites) is the most common amphibian species on the island, however it seems to be rarer in the central highland. We encountered rather small populations and single individuals in the northern part and several large populations in the south. In the swamp land near Gennadio, we found a huge number of tadpoles and juvenile toads, and estimated about 500-1.000 breeding females for this location.

While *B. viridis* eggs and tadpoles usually develop in stagnant water bodies (swamp land, ponds, pools and puddles), we once found eggs and young tadpoles in a small stream two miles east of Pastida. The toad seemed to be omnipresent in February during the main breeding season (KEYMAR in 1995) and still abundant in July (BERGENDORF in 2004).

Hyla arborea
(LINNAEUS, 1758)

Sources: CALABRESI (1923): Kattabia, Agios Isidoros, Koskino; ZAVATTARI (1929); WERNER (1930 cit. CALABRESI); TORTONESE (1948, 1973): Rodini; FRAZER (1965); WETTSTEIN (1953, 1967); IOANNIDIS et al. (1994); REIFF (1995): Theologos; SCHLÜTER (2004): Archangelos; VALAKOS et al. (2008); NHMW 5832 - Iannadi, 21.V.1935; Monolito, 19.IV.1935; 23192 - new airport, 31.III.1978; 29859 - Kato Kalamonas, 22.VI.1985; pers. obs. in 2004: Samantira, W part of Profitis Ilias; KEYMAR in 1995: Kalithea, Kalithies, Ixia, Paradissi, Dimilia, Soroni, Archipolis, Vathies; BERGENDORF in 2004: dam near Apolakkia.

According to our knowledge the European Treefrog is common in the north of the island and rather rare in the drier south (Fig. 1; 22 sites). While KEYMAR (in litt. 2005) could not find treefrogs in August 1989, he found quite a high number in February 1995 in several waterbodies on the northern parts, and in one more location in the south. In April 2004, we found two males in the Plati riverbed and some tadpoles swimming in the polluted stream. Another observation originates from 500 m above sea level (Profitis Ilias), one from the dam near Apolakkia (BERGENDORF in 2004) and one from Theologos (REIFF1995).

The treefrogs of Rhodes and western Turkey might belong to the subspecies *kretensis* AHL, 1931 (MERTENS & WERMUTH 1960; TORTONESE 1973). On the basis of advertisement calls, SCHNEIDER (2004) found that treefrogs from near western Turkey belong to *Hyla arborea arborea*, and that based on bioacoustic studies the subspecies status of *kretensis* is not justified (see also FROST & The American Museum of Natural History 1998-2008). Further research should clarify the taxonomic status of *Hyla* from Rhodes.

Pelophylax cerigensis (BEERLI, HOTZ,
TUNNER, HEPPICH & UZELL, 1994)

Sources: BOETTGER (1888): Kastellos; CALABRESI (1923): Kattabia, Agios Isidoros, Koskino; ZAVATTARI (1929); WERNER (1930 cit. BOETTGER, CALABRESI); TORTONESE (1948, 1973): Rodini, fiume dei Mulini [between Rhodos and Koskinou], Apollona, Dimilia; FRAZER (1965); WETTSTEIN (1953, 1965, 1967); IOANNIDIS et al. (1994); REIFF (1995): Epta Piges, Salakos; PLÖTNER (2005); VALAKOS et al. (2008); NHMW 16212 - seven fountains, 20.IV.1959; 18371 - seven fountains, 2.V.1963; stream near Halakas, 30.IV.1963; 20264 - Rhodini, 7.V.1971; 22891 - Petaloudes, 24.X.1971; 23225 - little pond near Kolombia, 13.IV.1978; seven fountains, 14.IV.1978; 29808 - river Kurkutachi N Apo-

lakkia, 23.8.1985; pers. obs. in 2004: Koskinou, Magazi, Epta Piges, Archipoli, Dimylia, 3 km N Salakos, Laerma, Kochilia; KEYMAR in 1989: Archipoli; in 1995: Vathies, Samantira, Kamiros, Kalavarda; BERGENDORF in 2004: Soroni; OEFINGER in 2005: Gaidouras N Laerma.

This water frog is common in the island, although most records counted few individuals (Fig. 1; 24 sites). There is lack of records in the drier south and in the highlands of Attaviros and Profitis Ilias. The biggest populations, 30-40 adult frogs, were observed in the Kochilia reservoir, while at least 20 frogs were counted in the valley near Epta Piges (BADER & RIEGLER unpublished). This frog was commonly found in February (KEYMAR in litt.) and April (this paper), rarely in midsummer (BERGENDORF in 2004). It uses all types of fresh water bodies for reproduction, including streams.

Based on biochemical analyses PLÖTNER (2005) merged into one group the water frogs from Karpathos and Rhodes – differing from *P. bedriagae* and typical *P. ridibundus*. For the present paper we follow VALAKOS et al. (2008) who applied the name Karpathos Water Frog (*P. cerigensis*), also to water frogs from Rhodes. The systematic status of the Asia Minor water frogs is still unresolved (PLÖTNER 2005).

Other anurans

The Common Toad (*Bufo bufo* LINNAEUS, 1758) and the Eastern Spadefoot (*Pelobates syriacus balcanicus* KARAMAN, 1928) were never suspected or reported to inhabit the island, despite their nearby occurrence on the Turkish mainland (FRANZEN et al. 2008) and the island of Kos, 80 km northwest of Rhodes (*Pelobates* - PIEPER 1970; *Bufo bufo* NHMW 23840 - 22.V.1979 - Zia, foothills of Mt. Dikeos)

Mauremys rivulata (VALENCIENNES, 1833)

Sources: CALABRESI (1923): Kattabia; ZAVATTARI (1929); WERNER (1930 cit. CALABRESI); TORTONESE (1948, 1973): Rodini, fiume dei Mulinii [between Rhodos and Koskinou]; WETTSTEIN (1953, 1965): Sieben Quellen, Hohlakos, Apollona; FRAZER (1965); EISELT & SPITZENBERGER (1967); HELMDAG (1993): between Dimilia and Salakos; IOANNIDIS et al. (1994); REIFF (1995): Paradissi; VALAKOS et al. (2008); NHMW 25904 - seven fountains, IV.1959; stream near Hohlakos, 30.IV.1963; 25905 - seven fountains near Archangelos, IV.1959; pers. obs. in 2004: Dimilia, Paradissi; KEYMAR in 1995:

between Kattavia and Agios Pavlos, swamp land near Oros; BERGENDORF in 2004: near Lachania, SE Kattavia.

We think that the Balkan Terrapin populates most rivers and streams on the island (Fig. 2; 12 sites) in spite of comparatively few records available. In April 2004, we only found two adult individuals. REIFF (1995) observed 20 specimens in the first week of April 1994 near Paradissi, whereas BERGENDORF (in 2004) detected terrapins in midsummer in several remaining running water bodies, and HELMDAG (1993) also found a higher number of terrapins in summer. *Mauremys rivulata* inhabits small streams in higher elevations (e.g. between Salakos and Dimylia), as well as lowland rivers near the sea, overgrown with *Arundo donax*, such as the Paradissi river near the airport (BADER & RIEGLER unpublished).

Emys orbicularis (LINNAEUS, 1758)

Source: HELMDAG (1993): between Dimilia and Salakos.

The occurrence of the European Pond Terrapin in Rhodes was only mentioned by HELMDAG (1993), who reported on an uncertain *Emys* record "between Dimilia and Salakos", within a larger group of Balkan Terrapins. The closest records, on a nearby island, originate from the Island of Kos dating from 13.IV.1984 (adult DOR between Kos and Psalidi, NHMW 28291) and June 2006, when WILSON (in litt. 2008) observed two European Pond Turtles on this island. On the Turkish mainland, the European Pond Turtle was recorded in the area Marmaris - Dalaman - Fethiye (FRANZEN et al. 2008). According to FRITZ et al. (1998), the turtles of the Aegean region are closely related to the subspecies *Emys orbicularis hellenica* (VALENCIENNES, 1832), while the subspecies *Emys orbicularis luteofusca* (FRITZ, 1989) is distributed in southwest Anatolia.

Testudo hermanni (GMELIN, 1789)

Source: Pers. obs. in 2004: 1 km E Pefki.

Not mentioned in the literature; distribution limit about 350 km farther northwest on the Greek Tinos Archipelago (GASC et al. 1997).

The authors found a single male specimen of Hermann's Tortoise on April 15 2004,

on the peninsula south of Lindos, about two km east of Pefki in a military area (Figs. 2, 13). The environment of the record was dry grassland surrounded by a karst topography. Three newly built houses were located about 200 m from the record, so we consider the animal to be released or escaped from captivity. The tortoise had an estimated age of about five years and belonged to the subspecies *boettgeri* MOJSISOVIC, 1889 (as confirmed by R. GEMEL in litt. 2004).

Testudo graeca
LINNAEUS, 1758

Sources: IOANNIDIS et al. (1994); DIMAKI in litt. (2008 cit. IOANNIDIS); Archangelos; VALAKOS et al. (2008).

The Greek Tortoise was mentioned in the species list of IOANNIDIS et al. (1994), based on a single observation by IOANNIDIS (DIMAKI in litt. 2008). He found the tortoise near Archangelos in the vicinity of a village (Fig. 2).

Testudo graeca was neither reported from any of the informants mentioned in "methods" nor in the older literature, although its occurrence seems to be possible based on the species' general distribution. BROGGI (1997) summarized data on the distribution of *T. graeca* on the Dodecanese islands of Sympi, Kos, Kalymnos and Leros, and pointed to the absence on Rhodes, whereas the species occurs in high numbers on the neighboring island of Sympi (WILSON in litt. 2008). The well documented and long history of herpetological research on Rhodes suggests, in fact, the lack of this species on the island, and the recorded animal probably to be released from captivity as well.

Marine turtles, soft-shelled turtles

The marine turtle species *Caretta caretta* (LINNAEUS, 1758) and *Chelonia mydas* (LINNAEUS, 1758) are known to nest in the eastern Mediterranean Sea, not far from Rhodes, in the Gulf of Bodrum (BENTIVEGNA 1997; VENIZELOS & KASPAREK 2006). For Rhodes data, on nesting beaches is lacking. Injured sea turtles in need of treatment are brought to the hydrobiological station in Rhodes town (KASPAREK 2001).

TASKAVAK et al. (1999) reported a record of *Trionyx triunguis* (FORSKAL, 1775)

from Kos Island 80 km north of Rhodes. The Nile Soft-shelled Turtle extended its Levantine territory as far as the Dalyan and Dalaman river deltas (BRIDE 2004), at the southwest Mediterranean coast of Turkey, about 50 and 70 km linear distance northeast of Rhodes. Records from Rhodes are lacking.

Hemidactylus turcicus
(LINNAEUS, 1758)

Sources: CALABRESI (1923); Rodi; ZAVATTARI (1929); WERNER (1930 cit. CALABRESI); TORTONESE (1948); Rodini, Campochiaro; WETTSTEIN (1965); Lindos; CHONDROPOULOS (1986 cit. WETTSTEIN); HELMDAG (1993); Faliraki; IOANNIDIS et al. (1994); REIFF (1995); SCHLÜTER (2004); Rhodos, Rodini; VALAKOS et al. (2008); NHMW 17643 - Monolitos, 18.V.1935; Iannadi, 22.V.1935; 18306 - Lindos, donkey cave above harbor, 17.V.1963; cave above Vlica Bay near Lindos, 15.IV.1963; 20266 - Lindos, 5.V.1971; temple of Apollo near the city of Rhodes, 3.V.1971; 20814 - Monte Smith (acropolis of the city of Rhodes), V.1973; 22875 - Temple of Apollo near the city of Rhodes, X.1977; pers. obs. in 2004: Pefki, Kalithea; KEYMAR in 1989: Faliraki, Prasonisi.

The Turkish Gecko was generally found in near coastal anthropogenic situations (Fig. 3; 10 sites). The authors detected geckos in stone walls near Kallithea and in an assembled stone hill in an olive grove. HELMDAG (1993) found *H. turcicus* in the busy tourist centre of Faliraki and KEYMAR (in 1989) on Prasonisi and in the campground of Faliraki.

Mediodactylus kotschyi
(STEINDACHNER, 1870)

Sources: VALAKOS et al. (2008); NHMW 29867 - Prasonisi Peninsula, 14.+19.VI.1985; KEYMAR in 1989: Prasonisi; OEFINGER in 2007: Prasonisi.

Tukinania from Pentanisos island group near Lindos and Pefki: WETTSTEIN (1964, 1965); Tukinania; PIEPER (1970 cit. WETTSTEIN); CHONDROPOULOS (1986 cit. WETTSTEIN); NHMW 18246 - Tukinania Island near Ag. Nikolas at Lindos, 27.V.1963; 24299 - Tukinania Island near Lindos, 1.IV.1973; 38064 - Tukinania Island near Lindos, IV.2004; pers. obs. in 2004: Tukinania.

Makri and Strongyli Islands NNW Rhodes: TIEDEMANN & HÄUPL (1980); CHONDROPOULOS (1986 cit. TIEDEMANN & HÄUPL); VALAKOS et al. (2008); NHMW 23215:1-2 - Strongyli Island NNW Rhodes, 15.IV.1978; 23215:3-6 - Makri Island NNW Rhodes, 15.IV.1978.

WETTSTEIN (1964) suggested the occurrence of Kotschy's Gecko not only on neighboring islets but also in the Island of Rhodes itself, the Mt. Attaviros region in

particular. But it was only in the 1980s that *M. kotschy* was found on the main island, namely on the Prassonisi Peninsula located on the southernmost point of Rhodes (Figs. 3, 11; 1 (+3) sites) NHMW 29867; KEYMAR in litt. 2005). OEFINGER (in litt. 2007) confirmed these records and stated these geckos to be quite common in this area with poor vegetation and without other herpetological competitors. The peninsula, however, is separated during winter and spring time from the main island by a narrow, shallow sea channel and could not be visited by the authors during their stay. Already in 1963 BILEK discovered Kotschy's Gecko on the Island of Tukinania - the largest isle of the Penthanisos (Five Islands) group near Lindos (NHMW 18246; WETTSTEIN 1964; BILEK pers. comm. 2004). The authors visited Tukinania and found a single specimen of this gecko. Tukinania is divided from the main island only by a narrow, one meter deep water channel, and a temporary connection seems to be possible during low sea level.

In 1978 BILEK also found Kotschy's Gecko on the islets of Makri and Strongyli, off the northwest coast of Rhodes. TIEDEMANN & HÄUPL (1980) described them as a new subspecies - *Cyrtopodion kotschy bileki*. The populations of the surrounding Aegean Islands (Kos, Symi) and the Turkish coast belong to *C. k. beutleri* (BARAN & GRUBER, 1981), while more Eastern populations represent *C. k. ciliciensis* (BARAN & GRUBER, 1982) and Turkish inland populations refer to *C. k. danilewskii* (Srauch, 1887) (VALAKOS et al. 2008; FRANZEN et al. 2008). Recent molecular analyses suggest that the taxonomy of this species is in need of revision (KASPIDIS et al. 2005).

Chamaeleo chamaeleon
(LINNAEUS, 1758)

Sources: ANDERSON (1898); TORONESE (1948 cit. ANDERSON); PROY in 1983.

ANDERSON (1898, page 227) asserts the native occurrence of the European Chameleon on Rhodes (also cited in TORTONESE 1948) however, without record details. The closest records refer to the Turkish mainland and the islands of Samos, Hios and maybe Crete (WETTSTEIN 1953).

In July 1983, PROY (in litt. 2005) found a chameleon near the airport, close to a

water trench in the reeds of Paradisi River (Figs. 5, 12), and identified it as a non-gravid female European Chameleon. Because the picture (photographed in a hotel room in 1983) is quite old and fuzzy (Fig. 12) and DIMAKI (in litt. 2007) doubted the lizard to be a European Chameleon, we consulted the chameleon experts Petr NECAS (Brno) and Nicola LUTZMANN (Heidelberg): Both (in litt. 2008) stated the animal to be a gravid female of *Chamaeleo chamaeleon*. So we believe that this is the first report of a European Chameleon from Rhodes after more than 100 years.

Laudakia stellio
(LINNAEUS, 1758)

Sources: ERBER (1868); BEDRIAGA (1882); BOETTGER (1888); CALABRESI (1923): Kattabia, Agios Isidoros, Koskino; ZAVATTARI (1929); WERNER (1930 cit. ERBER, BOETTGER, CALABRESI, 1933); TORTONESE (1948, 1973): Rhodos, Rodini, Malpasso, Cristovasucco; FRAZER (1965); WETTSTEIN (1953, 1965): Fileremos, Sieben Quellen, Pefki, Monolithos; XYDA (1983); CHONDROPOULOS (1986 cit. WETTSTEIN, XYDA); HELMDAG (1993): Faliraki; IOANNIDIS et al. (1994); REIFF (1995): Theologos, Epta Piges, Paradisi; SCHLÜTER (2004): Rhodos, Rodini; VALAKOS et al. (2008); NHMW 18301 - Monolithos, 3.V.1963; Pefki, 10.V.1963; seven fountains near Archangelos, 2.V. 1963; Philirimos, 3.IV. 1959; 22903 - Philirimos, 23.X.1977; Rodini, 22.X. 1977; 23219 - Piedmont of Mt. Attaviros near Embona, 14.IV.1978; 24607 - Rodini, 22. 10.1977; Lindos, III. 1972; 24832 - Lindos, 1972; - Ixia, 9.VI. 1973; 24844 - Rodini, 22. X.1977; 29799 - Gennadion, 26.VI.1985; 31277 - Pefki near Lindos, 23.V. 1963; pers. obs. in 2004: Rhodos, Koskinou, Kalitheia, Kremasti, Paradissi, Paradissi Hill, new airport, 3 km E Pastida, Maritsa, Epta Piges, 4 km E Archipoli, Emponas, W part of Profitis Ilias, Laerma, 4 km N Laerma, 3 km S Kritina, Siána, Marmari Hill, Pefki, Vathies; LOMAN in 1986: Rhodos; KEYMAR in 1989: Prasonisi, Faliraki, Skala Kamiros, Paradisi, Kastelo, between Laerma and Lardos; in 1995: Moni Agios Georgios, Kritina; BERGENDORF in 2004: Rhodos; OEFINGER in 2005: Monolithos, Gaidouras N Laerma, Tzambika Bay; in 2007: Prasonisi.

The Hardun was the most frequently recorded reptile species as reported from all informants who are mentioned in "Materials and Methods" (Fig. 2; 54 sites). Its frequency is extremely high in the north where the agama even occurs in the city centre of Rhodes town (pers. observation; LOMAN in litt. 2005). The abundance declines a bit to the south. The agama inhabits all kinds of stones, cliffs, rocks, walls, sometimes old trees or fence piles, and even roofs. The probability of finding *L. stellio* seems to be high in all seasons - juvenile and adult

Harduns were found all over the island, males and females in a more or less balanced relation. The agamas were caught quite easily, especially during cold weather and winds. In several places the animals are not shy and are used to people. Harduns from Rhodes belong to the subspecies *daani* (BEUTLER & FRÖR, 1980).

Pseudopus apodus
(PALLAS, 1775)

Sources: WETTSTEIN (1953): N Monolithos; MERTENS & WERMUTH (1960); OBST (1978); CHONDROPOULOS (1986 cit. OBST); IOANNIDIS et al. (1994); REIFF (1995); VALAKOS et al. (2008).

WETTSTEIN (1953) reported his observation of a large blackish-brown specimen of the European Glass Lizard in the foothills of the Akramiti Mountains [SW Rhodes, N Monolithos], on May 18, 1935; it escaped before he could seize it. MERTENS & WERMUTH (1960) may have based their reference to Rhodes on this report. Later papers refer to the study by OBST (1978) which includes Rhodes in the range area of the subspecies *thracious* (OBST, 1978), although specimens from Rhodes were not available. The nearest records of *Pseudopus apodus* are available from the nearby island of Kos (IOANNIDIS et al. 1994; WILSON in litt. 2008) and the adjacent Turkish coast line (FRANZEN et al. 2008).

However, one should not rule out the possibility that WETTSTEIN (1953) erroneously took an adult dark male *Dolichophis* for *Pseudopus apodus* since it was never found again in Rhodes; its occurrence remains doubtful.

Ophisops elegans
(MÉNÉTRIÉS, 1832)

Sources: BOETTGER (1888): Kastelo; CALABRESI (1923): Kattabia, Agios Isidoros, Koskino, Monte Ataviro, Rodi; ZAVATTARI (1929); WERNER (1930 cit. BOETTGER), TORTONESE (1948, 1973): Monte Chielu; WETTSTEIN (1953, 1965): Rhodini, Pefki; CHONDROPOULOS (1986 cit. WETTSTEIN); HELMDAG (1993); IOANNIDIS et al. (1994); REIFF (1995): Apollona, Paradissi; SCHLÜTER (2004): Rhodos, Rodini, Trianda, Koskinou, Salakos, Attavyros, Agios Isidoros, Monolithos, Kattavia, Gennadio, Pefka, Masari, Malonas, Archangelos, between Archangelos and Epta Piges, Afandou; VALAKOS et al. (2008); NHMW 16214 - city of Rhodes, IV.1959; Pefki near Lindos 1964; 20263 - Archangelos, ruins 13.V.1971; Pefki, III.1972; Pefki 5.V.1971; 22904 - Mt. Filerimos 23.X. 1977; 37103 - Monolito, 10.V.

1935; Salaco, 1951; Monolito, 1951; Iannadi, 19.V. 1935; pers. obs. in 2004: Filerimos, Kremasti, Paradisi, Afantou, Psalida, Epta Piges, Archipoli, Samantira, Kamiros, N Salakos, Nani, Profitis Ilias, Emponas, Laerma, 5 km N Laerma, 5 km N Lardos, Apolakkia; BERGENDORF in 2004: Lachania, Apolakkia; OEFINGER in 2005: Apollakia, Tzambika Bay, Glystra Beach S Lardos; in 2007: Apolakkia, Prasonisi, Vati.

The Snake-eyed Lizard is very common and widespread over all the island, except directly on the coast (Fig. 3; 51 sites). It was found in nearly every grassland habitat riddled with shrubs, however, never in rocky habitat. Most specimens were observed in hilly country between 200 and 300 m elevation. This species was reported from all informants mentioned in "Materials and Methods". We found this species in 21 locations: 8 Single observations, 10 observations with 2-3 individuals and 3 observations with 3-6 individuals. In total we encountered only three juveniles, while all other observed lizards were adults.

The Snake-eyed Lizards of Rhodes belong to the subspecies *macroductylus* BERTHOLD, 1842; some authors (e.g. TORTONESE 1973) place it in *ehrenbergii* (WIEGMANN, 1835).

Lacerta trilineata
BEDIAGA, 1886

Sources: ERBER (1868); BEDIAGA (1882); BOETTGER (1888 cit. ERBER, BOULENGER); CALABRESI (1923): Kattabia, Agios Isidoros, Koskino; ZAVATTARI (1929); WERNER (1930 cit. ERBER); TORTONESE (1948, 1973): nei pressi de la città [surroundings of Rhodos], Calitea; CAPOCACCIA (1955); MERTENS (1959): Paradissi, Kattabia; FRAZER (1965); WETTSTEIN (1952, 1953, 1965, 1967): Monolithos; FRÖR (1979); CHONDROPOULOS (1986 cit. WETTSTEIN, MERTENS, FRÖR); HELMDAG (1993): between Katavia and Messanagros; IOANNIDIS et al. (1994); REIFF (1995): Theologos, Epta Piges; SCHLÜTER (2004): Rodini, Vasfi, Paradisi, Kalithies, Koskinou, Kalitheia, Petaloudes, Embonas, Monolithos, Kattavia, Gennadio, Masari, Malonas, Archangelos, between Archangelos and Stegna, between Archangelos and Epta Piges, Kolimbia, Afandou; VALAKOS et al. (2008); NHMW 14903 (Syntypes of *Lacerta trilineata diplochondrodes*) - Villanova gardens, horticultural test plant near the city of Rhodos [Villanova = Paradisi], 1935; Coschino near the city of Rhodes, 14.V. 1935; Monolito, 19.V.1935; Embona, 16.V.1935; Iannadi, 21.V.1935; 16260 (Syntypes of *Lacerta trilineata diplochondrodes*) - Monolito, 19. V.1935; Iannadi, 21.V. 1935; 18307 - Monolito, 3.V. 1963; 20306 - riverbed near Afantou, 13.V.1971; 20834 - seven fountains, V.1972; 22111 - Ixia, VII. 1976; 22129 - seven fountains, 1972; 24519 - Mt. Philerimos, 23.X.1977; 29806 - between Vation and Gennadion, 25.VI.1985; pers. obs. in 2004: Kremasti, Paradissi, Afantou, Kalavarda, 2 km N Salakos, Nani, W part of Profitis

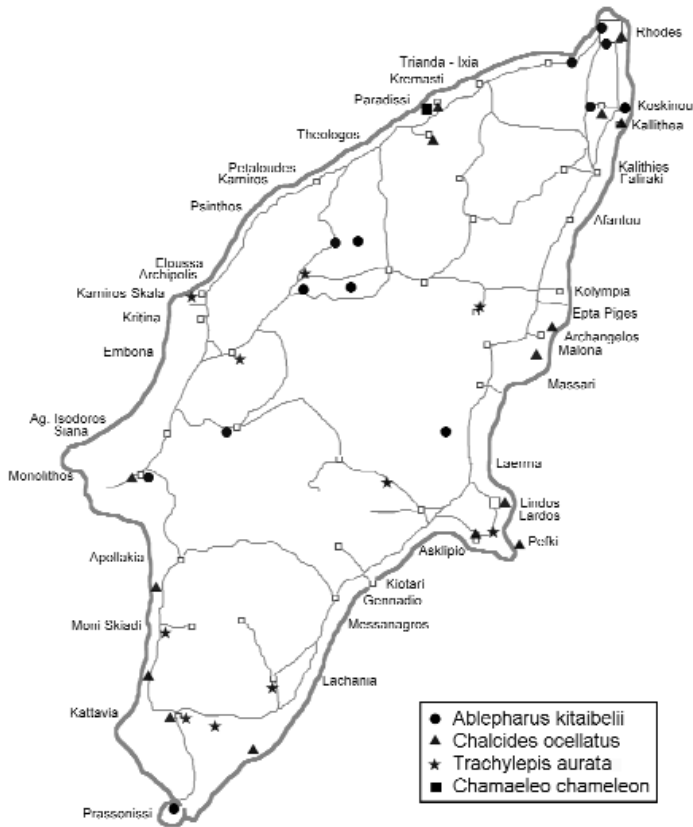


Fig. 5: Records of *Ablepharus kitaibelii*, *Chalcides ocellatus*, *Trachylepis aurata* and *Chamaeleo chamaeleon*.

Abb. 5: Nachweise von *Ablepharus kitaibelii*, *Chalcides ocellatus*, *Trachylepis auratus* und *Chamaeleo chamaeleon*.

Ilias, Kritinia, Laerma, 5 km N Laerma, 5 km N Lardos, Vathies, Pefki; LOMAN in 1986: Rhodes; KEYMAR in 1989: Archipoli, Paradisi; in 1995: Epta Piges; OEFINGER in 2005: Plimmyri; in 2007: Plimmyri, Lachania.

The Balkan Green Lizard is widespread over all the island, except in the larger settlements (Fig. 4; 45 sites). It was reported from all informants mentioned in "Materials and Methods". The authors found *L. trilineata* in 13 sites: 8 single individuals, 5 observations of 2-3 lizards. Four of the single observations refer to adults (two of them killed by traffic), while all others were juveniles. In 10 out of 13 sites *L. trilineata* was encountered along with *Ophisops elegans* that, however, inhabits different microhabitats. While *Ophisops elegans* lives in the open grass land and uses the shrubs only for

shelter, *Lacerta trilineata* inhabits big spiny bushes, overgrown walls or stone hills, always disposed to hide. Adult males have blue spots on the lateral throat. The lizards belong to the subspecies *diplochondrodes* WETTSTEIN 1952, which also occurs on the near Turkish mainland (WETTSTEIN 1967).

Anatolacerta oertzeni (WERNER, 1904)

Sources: ERBER (1868 as *L. merremia*): Kastelo; BOETTGER (1888); CALABRESI (1923): Kattabia; ZAVATTARI (1929); WERNER (1930 cit. BOETTGER), TORTONESE (1948); Rodini; CAPOCACCIA (1955); MERTENS (1959): Profitis Ilias, Rhodes, Rodini, Petaloudes, Kastelo, Jan-nadi, Monolitho, Embona, Villanova, Kattabia; FRAZER, (1965); WETTSTEIN (1953, 1964, 1965): Sieben Quellen,

Pefki; PIEPER (1970): Profitis Ilias; CHONDROPOULOS (1986 cit. WETTSTEIN, PIEPER); EISELT & SCHMIDTLER (1986); HELMDAG (1993); REIFF (1995); SCHLÜTER (2004): Rhodos, Monte Smith, Rodini, Koskinou, Paradisi, Therme Kalithea, Petaloudes, Salakos, Embonas, Kastellos, Monolithos, Kattavia, Gennadio, Pefka, Lindos, Archangelos, Epta Piges; VALAKOS et al. (2008); NHMW 11603 - Iannadi, 21.V. 1935; Monolito, 19.V. 1935; Embona, 15.V. 1935; Villanova, 1935; 18308 - seven fountains at Archangelos, 1964; Pefki near Lindos, 1964; 19495 - Ag. Nikolaos near Lindos, 7.VII. 1969; 19496 - seven fountains near Archangelos, 4.VII. 1969; coastal hillside W Kattavia, 8.VII. 1969; Lindos, 3.VII.1969; Ag. Nikolaos near Lindos, 9.VII.1969, 20307 - Pefki, 5.V. 1971; Lindos, IV.1972; Rodini, 7.IV.1971; 20555 - Ixia, 9.VI.1973; Rodini, 29.VI. 1973; 22906 - seven fountains, 25.X.1977; Rodini, 22.X.1977; Lindos, 2.X.1977; Petaloudes, 24.X.1977; pers. obs. in 2004: Rhodos, Kalithea, Filerimos, Paradissi Hill, W part of Profitis Ilias, Pefki, Agios Ioannis near Pefki, Pefki Peninsula, vis-à-vis Tukinania, Kastellos, 4 km N Apolakkia; KEYMAR in 1989: Paradisi, Skala Kamiros, Castello, Vrulia; in 1995: Kalithea, Epta Piges; BERGENDORF in 2004: Pefki; OEFINGER in 2005: Gaidouras N of Laerma; in 2007: Rhodos.

Nearby islets: Tukinania part of the Pentanisos group near Pefki and Lindos: WETTSTEIN (1964, 1965); Tukinania; CHONDROPOULOS (1986 cit. WETTSTEIN); SCHLÜTER (2004): Pentanisos; VALAKOS et al. (2008); NHMW 18247 (Holotype of *Lacerta danfordi pentanisiensis* WETTSTEIN, 1965) - Pentanisos Island; 18248 (Paratypes of *Lacerta danfordi pentanisiensis* WETTSTEIN, 1965) - Pentanisos Island E Ag. Nikolaos, 27.V. 1963; 19495 - Pentanisos Island E Ag. Nikolaos near Lindos, 7.VII.1969. Strongili Island NNW Rhodos: NHMW 23229 - Strongili Island NNW off the coast of Rhodes vis-a-vis Kritsina, 15.IV.1978.

The Rhodes Rock Lizard is the cliff-dwelling lizard species on the island, and occurs over all the island in different densities, according to the existence of rocky habitat (Fig. 4; 37 (+2) sites). It was found even in Rhodes town occurring together with the Hardun. Both young and adult animals were found in most places. Near Pefki we observed them preying on *Hemidactylus turcicus*. The look of this lizard varies a lot on the island: during April, brown and olive-green animals dominate, while some individuals have yellow dots or stripes, and a red or orange ventral side.

Rhodes Rock Lizards belong to the *danfordi* complex (including *anatolica*, *danfordi* and *oertzeni*), which was placed into the new genus *Anatolacerta* by ARNOLD et al. in 2007. The subspecies occurring on Rhodes is *Anatolacerta oertzeni pelasgiana* MERTENS, 1959. BILEK (pers. comm. 2004) collected three lizards on the Penthanisos islet Tukinania near Pefki in 1963, that were described as a new subspecies, *Lacerta danfordi pentanisiensis* WETTSTEIN, 1964.

Podarcis taurica (PALLAS, 1814)

Sources: Tortonese (1948).

TORTONESE (1948) reported to have seen *Lacerta taurica* ("non sia la forma tipica") on the island along with the other three well known lacertid species.

The general distribution of *P. taurica* does not include the Dodecanese; it inhabits the Balkans, northwestern coastal areas of the Black Sea and isolated spots in Hungary (GASC et al. 1997). So we presume confusion with an untypically colored *Anatolacerta oertzeni* or rather *Ophisops elegans*, which occupy similar habitats, while CAPOCACCIA (1955) presumes confusion with *Lacerta trilineata*.

Ablepharus kitaibelii BIBRON & BORY DE SAINT-VINCENT, 1833

Sources: BEDRIAGA (1882); BOETTGER (1888 cit. ERBER); CALABRESI (1923): Rodi, Kattabia, Agios Isidoros, Koskino; WERNER (1930 cit. ERBER); TORTONESE (1948): Campochiaro, Rodini; WETTSTEIN (1953, 1965): Rhodos; PIEPER (1970): Salakos; CHONDROPOULOS (1986 cit. WETTSTEIN, PIEPER); IOANNIDIS et al. (1994); REIFF (1995): Salakos; SCHLÜTER (2004): Rodini; VALAKOS et al. (2008); NHMW 16213 - temple of Apollo near the city of Rhodes, 29.IV.1963; 10259 - Monolitos, 18.V.1935; pers. obs. in 2004: 4 km N Kalathos, W part of Profitis Ilias, Filerimos, Kalithea.

The Snake-eyed Skink was found mainly in the north of the island, but also one record dates from Prassonisi in the south (Fig. 5; 13 records). Its occurrence is related to clearings in deciduous forests or in olive plantations. The main factor influencing the finding of this small skink was the time of day. On Filerimos Mountain, we found about 20 active animals running around in fallen leaves shortly after sunrise, while no animal was recorded in broad daylight, except some single individuals sheltering under stones. Animals of Rhodes belong to the nominotypic subspecies (GRUBER 1981).

Chalcides ocellatus (FORSKÅL, 1775)

Sources: ERBER (1868); BEDRIAGA (1882); BOETTGER (1888 cit. ERBER); CALABRESI (1923): Kattabia, Koskino; ZAVATTARI (1929); WERNER (1930 cit. ERBER, CALABRESI, 1935); TORTONESE (1948): mura di Rodi; FRAZER (1965); WETTSTEIN (1953, 1965): Lindos,

Pefki, Monolithos, Tsampikas; CHONDROPOULOS (1986 cit. WETTSTEIN); IOANNIDIS et al. (1994); REIFF (1995); Theologos; SCHLÜTER (2004); Rhodos; VALAKOS et al. (2008); NHMW 10423 - Monolito, 19.V.1935; Villanova, horticultural test plant, 1934; 18302 - Mt. Tsampikas near Archangelos, 27.V.1963; Monolitos, 3.V.1963; Pefki near Lindos, 10.V.1963; Lindos, 26.IV.1963; Castle mountain of Lindos, 18.V. 1963; 29866 - 10 km S Apolakkia (beach), 24.VI.1985; pers. obs. in 2004; Kalithea, Pefki; LOMAN in 1986; Rhodos; BERGENDORF in 2004; Pefki; OEFINGER in 2005; Apollakkia; in 2007: Plimmyri, Apolakkia.

Nearby islets: Tukinania part of the Pentanisos Group near Pefki and Lindos: WETTSTEIN (1965); Pentanisos; CHONDROPOULOS (1986 cit. WETTSTEIN); VALAKOS et al. (2008); NHMW 20262 - Island in the bay of Lindos, 5.V.1971; pers. obs. in 2004: Tukinania.

This regularly encountered skink (Fig. 5; 14 (+1) sites) inhabits dry and stony landscapes, with sandy soil and sparse vegetation. The authors recorded two Ocellated Skinks near Kallithea, one near Pefki and one more on Tukinania Island. Two more NHMW records origin from the Island of Tukinania, which is divided from the main island by a one meter deep narrow channel of about 50 meters in length, others were found in the area of Lindos and Monolithos. OEFINGER (in litt. 2008) observed two in the southern part in March 2007. All habitats are close to the sea and below an elevation of 200 m. Three of the recorded animals were adults, and all remained true to their shelter after escape as well (pers. obs. 2004). Ocellated Skinks from Rhodes belong to the nominotypic subspecies (SCHNEIDER 1981).

Trachylepis aurata
(LINNAEUS, 1758)

Sources: BOETTGER (1888): Kastelo; CALABRESI (1923): Kattabia; WERNER (1930 cit. BOETTGER, 1935); FRAZER, (1965); WETTSTEIN (1953, 1965, 1967): Sieben Quellen; CHONDROPOULOS (1986 cit. WETTSTEIN); IOANNIDIS et al. (1994); REIFF (1995); VALAKOS et al. (2008); NHMW 9443 - Monolito, 18.V.1935; Iannadi, 21.V.1935; 18305 - seven fountains near Archangelos, 2.V.1963; 23230 - piedmont of Mt. Attavros, near Embona, 14.IV.1978; pers. obs. in 2004: Agios Pavlos, W part of Profitis Ilias, between Lardos and Laerma, Pefki; KEYMAR in 1989: Kamiros Skala, Epta Piges; BERGENDORF in 2004: between Apolakkia and Moni Skiadi.

The Levant Golden Skink is well known from Rhodes, although only few animals were recorded on the island (Fig. 5; 10 sites). During our visits this skink could be found quite frequently, dominating in the south and central part; KEYMAR (in litt.

2005) found one near Kamiros Skala and another in Epta Piges in 1989. Only single adult specimens were seen, except near Agios Pavlos, where a huge female, together with a young, were found under a stone beside a pig barn (Fig. 10). We observed that all *T. aurata* remained true to their hiding place and often were found under the same stone during a later search.

The nomenclature of this species has been in discussion since the first description as *Lacerta aurata* by LINNAEUS in 1758. For the moment we follow MORAVEC et al. (2006) who conclude that the sometimes used name *Euprepis fellowsii* GRAY, 1845, remains a synonym of *Trachylepis aurata*, whereas the name *Trachylepis septemtaeniata* (REUSS, 1834) refers to a different species occurring on the Arabian Peninsula and in the Caucasus region.

Blanus strauchi
(BEDRIAGA, 1884)

Sources: ERBER (1868); BOETTGER (1888 cit. ERBER, BEDRIAGA); CALABRESI (1923): Rodi, Koskino; ZAVATTARI (1929); WERNER (1930, 1935); TORTONESE (1948); WETTSTEIN (1953, 1965); Rhodos; ONDRIAS (1968); CHONDROPOULOS (1986 cit. WERNER, WETTSTEIN, ONDRIAS); IOANNIDIS et al. (1994); REIFF (1995); VALAKOS et al. (2008); NHMW 18304 - temple of Apollo near the city of Rhodes, 1964; pers. obs. in 2004: Reni Koskinou; LOMAN in 1986: Rhodos.

The Turkish Worm Lizard was first recorded nearly 150 years ago from the southern environs of Rhodes town. We found the animal also in the vicinity of this town, namely near Agia Marina during our visit in April (Figs. 4, 9; 6 sites). The amphibaenian inhabits moist areas or wet places near streams or rivers. Our specimen was detected close by a small stream under a scrapheap consisting of roof panels. KEYMAR (in litt. 2005) observed an adult individual under stones of the old city wall in the south part of Rhodes town. The worm lizard was never found during summer excursions, its distribution seems to be limited to the northeastern part of the island.

Eryx jaculus
(LINNAEUS, 1758)

Speculations by WERNER (1930) on the occurrence of the Sand Boa on Rhodes

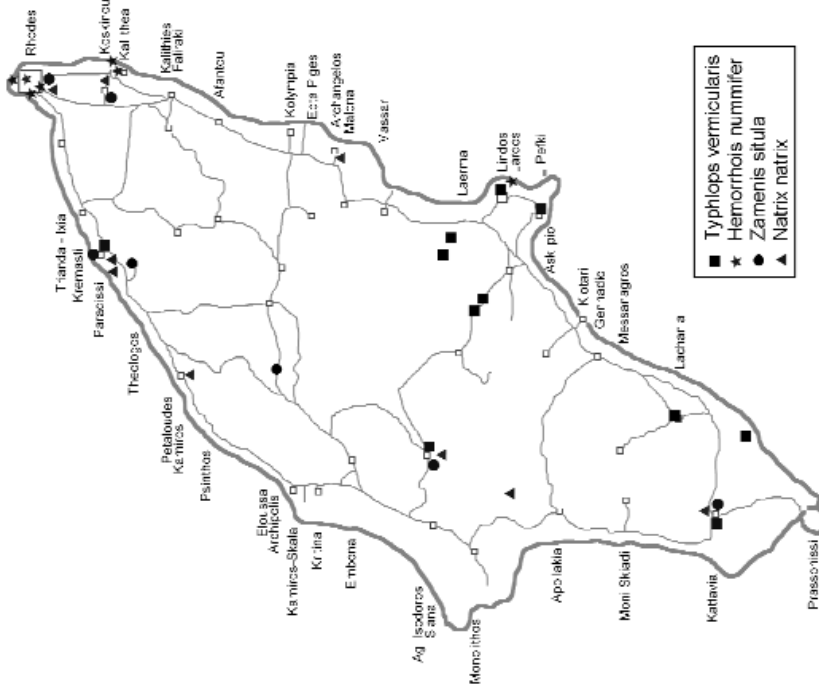


Fig. 7: Records of *Typhlops vermicularis*, *Hemorrhois nummifer*, *Zamenis situla* and *Matrixatrix*.

Abb. 7: Nachweise von *Typhlops vermicularis*, *Hemorrhois nummifer*, *Zamenis situla* und *Matrixatrix*.

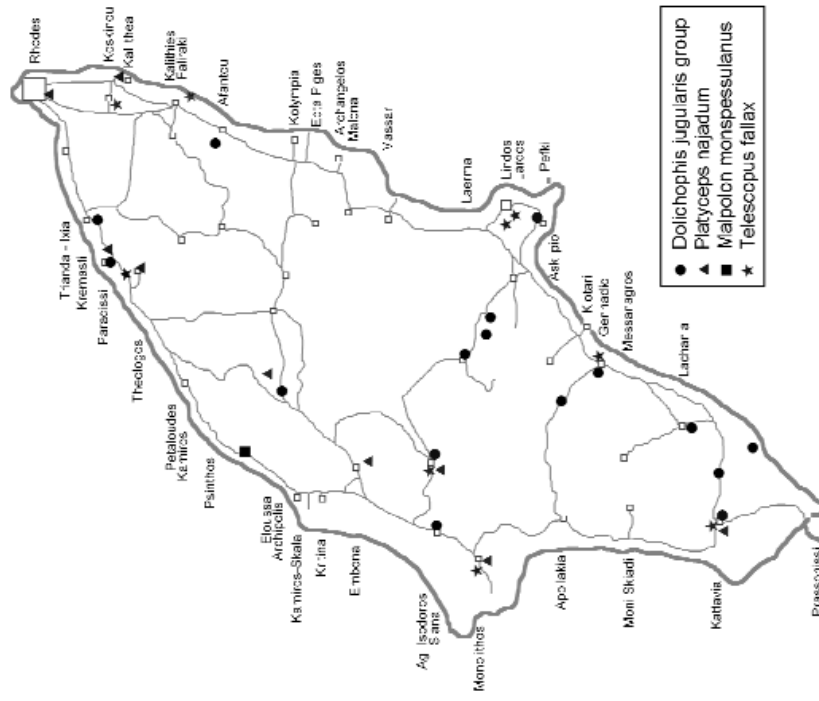


Fig. 6: Records of *Dolichophis cf. jugularis*, *Platyceps najadum*, *Malpolon monspessulanus* and *Telescopus fallax*.

Abb. 6: Nachweise von *Dolichophis cf. jugularis*, *Platyceps najadum*, *Malpolon monspessulanus* und *Telescopus fallax*.

never came true. The closest records of *Eryx jaculus turcicus* (OLIVIER, 1801) were reported from the nearby Turkish mainland between Finike and Antalya (FRANZEN et al. 2008) and the Islands of Kos, Leros and Kalymnos (CHONDROPOULOS 1989; BROGGI 1997; VALAKOS et al. 2008).

Typhlops vermicularis
MERREM, 1820

Sources: ERBER (1868); BEDRIAGA (1882); BOETTGER (1888 cit. ERBER); CALABRESI (1923): Kattabia, Agios Isidoros; WERNER (1930 cit. ERBER, CALABRESI, 1935); BUREŠ & ZONKOW (1934); TORTONESE (1948); MERTENS & WERMUTH (1960); WETTSTEIN (1953, 1965): Lindos, Lachania; BARAN (1976); CHONDROPOULOS (1989 cit. BUREŠ & ZONKOW, MERTENS & WERMUTH, BARAN); IOANNIDIS et al. (1994); REIFF (1995); VALAKOS et al. (2008); NHMW 15412 - Villanova (horticultural test plant) [now Paradisi], 1935; 18309 - Lachania, 30.IV. 1963; Lindos, 12.V.1963; pers. obs. in 2004: 5 km N Kalathos, Lindos, between Lardos and Laerma, Vathies.

Tukinania part of the Pentanisos Group near Pefki and Lindos: WETTSTEIN (1965): Pentanisos.

The snake is well known from literature and seems to be quite common in some parts on the island, especially in humid wide river valleys on the east side (Fig. 7; 11 (+1) sites). We encountered 11 European Worm Snakes with a distinct accumulation near the Pefki Peninsula where we found seven individuals in three locations in the valleys north and west of Lindos. Another one was found on the highly frequented slope of the Lindos castle, and two more on a beach site south of Lachania. All individuals were observed during the spring excursions, none in summer. Animals measured between 10 and 30 cm in total length.

Eirenis modestus
(MARTIN, 1838)

The species was neither mentioned in the literature to occur on Rhodes, nor found on the island in this research, despite its presence on some nearby Dodecanese islands such as Symi, Kalymnos and Leros (CHONDROPOULOS 1989; BROGGI 1997; SPEYBROECK in litt. 2007). *Eirenis modestus* is also a common snake on the proximate Turkish mainland (Franzen et al. 2008).

Dolichophis jugularis (LINNAEUS, 1758) –
Dolichophis caspius (GMELIN, 1789)
Species Group

Sources: ERBER (1868 as *Zamenis trabalis* var. *carbonarius*); BEDRIAGA (1882); BOETTGER (1888 cit. ERBER); CALABRESI (1923): Kattabia, Agios Isidoros; ZAVATARI (1929); WERNER (1930 cit. ERBER, CALABRESI, 1933, 1935); WETTSTEIN (1953, 1965): Pefki; CLARK (1968); PIEPER (1970); LAMBERT (1970); ZINNER (1972); BARAN (1976); CHONDROPOULOS (1989 cit. WERNER, WETTSTEIN, CLARK, PIEPER, LAMBERT, BARAN); HELMDAG (1993); IOANNIDIS et al. (1994); REIFF (1995); VALAKOS et al. (2008); NHMW 26595 - (labeled *Coluber jugularis caspius*) Villanova [=Paradisi], 21.V. 1931; (labeled *C. jugularis asianus*) Gennadio, 21.V. 1935; 18618:1-3 - (labeled *C. j. jugularis*), Pefki, 28. IV.1963; pers. obs. in 2004: Kremasti, Afantou, W part of Profitis Ilias, Laerma, 5 km SW Laerma, Siána, Vati; LOMAN in 1986: Rhodos; KEYMAR in 1989: Skala Kamiros, Paradisi, between Lardos and Laerma; in 1995: between Holokas and Kattavia; BERGENDORF in 2004: Lachania.

ZINNER's doctoral thesis (1972) deals with the "Systematics and evolution of the species group *Coluber jugularis* LINNAEUS, 1758 – *Coluber caspius* GMELIN, 1789". Contrary to most other herpetologists, he classifies the whip snakes of Rhodes as a subspecies of the Caspian Whip Snake – *Coluber caspius eiselti*: "Pholidotically, both the Holotype and the Paratypes resemble *Coluber caspius caspius*; no significant difference could be detected from adult specimens of *Coluber caspius caspius*. This subspecies differs from *caspius caspius* and *caspius schmidtii* NIKOLSKY, 1909 by its constantly dark to black adult coloration of the dorsum and its mottled venter. WETTSTEIN (1953) stated, that adult females from Rhodes tend to be dark brown, adult males to be black dorsally. The Holotype shows the coloration typical for a female as described by WETTSTEIN (1953). In these features it differs completely from specimens of *Coluber caspius caspius* found on the adjacent islands of Karpathos and Khasos and from specimens of *C. caspius* found on the mainland." (ZINNER 1972). However, the nomen *Coluber caspius eiselti* is not available since publication in the few copies of a doctoral thesis is not a nomenclatural act of relevance.

Our encountered black colored adults (snout-vent length SVL 120, 150 cm) showed a red ventral side with black dots and an orange throat (Figs. 14, 15). We also found two brown-colored snakes (SVL 130,

120 cm) that showed a smooth pattern with a slightly red spotted ventral side on a yellow base, completely differing from the black specimens (Figs. 16, 17). Most of the juvenile specimens (SVL 60, 65 and 80 cm) had grey-black spotted dorsal patterns, darker than typical *D. caspius*, and the ventral side already showed numerous red dots. A color exception was a juvenile snake measuring 60 cm that differed from the other juveniles by its plain brown dorsal pattern and the monochrome yellow ventral side. BILEK (pers. comm.) collected a completely black specimen of 182 cm length (NHMW 18618:1, designated as holotype of *Coluber caspius eiselti* by ZINNER 1972). HELMDAG (1993) mentioned the observation of two whip snakes, however without naming the location, which he classified from their coloration as *D. caspius*. On Karpachos SPEYBROECK (in litt. 2005) found *D. caspius*, which looked very similar to the aforementioned brown colored snakes from Rhodes. DIMAKI and DIMITROPOULOS (in litt. 2005) classified the brown snake specimens of the authors (by identifying photos) to be female and/or juvenile *D. jugularis* which show a wide variety in color and pattern. As previously pointed out by WETTSTEIN (1953: 793-797), two morphs (probably sexual dimorphism) of *Dolichophis* occur on the island of Rhodes - the typical black form (males) and a brighter brown form (females), which keeps its color to a length of at least 1.5 m.

The Large Whip Snake (*D. jugularis*) is quite common on Rhodes and was found over all the island mainly in dry habitats (Fig. 6; 15 sites). We discovered whip snakes exclusively on the ground, mostly basking or foraging, always disposed to escape. However, the behavior of all encountered whip snakes was very similar – aggressive and snappish. This parallels the observation by ZINNER (1972) who found the snakes from Rhodes to agree rather with *D. caspius* than with *D. jugularis* in their behavior: “In contrast to *C. caspius*, which is mainly a ground dweller, *C. jugularis* is usually found in and on bushes, on trees, walls, and gives in behaviour more the impression of an *Elaphe* than a *Coluber*. It seems not usually to be an active hunter but rather ambushes birds, rodents and lizards. ... A caught *C. j. jugu-*

laris rarely bites, but always shows a much more gentle behaviour than the ferocious *C. caspius*. ...It moves slowly compared to other *Coluber* and differs in all these features completely from *C. caspius*.”

Genetic research was not included in ZINNER's thesis. The description of the endemic subspecies *Coluber caspius eiselti* for Rhodes was based on morphology and behavior of few snakes. The southeast Aegean, and the adjacent Turkish mainland, may well belong to the range area of both sibling species; further genetic research for this area of the Dodecanese would be valuable in order to discover the exact borders and possible gene flow of these two related taxa, and the actual species occurring on Rhodes.

Platyceps najadum
(EICHWALD, 1831)

Sources: ERBER (1868); BEDRIAGA (1882); CALABRESI (1923): Kattabia, Agios Isidoros; WERNER (1930 cit. CALABRESI, 1935); BUREŠ & ZONKOW (1934); WETTSTEIN (1953, 1965); CHONDROPOULOS (1989 cit. WERNER, BUREŠ & ZONKOW, WETTSTEIN, ONDRIAS, BARAN); IOANNIDIS et al. (1994); REIFF (1995): Theologos; VALAKOS et al. (2008); NHMW 20141 - Monolito, 19.+20. V.1935; Monolito, 8.V. 1935; Mt. Profitis Ilias near Salako, V.1935; 23218 - piedmont of Mt. Attaviros near Embona, 14.IV.1978; pers. obs. in 2004: Paradissi Hill, Kalithea; LOMAN in 1986: Rhodes.

Dahl's Whip Snake was recorded mostly in the north-western part of Rhodes (Fig. 6; 8 sites). The snakes were found in stone walls in very dry habitat. We recorded two specimens with only three dots on each side of the neck, while LOMAN (in litt. 2005) found an adult with at least seven spots, in 1986, in the southern part of Rhodes town. One more specimen was found by REIFF (1994) in Theologos.

The occurrence of the nominate subspecies on Rhodes was considered by WETTSTEIN (1953) and CHONDROPOULOS (1989), while most other authors mentioned the subspecies *dahlii* SCHINZ, 1833 to be present on Rhodes.

Hemorrhois nummifer
(REUSS, 1834)

Sources: ERBER (1868 as *Zamenis hippocrepsis*); ANDERSON (1898); WERNER (1935); TORTONESE (1948 cit. ANDERSON, WETTSTEIN (1953, 1965, 1967): Rhodini; CLARK (1968); BARAN (1976); CHONDROPOULOS



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Figs. 8 - 13 (this and opposite page).

Abb. 8 - 13 (diese und gegenüberliegende Seite)

Fig. 8: Habitat at Kallithea in the northern part of the island of Rhodes where we found *Anatolacerta oertzeni*, *Lacerta trilineata*,

Chalcides ocellatus, *Platyceps najadum* and *Hemorrhois nummifer*. Photo: CH. RIEGLER.

Abb. 8: Habitat bei Kallithea im Norden der Insel Rhodos. Fundort von *Anatolacerta oertzeni*, *Lacerta trilineata*,

Chalcides ocellatus, *Platyceps najadum* und *Hemorrhois nummifer*. Photo: CH. RIEGLER.

Fig. 9: *Blanus strauchi* was only found in the northeastern part of Rhodes Island in moist habitats. Photo: CH. RIEGLER.

Abb. 9: Der Nachweis von *Blanus strauchi* gelang nur im Nordostteil der Insel in feuchten Habitaten. Photo: CH. RIEGLER.

Fig. 10: Habitat at Agios Pavlos, southern part of the island of Rhodes where we found *Bufo viridis*, *Ophisops elegans*,

Trachylepis aurata, *Laudakia stellio* and *Dolichophis jugularis*. Photo: CH. RIEGLER.

Abb. 10: Habitat bei Agios Pavlos im Süden der Insel Rhodos. Fundort von *Bufo viridis*, *Ophisops elegans*,

Trachylepis aurata, *Laudakia stellio* und *Dolichophis jugularis*. Photo: CH. RIEGLER.

Fig. 11: New to Rhodes: *Mediodactylus kotschy* from Prassonisi Peninsula in the south. Photo: P. OEFINGER.

Abb. 11: Neu für Rhodos: *Mediodactylus kotschy* von der Halbinsel Prassonisi im Süden. Photo: P. OEFINGER.

Fig. 12: *Chamaeleo chamaeleon* from Paradissi near the international airport of Rhodes. Uniqueness of document may excuse bad image quality. Photo: CH. PROY.

Abb. 12: *Chamaeleo chamaeleon* von der Ortschaft Paradissi in der Nähe des Flughafens von Rhodos. Die mangelnde Bildqualität wurde wegen des Dokumentationswertes in Kauf genommen. Photo: CH. PROY.

Fig. 13: *Testudo hermanni boettgeri* from the Peftki Peninsula, eastern Rhodes. Photo: CH. RIEGLER.

Abb. 13: *Testudo hermanni boettgeri* von der Halbinsel Peftki im östlichen Teil von Rhodos. Photo: CH. RIEGLER.

(1989 cit. WERNER, WETTSTEIN, BARAN); IOANNIDIS et al. (1994); REIFF (1995); VALAKOS et al. (2008); NHMW 20155 - Rhodini, IV.1959; 20157 - downtown of Rhodes city, 30.V.1963; 26637 - harbor basin of Rhodes city, 21.VI.1935; pers. obs. in 2004: Kalithea; LOMAN in 1986: Rhodos; NOHL in 2008: Kalithea; BILEK (pers. comm. 2004): Lindos.

The occurrence of the Coin Snake on Rhodes has been known for nearly 150 years, but all references reported few specimens only (Fig. 7; 7 sites). Near Kallithea where also NOHL (in litt. 2008) found a juvenile *H. nummifer* in February 2008 we found an adult specimen with the extraordinary total length of over 140 cm (Fig. 8). LOMAN (in litt. 2005) found a Coin Snake in June 1986 near the ancient stadium of Rhodes town. In the harbor of Lindos, another snake was slain by sailors (fide BILEK 2004). The records of this species are restricted to the northeastern part of the island.

Zamenis situla
(LINNAEUS, 1758)

Sources: CALABRESI (1923): Kattabia, Agios Isidoros, Koskino; ZAVATTARI (1929); WERNER (1930 cit. CALABRESI); BUREŠ & ZONKOW (1934); TORTONESE (1948): Rodini; WETTSTEIN (1953, 1965, 1967); BRUNO (1969); SIGG (1984); CHONDROPOULOS (1989 cit. WERNER, BUREŠ & ZONKOW, WETTSTEIN, BRUNO, SIGG); IOANNIDIS et al. (1994); REIFF (1995): Theologos; VALAKOS et al. (2008); NHMW 23850 - Villanova [= Paradisi] near Rhodes city, 1935; Iannadi, 21.V.1935; TRAPP in 2006: Profitis Ilias.

REIFF (1994) found a Leopard Snake in the village of Theologos, and TRAPP (in litt. 2008) found one in 2006 on the high plateau of the Profitis Ilias. The Leopard Snake is well mentioned for Rhodes in the literature, but was not found very often (Fig. 7; 7 sites).

Natrix natrix
(LINNAEUS, 1758)

Sources: CALABRESI (1923): Kattabia, Agios Isidoros, Koskino; WERNER (1930 cit. CALABRESI); BUREŠ

& ZONKOW (1934); TORTONESE (1948, 1973); WETTSTEIN (1953, 1965); FRAZER (1965); PIEPER (1970); CHONDROPOULOS (1989 cit. WERNER, BUREŠ & ZONKOW, TORTONESE, WETTSTEIN, PIEPER); IOANNIDIS et al. (1994); REIFF (1995); Paradisi; SCHLÜTER (2004): Archangelos; VALAKOS et al. (2008); NHMW 20513 - horticultural test plant at Villanova [=Paradisi], 25.III.1935; pers. obs. in 2004: 3 km N Apolakkia.

Only few records are available for the Grass Snake and all originate from the lower reaches of streams (Fig. 7; 9 sites). The authors found a dead adult specimen near a river in Apolakkia in the south, and REIFF (1994) recorded a Grass Snake near the estuary of Paradisi River south of the airport. The Grass Snakes belong to the subspecies *persa*, although not all show the typical stripes of this subspecies.

Natrix tessellata
(LAURENTI, 1768)

Sources: ERBER (1868); BOETTGER (1888 cit. EERBER); WERNER (1930 cit. ERBER); CLARK (1968); GRUBER (1979); CHONDROPOULOS (1989 cit. BOETTGER, WERNER, CLARK, GRUBER); IOANNIDIS et al. (1994); VALAKOS et al. (2008).

ERBER (1868) probably reported a specimen of the Dice Snake (under the name *Tropidonotus viperinus*) from Rhodes, to which many authors adopted this citation (BOETTGER 1888; WERNER 1930; CLARK 1968; GRUBER 1979; CHONDROPOULOS 1989). According to our knowledge, no further specimen of *N. tessellata* was ever found on Rhodes. We therefore have reasonable doubt regarding the occurrence of the Dice Snake in Rhodes. WERNER even writes in his paper from 1930: "... and ERBER probably mixed in his collections specimens of different islands and even of the Greek mainland." In the Aegean, Dice Snakes inhabit only the following islands: Serifos, Tinos, Lesbos, Samos and Crete (CHONDROPOULOS 1989; GRUSCHWITZ et al. 1999; VALAKOS et al. 2008). On the close Turkish

Figs. 14 - 17 (opposite page) / Abb. 14 - 17 (gegenüberliegende Seite)

Fig. 14: Dark brown to black coloured *Dolichophis* sp. from Archipolis, Rhodes. Photo: CH. RIEGLER.
Abb. 14: Dunkelbraun bis schwarz gefärbter *Dolichophis* sp. aus Archipolis, Rhodos. Photo: CH. RIEGLER.

Fig. 15: Same snake as in Fig. 16. One can see the red ventral side with black spots. Photo: TH. BADER.
Abb. 15: Dieselbe Schlange wie in Abb. 16. Man sieht die rote Bauchseite mit schwarzen Flecken.
Photo: TH. BADER.

Fig. 16: *Dolichophis* sp.. Brown-grey colored specimen from Kremasti, Rhodes. Photo: CH. RIEGLER.
Abb. 16: *Dolichophis* sp.. Graubraune Springnatter aus Kremasti, Rhodos. Photo: CH. RIEGLER.

Fig. 17: Yellow ventral side of a brown coloured *Dolichophis* sp. from Vati, Rhodes. Photo: TH. BADER.
Abb. 17: Gelbe Bauchseite eines braun gefärbten *Dolichophis* sp. aus Vati, Rhodos. Photo: TH. BADER.



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Table 1: At least three amphibian and 18 reptile taxa constitute the autochthonous herpetofauna of the Island of Rhodes. The taxa are ranked by the number of record localities representing their frequency.

Tab. 1: Zumindest drei Amphibien- und 18 Reptilienarten bilden die autochthone Herpetofauna der Insel Rhodos. Die Taxa sind nach der Anzahl der Fundstellen als Maß für ihre Häufigkeit gereiht.

Taxon	Number of record localities Anzahl der Fundstellen
<i>Laudakia stellio</i>	54
<i>Ophisops elegans</i>	51
<i>Lacerta trilineata</i>	45
<i>Bufo viridis</i>	39
<i>Anatolacerta oertzeni</i>	37 (+2)
<i>Pelophylax cerigensis</i>	24
<i>Hyla arborea</i>	22
<i>Dolichophis sp.</i>	15
<i>Chalcides ocellatus</i>	14 (+1)
<i>Ablepharus kitaibelii</i>	13
<i>Mauremys rivulata</i>	12
<i>Typhlops vermicularis</i>	11 (+1)
<i>Trachylepis aurata</i>	10
<i>Hemidactylus turcicus</i>	10
<i>Natrix natrix</i>	9
<i>Telescopus fallax</i>	9
<i>Platyceps najadum</i>	8
<i>Zamenis situla</i>	7
<i>Hemorrhois nummifer</i>	7
<i>Blanus strauchi</i>	6
<i>Mediodactylus kotschy</i>	1 (+3)

mainland *N. tessellata* populates river valleys and estuaries, while records in the hinterland are quite rare (FRANZEN et al. 2008).

Malpolon monspessulanus (HERRMANN, 1804)

Sources: IOANNIDIS et al. (1994); VALAKOS et al. (2008); KEYMAR in 1989; N of Skala Kamiros.

This snake was not mentioned in older literature. KEYMAR (in litt. 2005) collected a dead Montpellier Snake in 1989 on the road north of Skala Kamiros (Fig. 6). Also IOANNIDIS found a single individual of the Montpellier Snake on Rhodes and took it into consideration for his species list, however, the detailed location of this record couldn't be remembered by IOANNIDIS (DIMAKI in litt. 2008). One reason for the late detection could be confusion with the similar and plentiful *Dolichophis*, if the animals are only seen while taking refuge. The single individuals could of course also be introduced specimens (compare KÖHLER & HANTKE 2007). The eastern subspecies, sometimes

considered a separate species, is *M. monspessulanus insignitus* (GEOFFROY, 1827).

Telescopus fallax (FLEISCHMANN, 1831)

Sources: ERBER (1848); BEDRIAGA (1882); BOETTGER (1888 cit. ERBER); CALABRESI (1923); KAT-TABIA, Agios Isidoros, Koskino; WERNER (1930 cit. ERBER, CALABRESI); MERTENS (1959); WETTSTEIN (1952, 1953, 1965); Lindos - Stavri, Lindos; BARAN (1976); GRUBER (1979); CHONDROPOULOS (1989 cit. BOETTGER, WERNER, WETTSTEIN, BARAN, GRUBER); IOANNIDIS et al. (1994); REIFF (1994): Paradisi; VALAKOS et al. (2008); NHMW 19443 - Lindos, 27.IV. +24.V. 1963; 20110:1 (Holotype of *Telescopus fallax rhodicus*) - Monolito, 19.V.1935; 20110:2 (Paratype of *Telescopus fallax rhodicus*) - Iannadi, 22.V.1935; 29706 - Lindos, hillside above the road, 2.X.1977; ARENFELD in 2008: Ladiko Bay.

REIFF (1994) recorded a Cat Snake between Theologos and Paradisi, ARENFELD (in litt. 2008) recorded a young Cat Snake in September 2008 in the Ladiko Bay, south of Faliraki. WETTSTEIN (1952) described the subspecies *Telescopus fallax rhodicus* for Rhodes (based on two specimens from Genadio and Monolithos), which is not generally recognized (Fig. 6; 9 sites).

Vipera ammodytes (LINNAEUS, 1758)

FRAZER (1965) mentioned the following observation of a snake below the ruins of ancient Kamiros: "It was probably the Sand Viper *Vipera ammodytes meridionalis*" BOULENGER, 1903 but WETTSTEIN (1967) rectified this information: "The southern arc of the Aegean Islands formed by Crete, Karpathos and Rhodes is known for the fact that no vipers exist there. The specimen of *Vipera ammodytes meridionalis* mentioned by FRAZER in page 223 could most likely have been *Coluber ravergeri nummifer* REUSS". See also under *Montivipera xanthina* concerning the lack of venomous snakes on Rhodes.

Montivipera xanthina (GRAY, 1849)

Source: VALAKOS et al. (2008).

Several herpetologists assumed the occurrence of the Ottoman Viper for Rhodes, and VALAKOS et al. (2008) marked Rhodes as a record locality on the corresponding distribution map. BILEK (pers. comm. 2004)

assumes, that the supposed *M. xanthina* were in fact similar looking Coin Snakes (*Hemorrhois nummifer*). The island of Rhodes is famous for its lack of poisonous snakes. Legend has it that the release of deer in ancient Rhodes caused the extinction of all poisonous snakes on the island. The emblems of the City of Rhodes are the statues of a deer and a doe in the harbor, which

show the gratefulness of the population to these animals. Although *M. xanthina* occurs on many Dodecanese islands like Chalki, Symi, Tilos, Kos, Kalymnos, Leros and Patmos (CHONDROPOULOS 1989), and the Turkish mainland (FRANZEN et al. 2008), we do not consider this species to be part of the herpetofauna of Rhodes.

SPECIES LIST

The present study revealed that at least three amphibian and 18 reptilian taxa constitute the autochthonous herpetofauna of the Island of Rhodes, as they were (with the exception of *Mediodactylus kotschyi*) more or less commonly and continuously found over the last 150 years of island research, and are well represented in scientific collections (Table 1). Six more taxa (*Testudo graeca*, *Emys orbicularis*, *Chamaeleo chamaeleon*, *Pseudopus apodus*, *Malpolon monspessulanus*, *Natrix tessellata*) appear problematic, in that Rhodes would well fit into their general distribution, but despite the long herpetological research history only one or two specimens each were ever observed (not collected)

on the island. There is another group of taxa which were never found on Rhodes even though their general distribution would not a priori exclude Rhodes as a potential range area (*Lyciasalamandra helverseni*, *Bufo bufo*, *Pelobates syriacus*, *Eryx jaculus*, *Eirenis modestus*, *Montivipera xanthina*). And finally, there are species to which Rhodes is certainly not part of their present range area but were reported to occur: one of them, i.e. *Testudo hermanni*, is known from a single specimen which certainly was introduced and released or escaped, and two refer merely to reported observations (*Podarcis taurica*, *Vipera ammodytes*), which can be considered as simple misidentifications.

ACKNOWLEDGMENTS

We thank Lasse BERGENDORF (Helsingborg), Karl BILEK (Vienna), Maria DIMAKI (Athens), Peter KEYMAR (Vienna), John LOMAN (Lund), Peter OEFINGER (Düsseldorf), Christian PROY (Nettig), Gerald REIFF (Halle/Saale), Jeroen SPEYBROECK (Ghent), Benny TRAPP (Wuppertal), Matt WILSON (Valencia) for their observation data and photos and Nicola LUTZMANN (Heidelberg) and Petr NECAS (Brno) for identifying the chameleon.

Special thanks to Richard GEMEL (Vienna) for providing literature difficult to access and granting an insight into the collection of the Natural History Museum and also for important hints to references and help. Many thanks to Faron HRYNEWICH for checking the English. The society "Friends of the Natural History Museum of Vienna" is acknowledged for paying the costs of the color prints.

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DATE OF SUBMISSION: March 13, 2008

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