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A brief history of Greek herpetology

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Abstract. The development of Herpetology in Greece is examined in this paper. After a brief look at the first reports on amphibians and reptiles from antiquity, a short presentation of their deep impact on classical Greek civilization but also on present day traditions is attempted. The main part of the study is dedicated to the presentation of the major herpetologists that studied Greek herpetofauna during the last two centuries through a division into Schools according to researchers' origin. Trends in herpetological research and changes in the anthropogeography of herpetologists are also discussed. Lastly the future tasks of Greek herpetology are presented.

Climate, geological history, geographic position and the long human presence in the area are responsible for shaping the particular features of Greek herpetofauna. Around 15% of the Greek herpetofauna comprises endemic species while 16% represent the only European populations in their range.

THE STUDY OF REPTILES AND AMPHIBIANS IN ANTIQUITY

Greeks from quite early started to describe the natural environment. At the time biological sciences were considered part of philosophical studies hence it was perfectly natural for a philosopher such as Democritus to contemplate “on the Nature of Man” or to write books like the “Causes concerned with Animals” (for a presentation of Democritus' work on nature see Guthrie 1996). The very name of the discipline of herpetology derives from the Greek words *ερπετό* (reptile) and *λόγος* (science) while the term amphibian reflects the typical dual (aquatic and terrestrial) life style of frogs (from the Greek *αμφί* – both – and *βίος* – life).

The first formal Greek herpetologist was Aristotle himself. In his books on animals (History of Animals, Generation of Animals and On the Parts of Animals) the father of zoology discussed the morphology, physiology and classification of reptiles and amphibians. Nicander was fascinated by the lethal power of snakes, focusing on the venom of serpents in two of his surviving poems (*Theriaca*, *Alexipharmaca*, see Knoefel & Covi 1991).

In late antiquity Pausanias, though he wasn't a naturalist, gave interesting information on the fauna and flora in various locations in Greece through the ten books of his notorious Description of Greece (*Ελλάδος Περιήγησις*).

Therein one could find citations to the Greek herpetofauna such as the Seriphian frogs or the tortoises of Arcadia.

REPTILES AND AMPHIBIANS IN GREEK CULTURE

Snake venom and the ability for ecdysis had deeply impressed ancient Greeks who incorporated reptiles in many of their myths. Snakes were considered magical creatures, capable of both good and evil, and were associated with chthonic religious beliefs. In Minoan Crete snakes represented the underworld deities and were worshiped. Tens of statuettes depicting the Goddess of Snakes have been found in excavations all around the island. *Ophion* (from the Greek *ophis* – *όφις* meaning serpent), one of the mighty Titans, was the first ruler of Mount Olympus before he was cast down by Cronus and Rhea. According to legend the first king of Athens, *Kekrops*, was half-snake half-man (*διφνής* meaning double nature) and thanks to his wisdom he decided to offer his city (known as *Kekropeia* at the time which afterwards changed to Athens to honor the patron goddess) to Athina instead of Poseidon when the two immortals were fighting over its possession. On the other hand Medusa (or *Gorgon*) the mythical monster that had snakes instead of hair, could turn anyone who

looked at her into stone. *Perseus*, using his shield as mirror, made Medusa look at herself and then decapitated her. He then offered her head to Athina who put it on her own shield (known as *gorgoneion*) so as to petrify her enemies. A serpent-like dragon, *Python*, was sent by Hera after Leto, mother of Apollo and Artemis, to punish her for having an affair with Zeus. Young Apollo took revenge for his mother by killing *Python* at Delphi, where the serpent dwelled. Since then the priestess of the oracle was named *Pythia*. The etymology of the name derives from the verb *pythein* (πύθειν, “to rot”), referred to *Python*’s flesh in the state of decomposition. The priest of Poseidon Laocoon warned the Trojans about the Trojan Horse and tried to convince them to burn it. Athina, who was supporting the Greek army during the War of Troy, sent two snakes to strangle and kill Laocoon together with his sons.

Greeks were aware not only of the lethal power of venom but also of its healing properties. In the statues of *Hygeia*, the goddess of health (the meaning of the word in Greek), a snake is lying on her shoulders. Aesculapius, the god of medicine and son of Apollo, was carrying always his famous rod, a snake-entwined staff (the species was *Zamenis longissimus*). In his most magnificent temple in Epidaurus, that used to function as a hospital, a strange construction known as *tholos* (dome) was erected. Patients spent the night inside *tholos* together with tens of snakes that were believed to heal them. Two small snakes were coiled around Hermes wand, symbolizing the wisdom with which he spoke, since he was considered, together with Athina, god of eloquence.

A fascinating story about the symbolic role of reptiles in antiquity comes from the island of Aegina. During the period of Aegina’s naval acme (6th century B.C.) the islanders coined silver staters depicting the sea turtle *Caretta caretta*. However a terrapin (*Testudo* sp.) replaced the sea turtle when the neighboring Athens inaugurated its long period of thalassocracy in Greek seas (after 480 B.C.).

Due to the arid climate Greeks were more familiar with reptiles than amphibians. Thus only few references are known from antiquity, like the Aristophanes’ comedy “Frogs” (βάτραχοι) or the silver stater that Seriphians coined (ca 530 B.C.) to honor their local hero *Perseus* since frogs were associated with his cult (Pausanias, 2nd century A.D.). Frogs from Serifos Island were famous in antiquity for not croaking (another story linked to *Perseus* legend) and the expression “Seriphian frogs” was used as a popular proverb during ancient times for people refusing to talk.

With the prevalence of Christianity reptiles become the personification of evil, starting from the Original Sin. Saint

George and Saint Demetrius, the so called militant saints, are depicted as dragon slayers, symbolizing the triumph of Good, as expressed by the Greek-Orthodox Church, over Evil, the former idolatry faith. The Serpentine column, dedicated by Greeks in 479 B.C. to Apollo’s altar at Delphi to commemorate the victory over the Persians at the battle of Plataea, was formed by three intertwined snakes (Τρικάρηνος Όφις), meaning three-headed snake). Constantine the First moved the column to the Hippodrome of his new capital. However the people of Constantinople destroyed the higher part of the column (the heads of the snakes) since they thought it was the representation of the devil. On the other hand the Apostolic Fathers recognizing the wisdom of snakes were advising the first Christians to be “prudent as the serpent” (Ignatius of Antioch to Polycarp of Smyrna).

Traces of the ancient beliefs still echo in folklore and traditions. The presence of geckoes in a house is considered good fortune. In many households in Cyclades people used to fill with milk a small cup for the “snake of the house” (in Greek σπιτόφιδο, *Zamenis situlus*). The most amazing case though comes from the island of Cephalonia where pagan creeds survive together with christian rituals at the temple of Madonna of the Snakes (Παναγία η φιδουσα). According to the legend a monastery stood at the very same place. When pirates disembarked close to the spot and tried to conquer and harry the treasures of the monastery, nuns prayed for help and Virgin Mary sent snakes that surrounded the building and scared away the pirates. Every year at August the 15th (when Greek Orthodox Church celebrates the Dormition of Holy Mary) locals collect cat snakes (*Telescopus fallax*) days prior to the feast and put them by the icon of the Virgin. Pilgrims touch these snakes and even let them coil around their shoulders or hands since they believe that they will protect them from sickness.

GEOGRAPHY, BIOGEOGRAPHY AND SPECIES RICHNESS

Greece is one of the small European countries with a total area of around 132,000 km². However its unique location at the biogeographical crossroads of three continents, each making its distinct biological contribution, makes the country an invaluable site for biodiversity (Lymberakis & Poulakakis 2010). The rough geological mosaic encompassing mountain chains that separate the country into clearly distinct climatic zones and the large number of islands (approximately 8000, most of them in Aegean Sea) have a huge impact on the flora and the fauna (Hausdorf & Hennig 2004). Hundreds of endemic species are hosted in both the mainland and the islands highlighting the region as a hot spot of endemism.

The climate is typical Mediterranean with long, dry and hot summers and mild winters (though in the north and the mountainous parts of the country winter period could be harsh). These conditions are ideal for reptiles, which thrives in the hospitable Greek habitats but also support various amphibian species and populations. Despite the small size of the country, Greece is home to one of the richest herpetofaunas of Europe hosting 64 species of reptiles and 22 of amphibians. Ten of the reptilian species are endemic and 11 maintain their only European populations in Greece, whereas the respective figures for amphibians are 3 and 2, respectively.

The majority of Greek reptiles and amphibians has Palearctic origin and are common in most of Europe or the Balkans (e.g. *Natrix natrix* or *Bombina orientalis*). However, Greece hosts also species of Asian (e.g. *Montivipera xanthina*, *Lyciasalamandra lusitana*) or even African (*Chamaeleo africanus*) origin. Definitely the most interesting group is the one comprised of the endemic species, the majority of which are islanders, such as *Pelophylax cerigensis*, *Podarcis levandis* or *Macrovipera schweizeri*.

The range and particularities of Greek reptiles and amphibians are, in a considerable degree, the result of the recent geology of the eastern Mediterranean Basin. During the Messinian salinity crisis, the Mediterranean Sea underwent long periods of desiccation that, in Aegean Sea, led to the emergence of landmasses that become islands. The oldest Greek islands (Crete, Skyros and Karpathos) remain to this status even after the Zanelean flood. The Ice Age periods during the Pleistocene with their consecutive freezing and warming conditions had a strong impact on the area, shaping glacial refugia that harbored many cold-intolerant species, which afterwards reinvaded the rest of the Balkans (e.g. *Rana graeca*). Many islands were connected either to mainland Greece or Asia Minor as a consequence of the low sea level during the last Ice Age period. Nowadays the herpetofauna of these islands still reflects this geological incident with islands closer to Greece having a clearly "European" composition (e.g. Evvoia, Thassos), whereas those next to Asia Minor show a more "Asian" character (e.g. Lesbos, Chios, Samos). This separation between European and Asian herpetofaunas is further supported by the existence of a deep-water trench running over the Aegean Sea from southeast to northwest, separating the eastern "Asian" cluster from the western "European" one with only few exemptions. Another important geological factor is the intense volcanism of the region. The Aegean volcanic arch, spanning the southern part of the area, was formed during the Pliocene as a consequence of the northward subduction of the African plate beneath the Aegean one (Fytikas et al. 1984). Milos Archipelago, a small but extremely important in terms of en-

demism island group, was separated from the rest of the Cyclades by middle Pleistocene as a result of volcanic activity (Sondaar et al. 1986; Dermitzakis 1990).

In summary, most endemic species are concentrated to the oldest islands where the long history of isolation provided the necessary conditions for speciation. The astonishing variety of subspecies in the islands, for instance 19 for *Podarcis erhardii* and 13 for *Cyrtopodion kotschy* reflects the importance of insularity in the evolution of different morphs. In mainland Greece endemic species are located in the southernmost part of the country, Peloponnese, thanks to historical biogeographical reasons (glacial refugia) matched by a fair period of isolation.

Last, but certainly not least, humans had a significant contribution in shaping the Greek herpetofauna. In the Aegean Sea navigation started quite early (around 9th millennium B.C., Kotsakis 1990; Simmons 1991). Voyagers carried materials (e.g. marble or pottery) that offered an excellent opportunity for transportation of small-bodied species or their hidden eggs (typical examples are *Hemidactylus turcicus* and *Tarentola mauritanica* and most probably *Laudakia stellio*). In some other cases humans may deliberately transport reptiles or amphibians related to religious beliefs. Apart from dispersal, human activities favored reptiles with the deforestation of the largest part of the country, providing opportunities for thermoregulation and foraging. Thousands of kilometers of dry-stone walls all around the country, and especially in the Aegean islands, offer ideal hiding places and support thriving populations. On the other hand tourist development with its accessories (water over-pumping, wetland drainage, habitat degradation), over grazing and intensive agriculture has largely altered the landscape, influencing negatively upon reptiles and, mostly, amphibians.

THE FRENCH MOREA EXPEDITION

The Morea (the Greek vernacular name for Peloponnese) Expedition (French: *Expédition de Morée*) accomplished by the French Army at the end of the Greek War of Independence. After the naval battle of Navarino where the united Franco-Russo-British fleet destroyed the Ottoman fleet, French expeditionary corps disembarked at southern Peloponnese to secure the evacuation of the area from the Turks. Following the example of the successful Napoleon's Egyptian Campaign where a scientific committee accompanied the French troops, a scientific mission escorted the expedition in Peloponnese. The Head of the 17 experts of different disciplines that comprised the mission was the naturalist Jean Baptiste Bory de Saint-Vincent. Bory collected hundreds of plants and animals that were sent to France for further identification and classi-

fication. It was from these specimens that the herpetology of Greece began formally in 1833, when the first endemic species to Peloponnese were described by Bory and his colleague Gabriel Bibron, who also participated in the Morea expedition. Bibron worked extensively on Herpetology and helped his mentor Duméril in the publication of the first herpetological monograph *Erpétologie générale* (1834–1854) where many species distributed in Greece were described.

The Morea Expedition covered not only Peloponnese but also numerous Greek islands. The importance of this mission was crucial and later studies on Greek herpetofauna were largely based on the Expedition's observation. Bibron and Bory described in total three species (*Algyroides moreoticus*, *Podarcis peloponnesiacus* and *Ophiomorus punctatissimus*), while later Duméril and Bibron, using specimens from Corfu, described one species (*Algyroides nigropunctatus*).

THE GERMAN SCHOOL

It is widely accepted that Greek herpetology, at least during its early period, literally “spoke German”. Eminent herpetologists from Germany, Austria and Switzerland worked (and are still working) extensively on Greek reptiles and amphibians, setting the basis for herpetology in the country. Maybe the underlying reason should be sought in the first king after the War of Independence, Otto the First, son of Ludwig of Bavaria (Wittelsbach House), who brought with him hundreds of Germans to staff the administration of the new country. In this session the most important contributions in Greek herpetology were presented.

The first German naturalists who arrived in the country and presented information on Greek amphibians and reptiles were not herpetologists but ornithologists (Erhard, Reiser) or botanists (Heldreich, Herzog). Hence many of their first observations proved to be incorrect since they were not familiar with herpetological systematics.

Jacques von Bedriaga wrote the first major monograph on Greek reptiles and amphibians in 1881. After receiving his PhD Thesis from the University of Jena he started to travel very frequently to both Italy and Greece. The fruits of these trips was his “Die Amphibien und Reptilien Griechenlands” which was published in Moscow in three volumes. His special interest on lacertids is best reflected in the description of four new species, two of which are endemic to Peloponnese and Milos Island (namely *Hellenolacerta graeca*, *Podarcis milensis*, *Lacerta trilineata* and *P. erhardii*). Though Bedriaga was born in Russia, where he also took his bachelor's degree at the Uni-

versity of Moscow, he became scientifically active in Germany and published most of his works in German. That's why his name is herein included in the so-called German School.

Oskar Boettger, though never visited Greece, made the second important contribution to Greek herpetology. During the years he was infirm and remained at home, he received numerous specimens sent by his many friends and colleagues. Among them von Oertzen shipped him reptiles and amphibians he collected while in Greece. Boettger worked on this collection and later published his findings (1888, 1891).

One of the most prominent European herpetologists, Robert Mertens, worked also on the Greek herpetofauna. He realized at least three herpetological excursions in the country, which later resulted in a series of papers (1959, 1961, 1968a, 1972). Using types and specimens from the large collections of the Senckenberg Museum in Frankfurt he also wrote systematics articles (1955, 1968b). His most significant contribution though, was the publication, together with Müller (1928, 1940) and Wermuth (1960), of the European checklists of amphibians and reptiles. This book has been a useful reference for researchers of the Greek herpetofauna. At this point it is worthy of mentioning that Müller himself contributed one of the first herpetological papers on Greek herpetofauna in 1908.

Karl Buchholz and Ulrich Gruber, both curators of herpetology in the Zoologisches Forschungsmuseum Alexander Koenig (hereinafter ZFMK), dedicated a large part of their research on Greek reptiles and especially to the island populations. Buchholz undertook numerous herpetological excursions to Greece and collected many specimens (being an excellent marksmen he shot his targets from long distance). His collections were published in a series of papers on the Aegean reptiles (1960, 1961, 1962a,b). Gruber focused also on insular populations (Gruber & Fuchs 1977, Gruber 1979) and following Werner's example, specialized in the North Sporades island group (Gruber & Schultze-Westrum 1971, Gruber 1986).

Hans Schneider, one of the leading researchers of amphibians, worked closely with Sofianidou and Kyriakopoulou-Sklavounou analyzing the acoustic properties of various species of frogs (1984, 1985, 1988, 1993). Acknowledging the impact of his research on Greek herpetology he was invited as the plenary speaker at the 10th Meeting of *Societas Europea Herpetologica* in Crete in 1999 (Bioacoustic studies in European Anurans).

Many more German herpetologists, professional or amateurs, did research on Greek species and it would be impossible to mention all of them in this brief paper. In any

case it would be an omission not to mention B. Schneider who reported on the herpetofaunas of many Greek islands (e.g. 1986, 1995), A. Beutler who was interested also in insular populations (1979, Beutler & Froer 1980) and B. Trapp who investigated the Greek population of *Chamaeleo africanus* (e.g. 2003, 2004) and also wrote a book on Greek amphibians and reptiles in German (2006).

Wolfgang Böhme is maybe the last of the Mohicans of the one-time all-potent German School. His engagement with Greek herpetofauna dates back to the time he was a student at the Christian-Albrechts University of Kiel. At 1969 he traveled with a friend to the Syrian borders of Turkey. On their way back they visited Thessaloniki and planned a field trip to study the endemic species of Peloponnese. Unfortunately their old Volkswagen “beetle” let them down in Athens so they had to cancel their excursion until the engine could be fixed. However they didn’t waste their time and attempted a herpetological survey of the area surrounding Acropolis. Their persistence was rewarded with observations on *Chalcides ocellatus* and *Zamenis situlus* while they also discovered a dense population of *Lacerta trilineata* (specimens of this population can be found in the collections of ZFMK).

In 1971 Wolfgang Böhme took office as Curator of the Herpetological Collection in ZFMK. His predecessors, Karl Buchholz and Ulrich Gruber, were keenly interested in Greek herpetofauna, as mentioned above, and thus enhanced considerably the collections of the Museum. Thanks to them the newly appointed Böhme was able to immerse himself in the Greek collections during his curatorship. It was in a series of *Pseudopidalea viridis* specimens collected by Buchholz in Peloponnese that Böhme discovered two misplaced adult individuals of *Pelobates syriacus*, the first record of this species in Greece (1975).

The aborted field trip to Peloponnese finally took place in 1996, after his participation in the Congress of the Hellenic Zoological Society in Athens where he presented a paper on the Cypriot herpetofauna. During this trip Böhme went to Sparta and Mystras and observed many endemic species *in situ*. But another chance to visit Peloponnese would come from the far past.

The former director of ZFMK, the archeozoologist Günther Nobis, had a house near Pylos. During his vacations he shot a black-and-white photo of a chameleon and upon his return to Bonn gave it to Böhme. Since morphological details were not discernible, Böhme assumed it to be *C. chamaeleon* and consequently published this record in a brief note (1989). In 1997 Böhme visited Nobis so as to have a first-hand examination of the species. During this visit he met Andrea Bonetti and George Chiras who led him to the chameleon habitat where they soon de-

tected the first male individual. To their surprise instead of the typical small occipital flaps of *C. chamaeleon*, they found a tarsal spur, characteristic of the African species *C. africanus*. At the time the range of this species was believed to be restricted only to Africa. Böhme and his colleagues assumed that *C. africanus* was introduced to the area as result of the trade between Alexandria and Pylos, since the Gialova lagoon (the only place where the African chameleon is distributed in the country) is located to the exact site of the former ancient harbor of Nestor’s Palace (Böhme et al. 1998). The results were later verified with mtDNA analysis (Kosuch et al. 1999). This fascinating discovery came to corroborate the human influence on species dispersal in the Mediterranean Sea.

Together with Evgeny Roitberg and his former PhD student Andreas Schmitz, now curator of herpetology in Geneva, Böhme traveled to Greece once more in 1999 to attend the 10th Meeting of SEH in Iraklion, Crete. They made herpetological observations in Macedonia and at Mount Olympos. The last SEH Meeting in Kussadasi (2009) gave another opportunity to visit Greece. On his way back from Turkey, Böhme stopped, with his PhD student Philipp Wagner, at various localities in northeastern Greece (Thrace and Macedonia).

Last, but certainly not least, the impact of the *Handbuch der Amphibien und Reptilien Europas* (1981, 1984, 1986, 1993a) in which Böhme edited the volumes for snakes and lizards (and also contributed personally some species accounts – 1984, 1993b,c), has been catalytic for the development of herpetology in Greece. Data on ecology, systematics, physiology and behavior were for the first time gathered and accessible to researchers.

Besides the above, Wolfgang Böhme has another, more “indirect”, nonetheless important, relationship with Greek herpetology. During all the years he served as Head of the Herpetology Section in ZFMK (1971–2010) and Vice Director of the Museum, he facilitated in every possible way researchers who were working on specimens from Greece. Many Greek herpetologists visited numerous times the rich herpetological collections of the Museum and retrieved valuable information on diet, reproduction, morphology, ontogeny, intra- and inter-population variation, anatomy and phylogeny of Greek amphibians and reptiles. These data led to the publication of various scientific papers that considerably enlarged our knowledge of the Greek herpetofauna.

THE AUSTRIAN SCHOOL

Franz Werner was one of the most prolific and influential herpetologists who worked on Greek amphibians and rep-

tiles. Starting from 1894 he was an avid and consistent researcher of Greek herpetofauna and remained active till his death (1939), publishing a series of papers (1912, 1927, 1933, 1937, 1938). He was the first to describe the herpetofauna of Ioanian islands (1894) and he also expanded his studies to the Aegean Sea. Maybe his most important manuscript was the one published in English, something quite unusual for a German-speaking scientist at the time, by the University of Michigan (1930). Therein he describes the findings of the visit he made at some Aegean Islands in 1927. In this mission he had the chance to collaborate with K.H. Rechinger while informative photos shot by Prof. Schoenwetter illustrated the final paper. In his long herpetological pursuits in Greece Werner described four new species: *Lacerta anatolica*, *L. oertzeni* (a tribute to von Oertzen), *Podarcis gaigeae* (endemic to Skyros Archipelago and dedicated to Helen Gaige) and *Macrovipera schweizeri*. After his death his sons donated his huge personal collection to the Natural History Museum of Vienna, which since then is one of the wealthier in specimens coming from Greece.

Werner's pupil Otto von Wettstein followed up with enthusiasm the work of his teacher on Greek reptiles. He took over as Curator of vertebrates at the Natural History Museum of Vienna in 1920 and published his first paper on the herpetofauna of Crete in 1931. In his studies he emphasized the reptilian and amphibian populations of the Aegean islands of which he was a regular visitor. In 1942 he participated in a scientific mission to Crete that was conducted by a German Wehrmacht biological research squad. Without doubt his most important paper was the emblematic *Herpetologia Aegea* (1953). In the 182 pages of this landmark effort, Wettstein presented in the most detailed way, full of knowledge, all the information on the zoogeography of the Aegean Sea herpetofauna.

The legacy Wettstein left to the Natural History Museum of Vienna is enormous and, luckily, his interest in Greek herpetofauna survived among his successors till today. Heinz Grillitsch, the actual Head of the Herpetological Collection since 1984, investigated aspects of the Greek herpetofauna (Grillitsch & Tiedemann 1984, Grillitsch & Cabela 1990, Grillitsch & Grillitsch 1991). Within his responsibilities lies the heavy burden to maintain and preserve the huge collection, one of the greatest in Greek specimens. Werner Mayer from the molecular systematic lab of the Museum has been working on the ecology and distribution of reptiles and continues to study the phylogenetic relationships of numerous Greek lizards (Mayer 1986, 1993, Mayer & Beyerlein 2002, Mayer & Arribas 2003). Franz Tiedemann, who is collaborating closely with the Museum, has conducted numerous studies on various aspects of herpetology on Greek species (e.g. Tiedemann & Häupl 1980, 1982, Tiedemann & Grillitsch 1986).

There are many more Austrian herpetologists that need to be mentioned here like Peter Keymar, who frequently visited Greece and published papers on Greek amphibians and reptiles (1984, 1986a, b, 1988) or Thomas Bader and Christoph Riegler (2004, 2009) who described the herpetofauna composition of Rhodes Island. A special citation should be made to the very active Austrian herpetological group www.herpetofauna.at. In their excellent website one may find a wide variety of photos of Greek reptiles and amphibians since the members of the group have repeatedly visited Greece.

THE "INTERNATIONAL BRIGADES"

Besides the predominant German and Austrian Schools that shaped the history of Greek herpetology, researchers from many other European countries made important contributions to the study of amphibians and reptiles of the country.

Dodecanese islands during the first decades of the 20th century were under Italian rule and Italian naturalists described the herpetofauna of the region. Enrico Festa of the Museum of Zoology in Turin made herpetological observations in the island of Rhodes that later were published by Calabresi (1923b) who also wrote his impression of a survey on Samos Islands (1923b). At the same period Ettore Zavattari published a study on the fauna of the "Italian islands of the Aegean Sea" (1929). Augusto Cattaneo is one of the most prolific authors on the distribution of Greek reptiles and amphibians, especially in the insular country (e.g. 1984, 1997, 1999, 2007). Another Italian herpetologist who investigated the range of Greek herpetofauna is Pierangelo Crucitti (e.g. 1990).

The United Kingdom is represented by a handful of very productive herpetologists. Adrian Hailey (now at the University of West Indies, Trinidad and Tobago), who worked for a long period at the University of Thessaloniki, emphasized his research on the tortoise populations in Greece (e.g. Hailey 2000, Hailey & Willemsen 2003) while he also examined the metabolism of *Laudakia stellio* in collaboration with Nikos Loumbourdis. Richard Clark wins easily the title of the champion of publications on the distribution of Greek amphibians and reptiles. Starting from 1967 he wrote over 20 papers (e.g. 1968, 1971, 1989, 1996, 2000) covering most places of the country. Finally David Buttle traveled around Greece and published many new localities regarding the distribution of Greek herpetofauna (e.g. 1989, 1994, 1997). Nicholas Arnold with the different editions of his excellent guide on European amphibians and reptiles (1985, 2004) offered an important reference book to herpetologists working on Greek species.

In the 1970's Hans Lotze did many field trips in Greece and gave considerable information about snakes (e.g. 1974, 1977). Peter Beerli of Florida State University studied Aegean water frogs (Beerli et al. 1996) and even described two new endemic species using molecular biology tools (Beerli et al. 1994): *Pelophylax cerigensis* and *Pelophylax cretensis*. But the real star of Swiss herpetologists that involved the study of Greek species was undoubtedly Hans Schweizer, the famous "Schlangenhansi". Schweizer, an amateur herpetologist with a particular preference to vipers, had already a reputation among the European herpetological community when in 1931 visited Milos Island. After spending considerable time walking throughout the island and observing lizards and snakes, he noted the striking differences between the local and mainland herpetofaunas. He began to publish his findings (1932, 1935, 1938, 1957) and also contacted professional herpetologists around Europe, with whom he had a regular correspondence, and started sending specimens. It was from one of those samples that Müller described the endemic Milos grass snake in 1932 and dedicated it to him (*Natrix natrix schweizeri*). Thanks to Schweizer, Milos Island gained its reknown as herpetological hot spot in Mediterranean. Besides the grass snake, two more species bear Schlangenhansi's name: *Macrovipera schweizeri* and *Lacerta trilineata hansschweizeri*.

Otto Cyrén, one of the pioneers of Greek herpetology, was born in Sweden but spent many years of his life in Germany and consequently wrote in German his papers on Greek and Balkan herpetofauna (1928, 1933, 1935). Göran Nilson of Göteborg University, a viper expert, has examined various aspects of the biology of *Macrovipera schweizeri* with his Greek collaborators Dimaki, Ioannidis and Dimitropoulos (Andren et al. 1994, Nilson et al. 1999). A younger representative of Swedish herpetology is Anna Runemark of Lund University who is doing her PhD thesis on the sexual isolation between mainland and inland populations of *Podarcis gaigeae* (Runemark et al. 2008).

Two herpetologists from the Netherlands have studied the Greek herpetofauna. Ronald Willemsen focused on the study of Mediterranean tortoises (e.g. Willemsen 1991, 1999, Willemsen & Hailey 2002) while Henk Stribosch examined the distribution and ecology of lacertids (Stribosch et al. 1989, Stribosch 2001).

The Czechoslovakian Stepanek traveled to Greece and published an important contribution to the knowledge of Greek herpetofauna in 1944, along with two other papers (1934, 1938). Mario Broggi from Liechtenstein is a regular visitor to Greece and has published over 15 papers on local herpetofaunas around the country (e.g. 1978, 1988, 1997, 2009). The Danish Henrik Bringsøe is another

researcher that wrote on different species of reptiles and amphibians (e.g. 1986, 1997, 2004). Jeroen Speybroeck from Belgium has visited Greece many times and runs a well organized website with great photographs of Greek amphibians and reptiles (<http://www.hylawerkgroep.be/jeroen>).

GREEKS ON GREEK HERPETOLOGY

Until the late 1960's only foreign scientists, mostly from Central Europe, were researching on the Greek herpetofauna. In 1968 John Ondrias of the University of Patras (which hosts the oldest School of Biology in Greece) published the first list of amphibians and reptiles. That was the starting point that instigated many Greek zoologists to get involved in herpetological studies. Theodora Sofianidou of the University of Thessaloniki carried out the first dissertation on herpetology in 1977. Since then 18 researchers defended their PhD theses on herpetological subjects. Namely (in order of seniority): Loumbourdis (1981), Kyriakopoulou-Sklavounou (1983), Xyda (1983), Chondropoulos (1984), Tzannetatos-Polymeni (1988), Valakos (1990), Asimakopoulos (1992), Maragou (1997), Adamopoulou (1999), Vassara (1999), Kassapidis (2001), Poulakakis (2003), Pafilis (2003), Tsiora (2003), Sotiropoulos (2004), Mantziou (2006), Dimaki (2007) and Simou (2009).

Bassilis Chondropoulos published the checklists of Greek lizards and snakes in 1986 and 1989 respectively. These papers remained for a long period the most dependable source for the distribution of the Greek herpetofauna. Sofianidou wrote the first complete herpetological monograph in Greek in 1999 on *Testudo marginata*. In 2000 Achilles Dimitropoulos and Yannis Ioannides published their work on the reptiles of Greece and Cyprus (in Greek), the first herpetological book to appear in Greece.

Nowadays Greek herpetologists are working under the auspices of Universities, non-governmental organizations and Museums. The major groups of herpetological research are located at three Universities. At the University of Athens (the oldest in the country) Professors of Ecology Ioannis Matsakis and Moisis Mylonas though not herpetologists encourage young people to work in the field and do indepth research during preparations of their dissertation. Rosa Maria Tzannetatos-Polymeni and Sratiss Valakos, pupils of the aforementioned, became faculty in 1990 and 1992 respectively and with their turn supervised new herpetological PhD theses. Tzannetatos-Polymeni (assistant professor) is an expert on both *Lyciasalamandra* species and is actually supervising a PhD thesis on the endemic Helversen's salamander (Karpathos and Kasos islands). Valakos (associate professor) laid a foundation for an active group that has already produced five dis-

sertations while two more are in process. Together with colleagues from other institutions he published an accomplished guide for the amphibians and reptiles of Greece (in English) in 2008. Earlier, with his collaborators, wrote the first volume on a local herpetofauna (2004, in both Greek and English). His research focuses on the environmental physiology and phylogeny of lacertid lizards (e.g. Valakos 1989, Valakos & Mylonas 1992, Valakos et al. 2007). Angeliki Xyda, former faculty (now retired), conducted studies on the ecology of *Laudakia stellio* (e.g. 1986).

Professor Mylonas moved to the University of Crete at 1992 and set the basis for a new herpetological nucleus. Three dissertations have been completed so far whereas more PhD candidates are still working on their theses. Petros Lymberakis, curator of vertebrates at the Natural History Museum of Crete (belonging to the University of Crete) deals with numerous aspects of herpetology (e.g. Lymberakis et al. 2007, 2008). Nikos Poulakakis (assistant professor) has worked extensively on the reconstruction of the phylogenetic histories of various amphibians and reptiles (e.g. Poulakakis et al. 2003, 2005a, b, 2008).

At the Aristotelian University of Thessaloniki the research group of Sofianidou and Kyriakopoulou-Sklavounou began a series of papers on frogs in collaboration with Hans Schneider. Fruit of their work, based on bioacoustics, was the description of a new species (*Pelophylax epeiroticus* – 1984). Sofianidou (now retired) supervised two dissertations and worked mainly with amphibians (e.g. Sofianidou & Kyriakopoulou-Sklavounou 1983, Sofianidou 1996). She was also one of the editors and main contributors to the Atlas of Amphibians and Reptiles in Europe (Gasc et al. 1997). Kyriakopoulou-Sklavounou (associate professor) supervised one PhD thesis while studying life-history traits and genetic differentiation of Greek frogs (e.g. Kyriakopoulou-Sklavounou 1992, Kyriakopoulou-Sklavounou et al. 2000, 2003). Nikos Loumbourdis (professor) studies the metabolism and overall physiology of amphibians and reptiles (e.g. Loumbourdis & Hailey 1985, Loumbourdis 1997, 2005, 2007).

Besides the aforementioned foundations the Goulandris Natural History Museum hosts a group of active herpetologists: Dimitropoulos who contributed many new localities for reptiles (e.g. 1986, 1990), Ioannides wrote on the herpetofaunas of numerous areas and also on the ecology of reptiles (e.g. Ioannides et al. 1994, Ioannides & Bousbouras 1997) and Maria Dimaki, who has focused on chameleons (e.g. Dimaki et al. 2000a,b). Panayiota Maragou of the WWF Hellas studies the ecology of lacertids endemic to Peloponnese (e.g. Maragou et al. 1996, 1999), while Chloe Adamopoulou (Zoological Museum

of the University of Athens) is emphasizing on *Podarcis milensis* (e.g. Adamopoulou et al. 1999, Adamopoulou & Valakos 2005). Dimitris Margaritoulis of *Archelon* did an important work on the conservation of sea turtles (e.g. Margaritoulis et al. 1986, Margaritoulis 2005).

US based Greek Johannes Foufopoulos (assistant professor, University of Michigan) is investigating the evolution and physiological adaptations of lizards on islands of Aegean Sea (e.g. Foufopoulos 1997, Foufopoulos & Ives 1999) in close collaboration with herpetologists in Greece. Recently two more members of the Greek herpetological community became faculty: Konstantinos Sotiropoulos (University of Ioannina, lecturer) who studies genetic differentiation and phylogenetic relations in newts (e.g. Sotiropoulos et al. 2001, 2008a,b, 2009) and Panayiotis Pafilis (University of Athens, assistant professor), focusing on functional ecology and conservation physiology of lacertids (e.g. Pafilis et al. 2005, 2007, 2008, 2009).

The increasing number of people involved in herpetological studies in Greece is also reflected in the organization of three Congresses: the First (1992) and the Sixth (2008) Symposia on the Lacertids of the Mediterranean Basin (both held in Lesbos Island) and the 10th Ordinary General Meeting of SEH in Crete (1999). Some of the contributions presented during the last were published in a volume under the general title *Hereptologia Candiana* (Lymberakis et al. 2001).

The threatened species of the Greek herpetofauna have been recorded in the two editions of the Red Data Book of threatened species of Greece. In the first edition (Karandinos & Paraschi 1992) eight species (seven reptiles and one salamander) are listed as threatened while in the second edition (Legakis & Maragou 2009) twelve reptiles and six amphibians are characterized as critically endangered, endangered or vulnerable.

An important step in the history of Greek Herpetology was the foundation of the Hellenic Herpetological Society (*Societas Herpetologica Hellenica*, Ελληνική Ερπετολογική Εταιρεία – <http://www.elerpe.org>) in 2000. The members of the Society are scientists who are involved in the study of amphibians and reptiles but also amateur herpetologists (as non-full members) who are interested in conservation and natural history. At this point *Archelon*, the Sea Turtle Protection Society of Greece (<http://www.archelon.gr>), should be mentioned as well. Thanks to the efforts of this pioneer group (founded on early 1980's), Greek public opinion was sensitized towards the conservation of *Caretta caretta*.

PAST, PRESENT AND FUTURE OF GREEK HERPETOLOGY

Unlike herpetologies of other European countries, herpetological publications in Greece up to the 1970's dealt with systematics, focusing on the discovery and description of new species. The majority of studies concerned the distribution of various taxa and the description of local herpetofaunas, with emphasis on the islands. Nonetheless, during the last decade, herpetologists are covering successfully a wide spectrum of biological aspects including molecular biology, genetic differentiation, environmental physiology, functional ecology, immunology and the overall picture has been reversed (Fig. 1).

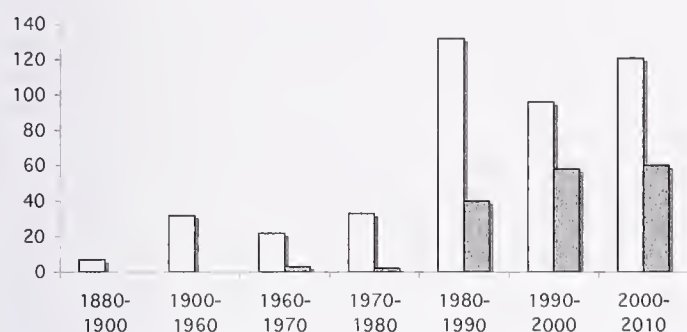


Fig. 1. Histogram of publications (total 606 papers) made by foreign (light bar) and Greek herpetologists (spotted bar).

The number of species inhabiting Greece has been raised throughout the years (see Appendix I). During the first two decades of 19th century only the species described by the classical taxonomists (Linnaeus, Laurenti and Pallas) were known from Greece. The French Morea Expedition led to the description of the first endemic species and since then the study of the Greek herpetofauna became methodical and continuous. New species are rather rare and their description is based on cutting edge technology tools, like molecular inference, paired though with typical anatomical-morphological studies (e.g. Becrli et al. 1994). This is also the case for the recently described lacertids *Podarcis cretensis* and *P. levendis*, the first Greek species that were published by an exclusively Greek group (Lymberakis et al. 2008).

Until today foreign researchers were publishing most of the papers on the Greek herpetofauna. However this trend has changed during the last 20 years and today the scientific work of Greek herpetologists has yielded a continuously growing number of papers (Fig. 2). It is important to mention that most Greek researchers are working in collaboration with colleagues from Europe and North Amer-

ica, keeping alive the international interest for the Greek herpetofauna and exchanging ideas and methods.

Habitat degradation, environmental pollution, introduced species and the non-stop, greedy development of tourism (principal source of money for Greek economy) stress the imperious need for conservation studies in the immediate future. Though knowledge of species distribution is in satisfactory level, the evaluation of populations' status is still very poor. Amphibian and fresh water turtle populations are known to decrease as a consequence of water pollution and the desiccation of water bodies. The problem is much more intense in the islands because of tourism-related activities (excessive withdrawal of groundwater and construction projects on wetlands areas). Reptile populations are threatened by wildfires that the last 10 years destroyed a significant part of Greek forests and also, in the case of small islets, by overgrazing. Greece hosts some very important nesting beaches for *Caretta caretta*, endangered as well by tourism and fishing. In order to protect and maintain one of the richest European herpetofaunas special conservation projects should be undertaken shortly with the contribution of herpetologists from all fields.

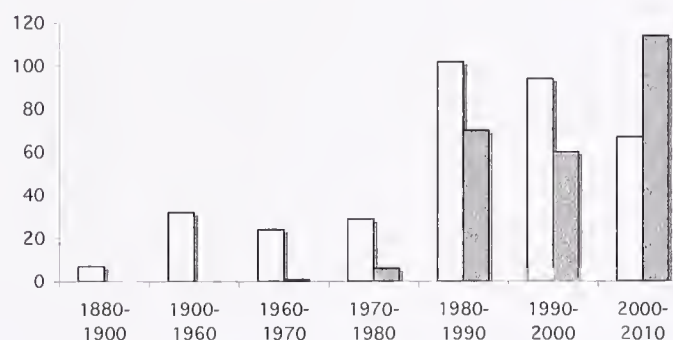


Fig. 2. Chart of publications concerning systematics and distribution (light bar) and non-systematic and distributional records (spotted bar) of a total of 606 papers.

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APPENDIX

Table 1. List of species known from Greece with distribution and date of original description.

Date	Species	Author	Range	Group
1758	<i>Anguis fragilis</i>	Linnaeus	Mainland Greece, Thassos and Corfu islands	Rept: Anguidae
1758	<i>Bombina variegata</i>	Linnaeus	Mainland Greece, not in Peloponnese	Amph: Discoglossidae
1758	<i>Bufo bufo</i>	Linnaeus	Mainland Greece and large Aegean islands	Amph: Bufonidae
1758	<i>Caretta caretta</i>	Linnaeus	All Greek seas	Rept: Cheloniidae
1758	<i>Chamaeleo chamaeleon</i>	Linnaeus	Chios and Samos Islands	Rept: Chamaeleonidae
1758	<i>Chelonia mydas</i>	Linnaeus	All Greek seas	Rept: Cheloniidae
1758	<i>Dolichophis jugularis</i>	Linnaeus	Islands of southeastern Aegean Sea	Rept: Colubridae
1758	<i>Emys orbicularis</i>	Linnaeus	Mainland Greece, Samos, Samothraki, Kos, Lesvos and Evvoia islands	Rept: Emydidae
1758	<i>Eryx jaculus</i>	Linnaeus	Throughout the country excluding Crete	Rept: Boidae
1758	<i>Hemidactylus turcicus</i>	Linnaeus	Throughout the country	Rept: Gekkonidae
1758	<i>Hyla arborea</i>	Linnaeus	Mainland Greece and large islands	Amph: Hylidae
1758	<i>Lacerta agilis</i>	Linnaeus	Northern borders in high elevations	Rept: Lacertidae
1758	<i>Landakia stellio</i>	Linnaeus	<u>Only European population</u> Eastern Aegean Sea Islands, Corfu, Thessaloniki and central Cyclades	Rept: Agamidae
1758	<i>Lissotriton vulgaris</i>	Linnaeus	Mainland Greece and large Ionian islands	Amph: Salamandridae
1758	<i>Natrix natrix</i>	Linnaeus	Throughout the country excluding Crete	Rept: Colubridae
1758	<i>Rana temporaria</i>	Linnaeus	Northern borders with Bulgaria	Amph: Ranidae
1758	<i>Salamandra salamandra</i>	Linnaeus	Mainland Greece	Amph: Salamandridae
1758	<i>Tarentola mauritanica</i>	Linnaeus	Western Peloponnese, Crete and Ionian Islands	Rept: Gekkonidae
1758	<i>Testudo graeca</i>	Linnaeus	Mainland Greece and many islands	Rept: Testudinidae
1758	<i>Trionyx triunguis</i>	Forsskal	Introduced, Kos island	Rept: Trionychidae
1758	<i>Trachylepis auratus</i>	Linnaeus	Rhodes, Kos, Symi and Samos islands	Rept: Scincidae
1758	<i>Vipera ammodytes</i>	Linnaeus	Throughout the country excluding Crete, Milos Archipelago and eastern Aegean Sea islands	Rept: Viperidae
1758	<i>Vipera berus</i>	Linnaeus	Macedonia and Thrace in high elevations	Rept: Viperidae
1758	<i>Zamenis situlus</i>	Linnaeus	Throughout the country	Rept: Colubridae
1761	<i>Bombina bombina</i>	Linnaeus	Borders with Bulgaria, River Evros	Amph: Discoglossidae
1761	<i>Dermochelys coriacea</i>	Vandelli	All Greek seas	Rept: Dermochelyidae
1768	<i>Chamaeleo africanus</i>	Laurenti	<u>Only European population</u> , a restricted zone in southeastern Peloponnese	Rept: Chamaeleonidae
1768	<i>Coronella austriaca</i>	Laurenti	Epirus, Macedonia, Thrace, Thassos and Samothraki islands	Rept: Colubridae
1768	<i>Hierophis gemonensis</i>	Laurenti	Throughout mainland Greece excluding Macedonia and Epirus, Ionian islands and Crete	Rept: Colubridae

Date	Species	Author	Range	Group
1768	<i>Lacerta viridis</i>	Laurenti	Mainland Greece excluding Peloponnese	Rept: Lacertidae
1768	<i>Mesotriton alpestris</i>	Laurenti	Mainland Greece	Amph: Salamandridae
1768	<i>Natrix tessellata</i>	Laurenti	Throughout the mainland country, Crete and some Aegean and Ionian islands	Rept: Colubridae
1768	<i>Podarcis muralis</i>	Laurenti	Throughout mainland Greece and Thassos island	Rept: Lacertidae
1768	<i>Pseudepidalea viridis</i>	Laurenti	Mainland and insular Greece	Amph: Bufonidae
1768	<i>Triturus carnifex</i>	Laurenti	Epirus, Macedonia and Corfu island	Amph: Salamandridae
1768	<i>Zamenis longissimus</i>	Laurenti	Throughout the mainland country, Corfu and Paxoi islands	Rept: Colubridae
1774	<i>Pelophylax ridibundus</i>	Pallas	Eastern Macedonia and Thrace	Amph: Ranidae
1775	<i>Chalcides ocellatus</i>	Forsskal	Attica and close islands, Crete, eastern Peloponnese	Rept: Scincidae
1775	<i>Pseudopus apodus</i>	Pallas	Mainland Greece and in many large islands	Rept: Anguidae
1789	<i>Dolichophis caspius</i>	Gmelin	Throughout the country excluding Crete, Rhodes and the majority of Peloponnese	Rept: Colubridae
1789	<i>Elaphe quatorlineata</i>	Lacépède	Throughout the country excluding Crete and Rhodes	Rept: Colubridae
1789	<i>Emrotestudo hermanni</i>	Gmelin	Mainland Greece, Zakynthos, Cephalonia, Corfu and Evvoia islands	Rept: Testudinidae
1789	<i>Hierophis viridiflavus</i>	Lacépède	Introduced, Gyarus Island	Rept: Colubridae
1789	<i>Platycephalus najas</i>	Gmelin	Throughout the mainland country and in some Aegean islands	Rept: Colubridae
1795	<i>Testudo marginata</i>	Schoepff	Endemic , Mainland Greece excluding Thrace and many Aegean islands	Rept: Testudinidae
1802	<i>Rana catesbeiana</i>	Shaw	Introduced, Crete	Amph: Ranidae
1804	<i>Malpolon monspessulanus</i>	Hermann	Throughout the country excluding Crete and Cyclades	Rept: Colubridae
1814	<i>Elaphe sauromates</i>	Pallas	Thrace and Thassos island	Rept: Colubridae
1814	<i>Podarcis tauricus</i>	Pallas	Throughout mainland Greece and Ionian islands	Rept: Lacertidae
1820	<i>Typhlops vermicularis</i>	Merrem	Throughout the country excluding Crete	Rept: Typhlopidae
1831	<i>Telescopus fallax</i>	Fleischmann	Throughout the country	Rept: Colubridae
1832	<i>Ophisops elegans</i>	Ménétriés	<u>Only European population</u> , islands of northeastern Aegean Sea	Rept: Lacertidae
1833	<i>Ablepharus kitaibelii</i>	Bibron & Bory	Throughout the country / terra typica in Greece	Rept: Scincidae
1833	<i>Algyroides moreoticus</i>	Bibron & Bory	Endemic , Peloponnese and few Ionian Islands	Rept: Lacertidae
1833	<i>Mauremys rivulata</i>	Valenciennes	Throughout the country	Rept: Geoemydidae
1833	<i>Ophiomorus punctatissimus</i>	Bibron & Bory	<u>Only European population</u> , Peloponnese, Kythira and Kastelorizo islands / terra typica in Greece	Rept: Scincidae
1834	<i>Darevskia praticola</i>	Evermann	Eastern Thrace near river Evros	Rept: Lacertidae
1834	<i>Hemorrhois nummifer</i>	Reuss	<u>Only European population</u> , Islands of southeastern Aegean Sea	Rept: Colubridae
1833	<i>Podarcis peloponnesiacus</i>	Bibron & Bory	Endemic , Peloponnese / terra typica in Greece	Rept: Lacertidae
1835	<i>Vipera ursinii</i>	Bonaparte	Central and northern Greece in high elevations	Rept: Viperidae
1838	<i>Eirenis modestus</i>	Martin	<u>Only European population</u> , Thrace and eastern Aegean Sea islands	Rept: Colubridae
1839	<i>Algyroides nigropunctatus</i>	Duméril & Bibron	Western mainland Greece (excluding Peloponnese) and Ionian Islands / terra typica in Greece	Rept: Lacertidae
1840	<i>Rana dalmatina</i>	Bonaparte	Discontinuous range in mainland Greece	Amph: Ranidae

Date	Species	Author	Range	Group
1849	<i>Montivipera xanthina</i>	Gray	<u>Only European population</u> , Thrace and eastern Aegean Sea islands	Rept: Viperidae
1870	<i>Cyrtopodion kotschy</i>	Steindachner	Throughout the country	Rept: Gekkonidae
1870	<i>Triturus karelinii</i>	Strauch	Macedonia and Thrace	Amph: Salamandridae
1876	<i>Podarcis erhardii</i>	Bedriaga	Throughout mainland Greece, Sporades and Cyclades / terra typica in Greece	Rept: Lacertidae
1881	<i>Hellenolacerta graeca</i>	Bedriaga	Endemic , Peloponnese	Rept: Lacertidae
1882	<i>Pelophylax bedriagae</i>	Camerano	River Evros, east Aegean Islands	Amph: Ranidae
1882	<i>Podarcis milensis</i>	Bedriaga	Endemic , Milos Arhipelago / terra typica in Greece	Rept: Lacertidae
1884	<i>Blanus strauchi</i>	Bedriaga	<u>Only European population</u> , Islands of southeastern Aegean Sea	Rept: Amphisbaenidae
1886	<i>Lacerta trilineata</i>	Bedriaga	Throughout the country / terra typica in Greece	Rept: Lacertidae
1889	<i>Pelobates syriacus</i>	Boettger	Localities in northern Greece and Peloponnese, Lesbos island	Amph: Pelobatidae
1891	<i>Lyciasalamandra huschani</i>	Steindachner	<u>Only European population</u> , Kastellorizo island	Amph: Salamandridae
1891	<i>Rana graeca</i>	Boulenger	Mainland Greece	Amph: Ranidae
1894	<i>Anguis cephallonicus</i>	Werner	Endemic , Peloponnese, Ithaca, Cephalonia and Zakynthos islands	Rept: Anguidae
1900	<i>Anatololacerta anatolica</i>	Werner	<u>Only European population</u> , Samos island / terra typica in Greece	Rept: Lacertidae
1904	<i>Anatololacerta oertzeni</i>	Werner	<u>Only European population</u> , Ikaria, Symi and Rhodes islands / terra typica in Greece	Rept: Lacertidae
1930	<i>Podarcis gaigeae</i>	Werner	Endemic , Skyros Arhipelago / terra typica in Greece	Rept: Lacertidae
1935	<i>Macrovipera schweizeri</i>	Werner	Endemic , Milos Archipelago and Siphnos island / terra typica in Greece	Rept: Viperidae
1940	<i>Pelophylax kurtmuelleri</i>	Gayda	Mainland Greece, Thassos and Zakynthos islands, most Cycladic islands	Amph: Ranidae
1963	<i>Lyciasalamandra helverseni</i>	Pieper	Endemic , Karpathos, Kassos and Saria islands / terra typica in Greece	Amph: Salamandridae
1984	<i>Pelophylax epiroticus</i>	Schneider, Sofianidou & Kyriakopoulou- Sklavounou	Western mainland Greece	Amph: Ranidae
1994	<i>Pelophylax cerigensis</i>	Beerli, Hotz, & Uzzell	Endemic , Karpathos and Tunnet, Heppich	Amph: Ranidae Rhodes islands / terra typica in Greece
1994	<i>Pelophylax cretensis</i>	Beerli, Hotz, Tunnet, Heppich & Uzzell	Endemic , Crete / terra typica in Greece	Amph: Ranidae
2008	<i>Podarcis cretensis</i>	Lymberakis, Poulakakis, Kaliontzopoulou, Mylonas & Valakos	Endemic , Crete / terra typica in Greece	Rept: Lacertidae
2008	<i>Podarcis levendis</i>	Lymberakis, Poulakakis, Kaliontzopoulou, Mylonas & Valakos	Endemic , islets Pori and Lagouvardos close to Antikythira / terra typica in Greece	Rept: Lacertidae

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