
Herpetological observations on the Greek islands of Kefallinia and Zakynthos

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ACQUIRING information on the herpetofauna of Kefallinia and neighbouring islands is somewhat difficult, and when this information is located, it is not in plentiful supply. Very little has been published on reptiles and amphibians in the Ionian Islands, except Corfu, probably due to the variety of species present there. Relatively recent contributions on the islands of Kefallinia and Zakynthos include that of Clark (1970), "*Observations of the lizard and snake fauna of the islands Kephallinia and Zakynthos, Ionian Sea, Greece*", and also of significance is that by Keymar (1986), "*Amphibians of the Ionian region: their origin, distribution and future*". Mention must also be made of D. Kock, whose work elsewhere in the Ionian group is also considerable. One of his papers "*Zwei Schlangen neu für Kephallinia, Ionische Inseln, Grieschenland*" describes the first records of two species on Kefallinia. These islands have developed a stronger summer tourism schedule and they are becoming more popular with holidaymakers. Zakynthos in particular has suffered greatly from the effects of tourism and many species on this island are in apparent decline (pers. obs.). Kefallinia is yet to develop large tourist centres but it is perhaps only a matter of time before this island too suffers in the same way others have from development and construction destroying animal's habitats. The aim of this article is to give a better view and understanding of species composition on the two islands, and provide further information on abundance and distribution. Results are based on a number of field visits undertaken by the author in June 2003 (8th–22nd), May 2004 (1st–15th), and May 2005 (5th–12th) respectively, most time being spent on Kefallinia.

GEOGRAPHY

Kefallinia is the largest of the Ionian Islands and is almost twice the size of neighbouring Lefkada, with a distance of 90 kilometres from the Skala region in the far southeast to Fiskardo at its most northerly point. The island has very cold winters, contrasted by very hot, dry summers during which – as elsewhere in Greece – the majority of water sources dry-out. Kefallinia is a mountainous island, and is generally drier than others in the Ionian group. The most evident and impressive peak is Mount Ainos, which reaches a height of almost 1630 metres. This mountain is a National Park and was declared so in 1962, not due to its herpetofauna but the Cephalonian fir (*Abies cephalonica*), which covers the majority of the National Park. The altitudinal range over which the mountain extends includes habitats from rocky hillsides, humid forests comprised of the endemic fir and not surprisingly the majority of the island's reptiles are recorded within the National Park. Other prominent habitats on Kefallinia include vast expanses of agricultural land, mainly consisting of olive-groves, and less frequently, vineyards. The southern part of the island contains the most continuous areas of agricultural land, and is abruptly contrasted to the north by the slopes of Mount Ainos. Water sources are particularly difficult to come by on Kefallonia, although the large lagoon area situated in the island's capital Argostoli provides habitat for the Loggerhead sea turtle (*Caretta caretta*). During the spring there are freshwater streams that provide habitat for vast numbers of amphibians during the mating season, but once the summer approaches the majority of these dry-out, making amphibians more difficult to track down. Notwithstanding this, the majority of toads (*Bufo* spp.) can be found commonly on



Figure 1. The resorts of Kalamaki and Laganas, despite continuing development, still provide habitat for most recorded species on Zakynthos. All photographs © M. Wilson.



Figure 2. The most common amphibian of the Ionian islands, *Rana ridibunda* (Marsh frog) is found in most freshwater habitats on both Zakynthos and Kefallinia.



Figure 3. *Podarcis taurica ionica*, a widespread, common lizard on both islands.



Figure 4. The Moorish gecko (*Tarentola mauritanica*), despite being an introduced species on Kefallinia and Zakynthos, is one of the most common reptiles.



Figure 5. *Algyroides nigropunctatus kephallithacius*, occupies a small range of just three islands, Kefallinia, Ithaca and Lefkas.

agricultural land, near human habitation. The island does have some permanent fresh-water sources; these are large ponds situated mostly on the eastern side at Koulourata and Agios Nikolaos.

Zakynthos is the third largest of the Ionian group and is a fertile island with an abundance of lush green vegetation. The island is 406 sq km in area and triangular in shape with its apex pointing northwest. Geographically, the ground surface can be divided into three parts. The first part north to south is Cape Skinari, a sparsely populated area dominated by Mt Vrachionas, which reaches a height of 756 m. The middle part starts from the north, from the bay of Alikes and ends at the bay of Laganas, taking in the plain of the town of Zakynthos. Here it is flat, and contains expanses of

agricultural land, where most of the island's 400,000 inhabitants can be found. The third part comprises the eastern and south-eastern side of the island, up to the southern cape Yeraki, including Mt Skopos (492 m) and its foothills. Rivers flow along the southern bay of Laganas, and lakes at Alikes and Keri provide freshwater habitats for some species.

SPECIES ACCOUNTS

Hyla arborea arborea (L.)

This species, a well-known member of Greece's amphibian fauna, is surprisingly known from perhaps only one or two records on Kefallinia. Keymar (1986) questioned its presence on the island, but confirmed its occurrence on Zakynthos. Specimens were found and heard by myself on both



Figure 6 (top). *Elaphe quatuorlineata* is not uncommon in southern Zakynthos. **Figure 7** (lower left). *Malpolon monspessulanus*, a very common species on Kefallinia. **Figure 8** (lower right). Due to shortage of fresh water sources the future of *Emys orbicularis* (pictured) on Zakynthos, and *Mauremys rivulata* on Kefallinia is uncertain.

islands. On Zakynthos, examples were found near Laganas bay on the south coast, as well as further inland at the villages of Moyzakioy and Ampelokipi. DOR (dead on road) specimens were also observed near to a small church in the same area. Loud calls were heard every night at my Kalamaki and Gerekas accommodations, as well as the stream passing through Laganas leading to the main beach area. In particular, near to the main Kalamaki road, the chorus was especially loud and persistent, denying me much sleep as the frogs seemed to be located in a nearby garden. On Kefallinia this species was scarcer, the only examples found being at the southern lush area of Livathos, where there are many small villages. Strangely the only water sources seen in the area were roadside ditches that had already begun to dry out.

Bufo bufo spinosus (L.)

Even more so than the previous species, records of this toad from the southern Ionian are scarce. However, examples were found on both islands, especially Kefallinia. On this island the species was recorded mostly from specimens found dead in dry remote areas, these being near to dry streambeds near to lake Ag. Nikolaos, where six very large dead specimens were found. These appeared to have died due to hot, dry conditions of which this species is usually quite tolerant, as all were heavily emaciated. A 15 cm adult was found hiding within a dry stone wall close to Lake Avithos one evening. A single DOR adult toad was found near to the village of Vassilikos on Zakynthos Island where the species appeared less abundant.

Bufo viridis viridis (Laurenti)

As elsewhere in the northern Ionian, being a common species on Corfu, this toad was abundant in agricultural areas of both islands, preferring flat regions on the south coast. It was evident however over much of both islands. On Kefallinia several specimens were observed within the Livathos region and surrounding villages, as well as many toadlets in small sand dunes at Katelios and within a dried out river bed passing through the town of Lixouri in the western peninsula. Tadpoles were also seen at most minor water sources in the eastern area of the island. Similar habitats were observed on Zakynthos, particularly the flat regions near to the resorts of Laganas and Kalamaki, where several

toads were found, as well as many other animals killed by vehicles.

Rana ridibunda (Pallas). Figure 2.

A common frog on both islands, found wherever temporary or minor fresh water sources were available. Its abundance did vary, however. This species was observed in relative abundance at marshes near to the village of Zola on Kefallinia, as well as in roadside ditches near Svoronata and the airport boundary fence. Examples were also found at the few remaining areas of water in the Lixouri river. Streams in the eastern areas of the island also contained a relative abundance of frogs, but not however compared to populations in such areas on Corfu or the adjacent mainland. On Zakynthos this frog was often encountered within concrete cisterns, many of which appeared to be in imminent threat of destruction due to building work. Roadside ditches at the southern inland villages were also utilised by this species, being most abundant within the Laganas river. Specimens were also seen at Gerekas, in garden ponds.

Triturus vulgaris graecus (L.)

The only tailed amphibian known from the southern Ionian was recorded only on Kefallinia; its presence on Zakynthos remains unknown. Examples were mostly still in larval stages at Lake Avithos and within roadside ditches at Svoronata, where an adult was also found.

Podarcis taurica ionica (Pallas). Figure 3.

This was a very common species on both islands, being found in almost all locations, including the capital cities of Argostoli and Zakynthos town. On Kefallinia it was most abundant close to sea level and in coastal areas; it became scarcer once a certain altitude was attained on Mount Ainos, where only occasional individuals were seen. Animals were observed mating within the valley of Zervata, as well as near to my apartment balcony in Svoronata. Many specimens were also found killed on the roads and path edges. This species was found to be most common within the flat coastal areas of southern Zakynthos, especially along road edges passing through inland villages near Laganas. It was found at every location visited, including Keri Lake, Gerekas, Zakynthos town and Argassi, all being well inhabited tourist areas. However, when

cloudy weather was apparent very few Wall lizards were encountered, most often heard rustling in bushes near to the path edges on which they often bask, waiting for the sunlight to return.

Algyroides nigropunctatus kephallithacius (Duméril and Bibron). Figure 5.

Unlike the previous species, this lizard is found only on Kefallinia, where the subspecies *kephallithacius* occurs (also found on Ithaca and Lefkas). Observations of specimens have previously been reported from Zakynthos, but it seems likely that these were in error (*A. nigropunctatus* is absent from the adjacent mainland). Both males and females have differing characteristics to those found on Corfu and areas of northern Greece. The distribution of this species was quite patchy, and appeared to be far less abundant. In contrast to my observations on Corfu, it was not found near human habitation, being most common within shady valleys near streams, and was often found coniferous forest basking in patches of sunlight penetrating through the trees. Most specimens were seen basking on tree trunks and low stone walls. Some were found in olive-groves in the valley of Zervata, these again being well shaded and away from human habitation. The species also seemed to prefer higher altitudes well above sea level, being found at a height of 1,200m on Mt. Ainos in well shaded *Abies* forest, and was relatively common where sufficient sunlight was able to penetrate through the trees.

Algyroides moreoticus (Bibron & Bory de Saint-Vincent)

A common lizard on both islands, being a representative of the Peloponnesian herpetofauna, this species would appear to be widespread and abundant given the right conditions. It has previously been reported from both islands by Clark (1970), who found specimens at Zervata and Valsamata on Kefallinia and at the village of Volimai on Zakynthos.

On both islands it was found to be most abundant during cloudy weather and in late evening, especially around dusk. Principal habitats were path edges in agricultural areas near the coast. On Kefallinia these habits were noted with the area

of Livathos, where several males and females were seen together. Males lacked the white markings typical of specimens in reproductive condition, these markings instead often being green or yellow. Females were observed at higher altitudes (1,200m) on Mt Ainos. As *A. nigropunctatus* also occurs on Kefallinia, this species was more often found in habited areas, even behind well-used beaches and on heath-land, where *A. nigropunctatus* was absent.

It was generally less abundant on Zakynthos, possibly due to warm weather during the trip. Most animals were seen one one overcast day.

Lacerta trilineata trilineata (Bedriaga)

Despite being a well-known and common member of Greece's herpetofauna, this species was surprisingly uncommon on both Kefallinia and Zakynthos. Clark (1970) did not report finding this species on Zakynthos, whereas a few animals were seen on Kefallinia. My own observations were similar, although examples were found on Zakynthos. Kefallinian specimens were often seen sporadically during my two trips to the island, at Lassi, Svoronata, Valsamata, Mt Ainos, Fiskardo and Farsa. It was observed in some abundance on areas of heath-land near to beaches in Lassi. Dead specimens were seen on the main road on Mt Ainos, and several other either basking or crossing roads at the base of the mountain near the village of Valsamata. Similar observations were made in the north of the island at the fishing village of Fiskardo.

This species was an even rarer sight on Zakynthos, being identified at only two localities, with no specimens seen on the south coast at Laganas and Kalamaki or in any of the inland villages. It seemed to be abundant only on the hillsides behind Gerekas beach, where animals with the typical blue throat more reminiscent of *Lacerta viridis* (Cyren, 1933) were encountered. The few adults seen preferred to bask at the base of vegetation along dirt tracks.

Ablepharus kitaibelli kitaibelli (Bibron & Bory de Saint-Vincent)

This secretive skink has been previously reported from both islands, and I was able to observe a few specimens on each myself. The shy nature of this species resulted in the finding of only two animals on Kefallinia. The first was seen basking on a

boulder at the entrance to the national park of Mt Ainos. The second animal was seen moving in a serpentine motion through pine-tree leaf litter behind a beach in Lassi. This animal was able to effectively hide within fallen leaves.

Only one animal was seen on Zakynthos. It was moving through leaf litter on a hillside near to Kalamaki beach.

Tarentola mauritanica mauritanica (L.). Figure 4. This gecko is believed to have been introduced to the southern Ionian Islands from N. Africa, and would appear to be common on both Kefallinia and Zakynthos, in a wide and varied range of habitats. The only time this species was not encountered was late morning and early afternoon; at other times it could be seen basking, fully exposed to the sun. It was more often seen early morning and in the evening around dusk basking on olive-tree trunks and on dry hillsides next to patches of vegetation. After nightfall several animals would congregate around outside lights catching insects. Some very large specimens measuring 10cm were captured on my apartment balconies on both Kefallinia and Zakynthos. Animals seen during the day were a brown colour, whereas specimens seen at night were a grey colour in comparison.

Hemidactylus turcicus turcicus (L.)

Unlike the previous species, this gecko does not seem to occur on Zakynthos, I myself finding it only on Kefallinia. No animals were found during daylight hours, all specimens being observed only around night-lights in the evening and throughout the night. Various sizes were observed from very small juveniles to large adults at the resorts of Lassi and Svoronata.

The presence of this species on Zakynthos is unknown, although it can be expected, as it is present on the Peloponnesian mainland.

Cyrtopodion kotschy (Steindachner)

Previous knowledge of this Peloponnesian species from the Ionian are scarce, although recently Buttle (1999) found four specimens on Zakynthos. However during my trip no animals were seen on this island, and only one specimen was observed on Kefallinia. This animal was hunting mosquitoes close to an outside light at about 21:00 hrs in the resort of Lassi behind the main beach area. Many

other geckos were seen in the vicinity that may have been representatives of this species, but disappeared before they could be positively identified.

Anguis cephalonicus (Werner)

Now considered distinct from *Anguis fragilis*, this species is characterised by a longer head in adults and longer tail, as well as a general larger appearance. As well as being present on the Peloponnesian mainland it is found elsewhere only on Kefallinia and Zakynthos. Although I was able to observe animals on both islands, unfortunately these were all found dead on roads. Generally the species seemed relatively secretive and very difficult to track down in warm conditions. On Kefallinia two freshly killed adults measuring 40cm and 35cm were found at the village of Svoronata. A juvenile was also discovered next to an olive-grove, all three animals being found after a very rainy night within the early hours before the afternoon. No further examples were found on Kefallinia.

Similar observations were made on Zakynthos where two dead adults were found. The first was found after a rainy night by the side of the main Kalamaki road in a rather flattened state and measured 25cm. The second animal was found freshly killed on the pavement of the main bar/night club strip in Laganas! This animal was larger; despite having most of the tail missing it measured 40cm.

Pseudopus apodus thracicus (Pallas)

This large anguid lizard was found to be uncommon on both Kefallinia and Zakynthos. Only one specimen was observed, this being on Kefallinia. It should however be stated that weather conditions during the trip were not ideal for this species. At the village of Petrikata a large adult measuring 75cm was found dead next to the main village road. The wounds were quite fresh and the animal had been discovered after a rainy night.

No examples were found on Zakynthos, although recently Buttle (1999) found an adult on a hillside behind Sekania beach in the eastern part of the island.

Dolichophis (Coluber) caspius (Gmelin)

As this species is absent from the Peloponnesian mainland its occurrence on Zakynthos is doubtful.

On Kefallinia, however, it was found to be relatively abundant. During my first visit in June 2003 three specimens were found. The first was an adult measuring 125cm that appeared to have been beaten to death. No wounds from a vehicle etc were evident and it was discovered at the side of a path next to a group of newly constructed holiday villas in the village of Svoronata. The markings were unlike the striped specimens found on Corfu and were more typical of *caspius* elsewhere in Greece. Further to this a finding of a dead juvenile measuring 30cm on the main road leading from Lassi to Argostoli. A sloughed skin was also found near here.

The only live example seen was a juvenile seen crossing the main road at the western resort of Lixouri. A relatively recent record of this species is that reported by Clark (1970) stating the capture of a specimen at Valsamata.

Hierophis (Coluber) gemonensis (Laurenti)

Despite having been recorded on both islands, from the author's experience this species can be regarded as very rare on Kefallinia. No evidence of its occurrence here was found at all during several excursions. Currently, only one record exists from Kefallinia based on an observation reported by Koch (1979), who found a specimen at Aghia Efimia on the north-eastern coast of the island.

Its rarity on Kefallinia is contrasted, however, by its abundance on Zakynthos, where a considerable number of examples were found during the week spent there. The first specimen was found dead, and was a juvenile measuring approximately 20cm found directly behind Kalamaki beach. The first live example was seen on a sunny morning basking at ground level on a hillside near to Kalamaki beach not far from the path leading onto Mt Skopos. Another adult, approx 100cm was found basking next to a path edge along a coastal route at the bay of Gerekas. A few days later another adult, was seen hunting along the same track and remained still for several minutes at 10:00am on a cloudy morning. A number of dead adults and sub-adults were found on roads at Laganas, Kalamaki, Vassilikos, and the village of Moyzakioy.

Elaphe quatuorlineata quatuorlineata (Lacepede).
Figure 5.

Previously this species has been reported from both islands. Clark (1970) found two sloughs of the

species at Zervata on Kefallinia, and recently Buttle (1999) observed several specimens in southeastern Zakynthos. On the former Island, no evidence of the species was found at all, despite prolonged attempts in suitably ideal looking habitat. However on Zakynthos, the author found this species to be very abundant in suitable habitat. A total of seventeen examples were found during a week spent on Zakynthos in early spring. Most of which were found killed on roads, and more interestingly, most were juveniles with an average measurement of 30-40cm. Around Laganas and Kalamaki this snake was common. A large adult was found on an area of sand dunes behind the main Kalamaki beach and measured 170cm. Many dead juveniles were found near to my accommodation slightly inland at Kalamaki, as well as near to inland streams and rivers near to Laganas. A live juvenile was captured at the side of a road passing through the village of Moyzakioy on a sunny morning, it measured approx 45cm. Further to this a sub-adult, measuring 85cm was found moving slowly along a track just off the Gerekas trail on a warm afternoon. Although initially it made several attempts to bite, it calmed down very quickly. A juvenile was also found near to Gerekas, next to a field edge. More juveniles were found on the main road from Vassilikos to Gerekas. This was in an area of pine forest where bird hunters often congregate in great numbers at this time of year.

Zamenis (Elaphe) situla (L.)

This beautiful snake has been recorded on both Kefallinia and Zakynthos, where it would appear to be quite secretive and uncommon. Having said this a few examples were found. One adult, measuring 80cm was near to the fishing village of Fiskardo at the smaller inland area of Mangonas, at the most northern tip of Kefallinia. Unfortunately however the author was too late in preventing several locals from attacking the snake, which was moving along the edge of a garden wall, and it subsequently died shortly afterwards from the injuries inflicted by stones and rocks. Two specimens were found during the week on Zakynthos, both measured approx 30cm in total length. The first was found freshly killed next to an olive-grove just off the main road leading down to the Gerekas bay. The other animal was found killed by the side of a busy main road leading directly towards Zakynthos town from Kalamaki.

Natrix natrix persa (L.)

With both Kefallinia and Zakynthos lacking in ponds and other sources of fresh water, it initially appeared that finding this species maybe somewhat difficult. However, quite a number of specimens were observed, especially on Zakynthos. On Kefallinia, only one example was found, this being caught in a small stream passing beneath the main road through the valley of Zervata. After having first disturbed the snake, it returned several minutes later and was captured whilst moving over the author's foot. It measured 70cm and lacked the typical stripes of *persa*. However, the usual stripes were found on the snakes seen on Zakynthos. The first of these was floating on its back in the main Laganas river. It was not evident how the snake had died; when its recovery from the water for examination its length measured an impressive 120cm. Minutes later a live specimen was seen trying to negotiate the bridge wall and subsequently failed, several times falling back into the water before eventually moving off down stream. A dead hatchling was also found on the bridge road in this area. Two other hatchlings were found near to the sand dune system directly behind the main Kalamaki beach.

Malpolon monspessulanus fuscus (Hermann).

Figure 7.

This is a common species, with a wide European distribution, and is a well-known member of Greece's Herpetofauna. Previous records of its occurrence are available for both islands. This species was relatively abundant on Zakynthos, but found to be particularly common on Kefallinia. In total, during four weeks spent on Kefallinia, upwards of sixty snakes were found killed on roads throughout the island. With such a large number of snakes present many live examples were also observed. During the first excursion to Kefallinia five live examples were seen. The first was seen moving quickly near to an area of marshland near to the village of Zola. Another was found crossing the road near to the town of Lixouri and was struck by a vehicle and had to be euthanised. Many dead snakes were also found on this road. At the village of Svoronata a large adult was seen moving along a drystone wall on a warm afternoon and disappearing very quickly. About a dozen dead juveniles were also

found on the road from Lassi to Svoronata. A large dead male measuring 160cm was also found freshly killed beside a small road in the Livathos region. On the final day of the first trip to Kefallinia the author was summoned to rescue a snake swimming in the sea off one of the island's most crowded beaches at Lassi. After swimming out about eight metres a sub-adult was found swimming on the surface and was flushed onto the beach where it was captured and released elsewhere. It reacted very aggressively and had to be forcibly restrained for photography. The second trip to Kefallinia resulted in the finding of many more live examples of this species. Several large adults were seen basking in areas of bramble near to my accommodation in Svoronata. Most mornings at least two examples could be found sunning themselves in the same area. A number of dead snakes were found on roads throughout the busier areas of the island near to the capital Argostoli. A sub-adult crossed the main town road in front of my vehicle in a small area of pine forest. At the valley of Zervata another animal was captured crossing the road at midday, another snake had to be euthanised on this same road a few days previously. Towards the end of the excursion a large male measuring 175cm was found killed on the main Lassi to Svoronata road in the late evening. Finally, an adult which had retained juvenile colouring was caught on the edge of a field near to the airport boundary fence, where a number of dead specimens were also observed. Upwards of a dozen sloughs were also found in various habitats from olive-groves, stonewalls, gardens and beaches.

On Zakynthos only seven examples were found, only two of which were live specimens. Near to the main road on Mt Skopos a dead adult was found, and a live snake was found basking in the same area at about 17:00 hrs. The second live example was found basking beneath a bush near to a path at the bay of Gerekas. An adult was found dead on the main road leading to Keri lake, the final animal was observed at Kalamaki.

Telescopus fallax fallax (Fleischmann)

This interesting nocturnal species is particularly well known amongst Kefallinians as a snake of the Virgin Mary. On 15th August this snake is used in religious ceremonies at the villages of Arginia and Markopoulo on the southeastern slopes of Mt

Ainos. Although it is also known from Zakynthos, the only evidence of its occurrence on Kefallinia was from Mt Ainos. Two dead snakes were found on the main road leading to the peak of the mountain. The first was found at high elevation at the base of the National Park, it was in a rather flattened state and measured approx 30cm. The second snake was found freshly killed early one morning further down the main road near to the monastery near Gioupari. As the weather during the trip was quite hot the snakes must have been killed in the very early morning as nobody ventures onto the mountain at night when the species is most often active in hot weather conditions.

Vipera ammodytes meridionalis (L.)

Despite a number of herpetological excursions from various individuals, no record of this dangerously venomous snake can be found for Zakynthos. Although having discussed this with locals and shown photographs, most insist the snake does occur on the island; hopefully future surveys will reveal more. The author's attempt to discover any records of snakebite from the island also failed. Therefore this taxon was only found on Kefallinia, where a few examples were discovered. The first example was found killed just after the main area of tarmac road on Mt Ainos, along the dirt track that replaces it. It was a male, and measured approx 40cm. A few days later on a cloudy afternoon a juvenile female was found moving along a rocky hillside leading up to the main road on Mt Ainos, near to a small monastery of St Eleutherios, not far from the smaller Roudi Mountain. A young male, even smaller was found moving among small boulders in the same area a few days later. During the second trip to Kefallinia a large female, measuring 75cm was found next to the main road at the base of Mt Ainos, not far from the village of Valsamata in an area of Mediterranean maquis, with areas of farmland.

Emys orbicularis hellenica (L.). Figure 8.

After having read the herpetological paper "*Zum Vorkommen von Emys orbicularis hellenica auf Zakynthos*" by Richard Podloucky and Uwe Fritz, which describes the threat of extinction for this species on Zakynthos, it seemed a useful idea to follow up on their study. It is apparently only known to occur in the marshes and rivers near to Limni Keri in the southwestern area of the island. It

was here that six specimens were observed during my week on the island. Two juveniles and four adults were found in a river that leads directly to the main beach area, and it was not found in any other wetland areas in the vicinity. Despite several searches at the Laganas river and other smaller freshwater habitats along the south coast no more examples could be found. Several areas around Limni Keri had been drained, and the main river in the area would appear to be the only remained stronghold for this species on Zakynthos. Records of the Terrapin are also known for Kefallinia, where the situation would appear even worse as no specimens were seen at all.

Mauremys rivulata (Valenciennes)

This taxon can be found on both Kefallinia and Zakynthos, and is generally a common fresh water species throughout its range. Unfortunately however on Kefallinia its presence may soon become a thing of the past. On this Island it was only found to be relatively common at one locality, a reasonably large area of marshland near to the isolated coastal area south of Zola near to the main road leading to Lixouri. At this locality about a dozen adults and juveniles were observed. However like other such habitats throughout Greece they have a tendency of being turned into local rubbish dumps. During the first trip to this area there was little evidence of this, however the second trip revealed an abundance of wastage and general pollution throughout. A large fence had even been constructed along the small path leading down the side of the area down from the hillside to prevent public access. After navigating this fence the area where the terrapins were present was in state of devastation, with fridges, cookers and various other items subsequently left along the edge as well as in the marshes themselves. Although this species is usually very tolerant of such conditions the author suspects that this locality, the island's only terrapin stronghold is destined to become a much larger dumping area as the presence of draining pipes was also sadly evident. Elsewhere, a single adult was found in small beach side pond at the resort of Skala. On Zakynthos it was found to be abundant in the rivers of Limni Keri, and a specimen was also seen in the Laganas river.

Testudo hermanni hermanni (Gmelin)

This species is previously known from both islands. Recently, Buttle (1999) found a previous year's hatchling near to Gerekas beach on Zakynthos, which appears to be a new Island record. The author did not find this species on Zakynthos, despite a prolonged search in the Gerekas area, which has suffered serious fires in recent years associated with the conservation of *Caretta caretta* in the area. As a result, such fires were probably responsible for considerable losses of tortoises around the Gerekas hillsides. On Kefallinia, three specimens were found. The first two animals, both sub-adults were found in a garden near to St Georges castle in the south. The other animal, a juvenile was almost trodden upon at the previously mentioned marshland area south of Zola, feeding along the edge of the marshes.

DISCUSSION

To conclude, it would appear that both Kefallinia and Zakynthos have significantly fewer species of herpetofauna in comparison to the more northerly island of the Ionian group, Corfu. The habitats on Zakynthos in particular did not appear to be as diverse as those found on Corfu, and throughout both islands there was a considerable lack of fresh water sources, especially on Kefallinia. This in itself leads me to believe that the future of *Emys orbicularis* on Zakynthos, and *Mauremys rivulata* on Kefallinia is uncertain, due to destruction of the few remaining habitats left for these animals on both islands.

Some taxa such as *Podarcis taurica ionica* and *Tarentola mauritanica* are especially common on both islands and seem to be found in almost every habitat. This can also be said for several of the snakes, such as *Malpolon monspessulanus*, *Coluber gemonensis* (only on Zakynthos), and *Elaphe quatuorlineata* on Zakynthos to a lesser extent. However the very large numbers of road-killed snakes on these Islands was certainly disturbing; around 80 dead snakes were found during four weeks on Kefallinia and 27 during a week on Zakynthos. Naturally, there is little that can be done about these unfortunate statistics, as development and tourism will only continue to expand and increase the pressure on the island's reptiles and amphibians.

There is still much to be learned regarding recording of new species, and the author is certain that there are taxa yet to be found on both islands. On Kefallinia a large sand dune system was noted but not explored near to the town of Lixouri, which may

provide a habitat for *Eryx jaculus*, and similar dune systems were seen near to Laganas on Zakynthos, although the latter seemed less promising.

Rare species from both islands appear to be *Ablepharus kitaibelli*, *Cyrtopodion kotschy*, *Zamenis situla*, *Telescopus fallax* and on Kefallinia, with only one recording ever, the elusive *Coluber gemonensis*. All four amphibian species are relatively abundant, even away from water in agricultural areas, apart from *Bufo bufo* on Zakynthos where only one dead example was found. It would appear that *Natrix tessellata*, and *Typhlops vermicularis* are not found on either island.

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