

A REVIEW OF THE REPTILES AND AMPHIBIANS OF TURKEY, INCLUDING A LITERATURE SURVEY AND SPECIES CHECKLIST

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INTRODUCTION

Turkey is dominated by the central Anatolian plateau, which merges with the mountains of Kurdistan (bordering Iran and Iraq) in the South-east, and the Caucasus in the North-east. This vast area of steppe/semi-desert, supports a mixture of European and Middle-eastern reptiles. Despite this diversity, most of the recent articles on Turkish herpetofauna have been concerned with the south west Mediterranean coast, presumably due to a vast increase in tourism over the last few years.

We visited the south west coast of Turkey in July 1988, and travelled more extensively during September and October 1989. Reptiles and amphibians were collected from three areas (see Fig. 1), as part of a programme of research into their parasites being conducted at PEL. Animals were re-released the day after capture.

SITE REPORTS AND SPECIES ACCOUNTS

Area 1: Central Turkey (Anatolia) Cappadocia; Nevsehir, Avonos & Kayseri.

The areas we visited are fairly typical of central Turkey (Anatolia), average elevation is c.1000M (3000 ft.), and weather conditions extreme. Summers are hot and dry (about 20°C from May-Sept.), and winters can be harsh (below 10°C November-April). Much of the Anatolian plateau is cultivated, with large, seemingly endless fields of wheat. The natural vegetation is steppe, with extensive semi-desert areas (see plate 1) and true deserts (around Lake Konya).

Ophisops elegans (Snake-eyed Lizard) was exceptionally common on the dry, open steppe land to the South of Avanos. *Lacerta parva* was found in some numbers running through the very hot steppe at Ihlara. We first noticed this species by the roadside seemingly attracted by the insects crawling over a dead dog – picking up this crusty specimen revealed over 20 lizards seeking sanctuary from the midday sun! (see plate 2) *Lacerta parva* is an open steppe lizard – and co-exists with *Ophisops elegans* in many regions.

Collecting at the Ihlara Valley, a rocky, scrub-covered valley cutting through almost semi-desert (Plate 3), produced some interesting species. *Coluber ravergieri* (Ravergier's Whip Snake) was found hiding among rocks at the top of the valley. This snake is locally present in Turkey, and has an Eastern European through Turkish distribution. Moving downstream, *Rana ridibunda* (Marsh Frog) was abundant along the banks of the river. *Coluber najadum* (Dahl's whip snake) was found in rocky areas at the bottom of the valley. The specimen we caught was c 70cm long, and had a distinct blue-tinge to the head and neck. *Agama stellio* was common in the Ihlara region, usually on rocks and often close to human habitation. The males were very noticeable, displaying on large boulders, and staying within a small territory. *A. stellio* proved a difficult lizard to catch, however, making for cover when approached, and jamming fast in rock crevices. Large males tended to be very brightly coloured in Turkey, with yellow/orange and black stripes, and had the ability to change colour slightly. Small lacertids were seen on the valley walls and larger rocks. We thought these were *Podarcis muralis* but *Lacerta danfordi* is more likely for this region. Unfortunately, we were unable to catch these or see them close up and they remain unidentified.

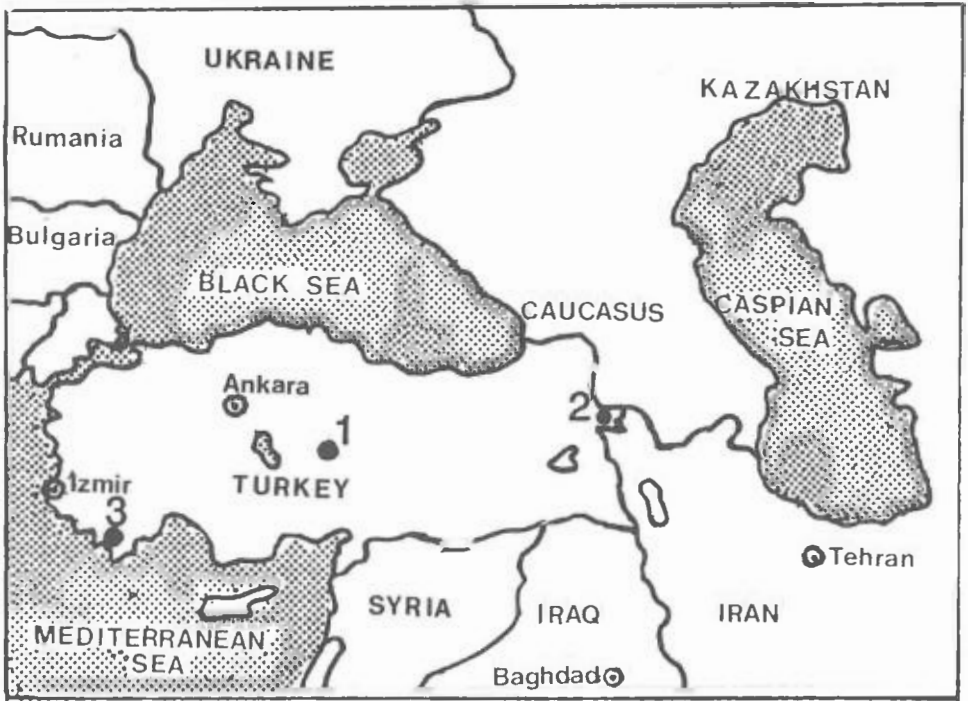


Figure 1* Map of the region showing the 3 collecting sites : 1. Cappadocia; 2. Mt. Ararat; 3. Patara & Dalyan.

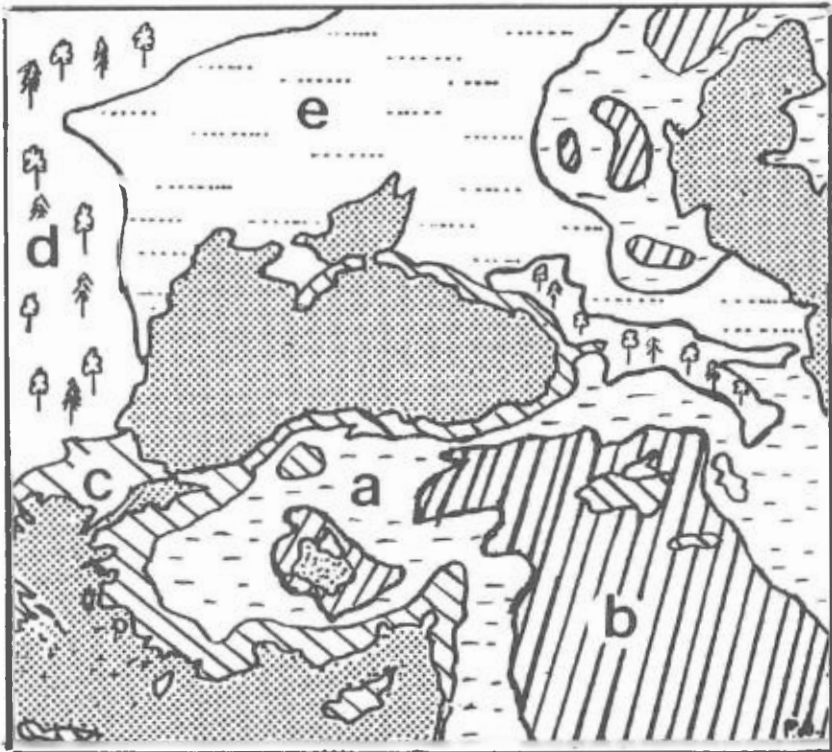


Figure 2. Natural Vegetation : a. steppe, b. salt steppe and semi-desert; c. Mediterranean evergreen (stone pine, myrtle, olive etc.); d. mixed broad-leaved and coniferous woodland; e. grassland.



Plate 1. Dry, rocky steppland, South of Avanos, Capadocia (Area 1), habitat for *Ophisops elegans*.



Plate 2. This carcass provided a bizarre shelter for *Lacerta parva* (area 1).



Plate 3. The Ihlara Valley (area 1), habitat for *Coluber ravergeri*, *Rana ridibunda*, *Coluber najadum* and *Agama stellio*.

Area 2: Eastern Turkey: Dogubayazit & Mount. Ararat.

Here, the average elevation is slightly higher than the central Turkish plateau – regularly passing the 2000M (6000 ft.) mark. The vegetation is typically Middle-eastern (Note that the latitude is the same as Baghdad), with steppe and semi desert predominant. Large areas of salt-steppe form in Summer from seasonal lakes and rivers. Due to the high elevation, and proximity to the mountains of Armenia and Kurdistan, the winters are long and harsh (below 10°C October-May, snow-bound December-March), and the summers hot, dry and short. (Above 20°C late June-September). These conditions put severe constraints on the reptile fauna.

We arrived at Dogubayazit in late September, just before autumn rains began in earnest. Short spells of very hot sunshine alternated with hard rain and hail storms. These conditions narrowed the scope of reptile species to the more hardy. We saw only 2 species during our stay, both Agamids and both interesting for their Asiatic rather than European derivation. Two kilometers to the east of Dogubayazit, we found *Phrynocephalus helioscopus* (Sun Watcher or Toad-headed Agamid). This small (Adults 10-20 cm incl. tail) agamid has rough, tuberculated dorsal scales, a sandy brown dorsal base colour, with regular chocolate-brown patches. They were easily identified by their rather squat appearance and flattish snouts similar to *Uromastix hardwickii* (see Plate 4). Two characteristic orange blotches, bordered with blue were found on the Nape of most individuals, and some had large patches of pale orange/yellow on their ventral surface. They also had noticeably elongated claws on their forefeet – this is an adaptation for burrowing to avoid extremes of temperature.

Despite extensive searching, *P. helioscopus* could only be found on the alluvial plains surrounding Mt. Ararat (see Plate 5). These expanses of hard, sun-baked earth were interspersed with dry river beds, which were favoured by the lizards at Dogubayazit. *P. helioscopus* are burrowers, that aestivate through the hottest part of the summer, and hibernate during winter. The active season is rather short, with eggs laid in June, and a possible second clutch in August. (Clark & Clark 1973). We found very young lizards (Length 2 cm S-V) during the first week in



Plate 4. *Phrynocephalus helioscopus*; in Turkey, confined to the plains at the base of Mt. Ararat, (area 2).

October, suggesting that a second clutch does occur. Catching this agamid was easy; we simply chased them away from their burrows and they became rapidly exhausted. On dull days we dug them out of their rather shallow (c.10m deep) burrows). In Turkey, these lizards are undoubtedly a speciality of the Mt. Ararat region. Clark & Clark (1973) found them only at Igdir and Dogubayazit; both are villages at the foot of Ararat. This species is widespread around the Caspian sea, Iran and Arghanistan, and further spread westward is probably prevented by the higher mountain ranges encircling Ararat.

Agama caucasica (Northern Rock Agama), another predominantly eastern species was found close to the *P. helioscopus* site. *A. caucasica* again has a very specific habitat preference in Turkey, being found only on the foothills of Ararat. It can be found on the lower slopes (c 1500M, 45000 ft.) of the small mountains 3km or so east of Dogubayazit (see Plate 5). These are very sparsely vegetated, rocky and dry, with thorny scrub and spurge giving cover for the lizards. *A. caucasica* is easily caught, being far less wary than *A. stellio*, and hides in scrub, rather than rock crevices, when approached. We saw only young specimens (length c.12 cm incl. tail) though the adults may reach 35cm. The juvenile lizards were dark brown with orange stripes on the body and tail. A distinguishing feature is their lack of keeled dorsal scales, and a prominent tympanum. This species is again restricted in Turkey to the Ararat region, although it is widespread in the caucasus and further eastwards.

Area 3: Coastal South-west Turkey; Patara, Dalyan.

The South-west coast of Turkey is typically Mediterranean – temperatures dip only to 15°C in winter, and there is a long, hot summer (above 20°C April-November). Vegetation is evergreen macquis, with olives and Stone Pine, as well as large areas of dry coastal scrub. This region is much richer in terms of species number, and has a Mediterranean/European herpetofauna. Specialities include the very common *Agama stellio* as well as certain important nesting sites for the Loggerhead Turtle (*Carretta caretta*). The main site we collected was Dalyan (Caunos) which has large areas of rocky scrub, and a lake with a river running down to the sea. A small beach to the west has a Stone Pine wood backing on to it, and a large sand bar forms the main beach to the east of the river mouth; an extensive freshwater delta can be found behind the bar, with a network of channels and reed beds. We also collected at Patara, which



Plate 5. Mt. Ararat, viewed from the foot of Kizil Dag. (area 2). The alluvial plain in the foreground is cultivated, with *Phrynocephalus helioscopus* being confined to the dried-out rocky river beds which cut through it.



Plate 6. Kizil Dag, a 3000m mountain South of Mount Ararat (area 2). The thorny scrub in the foreground (c 1500-1750m) yielded *Agama caucasica*.

is similar to Dalyan, but here the delta has been in-filled with drifting sand – forming a dune system with mud flats and marshes. The beach at Patara is 18km long and slopes up sharply to a rocky scrubland behind.

Chelonia

We found the nest sites of Loggerheads (*Carretta carretta*) by the dried up eggshell remains, even in October. They were most easily found at Patara near the headland at the East on the heaped, sloping sand – but we also found them at Dalyan (Cunos) and Fethiye. All are well known, properly managed sites (see discussion). *Testudo graeca* (Spur-Thighed Tortoise) was found at Dalyan. A large female was found wandering on the small beach, and we were shown some young being reared up by a Turkish family. *Emys orbicularis* (European Pond Terrapin) was abundant in the river and Delta (which the locals call “the Lake”) between the town and the sea. These animals are shy, diving into the water at the sound of an approaching boat. We also found young (c. 7cm) specimens in a small stream at Dalyan. *Mauremys caspica* (Stripe-Necked Terrapin) was found in the river 6km to the west of Patara. We watched an adult specimen being washed out to sea; it swam back and eventually surfaced on the beach. According to Arnold, Burton & Ovenden, (1978) this species is known to tolerate brackish water well.

A most intriguing find was that of *Trionyx triunguis* (Nile Softshell turtle) swimming near the surface of the river at Dalyan town harbour. A young specimen was seen c.10cm long, which spent a good half hour basking, and feeding at the water's edge. *Trionyx triunguis* was first described from South-west Turkey by Dr. Basoglu (1973b). In this paper he states that they are common in the lake around Koycegiz – this is further upstream than our sightings. These softshells are known to reach 80cm S-V and some large specimens were seen swimming away from oncoming boats near the river outlet. Their distribution in Turkey is something of an enigma – since they are primarily N. African reaching as far North as Israel. Maybe fishermen brought them to Dalyan in the past as food or pets – certainly it seems unlikely that a turtle could have survived being washed from Israel through the Mediterranean to Turkey.

Amphibia

Rana ridibunda (Marsh Frog) was found behind the small beach at Dalyan. Around twenty individuals were found on the edge of a stagnant pool singing and basking. The pool temperature must have been very high since the sand surrounding it was too hot to walk on barefoot. When approached they dived into the water and hid among the algal mats – the maximum pool depth was about 10cm at this time of year (October). The frogs were varied in colour and markings – but most had a bright green stripe down their backs. *Bufo viridis* (Green Toad) was extremely common at all locations along the coast. This nocturnal species was easily caught in villages, hunting for food around street lamps, rubbish tips etc. Its large size and green-brown blotches on a pale base colour make it unmistakable. Turkish individuals tend to have a pinkish/sandy ground colour with dark green blotches.

Reptilia

By far the most easily found reptile was *Hemidactylus turcicus turcicus* (Mediterranean Gecko). This species prefers house walls and can usually be found just under the eaves of the roofs. Individuals seemed to have strict territories and could be located in exactly the same location each evening (see Selcer, K.W. 1986). Some specimens lived solely under street lamps and it was interesting to find that these were often higher than their counterparts on the more dimly-lit walls. We do not know if this species can change colour to any extent but it is quite probable and would be a useful adaptation. Young geckoes were found, and some recently vacated eggs (laid in pairs). The young were c. 3cm S-V in length, and very lightly coloured, almost transparent – their viscera were visible through the light pinkish belly; this colouration is obviously a survival strategy for the vulnerable young. *Ophisops elegans* (Snake-Eyed Lizard) was caught at Patara. Here, they seemed to prefer the dried-out marshes and sand dunes behind the beach, where they were very common. This lizard tended to dart between clumps of vegetation when pursued, and was difficult to catch. *Lacerta trilineata* (Balkan Green Lizard) was found in a ditch near a cultivated field on the banks of the large lake 2km upstream from Dalyan town. This large, green lizard had dark markings on the back. *L. trilineata* replaces *L. viridis* over much of Turkey. *Agama stellio* was very common among ruins at both Patara

(between the town and the beach) and Dalyan (at the Caunos ruins, and on hillsides further upstream). The dominant, colourful males were easily found, displaying noticeably on large boulders.

Also seen were *Ophisaurus apodus* (Glass Lizard) at Patara, in rocky scrubland near the ruins. *Lacerta danfordi* was found on rocks behind the small beach at Dalyan. Some specimens had blue-tinged tails, most had cream lines down their chocolate backs. *L. danfordi* is a speciality of the South-West region.

LITERATURE SURVEY

There is no satisfactory field guide for the English speaking visitor to Turkey. Arnold, Burton & Ovenden (1978) covers only the small part of Turkey in mainland Europe. This is geographically correct, but surely the recent upsurge of tourism in Turkey, (also Morocco, Tunisia, Egypt and Israel) points to a gap in the market. The recent French field guide, Matz, G. & Weber, D. (1983) covers the Caspian and Caucasus and is useful for Eastern Turkish species, but again does not actually cover Turkey. We found Engelmann, Fritzsche, Gunther and Obst (1986) invaluable since it includes Turkey, with maps and illustrations for most species. Drawbacks are that the text is in German and it is difficult to obtain. The three volumes by the Turkish authors Basoglu and Baran are useful for reference. Basoglu & Baran (1977), deals with lizards and turtles, has a brief English summary and distribution details. Basoglu (1973a) concerns amphibians and Basoglu & Baran (1980) snakes. These are again difficult to obtain in this country. A recent German guide to European snakes (Gruber, U., 1989) includes N. Africa, Israel and the Caucasus as well as Turkey, with colour photos for most species. Baran (1976) is in Turkish and deals with taxonomy and distribution of Turkish snakes. Steward (1971) covers the snakes of Europe (incl. Asiatic Turkey) but is now largely out of date. Nöhmes 3-volume work covers the Caspian region and European Turkey, but misses out Asiatic Turkey.

Various important collections and surveys of Turkish herpetofauna have been published. Bird (1936) and Bodenheimer & Fritz (1944) although very extensive are a little out of date in

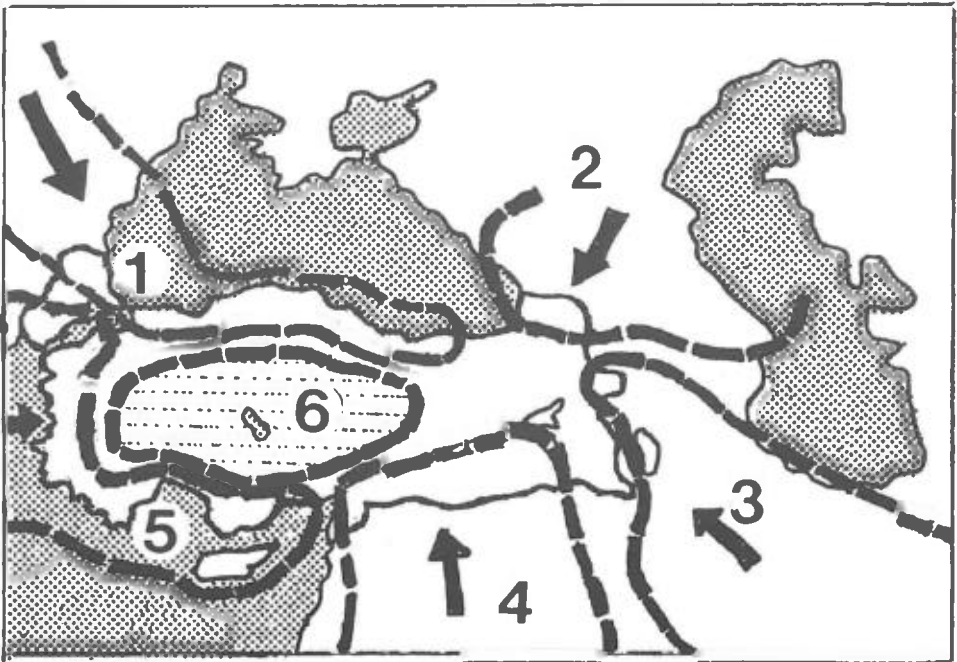


Figure 3. Simplified diagram to show influences on Turkish herpetofauna (see text): 1. Central and Northern European; 2. Caucasus/Caspian; 3. Iranian/Afghani; 4. Middle Eastern; 5. Mediterranean; 6. Central Turkish (endemic region).

some respects; more recent surveys are less confusing in nomenclature. We found Clark & Clark (1973) invaluable since it contains detailed habitat descriptions, notes on behaviour as well as variations within species. Other useful reviews are Andren & Nilson (1976); Mertens, (1952); Lambert (1970); Teynie (1987) and Hingley (1989).

There have been numerous short papers published, many of which are rather specialised (see citations for the more relevant ones). Baran (1978) discusses rare Turkish snakes; Flardh (1983) describes Mt. Ararats' herpetofauna; Sochurek (1984) covers the genus *Elaphe*. An important recent paper by Nilson, Andren and Flardh (1988) reviews Turkish vipers and clears up many taxonomic problems.

SPECIES CHECKLIST

This list has been compiled from the most recent literature, but may not be complete. The areas numbered after the species name refer to those on the map in fig. 3 and suggest the derivation of the animals' distribution.

- NOTE:**
1. Central and Northern European derivation
 2. Caucasian or Caspian
 3. Iranian/Afghani
 4. Middle Eastern
 5. Mediterranean
 6. Central Turkish (endemic)

Amphibia

<i>Mertensiella caucasica</i>	2
<i>M. luschani</i> – Southern coastal, localised	
<i>Salamandra salamandra</i>	1
<i>Triturus vulgaris</i>	1
<i>T. cristatus</i>	1
<i>T. vittatus</i> – North coast and Syrian Coast	
<i>Pelobates syriacus</i>	4
<i>Pelodytes causicus</i>	2
<i>Bufo bufo</i>	1
<i>Bufo viridis</i>	
<i>Hyla arborea</i>	
<i>H. savignyi</i>	4
<i>Rana macronemus</i>	2
<i>R. ridibunda</i>	5

Chelonia

<i>Caretta caretta</i>	
<i>Chelonia mydas</i>	
<i>Lepidochelys kempfi</i>	
<i>Dermochelys coriacea</i>	
<i>Testudo graeca</i>	
<i>T. hermanni</i>	
<i>Emys orbicularis</i>	
<i>Mauremys caspica rivulata</i>	4
<i>Trionyx euphratica</i>	4
<i>T. triunguis</i>	4

Sauria

<i>Cyrtodactylus kotschy</i>	
<i>C. heterocercus</i>	

<i>Hemidactylus turcicus</i>	5
<i>Phyllodactylus elisae</i>	
<i>Agama caucasia</i>	2
<i>Agama stellio</i>	4
<i>Agama rudrata</i>	4
<i>Phrynocephalus helioscopus</i>	3
<i>Chamaeleo chameleon</i>	4
<i>Anguis fragilis</i>	1
<i>Ophisaurus apodus</i>	
<i>Varanus griseus</i>	4
<i>Acanthodactylus boskianus</i>	
<i>Lacerta viridis</i>	1
<i>L. trilineata</i>	6
<i>L. agilis</i>	
<i>L. saxicola</i>	
<i>L. strigata</i>	
<i>L. cappadocica</i>	
<i>L. raddei</i>	2
<i>L. laevis</i>	
<i>L. rudis</i>	2
<i>L. princeps</i>	
<i>L. armeniaca</i>	2
<i>L. danfordi</i> – S.W. Med. only; endemic	
<i>L. praticola</i>	
<i>L. derjugini</i>	2
<i>L. parva</i>	6
<i>L. uzzelli</i> – E. turkey only – Parthenogenetic species	
<i>Podarcis sicula</i>	
<i>P. taurica</i>	
<i>P. muralis</i>	
<i>Ophisops elegans</i>	6
<i>Ablepharus kitaibelli</i>	
<i>Chalcides ocellatus</i>	4
<i>Eumeces schneideri</i>	4
<i>Mabuya aurata</i>	4
<i>M. vittata</i>	4
<i>Ophiomorus punctatissimus</i> – South West coastal	
<i>Blanus strauchi</i> – South West coast – Antakya	
<i>Leptotyphlops macrorhynchus</i> – rare, found near Mardin + Urfa	
<i>Typhlops vermicularis</i>	
Ophidia	
<i>Eryx jaculus</i>	
<i>Coluber jugularis</i>	
<i>C. najadum</i>	5
<i>C. ravergieri</i>	2
<i>C. rubiceps</i>	4 coastal
<i>Coronella austriaca</i>	1
<i>Eirenis collaris</i> – found only near Mardin & Urfa	
<i>E. barani</i>	2
<i>E. coronella</i> – found only near Urfa	
<i>E. modestus</i>	2
<i>E. rothi</i>	4 rare in Turkey
<i>E. punctatolineatus</i>	2
<i>E. persicus</i>	3 rare in Turkey
<i>Elaphe hohenerkeri</i>	6
<i>E. hohenerkeri rothi</i> – rare, Taurus Mts. near Antalya	
<i>E. longissima</i>	

<i>E. quatuorlineata</i>	
<i>E. situla</i>	
<i>Malpolon monspessulanus</i>	5
<i>Telescopus fallax</i>	
<i>Rhynchocalamus melanocephalus</i>	2
<i>Natrix natrix</i>	
<i>N. tessellata</i>	
<i>Vipera ursinii anatolica</i> – South-west coast	
<i>V. ursinii eriwanensis</i>	2
<i>V. kaznakovi</i>	2
<i>V. barani</i> – Istanbul region only	
<i>V. ammodytes meridionalis</i>	
<i>V. ammodytes montandoni</i> – European	
<i>V. ammodytes transcaucasiana</i> – Northern	
<i>V. bulgardaghica</i> – Southern Central	
<i>V. wagneri</i> – Western half	
<i>V. raddei raddei</i>	3
<i>V. raddei kurdistanica</i> – localised to the Hakkari region	
<i>V. lebetina obtusa</i>	

DISCUSSION

Turkey is uniquely situated; its inhospitable mountainous terrain lies at the cross roads of European and Eastern fauna. The 'Gateway to the East' cliché of tourist brochures rings true both culturally and herpetologically! Five major influences shape its herpetofauna (see Fig. 3); Mediterranean (eg. *H. turcicus*), Central European (*Coronella austriaca*), the Caucasus (eg. *Lacerta saxicola*). Iranian/Afghani (eg. *Phrynocephalus helioscopus*) and Middle Eastern (eg. *Eumeces schneideri*). The result is a ring-like zone, rich and varied in species, circling the Anatolian Plateau. This central region is arid, with extremes of temperature, and although poor in terms of species number, yields the true Turkish species, typified by the almost endemic *Ophisops elegans*. This is, possibly, the true East/West meeting point as well as the stronghold of other species with a mainly Turkish distribution; *Lacerta parva* (almost endemic), *L. trilineata* and *Lacerta danfordi* amongst others. The Middle Eastern influence is strong with *Agama stellio* reaching through the southern half of Turkey and just into Europe and *Pelobates syriacus* and *Mabuya aurata* infiltrating well into Southern Turkey. Other typically Middle Eastern species filtering through to Turkey are *Chalcides ocellatus*, *Mabuya vittata*, *Chamaeleo chameleon*, *Agama ruderata*, *Eirenis* spp, and *Trionyx euphratica*, all reaching the most Northerly and often westerly fringes of their distribution. The European species tend to group around the northern coastal region, a distribution typified by *Anguis fragilis* and *Coronella austriaca*.

Travelling Eastwards one leaves the central plateau and the fauna becomes markedly less European. To the North, species typical of the Caucasus: *Mertensiella caucasica*, *Pelodytes causicus*, *Rana macronemus*, *Lacerta armeniaca*, *L. saxicola*, *Agama caucasica* and *Vipera kaznakovi* replace their European counterparts. *Phrynocephalus helioscopus*, which is very localised in Turkey, represents the Iranian-Afghani fauna along with the Rock Viper *V. raddei*.

Moving westwards to the Mediterranean coast, the Iraqi and Syrian semi-desert yields to scrub and maquis with a typical Mediterranean fauna (*Hemidactylus turcicus*, *Coluber najadum*, *Malpalon monspessulanus*). Even here differences will be noted; *Podarcis muralis* is rare, *Agama stellio* and *Bufo viridis* very common, and unusual species can be found: *Mertensiella luschani*, *Lacerta danfordi*, *Ophiomorus punctatissimus* and *Coluber rubiceps*.

So it seems that Turkey truly acts as a buffer zone between the hot deserts of Syria, Iraq and Iran, the mountains of the Caucasus, and Eastern Europe. The mountains of East Turkey and the harsh winters of Anatolia must act as barriers to further infiltration (cf. *P. helioscopus* which is confined by the ring of Mountains west of Ararat).

POINTS OF NOTICE FOR TRAVELLERS

The best time to visit Turkey is probably late Spring/early Summer – the intense heat of

high summer causes many species to remain hidden. In the central region early morning and evening are the best times to collect. Further east, intermittent rain/sun is good for semi-desert species, since they remain well hidden in the full heat. Ruins are worth checking in all regions for *Agama stellio*, Lacertids and *Coluber* spp. On the hot plateau, any unusual, rugged areas – small stream valleys etc. which give shade, will produce results.

In our opinion it is worth the effort to travel to the east of Turkey – it is surely a good chance to see the Caucasus and Iranian/Iraqi specialities without the need for an Iranian or Russian visa (both difficult to obtain) or Iraqi visa (almost impossible at times!). Travel through Turkey is cheap and efficient – the locals use coaches (1000 km for a tenner!) and internal flights are cheap. Accommodation and food are readily available and inexpensive. No restrictions are placed on tourism, although one is deterred from visiting some South-Eastern (Kurdish) regions, due to separatist action. We managed to travel there without many problems, despite a high army presence on the Iraqi/Iranian borders.

Turkey has a mixed conservation record. Hunting is still a popular hobby, but this is to be expected in a large rural country. The forestry department is well run and modern and seems to take care of conservation. The important turtle-nesting beaches on the Mediterranean coast are patrolled in the spring to ensure that tourists don't camp on the beach. In addition quotas for fishing in the villages near these beaches are strict. Fethiye sums up the tourist problem with loud, well-lit discos packed with tourists in summer and turtles meeting ½ a mile away in the spring.

Recent publicity (notably David Bellamy's programme on the Dalyan delta) has drawn attention to the problem and helped to stop hotels being built on beaches – in fact the conservation angle is being used to sell holidays to some extent, with specialist natural history hotels and tours. So it seems that the Turkish fauna may not necessarily follow the same route as that of most other, tourist-exploited regions of the Med.

ACKNOWLEDGEMENTS

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