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HERPETOLOGY IN CYPRUS

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Ed. note: This is another of a range of articles published in the BHS Bulletin on herpetological studies in Commonwealth countries.

Cyprus, a European member of the Commonwealth since 1960, is the third largest island in the Mediterranean Sea (exceeded in size by Sicily and Sardinia). Its eastern Mediterranean situation places it at Cape Kormakiti about 45 miles (75 km) distant from the nearest point in Asia Minor — Cape Anamur (Turkey) — and it is effectively embraced by the land mass comprising Turkey, Syria and Lebanon, with whose faunal and vegetational elements it has the closest affinity. Topographically it is characterised by a narrow limestone range of mountains (Kyrenia mountains) forming a backdrop to the north of Nicosia, the capital, and extending in an unbroken chain for about 90 miles (140km) along the north coast at an average height of 2000 feet (600m); a broad central plain (Mesaöria Plain) running for some 60 miles (95km) from west to east; an extensive igneous massif (Troödos mountains) rising to over 6000 feet (1800m) in the west of the island, and narrow coastal plains set between the mountains and the sea. It is a dry island with rivers little more than mountain torrents and there is no stream of any volume. The somewhat intense Mediterranean climate has a hot, dry summer and variable warm winter, and is defined bioclimatically by UNESCO/FAO (1963) as being thermo- and xerothermomediterranean, with the xerothermic index ranging from 100 to 200.

As an island, Cyprus does not yield a big herpetofauna and, really, rather surprisingly, quite little work has been done on them. Boulenger (1910) listed three amphibia and 21 reptiles:— Amphibia: *Rana esculenta/ridibunda, Hyla arborea* and *Bufo viridis;* Reptilia: *Mauremys caspica rivulata, Gymnodactylus kotschyi, Hemidactylus turcicus, Agama stellio, Lacerta laevis, Acanthodactylus schreiberi, Ophisops elegans, Mabuya vittata, Ablepharus pannonicus, Eumeces schreiberi, Chalcides ocellatus, Chamaeleo chameleon, Typhlops vermicularis, Natrix natrix, Coluber gemonensis, C. dahlii, C. nummifer, Contia collaris, Tarbophis fallax, Malpolon monspessulanus* and *Vipera lebetina.* Since this list was published, a few other herpetologists have collected in Cyprus e.g. Werner (1936), Knoepffler (1963), Clark (1973), Warmelo (1983) and Schmidtler (1984). Several visits have been made recently by the Swiss herpetologist, Beat Schätti of Zürich University, who has just described an endemic new snake species, *Coluber cypriensis* n. sp. (Schätti, 1985). The commonest lizard, as in Anatolia of nearby mainland Turkey, is *Ophisops elegans,* and *Coluber jugularis* (not included as such in Boulenger's (1910) list) is also very common on the island. *Vipera lebetina* is very common near Paphos, but *Natrix natrix,* through the use of DDT insecticide, probably became extinct in the 1960s. *Eumeces schreiberi* is now very scarce. The common chameleon is locally abundant and has even been found in the grounds of the Agricultural Research Station at Athalassa about 2km east of Nicosia. Populations of *Mauremys caspica rivulata* are low in number and occur in isolated waterholes of dry river beds (Demetropoulos & Hadjichristophorou, 1981). Attempts are being made to reintroduce the chelonian to pools where it once occurred by translocation from elsewhere on the island. Isolated specimens, probably introduced, of *Testudo graeca ibera* and *T. marginata* have been recorded since the 1970s. These species have probably arrived from Greece through translocation by Greek Cypriot residents and students, who attend universities there.

On a return journey from Tanzania and Kenya in December 1985, Lambert had the opportunity to visit Cyprus and meet Demetropoulos, who is Cyprus's delegate to the Mediterranean Action Plan of the United Nations Environment Programme. The Action Plan's coordinating unit is

based in Athens, and marine pollution and conservation of the coastal environment are two of its concerns.

At the present time, probably the most significant herpetological activity on Cyprus is connected with the project to conserve a breeding population of turtles on Cyprus's western coast at Lara, 22km north of Paphos (Fig. 1). Turtles are protected in Cyprus and the green turtle *(Chelonia mydas)* and loggerhead *(Caretta caretta)* breed fairly regularly on the island's beaches. Both were more abundant in the past. With a colleague, Merula Hadjichristophorou, in the Department of Fisheries of Cyprus's Ministry of Agriculture and Natural Resources, whose training was also received at the University College of North Wales at Bangor (specializing in marine biology), a conservation project was launched in 1978 and a hatchery set up to increase hatching success and survival (Demetropoulos & Hadjichristophorou, 1982). It is the first and only hatchery in the Mediterranean and Europe. Since 1980, the work has received substantial help from the World Wildlife Fund as IUCN/WWF project no. 1815. A station as a seasonal camp (Plate 1) has been set up at the Lara Reserve and the turtle populations are being studied through tagging and surveys and the restocking of the sea through hatchery work and head starting. Hatchery work includes collection of eggs and hatching by various methods, primarily by burying the eggs in the sand by the station beach, but also by laboratory hatching. Data on the environment, hatching conditions and hatchlings are also being collected. Natural nests in situ are being protected and where protection cannot be adequate, eggs are removed to the turtle hatchery at Lara. Since 1978, 3-4000 eggs have been collected yearly and hatching success is in the region of 75%, which although lower than in wild nests is many times the number that would have reached the sea from unprotected nests.

Plate 1. The observation station set up at the Lara Reserve for the Turtle Project, Cyprus (Summer 1985), looking inland

Using 1983's results as a case in hand (Demetropoulos, 1984), the breeding season started in early June and 43 nests with 4605 eggs were hatched under complete protection either at Lara in the sand, as laid by the female adult turtle, or in the laboratory. Of these, 16 were green turtle nests holding 2065 eggs while 27 were loggerhead's holding 2540 eggs. From these nests, 1650 green turtle hatchlings and 1901 loggerhead hatchlings were obtained, giving 79.9% and 74.8% hatching success, respectively. Another 284 hatchlings obtained from nests disturbed by foxes and collected for hatching were also released bringing the total number of hatchlings to 3835.

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Some nests were also transplanted from the North coast (Latchi-Polis) and those at Lara were left in situ unless endangered by being laid too low down on the beach.

Appreciating that incubation temperature determines sex in turtles, females, which are considered to be more important for population recruitment, were produced at 33°C in tanks in the Department of Fisheries's wet laboratory at Paphos in 1981 and ongrowing of green turtles is carried out in cages in Paphos harbour.

Turtles from the Department of Fisheries in Nicosia (12 yearlings in 1979; six hatchlings in 1981) have also been loaned to the Marine Science Laboratories at Menai Bridge of the University College of North Wales for nutritional and oxygen consumption studies and the results have since been published (e.g. Hadjichristophorou & Grove, 1983; Davenport & Oxford, 1984), the background to this cooperative venture having been described by Dr John Davenport in *BHS Bulletin* No. 9: 15, June 1984.

Yearling turtles in their so called "lost year" do not seem to lose it in Cyprus and some yearlings and two-year olds have found their way into Paphos harbour and into fishing nets off the Paphos coast. This would seem to bode well for the future of *Chelonia mydas* in Cyprus, especially since patrols both by scientific and Law enforcement staff of the Department of Fisheries cover all of the west coast beaches and the Latchi-Polis area. The killing of a loggerhead in 1983 led to the Department of Fisheries carrying out long investigations, which although inconclusive prompted newspaper coverage.

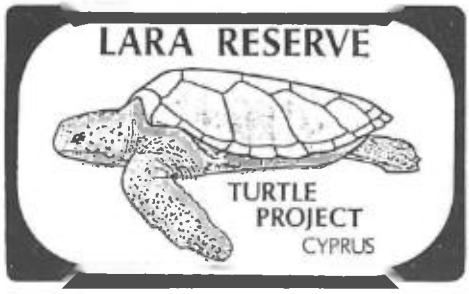

Figure 1. Logo sticker for the Lara Reserve Turtle Project on the west coast of Cyprus

REFERENCES

Boulenger, G.C. (1910). A list of the reptiles and batrachians of Cyprus. *Bulletin of the Cyprus Natural History Society* No. **1**, 1-3.

Clark, R.J. (1973). Report on a collection of reptiles from Cyprus. *British Journal of Herpetology* **5**, 357-360.

Davenport, J. & Oxford, P.J. (1984). Feeding, gut dynamics, digestion and oxygen consumption in hatchling green turtles *(Chelonia mydas* L.). *British Journal of Herpetology*, **6**, 351-358.

Demetropoulos, A. (1984). *Annual report on the Department of Fisheries and the Cyprus Fisheries for the year 1983.* Nicosia: Department of Fisheries, Ministry of Agriculture and Natural Resources, Republic of Cyprus. 51 pp + 36 tables.

Demetropoulos, A. & Hadjichristophorou, M. (1981). Chelonians of Cyprus. *Bulletin of the Biological Society of Cyprus* No. **1**, 13-17.

Demetropoulos, A. & Hadjichristophorou, M. (1982). Turtle conservation in Cyprus. *Bulletin of the Biological Society of Cyprus* No. **2**, 23-29.

Hadjichristophorou, M. & Grove, D.J. (1983). A study of appetite, digestion and growth in juvenile green turtle *(Chelonia mydas* L.) fed on artificial diets. *Aquaculture* **30**, 191-201.

Knoepffler, L.-P. (1963). Reptiles récoltés à Chypre par MM. Monniot et Biguet. *Vie et Milieu* **14**, 843-846.

Schätti, B. (1985). Eine neue Zornnatter aus Zypern, *Coluber cypriensis* n. sp. (Reptilia, Serpentes, Colubridae). *Revue suisse de Zoologie* **92**: 471-477.

Schmidtler, J.F. (1984). Zur Bestandsituation der Amphibien und hydrophilen Reptilien auf der Insel Zypern. *Salamandra* **20**, 43-49.

UNESCO/FAO (1963). *Bioclimatic map of the Mediterranean zone.* Arid Zone Research 21. Paris: UNESCO/FAO.

Warmelo, W. van (1983). An environmental survey of an area near Paramali, Cyprus. Report on the Excavations of Sotira-Kaminoudhia. 3pp.

Werner, F. (1936). Reptiles from Mount Troodos. *Proceedings of the Zoological Society of London* 1936, 655-658.