

# THE HERPETOFAUNA OF THE MALTESE ISLANDS

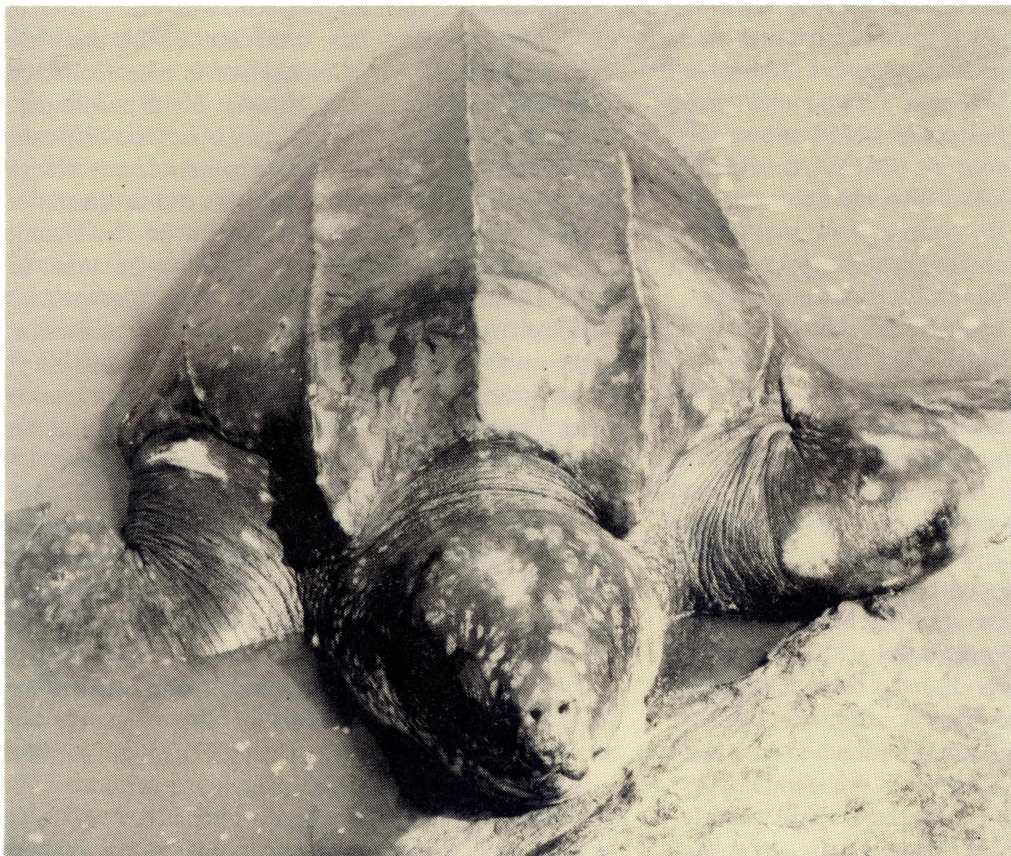
The Maltese archipelago, consisting of six islands and rocks together occupying no more than hundred square kilometers, is situated almost at the centre of the Mediterranean, bearing 35° 54'N 14° 28'E. The Islands lie about 160 km south of Sicily and about 300 km north to the Libyan coast.

Composed of a miocene limestone, the Islands probably emerged at about the end of the Miocene c. 10 million years ago. During their post-miocene evolution they were probably connected to Sicily, the east Mediterranean lands, Sardinia, Libya and Tunisia, the most recent connection being with Sicily in the Würm glacial (the last of the ice ages of the Pliocene, c. 100,000 years ago).

The herpetofauna of the Maltese Islands is not very rich, only 10 terrestrial species being recorded for Malta. Of these only seven can be definitely said to form part of our natural fauna. These have probably arrived from Sicily. The rest, like the various tortoises, the Chamaeleon, the Cat Snake and the Algerian whip snake have been imported by man, either directly, or indirectly by continual trade contact. Some of these have now become naturalized.

Other species have been released by well-meaning naturalists over the years, but these have been apparently unsuccessful. Popularity in fresh-water aquaria is resulting in the importation of fresh-water turtles, such as *Emys orbicularis* and *Clemmys caspica*. In addition some pet shops are offering for sale caudate specimens such as the Alpine newt (*Triturus alpestris*). To the Maltese list may be added the five species of aquatic turtles, which inhabit the Mediterranean, some of which are sometimes caught near Maltese shores.

Climate and topography interact together to make the Maltese Islands rather poor in aquatic habitat and has led to a dearth in amphibian species, which of necessity require a damp environment. In fact, the only amphibian present on the Islands is the Painted Frog (*Discoglossus pictus*), and even this is restricted to the few damp places, mainly valleys, especially those dammed to act as reservoirs. No member of the order Caudate (Newts and Salamanders) is represented, even though G. Despott (1913) released some representatives of this order, together with other species of the order Salientia (Toads and



The Leatherback Turtle  
(*Dermochelys coriacea*)  
(Photo credit: C. Savona-Ventura)

Frogs). These have apparently failed to establish themselves.

Our only species of frog is being very much persecuted, not only by the indiscriminate and useless capture of a large number of frogs and tadpoles by children from sites such as Chadwick Lakes, Baħrija, Ġnejna and San Martin in Malta, but also by schools and educational institutions who include biology in their curriculum and require the frog for dissection or experimentation. Unfortunately the frog presents an ideal subject for this kind of study and since keeping and breeding frogs is rather difficult, it is easier to obtain specimens for study from the wild rather than maintain a population in a vivarium.

In view of the diminishing numbers of this species however, the establishment of laboratory culture of this animal should be seriously considered. A further threat to this species is that continual land development is decreasing the habitat area of the species, resulting in a further dramatic decrease in the population.

All the Maltese reptiles belong to the orders Testudines (Tortoise and Turtles) and Squamata (Skink, chamaeleon, geckos, lizards and snakes), there being no member of the order Crocodilia (Crocodiles and Alligators) represented. This order was apparently present in the Mediterranean region in the Miocene period (c. 25 million years ago) since fossil remains of the jaws of the crocodilian genus *Tomistoma* have been found in the Globigerina limestone strata of the Maltese Islands. Other reptilian fossil remains include a jaw fragment attributed to a marine, whale-like reptile *Ichthyosaurus Gaudensis* HULKE; the Miocene chelonian *Trionys melitensis* LYDEKKER and the Pliocene land tortoises – *Geochelone robustissima* (TAGLIAFERRO), *Geochelone robusta* (ADAMS) and *Geochelone spratti* (ADAMS).

The present terrestrial chelonians all belong to the genus *Testudo* and are usually found in private houses and gardens. These species have all been introduced by man as pets. The most common species is the Moroccan Tortoise (*Testudo graeca*), which is sometimes found in semi-captivity. These introduced species are in no particular danger nor are they a threat to the indigenous species since they are kept as pets and their numbers are rigidly controlled.

The lack of persecution of the terrestrial tortoises is unfortunately not enjoyed by the five species of marine turtles, which are continually being exploited both for their shell and for their flesh. The few sandy shores of the Maltese Islands have been subtracted from the list of possible laying sites, due to the Maltese shores being very much frequented for their recreational potential. Collection of eggs from laying sites has greatly helped to decrease their already dwindling numbers. The danger of complete

extinction of some species is very real. The World Wildlife Fund considers the Leatherback Turtle (*Dermochelys coriacea*) as being on the verge of extinction. This gigantic turtle offers no harm to man, its flesh is inedible and is commercially useless. It is still however being captured by Maltese fishermen, mainly as a result of man's need to prove his superiority over large animals. Attempts to propagate this species are being undertaken by the Malaysian government. The Mexican government has also realized the need to protect another threatened species, the Kemp's Ridley (*Lepidochelys kempfi* (GARMAN)) and has made attempts to introduce the species to a protected beach. Another threatened turtle species is the Green turtle (*Chelonia mydas* (LINN)) which has served for centuries as the source of turtle soup. The turtle most commonly captured from Maltese waters, the Loggerhead turtle (*Caretta caretta*) is fortunately not at present in the same predicament; however, the continuous capture coupled with the decrease of egg-laying sites caused by the development of the tourist industry will soon result in another threatened species.

The majority of species comprising our lacertilian fauna probably date to the time when the Islands were connected to the surrounding land masses by land bridges. Since then other species have been imported and released.

However, of these only the Chamaeleon (*Chamaeleo chamaeleon*) which was originally imported around 1870–1880 and set free in a private garden at St Julians, Malta, has been successful and has established itself. The Chamaeleon is often collected and kept as a pet mainly because of its peculiarity. While keeping it alive in captivity is not too difficult, provided it is adequately fed, few people can afford the time and most captive specimens end up dead.

The two species of geckos present on the Islands are very much persecuted, mainly because of ignorance, since they have been in the past associated with leprosy. The Wall Gecko (*Tarentola mauritanica*) is the most persecuted species because of its habit of sunning itself and thus is the species most readily seen. The skink also suffers since it is less agile and is more obvious and because people erroneously think it a dirty animal. The skink has in the past been attributed with medicinal properties and used to be sold by children to pharmacists and doctors who believed in its properties, even though they are questionable. This fact has further helped reduce the skink population.

The local lizard is a species endemic to the Maltese Islands (i.e. it is found only on these Islands and nowhere else in the world). The lizards on the various islands on the Maltese archipelago are considered to be local forms of this species. While the Maltese lizard is not as widespread as it used to be, mainly



Head of the Mediterranean Chameleon, *Chamaeleo chamaeleon*

(Photo credit: Patrick J. Schembri)

because of land development, it is in no danger. The forms on the smaller islands around Malta and Gozo are also in no immediate danger, since many of these islands are inaccessible or else not frequented by people. On the other hand, some of these islands such as St. Paul's Islands and General's Rock are exceedingly small, and any disaster, whether natural or man-made, will almost certainly wipe out the entire population. Care should thus be taken not to let such a disaster occur through the agency of man.

Snakes have always been associated with poison and death, so much so that in the first reference to the Maltese ophidea in the Acts of the Apostles (28; 1 - 6) the species in question is referred to as a viper. At present, the snake fauna includes four species, all belonging to the family Colubridae, all members of which are non-poisonous to man.

It is difficult to establish the origin of the various species of snake but it is very probable that two species, the Black Whip and Leopard snakes, have been with us since Pliocene period. The other two, the Cat Snake and the Algerian Whip Snake appear to have been introduced by man. However, the Cat Snake may also be indigenous and the localized habitat may be only a feature of its shy and nocturnal nature.

Whereas the indigenous species of snakes are widespread, the two which have been introduced seem to be very much localized and limited to the

northeastern part of Malta. The snake population is on the decline, not only because of the direct senseless persecution suffered by these animals because of ignorance and superstition, but also because land development is decreasing its habitat area.

From this brief survey of the Maltese herpetofauna, it is evident that all the species are suffering from land development which destroys their habitat area. On the positive side many afforestation projects now in progress should lead to an increase in the Chamaeleon population; also the water conservation projects involving damming of valleys and reservoirs building should also increase the Painted Frog population.

Some species, notably the geckos, the skink and the snakes, are suffering senseless persecution due to ignorance, superstition and fear. This persecution is rendered more senseless because all the species are beneficial to man in that they feed on obnoxious animals and are not in any way harmful to man.

Conservation of our amphibian and reptilian species must start with education. The introduction of units on Maltese natural life into the civics and biology curricula of schools would do much to eliminate the mystery and ignorance regarding our few local species.

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