SEA TURTLES

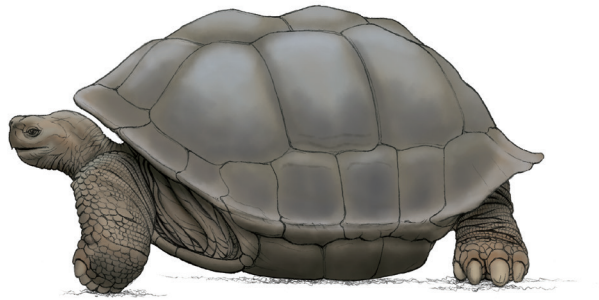
Only seven species of turtles are adapted to a truly marine existence, their single connection with land being the females' laborious journey onto sandy shores to lay their eggs. In recent times such a sight has become a magnet for tourists and sea turtles have become a source of fascination and delight to naturalists, divers and holidaymakers alike. But these creatures also have a long history of exploitation and in spite of a fossil record dating back to the late Triassic around 230 million years ago, the seven living species are all now endangered.

A number of other turtles and terrapins live part or all their lives in brackish estuaries, mangroves and coastal swamps, whilst some other primarily freshwater species use the sea as a route to feeding and nesting sites.

DISTRIBUTION

Sea turtles are mostly restricted to warm temperate and tropical waters with temperatures of at least 20°C. Thanks to an ability to regulate its body temperature (p.402), the Leatherback Turtle (*Dermochelys coriacea*) can also range into cold temperate waters and is found as far north as the Arctic Circle and some distance south of New Zealand.

The low, streamlined carapace of marine turtles is an adaptation to their aquatic lifestyle. However, there is no room to withdraw their head and flippers into the shell.



Land tortoises have a much heavier and higher carapace than their marine relatives. Withdrawing the head and legs under the protection of the shell is an effective defence strategy.

STRUCTURAL ADAPTATIONS

In contrast to their rather ponderous and often dome-shaped land relatives the tortoises, marine turtles have flattened streamlined shells and long flippers for swimming. This is especially obvious in the Leatherback Turtle whose flippers can be nearly as long as its body. This makes them extremely cumbersome on land and a turtle captured and turned onto its back cannot usually right itself.

Green Turtle (*Chelonia mydas*).

BIOLOGY AND ECOLOGY

Feeding

Turtles use their strong beak-like jaws to tear or snatch their food from the seabed. Most are specialist feeders and this is reflected in the various beak shapes. Adult Green Turtles (*Chelonia mydas*) are exclusively vegetarian and graze on seagrasses and marine algae. Hawksbill Turtles (*Eretmochelys imbricata*) feed almost exclusively on sponges, though the author has seen them feeding on large-polyped corals such as *Plerogyra*, and Loggerhead Turtles (*Caretta caretta*) can cope with tough crustaceans and molluscs. Kemp's Ridley (*Lepidochelys kempii*) and Olive Ridley Turtles (*Lepidochelys olivacea*) are opportunistic and will eat crustaceans, and sea urchins, with Kemp's Ridley also taking molluscs and even fish. Flatback Turtles (*Natator depressus*) are thought to eat mainly soft-bodied animals including sea cucumbers, soft corals and jellyfish. Leatherback Turtles eat jellyfish and other gelatinous and soft-bodied animals and the throat is lined with backward-pointing spines to help the passage of their slippery prey down into the stomach. This is why litter such as plastic bags are a problem as once a Leatherback has mistaken a bag for a jellyfish and started eating it, it cannot regurgitate it.

The sharp beak of a Hawksbill Turtle (*Eretmochelys imbricata*) is ideal for tearing sponges. The remnants of the sponge will often regrow.