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Reptiles

Sea snakes occur throughout the tropical and subtropical parts of the Indian and Pacific Oceans and along the west coast of Africa. There are about 60 species of them, all belonging to one family, the Hydrophiidae. They are closely related to the cobras, and although venomous, they rarely molest people. Most of them are viviparous; a few that are not go ashore to lay eggs. At least one species (*Laticauda colubrina*) can climb. In Singapore, these snakes are said to climb up the poles which support houses built over the water, and to live there, going down into the water only to feed.

Sea snakes swim in aggregations varying from a few individuals to millions. They live near land, tend to be most numerous in estuaries about mangrove roots, and sometimes swim upstream 80 or 100 miles. One species (*Pelamydrus platurus*) swims hundreds of miles out to sea; it is the most widely distributed of all sea snakes. It occurs from the western side of the Indian Ocean off southeast Africa and Madagascar to the eastern side of the Pacific along the tropical American coast, where it is the only species of its family. There are a few records of its occurrence off the west coast of Africa.

Sea snakes prey on fishes, chiefly eels. Most species are about 4 feet long at adult size, but a few grow to be 6 to 9 feet. Fishermen catch sea snakes and market them for food in some parts of the Orient and Polynesia. Although edible, and presumably nutritious, they are not abundant enough anywhere to become the basis of a great fishery. Little is known about sea snakes, and the literature is full of contradictions as well as of lore copied from one work to another.

A few species of turtles have paddles in place of feet and so are adapted for swimming in the sea. These are classified into two families, the Cheloniidae, which contains four genera and species, and the Dermochelyidae, which contains only one.

In sizing up the sea's food resources, people may not be giving enough weight to turtles. In the *Yearbook of Fishery Statistics*, for example, the Food and Agriculture Organization gives the production of an item called "Aquatic Fauna." This lumps together "miscellaneous aquatic reptiles, amphibia and invertebrates"! Even where such statistics are more specifically reported, they are likely to be highly inaccurate about turtles. The reason for this is that ordinarily these animals are not the object of organized fisheries, and most catches are made by subsistence fishermen working out of villages in remote places, and go unreported. Thus turtles may be much more important than is usually recognized.

Marine turtles are chiefly coastal animals of warm waters. There are only five forms which occur around the world. These may belong to world-wide species, or the stocks of the Atlantic may differ enough from those of the Pacific and Indian Oceans to deserve recognition as distinct species or subspecies. This question has not yet been firmly answered because details of anatomy vary considerably, probably being affected by temperature and other environmental conditions. Moreover, they change with age, and not enough specimens have been measured to provide the material necessary for the statistical analysis required to resolve these complexities.

There is considerable variation in habit from one species to another. Some turtles are seagoing; others stay closer to shore, live in tidal waters, in and about estuaries, in lagoons and salt marshes, and a few wander into fresh water from time to time.

No species is quite independent of land, even those that venture far out onto the high seas, for they must all go ashore during the breeding season to lay eggs. They are more vulnerable to careless exploitation during this season than are most fishes and invertebrates, for not only the animals, but their eggs as well, are hunted and easily gathered then. The annual take of the eggs of green turtle in the Irrawaddy Division of Burma, for example, is about 1.6 million a year.

The various species are not equally valuable, nor are those that are valuable sought with equal intensity throughout their respective ranges. In many places they are open game, free for the taking; in others they are given various sorts of protection for conservation purposes. For the most part, such protective devices are based on

judgment of what seems right rather than on facts, and there is no basis for quantitatively estimating their effectiveness.

The supply of sea turtles has been severely reduced in many parts of the world where they were once abundant. This is due partly to careless exploitation, but probably more to destruction of the breeding grounds by the spread of human habitation. It does not seem likely that sea turtles could ever become a great food resource. Nevertheless, the yields could probably be improved substantially by the application of appropriate conservation measures. To devise such measures would require extensive studies on the biology of turtle populations to identify the stocks and to learn such essential facts about them as their rates of reproduction, growth, and death, the patterns of their migration, and their general behavior. Information on these facets of their biology is extremely fragmentary, where any exists at all.[1]