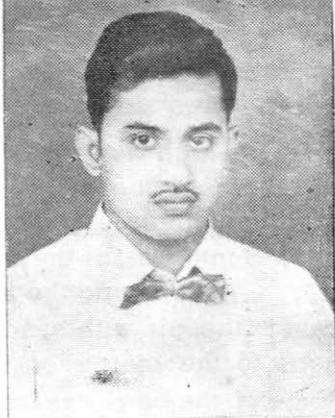


Marine Turtle

- A VALUABLE RESOURCE FROM THE OCEANS

P. G. JACOB

Central Marine Fisheries
Research Institute, Cochin-11



Turtles and tortoises are supposed to have the longest life-span among animals even though there are no conclusive evidence to prove this. They belong to Class Reptilia of the Sub-phyllum Vertibrata i.e. back boned animals. According to Zoologists, for the last 160 million years they have not undergone any morphological changes. They are generally believed to have a life-span of 300 to 400 years. A turtle which is said to have been grown by Captain Cook in 1777 A.D. is still living in the Tongo Island. If this is true this particular turtle is 195 years old at present. There exists another turtle on the Carapace of which is inscribed 'GEORGE WASHINGTON'.

Present day turtles lack teeth though some of their ancestors had them. There are about 200 kinds of turtles. Majority of them live exclusively in aquatic environments. Turtles are said to be slow moving animals. But among the present day reptiles they are comparatively

faster. In Dermochelid turtles the body is covered by a leathery cover and they grow about 2 meters in length. *Testudo tornieri* which lives among the rocky shores of Africa has a thin shell which facilitates easy propagation through rock crevices.

Turtles are considered to be holy creatures by the Burmese and are grown in ponds near the pagodas. Turtles have an important place in the religious rites of the aborigines of Australia. Malayasians do not eat turtle meat but the eggs are a delicacy. Soups and broths prepared from turtles and terrapins have been highly prized by epicures from earliest historical times. In the past, during long voyages turtles were used as a source of meat on board. In many countries turtle meat is used today for the preparation of soups and steaks.

Marine turtles grow upto 1/2 a ton but land tortoises are smaller. The males

of marine turtles seldom invade land. But the females visit sandy beaches in large numbers for laying eggs periodically. They move quiet a few meters from the high water mark in the sandy beaches leaving a trail and scoop up sand with their flippers to make shallow ditches into which they lay a number of eggs. After laying the eggs the mother covers the pit with sand and leaves the eggs to the mercy of mother nature. Some of the eggs are stolen and eaten by foxes, dogs and men. The rest are hatched by the heat of the sun and the young ones find their way to the mighty ocean, most probably by following the trail left by the mother during her egg laying mission. Out of the hundreds of young ones hatched out, only a few lucky ones survive, the rest being devoured by predators - mostly Island birds. Many of the panoramic sandy beaches of the coral Islands in the vast Indo-Pacific are excellent breeding-grounds for marine turtles. Thousands of turtles lay eggs in the Ascension Island which is located in the Atlantic Ocean between Brazil and Africa. After laying eggs they dissappear into the sea. Turtles appear along the Brazilian coast also. Most of the marine turtles undertake long seasonal migrations. Like birds, which fly all the way from the North pole to the South pole, turtles also migrate from their breeding grounds to feeding grounds. The mechanism by which they locate their destinations with pin-point accuracy is still a mystery to biologists. To study the range of their migration large numbers of them are tagged with small metal pieces and released into

the sea. Such studies have revealed that same groups of turtles visit the shores of Brazil and Ascension Island.

Estimates show that turtle meat valued at about Rs. 81,206; 58,504; 12,324 and 60,423 was exported from India in 1963, 1964, 1965 and 1966 respectively. *Chelonia mydas* (Green turtle) which is found in all the oceans is widely used as a source of meat. For this purpose about Rs. 40,000 worth of Green turtles are annually exported to Ceylon from Rameswaram in India. They are exported alive, the flippers being tied and placing them in an upside down position.

The 2 most important species of true marine turtles in our seas are the Green turtle and the Hawksbill-turtle. Of the two, the Green turtle is of great meat value. The Hawksbill turtle (*Chelonia imbricata*) is the source of the 'tortoise shell' of commerce and is used only to a limited extent for soups and steaks. Cuba, Yucatan, Mexico, Costa Rica, Nicaragua and the West Indies are some of the other countries having turtle fisheries.

Chelonia mydas (Green turtle):- The fat of this turtle is greenish and this has given its popular name. Although the shell is attractively coloured it has no commercial value. The adult animal attains a length of more or less 1 meter and may weigh 150 to 250 kgs. It is omnivorous but feeds largely on a marine vegetation known as 'turtle grass'. During May, June and July - the egg laying season - females are greatly enhanced in value because of

the demand for the eggs. The white and mature eggs sell at a lower price than the yellow, immature eggs which are sold by weight and are considered a great delicacy. A female is said to carry 3 to 15 kgs of eggs according to its size and condition. The mature eggs are about the size of golf balls and the parchment-like shells do not break if dropped from a height.

The chief source of tortoise shell is the shields of the carapace of the Hawksbill turtle (*Chelonia imbricata*). During 1967-68 season 60,345 kgs of tortoise shells valued at about Rs. 16,770 were exported from India. Netherlands, West Germany, United Kingdom and Singapore were the chief buyers. Hawksbills are the smallest marine turtles and generally reach a length of not more than 75 cm although very rarely shells of 86 cm length have been recorded.

Manufacture of tortoise shell:- The shields of the carapace are removed from the shell either by immersion in boiling water or by heating over a fire. Tortoise shell is processed in the same manner as horn; but greater care is taken in view of their enhanced value. The plates in their natural condition are keeled, curved and irregularly shaped. They are flattened by heat pressure. Tortoise shell can be welded when hot by pressing the pieces together in a vise. Tortoise shell has been highly prized for ornamental purposes since time immemorial. The early Romans brought them as coveted treasures from Far East. At present tortoise shell is used in the manufacture of valuable inlaid work, toilet articles, knife handles and various other ornaments. The horny

shields of the carapace of some other turtles other than Hawksbills, are also used in handicrafts but these are either opaque or soft and leathery and are low in quality.

Turtle meat poison:- There are stray incidents of food poisoning by eating turtle meat. There were reports of families being wiped out by turtle meat poisoning at Tuticorin and Neendakara in the recent past. Turtles accumulate food poisoning elements in their flesh by feeding on certain kinds of poisonous marine plants and remain immune. Such flesh when consumed cause severe food poisoning. This type of poison first affects the brain and the nervous system. Gradually respiration and the working of the heart also are impaired. No satisfactory remedy has hitherto been found for turtle meat poison. Hence it would be better to avoid eating turtle meat of doubtful nature.

Turtle farms:- Growing turtle in enclosed farms is difficult. But owing to the value of turtle meat many countries have started trials to farm them. Recently the Fish and Wild life Service of the USA has been very successful in propagating the Diamond back terrapin (*Malaclemys* spp.) at the Beaufort Station by methods devised there. There are a number commercial hatcheries in operation in the Chesapeake Bay area. With suitable modifications many of the coral atolls in the Arabian Sea can be converted to turtle farms. In India the Union Territory of Laccadives will have the honour of having the first turtle-rearing farm. Work on an experimental farm has already been started in Minicoy.