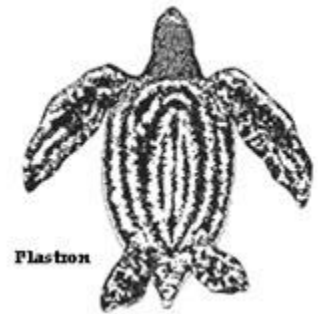
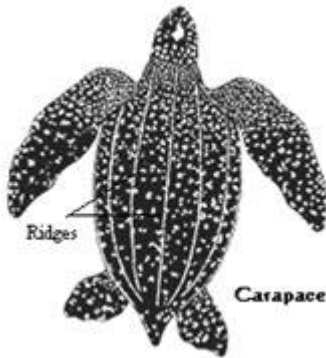


LEATHERBACK SEA TURTLE

(Dermochelys coriacea)

General Characteristics

The leatherback is the only sea turtle that lacks a hard shell (carapace). Their name is derived from the fact that their soft shell is composed of a thin layer of tough, rubbery skin, similar to leather which is strengthened by thousands of tiny bony plates. The leatherback lacks scutes and scales that are present only in the first few weeks of life. The skin is typically black with white or pale spots. Their streamlined, flexible carapace has seven longitudinal ridges (keels), while the plastron varies in color and has five ridges.



Size

The leatherback is the largest of all sea turtles - a female can weigh roughly 500 Kg (1100 lbs.). Their carapace measures between 130 and 175 cm (Aprox. 4-6 ft.), while their large head represents approximately 20% of the entire carapace length. They have powerful front flippers which lack claws. The largest leatherback reported was a male captured more than 15 years ago in Wales (Great Britain), weighing approximately two tons (1,000 kg / 2,200 lbs) and measuring 3.05 meters (slightly more than 10 ft.) from the tip of its beak to the end of the tail.



Habitat

The leatherback is the deepest diver of all sea turtles and exhibits the most extensive distribution. A typical dive lasts 15 minutes and rarely reaches depths of more than 200 meters (650 ft.), although dives deeper than 1,000 meters (3,300 ft.) have been reported. They are found world wide, primarily in pelagic (open ocean) waters of temperate and tropical oceans as well as in very cold sub-arctic waters. It is

common to observe them in temperate waters of the eastern as well as western United States of America and Canada. Leatherback turtles exhibit great thermal tolerance; they can maintain their core body temperature up to 18 degrees Celsius (64 °F) above the temperature of the surrounding water. The reasons behind this ability to retain their body heat may be associated with various characteristics, including thermal inertia derived from their great body mass, the fatty sub-dermal layer which acts as an insulator, and counter-current heat exchanges in the flippers.

Diet

The leatherback lacks teeth; however, deep cusps form tooth-like projections on the upper jaw and papillae (spiny projections) line the throat (see photo). These are two distinctive characteristics of their specialized diet of soft-bodied animals, mainly jellyfish. Leatherbacks are immune to Colenterate (jellyfish) toxins; such as those found in the venomous Portuguese man-of-war. Although specific growth rates are unknown, leatherbacks may grow quickly by eating many times their body weight daily.



Nesting

Although an exact age to maturity does not exist, there have been various attempts at estimating it, placing it anywhere from 9 to 14 years, with an estimated life-span of 30 years or more. Females nest approximately every 2 to 3 years; however, recent research has indicated they can nest annually. Nesting occurs at night, when the turtle drags herself up the beach, usually beyond the high-tide line. Nesting females prefer beaches with a reduced continental shelf (deep approach), open access free of rocks and abrasive corals, high-energy coastlines, strong currents and high surf. On average, a female will lay 80 eggs with yolk, about the size of billiard balls, and 30 smaller, oddly shaped yolkless eggs in each nest. Eggs incubate for about 65 days.



Similar to other species, sex determination for hatchlings depends on the “pivotal temperature” (where the gender ratio is 1:1), which has been estimated to be about 29.5°C (85°F) in Suriname and French Guyana. As with other sea turtle species, higher incubating temperatures favor the production of females. Nesting within the American Continent occurs throughout the Caribbean, off the northern coast of South America, the Pacific coast of Central America and the east coast of Florida.



Hatchlings

Hatchlings are covered with small, soft polygonal scales and predominantly black in color with white along the borders and crests. Other characteristics of leatherback hatchlings include their very long front flippers, which almost reach the entire carapace length and their lack of claws. The typical length of the carapace is 60 mm (2.4 in.) and weight of approximately 45 grams (1.6 ounces).

Migrations

Sea turtles spend over 90% of their lives in the water (feeding, mating and migrating). During this time, leatherbacks, similar to all sea turtles, have the ability to migrate hundreds, sometimes even thousands of miles from feeding ground to nesting beach. Therefore, to fully protect sea turtles throughout their range, more research must be carried out about their migratory patterns and their behaviour while in the water. Current research, such as fitting sea turtles with satellite transmitters has provided important information regarding this phase of their life cycle, which can then be applied for management purposes. For example, it is now generally recognized that the leatherbacks nesting in the Caribbean migrate towards the east coast of the United States and Canada, while those nesting in Mexico and Panama migrate towards Equatorial waters, near the Galapagos Islands. Yet, there is still much to be learned.



Current Status

The World Conservation Union (IUCN) classifies the species as Critically Endangered of Extinction, experiencing a global decline of at least 80% of its populations over the last 10 years. Some of the most important leatherback populations, for example, along the Pacific coast of Mexico, have shown up to a 90% decline over the last decade.

Threats

The principle threats to the leatherback turtles have been identified as incidental capture in marine fisheries, unsustainable exploitation of eggs and turtles, as well as the destruction or alteration of their nesting habitat.

Population Trends

Scientific studies and numerous data collected from track counts on leatherback nesting beaches in the Eastern Pacific have shown their conservation status to be extremely critical. These trends of large nesting colonies continue to decline in areas with little protection. Currently, the four largest nesting colonies on a global scale are: the southern coast of Gabon, French Guyana and Surinam, Trinidad and Tobago, and the Caribbean Coast of Costa Rica and Panama; the latter three of which are located within the area of application of the Inter-American Convention for the Protection and Conservation of Sea Turtles.

Inter-American Sea Turtle Convention

Cooperative efforts from a variety of governmental as well as non-governmental organizations to conserve distinct sea turtle populations inhabiting the American Continent have existed for many years. The Inter-American Convention for the Protection and Conservation of Sea Turtles (IAC), which entered into force in May of 2001, provides an opportunity for dialogue and action favoring sea turtle management. The IAC is the only international body establishing legal instruments and guidelines that commit the Parties to, among others, protect and conserve populations of sea turtles and their habitat, reduce incidental capture and foster international cooperation for research and management of sea turtles. Currently, eleven countries- Belize, Brazil, Costa Rica, Ecuador, United States, Guatemala, Netherlands Antilles, Honduras, México, Peru and Venezuela – are Signatory countries, meanwhile two more, Nicaragua and Uruguay, have sent in the necessary instruments for accession to the Government of Venezuela, the official depository nation.

Due to the critical state of the leatherback, during the past Conference of the Parties, COP2CIT, held in November of 2004, the Contracting Parties approved [Resolution COP2CIT-001: "Conservation of leatherback turtles \(*Dermochelys coriacea*\)"](#), urging these countries to take necessary actions to reverse the critical situation of this species, insisting that they act upon unsustainable harvesting of sea turtles and their eggs, the destruction or alteration of their habitats, and incidental capture, while strengthening cooperative efforts with pertinent organizations in the region and creating coordinated efforts to avoid the imminent extinction of the leatherback.

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Papillae in female leatherback (2 photos) - Karumbé Project (Uruguay), 2003
Leatherback clutch - Matthew Godfrey
Hatchling - Johnson 2002, www.floridaleatherbacks.com

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