

771

(12)

(63)

Reprinted from: *Seafood Export Journal*,
Vol. VIII - No. 1, January, 1976.

THE TURTLE RESOURCES OF INDIA

T. S. N. Murthy & A. G. K. Menon
Zoological Survey of India, Madras.

INTRODUCTION

Turtle* is the term used for a group of reptiles of the order Testudinata whose members are recognised by their short wide bodies encased in a protective armour, the shell, which is composed of the dorsal carapace and the ventral plastron. They are devoid of teeth but provided with the horny sheaths. The body is covered with polygonal scutes or scales or a leathery skin.

The turtle resources of our coasts, islands and inland waters are extremely rich. Their systematics, distribution, biology and prospects of farming for food and export are briefly discussed in this article.

The turtles are included in the families Emydidae (Fresh-water Tortoises), Trionychidae (Mud Turtles), Testudinidae (Land Tortoises), and Dermochelidae and Cheloniidae (Marine Turtles). They can be recognised by the following key:

* The word "turtle" is generally used to denote semi-aquatic and marine species, "terrapin" to the hard-shelled fresh-water species that are edible and "tortoise" to the strictly terrestrial species.

KEY TO THE FAMILIES

1. Limbs paddle-shaped 2
 Limbs not paddle-shaped 3
2. Limbs clawless; shell covered with smooth skin Dermochelidae
Dermochelys coriacea
(Leatherback Turtle)
 Limbs clawed; shell covered with horny shields Cheloniidae
(Marine Turtles)
3. Digits with four or five claws: shell covered with horny shields 4
 Digits with three claws: shell covered with smooth skin Trionychidae
(Mud Turtles)
4. Limbs more or less flattened; digits webbed Emydidae
(Fresh-water Tortoises)
 Limbs more or less cylindrical: digits not webbed Testudinidae
(Land Tortoises)

KEY TO THE SPECIES OF MARINE TURTLES
(Cheloniidae)

- 1 Four pairs of costal shields 2
Five or more pairs of
costal shields 3
- 2 Dorsal shields imbricated, jaws hooked *Eretmochelys imbricata*
(Hawksbill Turtle)
- Dorsal shields juxtaposed, jaws hooked *Chelonia mydas*
(Green Turtle)
- 3 Four pairs of infra-marginal laminae, most with pores at their posterior edge *Lepidochelys olivacea*
(Olive Ridley Turtle)
- 4 Three pairs of infra-marginal laminae, without pores *Caretta caretta gigas*
(Logger head Turtle)

KEY TO THE SPECIES OF FRESH-WATER TORTOISES
(Emydidae)

- 1 Hexagonal neural plates short-sided behind *Geoemyda trijuga*
Hexagonal neural plates short-sided in front 2
- 2 Fore-limb with 4 claws *Batagur baska*
Fore-limb with 5 claws 3
- 3 Fourth vertebral shield not longer than third *Herdella thurgi*
(Brahminy River Turtle)
- Fourth vertebral shield elongate, much longer than third 4
- 4 26 marginal shields *Kachuga sylhetensis*
24 marginal shields 5

- 5 Neural plates much longer than broad *K. smithi*
(Brown River Turtles)
- Neural plates not longer than broad *K. tectum*
(Indian Sawback Turtle)
- 6 Second vertebral shield pointed and produced behind *K. dhongoka*
Second vertebral shield with straight transverse posterior border 7
- 7 Choanae behind the level of the eyes *K. bachuga*
Choanae on a level with middle of the eyes *K. trivittata*

KEY TO THE SPECIES OF MUD TURTLES
(Trionychidae)

- 1 Plastron with a cutaneous femoral valve *Lissemys punctata*
(Indian Flapshell Turtle)
- Plastron without cutaneous femoral valves 2
- 2 Orbit nearer the nasal than the temporal fossa *Chitra indica*
(Narrow-headed soft-shell Turtle)
- Orbit nearer the temporal than the nasal fossa 3
- 3 Alveolar surface of mandible raised at its inner margin *Trionyx gangeticus*
(Indian Soft-shell Turtle)
- Alveolar surface of mandible not raised at its lower margin 4
- 4 Head with black streaks *T. leithi*
Head marbled with black and yellow *T. hurum*

KEY TO THE SPECIES OF LAND TORTOISES
(Testudinidae)

- | | | | |
|---|---|---|---|
| 1 | Fore-limb with four claws;
two supraeaudal shields | <i>Testudo emys</i> | |
| | Fore-limb with five
claws: supracaudal
shield single | | 2 |
| 2 | Vertebral and costal
shields forming distinct
humps in the
adult | <i>T. elegans</i>
(Starred Tortoise) | |
| | Vertebral and costal
shields not humped | <i>T. travancorica</i> | |

SYSTEMATICS

MARINE TURTLES

Family 1. CHELONIIDAE

The sea turtles are rivalled only by the sea snakes in adapting perfectly to the aquatic environment. With their forefeet modified as flippers, they have also developed an efficient swimming stroke.

1. *Chelonia mydas* (Linnaeus)
(Green Turtle)

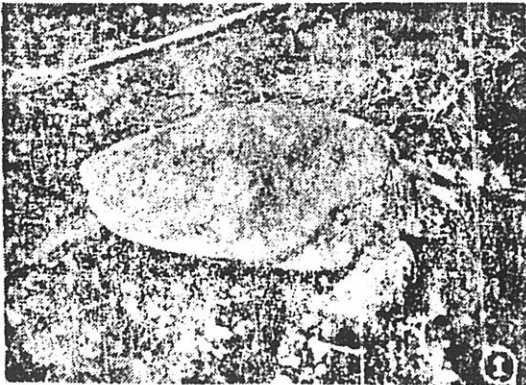


Fig. 1. Green Turtle (*Chelonia mydas*)

Synonyms: *Testudo mydas* Linnaeus

Description: Four pairs of costal shields; carapace not completely ossified. Numerous choanal papillae and single clawed flippers. Jaws not hooked.

Mottled greenish above, yellowish below. Half-grown specimens bear radiate patterns on the carapace and are referred to as "Sunray turtles". The popular name of Green Turtle is due to the olive taint that suffuses the dorsal aspect of the adult. May attain a weight of over 250 kg and a carapace length of about 120 cm. A female of this species is said to attain maturity when its carapace is one metre in length.

Distribution: The Green Turtle usually inhabits shallow waters less than 25 metres in depth and prefers areas sheltered by reefs where it feeds on algae. Generally distributed throughout the Indian and Pacific Oceans, it is found in abundance in and around the Krusadai and the Andaman-Nicobar group of Islands.

Economic importance: The Green Turtle is considered one of the most valuable of all living marine reptiles of the world because its flesh has long been known as a delicacy. The flesh of this turtle is good to eat and is also the main source of the famous 'turtle soup' on account of which the turtle itself is called by Germans as "Suppenchild krote" (Soup turtle). In addition to its flesh, the eggs of a Green Turtle are a staple diet for natives in several parts of the world. Green Turtles are also sought for their oil which is used in the manufacture of cosmetics. Recently