

Chelonia imbricata

## CHELONIA IMBRICATA.-Linnæus.

Plate $V$.

Characters. Head elongated, narrow; snout prolonged; jaws without serræ, both hooked; shell oval; slightly carinate, sub-cordiform, concave in front, flattened and serrated behind, and covered with thirteen vertebral and lateral plates, remarkably imbricated; two nails to each extremity.

> Synonymes. La Tortue caret, Dutertre, Hist. des Ant., tom. ii. p. 229.
> Hawksbill Turtle, Catesby, Carolina, \&c., vol. ii. p. 39, tab. xxxix.
> Hawksbill Turtle, Brown, Hist. Jam., p. 463.
> Testudo imbricata, Linnæus, Syst. Nat., tom. i. p. 350.
> Le caret, Lacépède, Hist. des Quad. Ovip., tom. i. p. 105, tab. ii.
> Testudo imbricata, Gmelin, Syst. Nat. Lin., tom. i. p. 1036.
> Testudo imbricata, Schoepff, Hist. Test., p. 85, tab. xviii.
> Testudo imbricata, Latreille, Hist. Nat. Rept., tom. i. p. 50.
> Testudo carretta, Daudin, Hist. Nat. des Rept., tom. ii. p. 39.
> Testudo imbricata, Shaw, Gen. Zool., vol. iii. part i. p. 89, pl. xxvi. xxvii.
> Caretta imbricata, Merrem, Versuch eines Syst. der Amphib., p. 19.
> Chelonia imbricata, Schweigger, Prod. Arch. Königsb., vol. i. p. 291 and 408.
> Chelonia imbricata, Gray, Synop. Rept., p. 52.
> Chelonia imbricata, Dumeril et Bibron, Hist. Nat. des Rept., tom. ii. p. 547.
> Chelonia imbricata, Cocteau, Hist. de l'Isle de Cuba, par Ramon de Lasagra, p. 28.
> Hawkbill Turtle, Vulgo.

Description. The shell is depressed, oval or sub-cordiform, almost ecarinate, slightly concave in front and over the shoulders, flattened, narrow and serrated behind, and covered with thirteen plates, imbricated like tiles on the roof of a house. Of these plates the first vertebral is irregularly hexagonal, larger in front
and slightly prominent in the centre; the second and third are also hexagonal, with their anterior margins concave and slightly rounded behind, to fit the adjoining plates; the fourth is similar in form, but broad before and narrow behind; the fifth is irregularly trapezoid; the first lateral plate is irregularly quadrilateral, longest in the transverse direction, and rounded at its anterior and external margin; the second and third are pentagonal; the fourth is quadrilateral and smaller, with its posterior border shortest; of the marginal plates, the nuchal, or intermediate, is irregularly quadrilateral, extensive transversely, narrow at the middle, and concave in front; the first marginal is irregularly triangular, with its external angle curved; the second is quadrilateral, as well as the third, fourth, fifth, sixth and seventh, and more or less elongated; the eighth, ninth, tenth and eleventh have their outer and posterior angles more and more developed, and projecting beyond the adjoining plates; the twelfth are trapezoidal, with a deep notch between them, which gives a serrated appearance to the posterior margin of the shell more or less distinct: these plates are all imbricated, and smooth, but in old age they sometimes become wrinkled.

The sternum is large, full, entire in front and behind, but hollow and depressed along the mesial region; the inter-gular plate is small, triangular, with a rounded base directed forwards; the gular are irregularly quadrilateral, elongated outwards and forwards; the brachial are irregularly quadrilateral, large, and most so in the transverse direction, with their anterior and external angles truncated; the thoracic and abdominal are quadrilateral and very extensive, most so transversely; the femoral are also broad, but are irregularly quadrilateral, having their posterior and external angles truncated; the sub-caudal are irregularly trigonal and elongated; of the supplemental plates, the axillary is irregularly pentagonal, the inguinal is quadrilateral, and between these are two quadrilateral or pentagonal plates that unite the abdominal and femoral with the marginal.

The head is oval, elongated, compressed at the sides, and very narrow in front of the eyes. The upper jaw is greatly prolonged, and hooked anteriorly, like the beak of a hawk, from which circumstance the common name of the animal is
derived. The lower jaw is also elongated, and furnished in front with a smaller or less developed hook or tooth; and both have their cutting margins entire or without serræ.

The vertical plate is hexagonal, very large, and is joined before to the frontal, behind to the occipital, and laterally to the superior orbital, which are oblong and of hexagonal form; the frontal plate is large, hexagonal, with its greatest extent in the antero-posterior direction, and joined before to the anterior frontal plates, and behind to the superior orbital; there are two anterior frontal plates of similar form, but very small, and largest transversely; the nasal are minute and pentagonal; there are four occipital, the internal are larger and quadrilateral; the external are smaller and of triangular shape; there are two parietal that unite with the superior orbital plates; and three very small posterior orbital plates, the upper quadrilateral and larger; behind these there are several polygonal temporal plates.

The nostrils are small, anterior, and closely approximated. The eyelids are large, the upper by far the greater, and covered with some large flexible scales; they open obliquely from above, downwards and forwards. The eyes are large and prominent; the pupil deep sea-blue; the iris golden, reticulated with light brown.

The anterior extremities are very long, though not broad, and are not unlike the wings of an eagle in shape; at the shoulder they are covered with small flexible plates; at the fore-arm, carpus and fingers the plates are much larger and of variable form; a row of large plates, slightly imbricated, ten or twelve in number, are placed on the anterior border; those along the fore-arm are hexagonal; those at the fingers are rather quadrilateral; on the posterior margin is a fold of skin, in which are placed several large, elongated, quadrilateral plates; in front there are two elongated nails. The posterior extremities are half the length of the anterior, rather rounded at the thigh, but flattened like a paddle at the tarsus and toes, and are covered like the anterior, but with smaller plates,

Vol. II.-6
and are also furnished with two elongated nails. The tail is short, conical and covered with soft flexible plates, disposed without order.

Colour. The plates of the head are chestnut-brown in the centre, sometimes tinged with red, with their margins of lighter colour; the jaws are yellowish, with occasional bars of brown; the neck above is dusky; the chin and throat yellow; the plates of the shell are fawn colour, more or less bright, and marked with radiating or waving bars or spots or blotches, of variable size, and beautiful bright chestnut-brown; the sternum is yellow; the extremities and tail are coloured above like the shell, but more dusky, and are dingy-yellow below.

Dimensions. The dimensions of the animal here described were as follows: length of head, 5 inches; length of shell, 18 inches; length of sternum, $11 \frac{1}{2}$ inches. They sometimes, however, approach the Green Turtle in size.

Habits. In their native condition I am not aware that the habits of this animal differ from those of the Chelonia caretta; they seek similar localities and the same food, but in confinement they seem much more ferocious: I have observed them bite severely the Chelonia mydas, when swimming together in the same reservoir, though the other gave no offence; nor did he offer retaliation for the injury received.

Geographical Distribution. The Chelonia imbricata is found only at the extreme southern points of the United States; once only I knew a fine specimen driven to the shores of Carolina during an equinoxial storm.

General Remarks. This animal is only esteemed for the substance it affords called "Tortoise-shell," which is but the lamina or plates that cover the bony shell. Other species of Chelonia have a similar covering, but in no other are these plates sufficiently thick to be of any value in the arts. These lamina are obtained by exposing the convex portion of the shell to a certain degree of heat, which destroys the connection between the plate and the shell; it is now recurved
from the borders towards the centre, and can then be easily removed. These plates vary in thickness and in transparency, and are consequently arranged in classes of different value. Tortoise-shell is not considered of the best quality unless the animal has reached a certain size, about one hundred and sixty pounds; before that state, it is too thin. The quantity obtained varies much in weight in different animals; fifteen pounds is the most obtained even from animals of the largest size; yet this substance is so valuable that a Chelonia imbricata of the same dimensions with a Green Turtle would sell for ten times as much.

The lamina, when separated, are delicate and easily broken; yet, by certain management, they can be made to take on any desired form; this is done by immersing them for a time in hot water, and then placing them in moulds of iron or wood; many portions may be joined together by cutting or scraping the edges thin and placing them in accurate contact, in which position they must be retained, and kept in boiling water till softened, then removed and suddenly cooled; and thus can a continuous surface of great extent be produced, even sufficient to cover pillars and doors, as practised by the ancients, with whom it was held in great estimation. For information as to the procedure of arranging this substance for different purposes, as well as for the various uses to which it is applied, we may refer to those works of art that treat on the subject.


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