

jects very little, if at all, immediately about the front end; but, beginning at the arch of the third pair of ribs, where the carapace and plastron first meet, it grows wider and wider backward, until about the hind end it becomes a broad leaf, which, when the animal is at rest, in the American species at least, drops down behind the body on account of its own weight.

The carapace and plastron first meet in the arch of the third pair of ribs, there encircling the shoulders, and continue to encircle the body from thence to between the arches of the fifth and sixth pairs. The plastron, like the carapace, reaches in front to the end of the body, and no further; after separating from the carapace it extends back under the pelvis, and in *Trionyx proper*¹ underlies the hind legs, but is there unossified. At the front end, in the American species at least, the shield is flexible above and below, and under the control of muscles. The two margins may even be brought together so as to close entirely the front end of the body, including the head and the greater part of the front limbs.

The shield is by no means entirely ossified; and, where the ossification exists, it is irregular, and less intimately connected with the true skeleton than in the other families of the sub-order. In the adult animal, a continuous area of the carapace, which overlies the greater part of the viscera of the body, is ossified, and extends over the vertebral column, from the neck to the sacrum, and far down on the ribs toward their outer end. This bony derm is divided into plates, which correspond more or less regularly to the bones of the true skeleton, to which they are fixed. The isolated odd plate of true bone is constant, and stretches, with the bony derm, across the front end of the shield from one to the other of the second pair of ribs, over the last vertebræ of the back and the first of the neck. From this plate the vertebral row extends back quite regularly over five or six vertebræ, or even to the hind end of the carapace, but sometimes several of the hinder ones are divided, and sometimes one, two, or three of them are wanting, so that the last two or three pairs of costals meet at their inner ends. The eight pairs of costal plates are pretty constant, but the last pair is not always entirely or even at all separated from the one next before it. All around and outside of this region of bony derm, the carapace is either entirely unossified or has only a narrow border of bony derm at the ends. So the marginal rim cannot be accurately distinguished from the carapace proper, at least not by sutured plates. The plastron is fixed on either side to the leathery border of the carapace. Its framework of true bones consists of four pairs and an odd bone. Two pairs, the second and third, reach from the carapace inward, but do not meet, or if at all, not

¹ *Trionyx*, in contradistinction to *Aspidonectes*, corresponds to the genus *Cryptopus* of Duméril and

Bibron, (*Erpét. génér.*, 1835,) or to *Emyda* of J. E. Gray, (*Cat. Brit. Mus.*, 1844.)