

greatest force to the bite of the animal: the mouth is narrow; the jaws are strong; and their muscles are enormously developed, forming the great bulk of the head. In *Chelydra* the mouth is broader, the jaws are not so strong, and their muscles are less developed. Upon this general difference depend most of the distinguishing characters of the two groups.

#### I. GYPOCHELYS, *Ag.*

The skull of *Gypochelys* is very broad and high at the hind end, and rapidly grows narrow and low thence forward; that part which includes the mouth and eyes and nose being very small in comparison with that which includes the *fossæ temporales*. The upper surface is nearly horizontal from side to side, and meets the sides at sharp angles; it descends steeply from behind forward till between the eyes, where it makes an angle, and thence to the front end it is nearly horizontal; it narrows continually forward from where it first reaches entirely across the head, but is still broad between the eyes, and blunt at the front end. The sides spread outward somewhat towards the lower edge between the ears and eyes, (that is, over the *fossæ temporales*), and thus the head grows broader downward; but, in front of the *fossæ*, the head is broader across the upper surface than across the mouth below. The eyes open sidewise and forward, not at all upward; the sides of the nasal region in front of the eye are nearly vertical; and the outer surface of the jaw is turned inward toward the alveolar edge, except at the symphysis, where it is on a nearly vertical line with the end of the nose above. Thus the mouth is narrow. The nasal region is high, and flattened sidewise. The upper jaw, at the symphysis, is drawn down to a long, strong point. On each side of this point the alveolar edge rises steeply, then curves down under the eye, and again a little upward at the hind end. The alveolar surface is carried high up under the nose, so as to form there an inverted, deep, conical pit. The pterygoids are narrow between the muscles of the jaw. The lower jaw is high and strong; and, like the upper one, it is drawn out at the symphysis to a long, strong point, which rises higher than the coronal angle. The outer surface, at the symphysis, curves far inward in descending from the upper to the lower edge, and, when the mouth is closed and the point of this jaw carried to the top of the pit above, there is a large space in front of this surface between it and the inner surface of the upper jaw. The strength of the jaws, the height of the lower one, the height of the head over the mouth, the narrowness of the mouth itself, and the height and width of the back part of the head, are all clearly connected with the force of the bite of the animal. The