

The free skin is loose about the neck and limbs. There are no epidermal scales, excepting a few narrow, long ones on the limbs, which serve not so much for protection as to stiffen the web.

The principal habitat of the members of this family is the muddy bottom of shallow waters. They bury themselves in the soft mud, leaving only the head, or a small part of it, exposed. They take breath from time to time, without moving the body, by raising up the long neck and head and carrying the leathery snout above water. They sometimes stay under water a long time, without taking breath; in one instance, a specimen has been seen to remain under water for more than half an hour without raising its snout above the surface. The nature of the habitat is clearly connected with some of the prominent family characteristics. For instance, the buried body needs not the protection of the fully ossified shield which the other families have: the long neck and head, the projecting snout, and the free communication between the nasal openings and the mouth are all connected with the manner of taking breath. These animals rarely go on dry land, and when they do, their locomotion is laborious and constrained; yet it is identical with that of the other *Amydæ* in the alternation of the limbs of the two sides of the body. When moving through the water, they strike horizontally with both pairs of limbs,¹ alternating however between the right and left foot of each pair; but when they start suddenly, the front limbs are seen moving together towards the tip of the snout, and then striking simultaneously backward with great power to propel the body forward. As the shoulders are placed so near the edge of the body, and the shield does not project free about the front end, the front limbs move mostly beyond the shield, in front and at the sides; and as the outer edge is sharp, and the feet are broad, their web reaches above as well as below the plane of that edge, and when they strike, they drive the water back, partly over and partly under it. The hind legs move back and forth below the carapace and drive the water backward without hinderance, for the flexible broad rim is so light in the water that it yields readily to the current. When these animals move along on the bottom, the limbs still move horizontally, the web striking against the water, and the inner toes against the bottom. They also burrow horizontally, going under the mud only to the depth of a thin layer. When burrowing, they carry the hind feet forward and outward, and thus bracing themselves, press the body forward, digging a part of the mud with the fore feet, and raising a part of it up on the body; the mud is loosened by the strong

¹ All the figures which I know, representing members of this family, are very incorrect. The feet are never brought down, as in other *Amydæ*,

below the level of the lower surface of the body, as they are represented in all the figures of *Trionychidæ* thus far published.