

so little developed. The cavity of the nose is wide, but short. There are no sinus frontales, nor lamina cribrosa, nor bony concha, nor even nasal bones.¹ The concha is cartilaginous. The nervus olfactorius is characterized by two tubercles at its base, just in advance of the hemispheres; it has, in this respect, a strange similarity with that of Froga. The nostrils are always situated in the topmost part of the snout; they seem particularly subservient to breathing, in water Turtles at least. Thus I have frequently seen *Trionyx ferox* lying for hours in shallow water, buried in mud, and stretching only, from time to time, the nostrils above the level of the water to breathe. The South-American Matamata is said to await its prey in a similar situation, hid among the leaves of water plants, exhibiting nothing above the water but the nostrils, which are elongated and tube-like, as in *Trionychidæ*. The marine Turtles also come from time to time to the surface for the sake of breathing.

The Tongue and Mouth. In all Ophidians and Saurians, as in most Birds, the tongue is only an organ of touch; in most of these animals it is long, slender, covered with horn, and may be more or less protruded from the mouth for that object. This is by no means so with the tongue of Turtles. It is broad, thick, fleshy, generally folded, mucous, and in one family (the land Turtles) even thickly provided with papillæ, like the tongue of a parrot. Turtles chew their food, particularly the herbivorous land Turtles, while other Reptiles swallow it without chewing. Thus the organ of taste is very much developed. Not only the tongue, but in some, as for instance in *Trionyx*, the whole pharynx is beautifully fringed with fine, tree-like, branching papillæ,² while in *Chelonoidæ* we find long, strong, and hard papillæ, extending even into the œsophagus. The papillæ of the latter seem, however, from their hardness, more subservient to the motion of the food than to tasting. But tasting is by no means the only function of the tongue. Filling out the whole cavity of the mouth, it has also another function in the process of breathing, as it has also in Frogs, for Turtles swallow the air they breathe. (See, below, p. 281.) In all Turtles we find salivary glands.

Organ of Touch. There is no special organ for this sense to be found in Turtles.

¹ Comp. p. 30, respecting *Hydromedusa*, which forms an exception, as it has nasal bones.

² Comp. Dr. A. Sager's Notes on the Anatomy of the *Gymnopus spinifer* of Duméril and Bibron.