

glottidis, and also over the edges of the cornua hyoidea, there exist a great number of delicate fringes, resembling, especially on the hyoid arches, the fimbriated gills of the *Menobranchus* or the internal gills of a Tadpole."¹ Before reading this paper, we had noticed these organs; but, after seeing this Turtle remaining under water for half an hour without showing the least sign of oppression, it seems plausible to assume that these fringes may be similar to the internal gills of Tadpoles, not only in their shape, but also in their function. There exists, moreover, an extensive network of beautiful vessels, spreading in elegant dendritic ramifications upon the whole lower surface of the *Trionychidæ*, which can hardly have another function than that of assisting in the process of breathing, as they are too numerous and too large to be considered simply as the nutritive vessels of the skin. This is the more probable, as these vessels are very superficial, and only covered by a very thin epidermis. They are indeed as plainly visible, through the horny layer which protects them, as the vessels of any special external breathing organ, and give to the lower surface of the body, over which they extend, a very ornamental appearance.

Turtles have a voice. Though I have myself made this observation only in a few species, namely, in *Emys elegans*, *serrata*, *picta*, and *insculpta*, which emit a piping note,² and in *Chelonia Mydas*, whose voice resembles somewhat a quick, low bark. I am inclined to believe that all of them have, more or less, the faculty of emitting distinct sounds. *Sphargis* has its name even from *σφαργίω*, to make a noise. But, whether this name is meant only for that sharp hissing sound which all Turtles produce, when they are excited, or whether it is intended to designate a real voice, I am not able to state, as I have never heard the sounds emitted by *Sphargis*. However, it is reported of many Turtles, especially of the *Chelonioidæ*, that they cry aloud when they are seriously wounded.

I have not yet been able to ascertain to what extent the respiration is reduced or interrupted in those Turtles which burrow under the ground during the winter. In the more aquatic species, however, which secrete themselves in the mud, under the surface of the water, the pulmonary respiration is, of course, entirely suspended. The changes, which the other functions undergo in different families during this state of hibernation, have not yet been investigated. It would be easier to make these observations in the Southern States, where the waters remain open all the year round, than in the Northern States, where the ground is covered annually, for several months, by a thick sheet of snow and ice.

¹ Compare Dr. A. Sager's Notes on the Anatomy, etc., quoted above, p. 277.

² Dr. Weinland informs me that *Emys europæa* is known to produce a similar sound.