surface. Shell moderately inflated, beaks not very prominent, surface white, the young nearly smooth but gradually becoming finely concentrically wrinkled toward the margin and the wrinkles wavy or more or less interrupted; lunule large, similarly sculptured, bounded by an impressed line but not depressed; there is no defined escutcheon; epidermis thin, pale, closely adherent and smooth; interior chalky white, polished; pallial sinus angular and deep; margins smooth; sockets of the hinge deep, hinge teeth normal, slender; the anterior tooth small but well defined.

Shape of the shell very nearly a true oval, the height greatest about midway between the two ends; base and ends evenly rounded. Lon. of shell 67·0; alt. 49·0 diam. 32·0; beaks behind the anterior end 20·0 mm.

This fine species is No. 291 of my list in Bull. 37, U. S. Nat. Mus., where it was referred with doubt to a fossil species which proved to be of a different character. It was first collected by Wurdeman during the earliest Coast Survey work on the Texan coast (about 1846) and has since been sent to the National Museum from Galveston by R. R. Gurley of the U. S. Fish Commission and later by J. H. Singley of the Texas Geological Survey. It is a *Dione* of the section represented by *D. Sayana* or *convexa* and must, when in really fine condition, be a very elegant species.

A FEW OBSERVATIONS CONCERNING DEATH OF FRESH WATER MOLLUSCA.

BY DR. V. STERKI.

In the last number of the NAUTILUS Dr. Strode reports the death of *Anod. corpulenta* Cpr., in Thompson's Lake, Ill. To his case I would add a few observations of a similar nature, though not so striking, which may, in some way, help to elucidate the question.

A few years ago, at exceptionally low water, I found in the Tuscarawas River, numerous *Unio subrotundus* Lea, dead, in their natural positions, buried in the gravel, the valves slightly gaping. The soft parts were in a more or less advanced state of putrefaction, partly dark colored. This last fall I noticed the same phenomenon in the same place; it was amidst the river bed, around some small low-water banks, in very shallow and comparatively quiet water,

while quite near, in deeper and running water, the mussels were alive and healthy as usual. There is hardly a doubt as to the cause of death in this instance: fish certainly did not kill them, nor any other animal; but evidently it was the sun heating the bottom and the water, probably also changing the latter, and in addition, promoting the development of bacteria, etc., causing disease.

As to the wholesale destruction related by Dr. Strode, the case is somewhat different, since there was a lake 5 miles long, but very shallow, as the doctor says in the April number, and *Anod. corpulenta* lived near the shore. May we not draw the conclusion from these facts, that the long continued heat and evaporation, directly and indirectly, probably were the cause of that terrible dying? On the other hand, we may think that one species is more delicate, more predisposed to and less resistant against certain destructive agents. It is too well known that the past late summer and fall were exceptionally dry, and I presume that not only millions of fish as well as Najades and other fresh-water animals fell its victims in a great part of the country—from drying up as well as from deterioration of the water—but also of the minute and delicate land snails a great percentage probably perished.

In October past I visited a few small ponds, sloughs, where the water had dried up for the most part in some, still standing 1–1½ feet deep in others. Most of the aquatic plants, thrifty in spring and early summer, were rotten or in poor condition, a dark, sooty mass covering the bottom, evidently the remnants of decayed organic matter. Of mollusca, there were very few alive, and to my surprise, the *Limnæidæ* were almost all dead, while in one place numerous *Amnicola* were living, in another *Valvata tricarinata*: is it not strange that "pulmonata" could not survive where branchiata were doing well?

Again in November I found on Tuscarawas river, a small mud hole, about 5 feet long, the water two feet deep, on the bottom a thick layer of that dark, soot-like mass. There were a number of *Melantho*, evidently in good health, while I could not detect a single specimen of *Limnæa, Planorbis, Physa* or *Ancylus*.

These observations were made somewhat hastily, and might have been more exact; yet I think they are not without some interest.