

The extrusion of the egg causes it to become elongated; the greater axis may be almost twice the less. In the case above noted the spherical form was assumed within a few minutes; in other cases the elongation has taken more than an hour to disappear. Exceptionally the elongated form may be retained for a considerable time. The most extreme case met with was an egg found among natural surroundings with the longest axis 5.25 m.m. and the shortest 2.75 m.m. In the same cluster was another elongated egg, its axes being 4.0 m.m. and 3.0 m.m. The three remaining eggs were spherical; all five were in the process of gastrulation. Another egg, quite similar to the one first mentioned was laid by a female in a terrarium; it kept pace in development with the remaining eggs of its cluster up to the 50-60 cell stage. In the first two cases the segmentation cavity had formed near one end of the long axis, in the third case near one end of a short axis. As the eggs were fixed at the stages mentioned it is impossible to say how the further development would have been affected.

This mode of egg-laying places *Plethodon* at the end of a progressive series, the most primitive member being *Cryptobranchus*, with eggs laid in a uniform rosary-like string as described by Reese (1904) and Smith (1906). Next, as suggested by Wilder (1913), would stand *Desmognathus*; in this genus most of the eggs have left the main string of the rosary and lie at the sides of it, each retaining connection with it, however, by a short stalk. The next step is represented by such a case as *Spelerpes* (Wilder, 1899) or *Antodax* (Ritter and Miller, 1899); here the disappearance of the main string leaves each egg to be attached separately to its support—usually a stone—by a short stalk. The disappearance of this stalk for each egg, except the first, produces the separate eggs of *Plethodon*. This economy of material is highly desirable in so small an animal. The position of *Antodax* in the series given above is not that usually occupied by the genus in a series that shows progressive modification of some primitive habit; in most respects *Antodax* has departed furthest from the primitive amphibian mode of life, and *Plethodon* can only offer suggestions as to the path along which *Antodax* has travelled to its present condition. In habits, however, as in morphology, it does not follow that the higher member of a series must in every point have progressed beyond the lower.

Other observations differing from the foregoing are as follows:

*Case II.* In examining a terrarium on one occasion there was uncovered a female that had evidently just completed the extrusion of the eggs. Two eggs, approximately spherical, were in contact and cohering slightly; four other eggs, each more or less elongated, were lying separated from each other by intervals of about one-quarter of an inch; none