

or so are present the larvæ have become almost perfectly transparent. By this time the mouth and anus have appeared and the three divisions of the intestine are established, the mid-gut, or stomach, which is very early distinguishable, being sharply marked off from the fore- and hind-guts, the latter of which is ciliated. The anterior part of the fore-gut is eversible and forms a proboscis, which appears at an early stage, and by its activity the neighboring particles of débris are taken into the intestine, and as they pass through the latter the food material is extracted, just as in the adult.

The essential habits of the adult are thus assumed at a very early stage. As the larva grows older the uniform segmentation of the body undergoes an alteration, and by the time thirty segments or so are attained there is perceptible a division of the body into two quite distinct regions, which correspond to a similar division in the adult, where the anterior part of the body, including the first eighteen segments, is of considerably greater diameter than the remaining posterior part, which consists of a large and inconstant number of very short segments of similar structure. This division gradually becomes more definitely established, and at the same time the gills make their appearance a simple thin-walled outgrowth of the body-wall, which gradually become branched in a more and more complex manner. There are thus formed eleven pairs of these structures, situated in segments 8 to 18 inclusive and containing looped blood-vessels derived from the main vascular trunks. The nephridea are already visible through the transparent body-wall, as six pairs of somewhat elongated sac-like structures situated in segments 5 to 10. The otocysts are now clearly visible; the circulation of the blood, with the contractions of the dorsal vessel and of the two 'hearts,' can be readily seen, as can also the secondary external division of each of the anterior segments into five by superficial circular grooves. At this stage, in fact, apart from this small size (12 to 18 mm.), and complete transparency, the larvæ are in both habits and structure practically identical with the adult.

R. S. LILLIE.

The following papers were also presented during the quarter: 'Caspar Friedrich Wolff

and the Theoria Generationis,' Dr. W. M. Wheeler; 'Field Work at Turkey Lake and a Series of Turtle Embryos from that Locality,' Miss E. R. Gregory; 'Recent Literature on Spermatogenesis,' M. F. Guyer; 'Eisig on the Development of the Capitellids,' Dr. C. M. Child; 'Early History of the Optic Vesicles and Accessory, Eye-like Vesicles in Vertebrates,' Dr. W. A. Locy, of Northwestern University; 'Characteristic Features of Mitosis and Amitosis,' Dr. S. Watasé; 'The Field Columbian Museum Expedition to Africa in 1896,' Dr. D. G. Elliott, Director of the Expedition; 'Protective Coloration,' Dr. W. H. Dudley.

DISCUSSION AND CORRESPONDENCE.

THE STORING OF PAMPHLETS.

A CHEAPER grade of pamphlet box than those described by Dr. Minot can be obtained, made of pasteboard instead of light wood. They are strong enough for ordinary service. Those which I use were obtained at a local bindery, not made to order, but kept in stock, and measures 11 x 7 x 3 inches. They are open at the back; the front face, 11 x 3, is covered with black cloth, to which a label is easily attached.

For pamphlets of quarto size, too large to get in these boxes, and not taking kindly to a vertical position, I have procured covers with pasteboard sides and a partly flexible back. The two sides measure each 12 x 10 inches, and the back, attached to 12-inch edges, is 3 inches wide. The outside is of black cloth, two thicknesses of which make the flexible part of the back. A strip of pasteboard one-inch wide gives stiffness to the middle of the back and a place for the label. When first put into service a sufficient number of pamphlets must be put in each cover to fill one inch in depth. The flexible part of the back, one inch on either side of the pasteboard strip, will allow an expansion of two inches before the contents require reassorting. The covers may be placed one upon another on the shelves, arranged in groups of subjects. These I find very serviceable for the larger pamphlets.

WINSLOW UPTON.

BROWN UNIVERSITY,

January 28, 1899.