longs to the subfamily Helorinæ of the Proctotrypidæ.

L. O. HOWARD,
Recording Secretary.

NEW YORK ACADEMY OF SCIENCES—BIOLOGICAL
SECTION, FEBRUARY 7, 1896.

Dr. J. G. CURTIS in the Chair.

A communication from the Council was received asking that the Section take action on Representative Hurley's bill "To fix the standard of weights and measures by the adoption of the metric system of weights and measures."

On motion of Dr. Dean the Section approved the bill, and the Secretary was directed to express the entire commendation of it to the Council.

Dr. Arnold Graf read a paper on 'The Structure of the Nephridiæ in Clepsine.' He finds in the cells of the intra-cellular duct fine cytoplasmic anastomosing threads which form a contractile mechanism. These are stimulated by granules which are most numerous near the lumen of the cell, and thus a peristalsis is set up, which moves the urine out of the duct. In the upper part of the intra-cellular duct the two or three cells next to the vesicle or funnel have no distinct lumen, but are vacuolated; the vacuoles of the first cell being small, those of the second larger, and so on, till the vacuoles become permanent as a lumen. He explains the action of the first cell as being similar to the ingestion of particles by the infusorians. The matter taken up thus from the funnel by the first cell is carried by the rest, and so on till the cells having a lumen are reached. The presence of the excrement causes the granules to stimulate the muscular fibres of the cells; peristalsis results and the substance is carried outwards. The character of this contractile reticulum offers an explanation of the structure of a cilium as being the continuation of a contractile reticular thread.

N. R. Harrington, in 'Observations on the lime gland of the Earthworm,' described the minute structure of these glands in *L. terrestris*, and showed that the lime is taken up from the blood by wandering connective tissue cells which form club-shaped projections on the lamellæ of the gland, and which pass off when filled with lime. The new cell comes up from

the base of the older cell and repeats the process. This explanation is in harmony with the fact that in all other invertebrates lime is laid down by connective tissue cells. Histological structure and the developmental history confirm it.

Dr. Bashford Dean offered some observations on 'Instinct in some of the lower Vertebrates.' The young of *Amia calva*, the dogfish of the Western States, attach themselves, when newly hatched, to the water plants at the bottom of the nest which the male *Amia* has built. They remain thus attached until the yolk sac is absorbed. As soon as they are fitted to get food they flock together in a dense cluster following the male. When hatched in an aquarium they go through the same processes. The young fry take food particles only when the particles are in motion, never when they are still. The larvæ of *Necturus* also take food particles that are in motion.

C. L. BRISTOL,
Secretary.

NEW YORK ACADEMY OF SCIENCES.

At the meeting of the Section of Astronomy and Physics held on March 2, 1896, the election of officers for the ensuing year was held, and R. S. Woodward was elected Chairman and W. Hallock Secretary.

The first paper of the evening was upon the device designed by Prof. W. L. Robb for showing the way in which a cord can vibrate, consisting essentially of an electro-magnet running a vibrating arm to the end of which the string is attached.

The second paper was upon a new form of polariscope, designed by Prof. A. M. Mayer, consisting of a special arrangement of crossed lenses, resulting in unusually good illumination and large field.

The next paper was upon a heliostat designed by Prof. Mayer. In this connection Prof. Mayer called attention to the shortcomings of the various forms of heliostats, and especially those using only one mirror, pointing out, among other things, the useless width of mirrors on such heliostats, and illustrating what ought to be the dimensions of such a mirror. He also called attention to the great advantage of using sunlight for all optical experiments over any