

THE OTTAWA NATURALIST

VOL. XXVI.

May, 1912

No. 2

A FOSSIL STARFISH WITH AMBULACRAL COVERING PLATES.

BY GEORGE H. HUDSON.

(Plates I-III, fifteen figures.)

Through the courtesy of Dr. Percy E. Raymond my attention was recently called to a very remarkable sea-star found at Ottawa, Canada. Mr. J. E. Narraway, the discoverer of the form, kindly allowed me to keep it through Dec., 1911, and Jan., 1912, for photographic work and study. During this period I made a series of forty-five different photomicrographic negatives of the specimen showing the whole or portions thereof under different conditions of light, angle, or mounting and at various stages of a partial development which was given the arms and oral cavity. Prints from fourteen of these negatives were selected for use in making the figures for the plates accompanying this article. Figures 1 and 2, plate I; 2, 5 and 7, plate II; and 1, 2, and 3, plate III, were made under a gum dammar mounting with coverglass. For a description of this process and some remarks concerning its value see "New York State Museum Report 149," page 218.

Figure 3 of plate I represents the specimen near the beginning of my work upon it. Lines drawn down the radii reveal two distinct centres. The elongation of the oral aperture along the line connecting these centres, the elongation of the disc itself in the same direction, the widening of the lower interradius of the figure and the narrowing of the next interradius at the right and at the left have been interpreted as indicating the position of the posterior interradius and the figure has been so oriented and marked. Figure 1 of this plate shows the condition of the specimen at the end of such development as I felt justified in making.

ELEMENTS OF THE SPECIMEN AND TERMINOLOGY.

The bordering plates will be called *marginals*; the large single marginals of the interradii will be designated as *inter-radial marginals* and the remaining marginals as *arm marginals*.