

4288

Cannibalism in a Ciliate, *Blepharisma*.

J. A. DAWSON.

From the Zoological Laboratory, Harvard University.

In mass cultures of several different races of *Blepharisma undulans*, including one which has been cultured by the writer for several years and used in connection with other investigations, cannibalism has occurred frequently. This phenomenon has not been very generally noted among ciliate protozoans, as the writer found in reporting a similar case in the Hypotrichida,¹ and there are certain aspects of this process in *Blepharisma* which promise to add to the knowledge of digestive processes in ciliate protozoa.

Cannibalism takes place in mass cultures in which growth has been rapid and large numbers of *Blepharisma* are present. The animal about to become a cannibal is always considerably larger than the individual that is ingested. The process of ingestion is relatively slow, requiring several minutes for completion. Ingested animals are not readily killed by the cannibal but show movements for varying periods, in one case as high as 8 hours. Ingestion is not always followed by digestion of ingested individuals; not infrequently the ingested animal is ejected and numbers of these have been cultured successfully after this occurrence. Once the ingested animal is killed digestion takes place at room temperature usually within about 24 hours.

Of special interest in relation to this phenomenon is the fact that *Blepharisma* contains a pigment which under certain conditions is red. There is considerable evidence to show that this pigment is a natural indicator. The process of digestion is accompanied by color changes in this pigment and investigation of the significance of these changes is now in progress.

¹ Dawson, J. A., *J. Exp. Zool.*, 1919, **xxix**, 473.