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SOME OBSERVATIONS ON THE EGG STRING OF A NEMATOMORPH WORM, PARAGORDIUS SP.

On 12 September 1981 J. D. Jarnette, a graduate student in the Biology Dept., U. of L., brought to one of our offices (F. H. W.) 2 living female specimens of *Paragordius* sp., one of which was ovipositing. The worms and egg string were placed in a container with aquarium water and observed for about 5 weeks when the worms died. The adults were preserved in 70 % ethanol, and the egg string was refrigerated at 4°C for 11 weeks. Following refrigeration, the egg mass was examined on 4 occasions over the 11 weeks for emerging and motile larvae. These examinations were made once each, on the first, fourth, eighth and eleventh weeks.

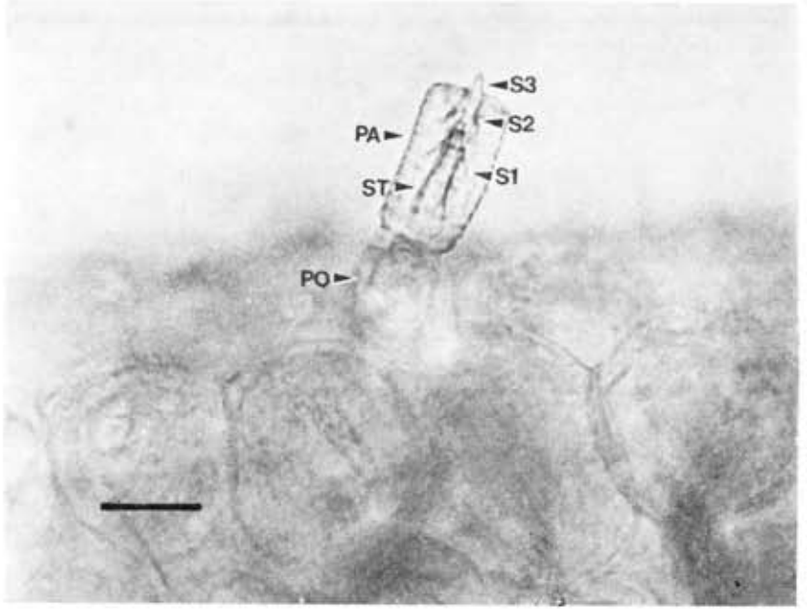

Fig. 1. Larva of *Paragordius* sp. in egg string. A part of the postseptum is visible. Retracted within the annulated postacanthal region of the preseptum can be seen the stylets of the proboscis and some spines of all three rows. Abbreviations used: PA, postacanthal region; PO, postseptum; S1, spines of row 1; S2, spines of row 2; S3, spines of row 3; ST, stylets of proboscis. Bar equals 0.0058 mm.

At no time was there any detectable swelling of the egg string. During the fourth week of observation, before refrigeration of egg string, thousands of hatched larvae were observed on the bottom of the culture dish. Very few of these showed any movement. Although not noticeably motile, some larvae were apparently in the process of emerging from the eggs (Fig. 1). Terminology of Fig. 1 is of Dorier (Trav. Lab. Hydrobiol. Piscicult. Grenoble 22: 1—183, 1930) and adopted from Muldorf (Z. Wiss. Zool. 111: 1—75, 1914) by Zapotosky (Proc. Helminthol. Soc. Wash. 41: 209—221, 1974). At no time was any larva observed to be encysted. The most significant results of this study were observations of movement of some of the numerous larvae on the bottom of the culture dish and emergence during each of the 4 times the egg mass was examined following the latters refrigeration for 11 weeks. Emergence appeared to be a random event without any noticeable pattern, although additional studies may reveal a particular pattern.

There was no information from the available literature regarding the length of time larvae continue to hatch from eggs. The 11 weeks we recorded for the larvae of *Paragordius* sp. are probably not unusual for nematomorphs. Such extended hatching in nature would more effectively ensure the presence of infective larvae whenever hosts become available in the immediate area. This spatial and temporal relationship would have definite survival value for the nematomorphan species, since the larva probably does not survive long after hatching.

Basically, the larva is the infective stage for the arthropod host in which it transforms to the parasitic juvenile. Upon emergence, the juveniles rapidly mature to free-living adults which mate. From one to several million eggs are eventually deposited by each female, (Cheng, General Parasitology, Academic Press, 965 pp., 1973). Various modifications of how the larva enters the host exist; for example larvae of *Gordius aquaticus* encyst and are perhaps ingested (Dorier, Trav. Lab. Hydrobiol. Piscicult. Grenoble 22: 1—183, 1930), while larvae of *G. robustus* and *Paragordius varius* penetrate the host (May, Ill. Biol. Monogr. 5: 1—118, 1919). A third condition is the larva of *Chordodes japonensis* which emerges from the egg, does not encyst, but must be ingested by the host (Inoue, Jap. J. Zool. 12: 203—218, 1958).

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