Eversion of the pharynx was first noticed on the 17th day. The distal section carrying the jaws was not everted, only the proximal section which carried a ring of 8 or 10 small papillae. These are not present in the adult. In side view it could be seen that the prostomium was becoming distinct from the peristomium.

Twenty-three days after hatching the head region and the region between the last setiger and the pygidium became elongated and the formation of more segments appeared to be imminent. At this stage bacterial growth in the cultures suddenly increased overwhelmingly and the larvae began to die off.

Most of them reached the four setiger stage (length 280 microns) 29 days after hatching. The jaws were more developed at the base and the pharynx was longer, but the intestine was still sac-like. The tentacles, cirri and anal cirri were longer but the first setiger still carried setae and had not begun to fuse into the peristomium. The most advanced larva seen had six setigers. It was still capable of swimming by means of its cilia.

LARVAL BEHAVIOUR

The trochophores, and the larvae up to the 8th day after hatching, swam freely in the culture dishes. Then their behaviour changed and they swam near the bottom, often crawling on the bottom then swimming off again. When swimming the setae were laid back along the sides of the body.

On the 9th day the larvae were crawling on the bottom the greater part of the time. When put in a dish with a little mud in the bottom the larvae pushed between lumps and into crevices before swimming off again.

After they began to feed at 11 days the larvae were placed in dishes containing mud. They promptly disappeared and were brought to light for periodic examination by sorting through the mud with a needle. The largest larva seen which had six setigers was still able to swim with its cilia when disturbed in this way.

The development in culture suggested a planktonic lecithotrophic larva which settled when ready to begin feeding. Attempts to confirm this in the field were unsuccessful.

FIELD STUDY

The eggs which were found in the plankton samples (see under Swarming Periodicity, above) were presumably carried by turbulent flow for the eggs sank in still water.

Only a single trochophore and no larvae were found in the plankton samples while planktonic larvae belonging to the polychaete families Spionidae and Orbiniidae occurred in tens or hundreds. As their adult populations are of the same order of size as those of *Nicon aestuariensis* the larvae of the latter if planktonic should have been taken in comparable numbers. It is suggested that the larvae are not planktonic and that the development takes place in the surface layers of mud where the eggs settle. These surface layers have a very high water content and remain wet at low tide.

Two attempts were made to collect larvae in the Estuary. Newell's method (1949: 635) of washing surface material through a plankton net was tried in mid-October. No *Nicon* larvae were found although a small Sabellid polychaete, oligochaetes, nematodes and crustaceans were present. In early December a one centimetre deep sample of surface mud was sorted through under a stereoscopic microscope. Again no larvae were found.

The smallest specimens found in the field were 2.5 centimetre specimens taken in the breeding cycle collections. These had about 70 setigers and all the structures of the immature worm were fully formed. Growth from this length was partly by addition of more setigers, but mostly by increase in size of the individual segments. The number of segments for a given length varied from 64 to 99 in the two to