region of tentacles and body is more clear and the tentacles are curved inwards. Body length—323 /t; body width—204 /*; tentacle length—799 *ji*; tentacle width—51 /*i*.

Bell width 850 /*i*, gelatinous substance thick and transparent. Apex of bell sharp-edged and keel shaped, the line of the keel being in the axis of the two long tentacles. The two tapering tentacles project from the side of the bell at a zone nearer to apex than to margin, they are 1.6 mm. in length. Endoderm cells are clear in the tentacles and subumbrella surface. Vestigial tentacles absent. Velum well developed. The endoderm of the central stomach and tentacles green in colour.

During this stage the larva closely resembles the adult of *Solmundella bitentaculata*.

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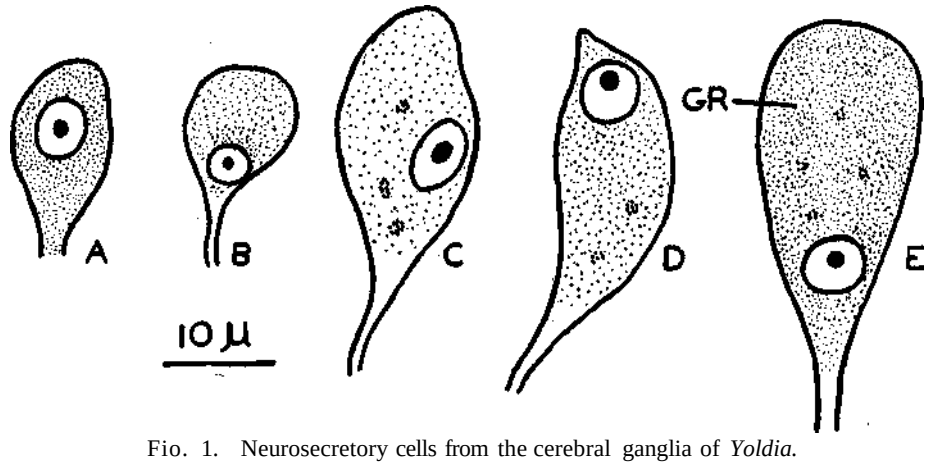
NEUROSECRETORY CELLS OF THE BIVALVE, *YOLDIA LIMATULA*

The presence of neurosecretory cells was first reported by Gabe (1955) in 20 species of lamellibranchs. Lubet (1955, 1956), using 2 bivalves *Mytilus* and *Chlamys*, showed a definite correlation between neurosecretion and sexual cycle. Fahrmann (1961) reported two types of secretory granules in the freshwater mussel, *Unio tumidus* and Nagabhushanam (1962a, b) observed two neurosecretory cell types in the oyster, *Crassostrea virginica* and the surf clam, *Spisula solidissima*. The present study was undertaken with a view to extend our knowledge of neurosecretion in the lamellibranchs.

Adult specimens of *Yoldia limatula* were collected near the vicinity of the Marine Biological Laboratory, Woods Hole, and the laboratory work was carried out in the Zoology Department, Tulane University, New Orleans, U.S.A. The portions of the central nervous system investigated were the cerebral, pedal and visceral ganglia. The soft parts were carefully removed from the shells and fixed *in to to* in Helly's fluid. The desired tissues were then dissected out, dehydrated in alcohol, cleared in xylol and embedded in. Tissuemat, Serial sections were cut at 8 /* in

thickness and stained with Gomori's chromalum-haematoxylin-phloxin (CHP) and Mallory's triple stain.

The neurosecretory cells were found to be distributed along the dorsal surfaces of the cerebral, pedal and visceral ganglia. Only one cell type was apparent. The cells were 12 \L long in the cerebral and pedal ganglia and 33 /* in the visceral ganglia (Fig. 1). The cytoplasm showed a dense granular structure and rarely had



Fio. 1. Neurosecretory cells from the cerebral ganglia of *Yoldia.*

vacuoles. Minute secretory granules that stained pink with Mallory's and blue-black with Gomori's technique appeared in the cytoplasm. The nucleus had one large nucleolus which stained red with Mallory's stain. In some of the axons of the neurosecretory cells a number of granules were noticed leaving the cell bodies. Apparently the secretory material is transported through the axons but no terminal organ has been found. Small granules are also found within the neuropiles of various ganglia.

The neurosecretory cells of *Yoldia* bear a very close resemblance in their shape and tinctorial properties to the cell type I of the oyster, *Crassostrea virginica* (Nagabhushanam, 1962a) and to the pyriform-shaped cells of *Teredo* (Gabe and Rancurel, 1958).

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