

OVOVIVIPAROUS REPRODUCTION OF MIOCENE  
TURRITELLIDAE

BY

A. H. SUTTON

*University of Illinois, Urbana, Illinois*

## ABSTRACT

The discovery of 48, apparently embryonic, shells closely packed in one whorl of a large specimen of *Turritella alumensis* Mansfield from the Choctawhatchee (Miocene) formation at Alum Bluff, Florida, increases our knowledge of reproduction in this genus. Thirty five years ago Frank Burns<sup>1</sup> reported the occurrence of embryonic shells in specimens of *Turritella cumberlandia* Conrad and *T. indenta* Conrad from the Miocene beds at Plum Point, Maryland. Not enough information on the reproductive habits of *Turritellidae* was available at that time to allow comparison of fossil with modern forms. Recently Dr. Marie V. Lebour<sup>2</sup> has reported on the eggs and larvae of *Turritella communis* Lamarck, a living oviparous species.

The 48 small shells are all essentially the same in size and stage of development. Each is approximately 2.5 mm. in length, from 1.6 to 1.75 mm. in maximum width and consists of the protoconch and three spiral whorls. There are no signs of abrasion on the shells, each preserving the spiral shell sculpture of the species.

There are four possible explanations of the occurrence of the small shells in the large individual: (1) they may have hatched from eggs deposited in the large shell after death of the large individual, (2) they may be the remains of young which of their own accord crawled into the large shell after death of the large individual and there perished, (3) they might have been washed into the large shell after death of all forms or, (4) they may represent unborn young.

The position of the small forms in the large shell, the similar size and stage of development of all the small shells, their unworn character, and the absence of this species or others of similar size in any other portion of the large shell or in the sediment surrounding, adhering to, or filling other shells of the collection seem to eliminate from consideration all of the hypotheses of origin except the last.

The conclusions reached as a result of the study are: (1) these shells are embryonic, the mother having died before birth of the young and, as the body decayed, fine sediment filled the large shell preventing any wear or destruction of the small forms, and (2) *Turritella* during its evolution from the Miocene to the present either has undergone important modification of the reproductive method, the development of an oviparous from an ovoviviparous habit, or the fossil Miocene forms, called *Turritella*, were not as closely related to living species of *Turritella* as formerly has been supposed.

<sup>1</sup> Burns, Frank, Viviparous Miocene Turritellidae. The Nautilus Vol. XIII, No. 6, pp. 68-69, October 1899.

<sup>2</sup> Lebour, Marie V., The Eggs and Larvae of *Turritella communis* Lamarck and *Aporrhais pes-pellicani* (L.). Journal of the Marine Biological Association of the United Kingdom, Vol. XVIII, No. 2, pp. 499-506, Jan. 1933.