THE ONTOGENY OF THE OCULAR SINUS IN A HEMICYTHERINE OSTRACODE

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Ocular shell structures of podocopid ostracodes are useful in taxonomy and paleoenvironmental studies, but remain poorly known in many groups, including the Subfamily Hemicytherinae Puri, 1953. Here, adults and juveniles of Malzella bellegladensis (Kontrovitz, 1978) from the Pleistocene of south Florida were studied using polished sections and internal molds.

The eye tubercle of the adult is low and oval-shaped; its long axis (about 0.066mm) is parallel with the dorsal shell margin and the short axis is 0.030mm. The tubercle has a continuation of surface ornamentation, including an arcuate ridge. The internal surface of the tubercle has narrow, deep, arcuate anterior and posterior concavities and a central convexity. The ocular pit is oval with axes of about 0.066mm and 0.036mm.

The mold of the ocular sinus (adult) is a low stalk (0.035mm), with a constriction just above the base; the maximum diameter is about 0.070mm. The distal expanded portion gradually increases in diameter (about 0.050mm at its maximum). The expanded part is oval in lateral view; the axes are about 0.050 and 0.030mm, respectively. There are small, high, arcuate anterior and posterior convexities, and a shallow central concavity that slopes toward the ventral margin. These features are the complement of the proximal surface of the eye tubercle. There are thin, upward curved projections at the anterior and posterior, probably representing canals for axons.

In the A-1, the ocular sinus has a less prominent constriction, a less prominent rim and a shallower central concavity that does not slope. In the A-2, the sinus is obvious, but low, about 0.007mm in height, with no constriction. There is a low, faint rim surrounding a broad, shallow central concavity. In the A-3 and A-4, the sinus is markedly different from that in later stages. It is only a slightly raised platform, oval in lateral view and about 0.005mm in height. There is a circular depression about 0.001mm in depth and a very low rim, widest at the anterior and posterior. There is no constriction.

Thus, the sinus in this adult hemicytherine is unlike the high, stalked sinuses in the other trachyleberids, where the lobes are high and bulbous. Perhaps, as in others, the ocular sinus in each species of the hemicytherines is unique and will provide diagnostic characters for taxonomic studies.