

FOSSIL RECORD OF FISSURELLIDAE

The Fissurellidae are traceable to the Middle Triassic and underwent a substantial radiation in the Jurassic (Knight et al., 1960; McLean, 1984).

Earlier (McLean, 1984) I presented arguments in support of the scenario that fissurellids were derived from Paleozoic bellerophonaceans, developing an idea proposed originally by Golikov and Starobogatov (1975). No further evidence in support of this theory has been offered. Two primary objections remain: there is asymmetry in the ontogeny of all fissurellids, and the punctations or pores in the early teleconch of fissurellids have not been detected in bellerophonaceans. As noted most recently by Hickman (1988), the question of bellerophonacean affinities remains as controversial as ever.

TIME OF ENTRY TO THE HYDROTHERMAL-VENT COMMUNITY

Earlier (McLean, 1985, 1988a, 1988b, 1989), I hypothesized that the newly described families and superfamilies of archaeogastropod limpets (Neomphalacea, Lepetodrilacea, Peltospiracea) from the hydrothermal-vent community entered this community by the early Mesozoic, the time of divergence and origin of other living archaeogastropod superfamilies, and a time in which archaeogastropods were the dominant gastropods in shallow seas. Fissurellaceans and scissurellaceans had an early Mesozoic origin and there is no reason to disallow a Mesozoic origin for temnocline and sutillizone scissurellids and the clypeosectid fissurellaceans. The argument, however, is less compelling than for the other newly described superfamilies because the rank of endemism (see Newman, 1985), i.e., the hierarchical level of new taxa, is below the superfamily level for the slit-limpets.

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Hickman for use of a radular illustration of *Clypeosectus delectus* (Fig. 11A). Other SEM micrographs of radulae were made at the Center for Electron Microscopy and Microanalysis at the University of Southern California with the help of C. Clifton Coney, LACM. Support for this work was provided by the LACMNH Foundation. Gerhard Haszprunar, Richard S. Houbbrick, George L. Kennedy, David R. Lindberg, and Anders Warén provided helpful commentary.

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