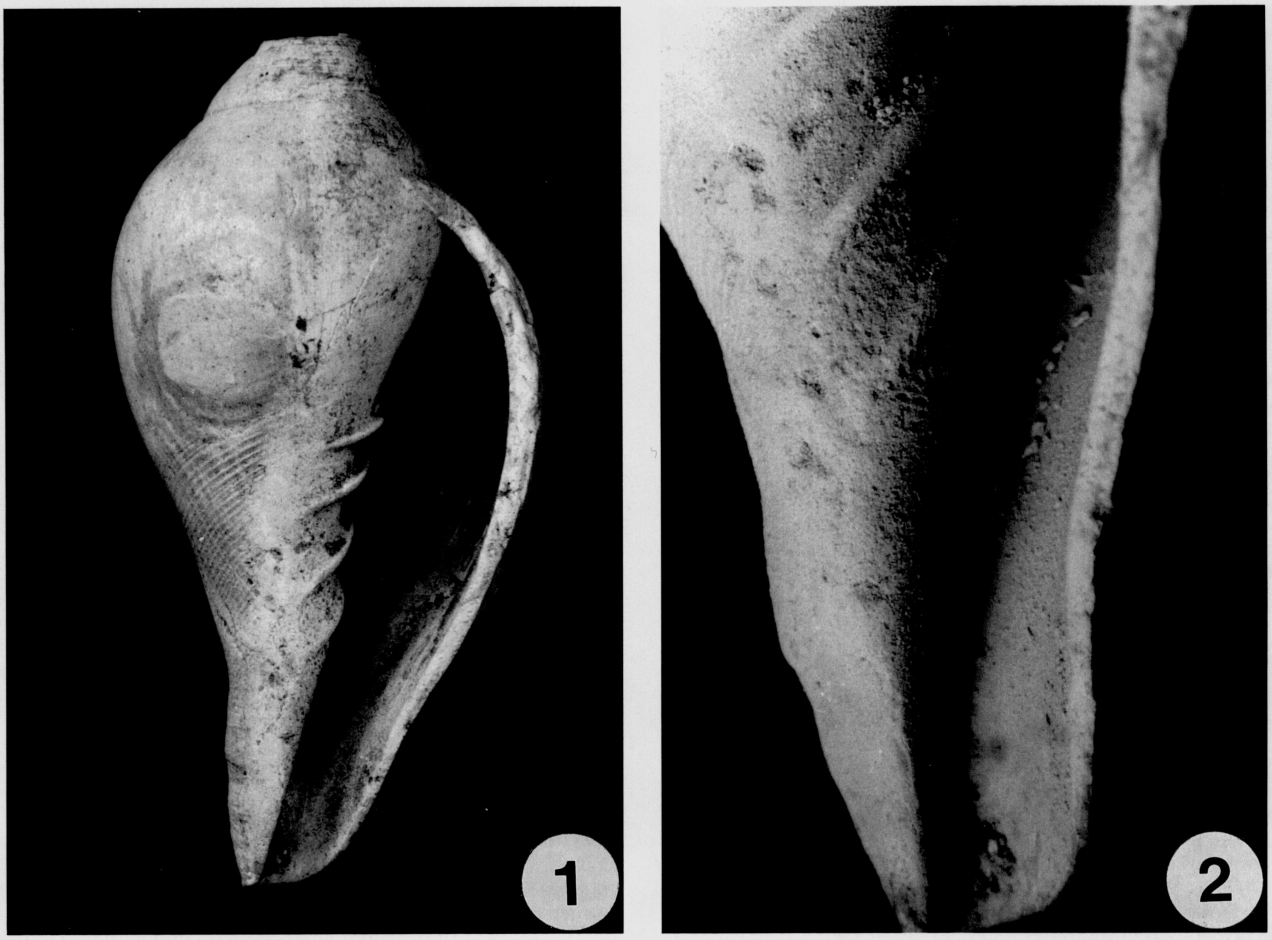

FIGURE *10—1, Crepidula*-like scar on *Caricella subangulata,* Eocene, USGS 3735, Mississippi, shell height, 37.0 mm. *2, Hippothoa*-like etching imprint on *C. subangulata,* same specimen as in *1.* Specimen housed at United States National Museum (with United States Geological Survey, USGS, Numbers).

form unusual shapes when associated with fossil hermitted shells (e.g., Palmer and Hancock, 1973). These organisms also overgrow and extend the helical shape of the fossil shell. The similarity in growth patterns among hydractinians, corals, and bryozoans on fossil and Recent gastropod shells associated with hermit crabs is remarkable. Evolutionary studies on the developmental biology of these modular species are warranted.

Thick encrusting organisms associated with fossil hermitted shells are rare occurrences. However, when these bionts do occur, they are very abundant (Palmer and Hancock, 1973; Taylor and Cook, 1981). In contrast, subtle boring and encrusting species are more common in the fossil record but are often overlooked (Walker, 1988b). These bionts are: encrusting and boring polychaetes such as, spirorbids, serpulids and boring spionids; boring barnacles, encrusting and etching bryozoans, and aperture-inhabiting slipper limpets (*Crepidula*). These bionts are important for identifying the fossil occurrence of hermit crabs when crab body fossils are lacking. They also indicate the type of shell the crab used, thus providing information on shell "preference" by hermit crabs through time. In effect, bionts provide the missing information on the poor fossil history of hermit crabs.

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