

EPIBIONTS ON *CHLAMYS HASTATA* AND *CHLAMYS RUBIDA*: TAPHONOMIC AND PALEOECOLOGIC IMPLICATIONS

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Although many fossil epibiont assemblages have been described, the taphonomy of these assemblages is poorly understood. In an effort to investigate the percentage of epibiontic organisms that would likely be preserved in the fossil record, and the contemporaneity of epibionts on a particular shell, I investigated the epibionts on live and dead *Chlamys hastata* and *C. rubida* from around San Juan Island, Washington. Using a video imaging system, over 300 shell surfaces were examined and the percent covers of epibionts in eight taxonomic categories were calculated.

The left (upper) valves of live *Chlamys* had an average epibiont cover of 75% that was composed primarily of sponge, or a combination of barnacles and sabellid annelids. The preservable portion of this assemblage (18%) was significantly less than that of epibionts on the exteriors (68%) and interiors (87%) of dead valves. On dead shell surfaces, sponge coverage is <1%, and there are higher proportions of cheilostome and cyclostome bryozoans, and serpulid and spirorbid annelids.

On upper surfaces (left valves) of living *Chlamys*, 10% of the epibiont cover was composed of dead organisms. An even greater percentage of dead epibiont cover existed on lower valves of live individuals (25%), and on dead valves (37-47%). During the study, no unambiguous examples of competitive interactions were found except for barnacles overgrowing barnacles and other epibionts. Numerous other overgrowths were observed, but these resulted from growths over dead organisms, or growths over mineralized skeleton, not living tissue.

These results suggest that exact contemporaneity between epibionts should not be assumed in paleoecological studies, and that soft bodied and agglutinating organisms may have been important constituents of some paleocommunities. Encrusting epibiontic sponge actually protects shell surface ornamentation and may be evidenced in the fossil record by particularly clean and unfouled shells.