

## COMPARISON OF CRETACEOUS AND OLIGOCENE ENDOLITHIC REEF COMMUNITIES FROM PUERTO RICO

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The question of the response of endolithic reef communities to changes in primary framework builders that serve as hosts prompted a study to compare two different types of frameworks from two formations, one Cretaceous and the other Oligocene, from Puerto Rico. The primary framework builders from the Cretaceous Cotui Formation of western Puerto Rico are rudistid bivalves, with corals and stromatoporoids also serving as supporting organisms to a lesser extent. Both larger endolithic organisms such as lithophagid bivalves and smaller endoliths such as clionid sponges are common throughout the study area. All three framework types serve as hosts. However, actual densities of endoliths, especially the bivalves, are low per host.

Corals are the primary framework builders in the Upper Oligocene Lares Formation of northwestern Puerto Rico. In the study area, two types of coral frameworks were observed. The main reef was composed of massive coral heads, while facies interpreted as lower-energy patch reef and lagoonal environments were comprised of more delicate branching poritid-like corals. Oysters were common in both facies. Few larger endoliths were found in the branching coral. By contrast, boring bivalves including lithophagids, occurred in high densities in many of the massive coral heads. Some of the oysters were riddled by clionids.

The comparison revealed that while the composition of the two endolithic communities was similar, the abundances and differences in density of the individual endolithic organisms was markedly different. This is attributed primarily to differences in the host substrates themselves. Hosts were abundant in both the Cotui and the Lares. However, the exoskeletons of rudistids differ considerably from corals, as do stromatoporoids. External influences such as environment, may have had some impact as well.