

A unique marine symbiosis is studied

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A symbiosis of bacteria and a marine worm found by Monterey Bay, Calif., researchers is believed the only one solely using marine mammals for nutrition.

Shana Goffredi and colleagues at the Monterey Bay Aquarium Research Institute discovered the unique partnership between bacteria and the Osedax, a bone-devouring group of marine worms.

Symbiosis allows some species to live in otherwise hostile environments, so it can be a powerful mechanism of evolutionary change. This is especially true in some deep-sea environments, where survival requires capabilities animals alone don't possess, said Goffredi.

So, she added, joining with a microbial partner is the secret of survival for many host animals living in such environments.

"Measures of significant population sizes, and the discovery of four additional host species in only three years, suggests the Osedax worms and their bacterial 'partners' are likely to play substantial roles in the cycling of nutrients into the surrounding deep-sea community," said Goffredi.

The results of the study are expected to aid understanding of the potential for adaptation between animals and microbes.

The research is detailed in the journal *Environmental Microbiology*.

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