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Deep-sea high-density housing

In a four-way association, a hermit crab is associated with a soft coral (red, with its polyps retracted), with the hermit crab and a sea anemone sharing a snail shell. We also see a wonderful example of commensalism, a relationship between two species—the crab and the anemone—in which one lives with, on, or in another without damage to either. The anemone (like all cnidarians) has stinging cells that help protect the crab from predators and the anemone benefits from having a free ride around the seafloor habitat, as well as receiving scraps from the crab's feeding activities. When the crab outgrows its borrowed shell, it finds a larger, vacant shell...and brings the anemone along to share its new home. This image is from a joint Indonesia – U.S. expedition to the Sulawesi Sea.

Image courtesy of NOAA Oceanic Explorer Program, INDEX-SATL 2010.