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Marine Creature of the Month: March – April 2008

Octocorals



*Dr Katharina Fabricius with soft corals
at the Rowley Shoals.*

Octocorals are one of four kinds of coral. They are found along all of Western Australia's coastline although they are more common in warmer tropical waters.

Octocorals include soft corals, sea fans, sea whips and sea pens and are easily identified by the eight feather-like tentacles that surround the mouth of each polyp. Although their abundance, diversity and biomass rivals that of the better-known hard corals, relatively little is known of octocoral biology or ecology.

One type of octocoral, the blue coral (*Heliopora coerulea*), has a massive skeleton and is an important reef builder, while sea fans and sea whips (the gorgonian corals) have flexible internal skeletons that bend and sway in the currents much like the branches of a tree in the wind. In addition they are often spectacularly coloured (like *Euplexaura* sp.) and are home to a wide range of highly specialised commensal animals, including brittlestars and pygmy seahorses.

In WA, soft corals flourish on shallow-water reef flats while gorgonians tend to live in deeper reef areas (deeper than 20 metres). Gorgonian corals are active filter-feeders, although some also have symbiotic algae, much like hard corals do. Sea pens or pennatulaceans are encountered mostly at night and are restricted to sandy regions adjacent to reefs or in sandy depressions or gullies along the reefs.

Coral reefs are the world's most diverse marine communities. In tropical regions worldwide they provide millions of people with food. They are indicators of environmental stress such as pollution, sedimentation and sea temperature fluctuations. Many coral reef organisms, including octocorals, are also proving to be sources of pharmaceutically important compounds such as

prostaglandins and anti-cancer agents. The importance of successfully conserving the world's remaining coral reefs cannot be overstated.



Brightly coloured octocorals

Coral reefs need warm, clear, relatively quiet water for optimal growth. The best temperature for their development is 20 to 28 degrees Celsius. Lower temperatures cause coral growth to stop or be limited while higher temperatures induce coral bleaching.

Natural threats to coral reefs and coral reef organisms include cyclones, hurricanes, population explosions of crown-of-thorns starfish or marine snail *Drupella*, earthquakes and volcanoes. Man-made threats include chemical and nutrient pollution, sedimentation from land clearing and coastal development, over fishing, collecting for the international aquarium, jewelry and sea shell trades, recreational use (ship anchor damage and tourism impact) and destructive fishing techniques including the use of dynamite and cyanide.

Corals other than octocorals are hydrocorals (including stinging corals and lace corals), antipatharians (black thorny corals) and scleractinians (hard corals).

To see what some WA octocorals look like, visit the Rowley Shoals Marine Park on NatureBase.net and download the photo ID guide.

Images by Eric Matson, Australian Institute of Marine Science.