

Hard and Soft Corals

Subject matter: recall the following groups of coral: Alcyonacea 'soft corals' and the two morphological groups within Scleractinia 'hard corals' – reef-forming/hermatypic and non-reef forming/ahermatypic.

Recommended reading: *Coral Reefs and Climate Change - Reef building corals (p.86-88)*

Alcyonacea / soft corals

Soft corals, sea fans and gorgonians are common names for a group with the scientific name Octocorallia or Alcyonacea. Octocorals are ecologically important components of the coral reef landscape, and being beautiful and colourful, are an attraction for divers.

Characteristics:

- Most soft corals lack a hard external skeleton, instead soft corals contain small calcareous sclerites in their body
- Soft structure that can move
- Do not always have symbiotic zooxanthellae
- Each polyp has 8 tentacles or multiples of 8
- About 100 genera in 23 families are known to occur in shallow Indo-Pacific coral reefs

Species: blue coral (*Heliopora*), red organ-pipe coral (*Tubipora*), *Sinularia*, *Dendronephthya*, *Sarcophyton* e.g.



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Scleractinia / stony, hard corals

Characteristics:

- Hard calcium carbonate skeleton
- Symbiotic relationship with zooxanthellae
- Each polyp has 6 tentacles or multiples of 6
- Rigid structure



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Hard corals can be further separated into two sub-groups. The zooxanthellate (**reef-building or hermatypic**) corals are ones that depend on zooxanthellae algae for nutrients. These shallow water corals have a major reef-building function. They are generally found in clear water less than 50 metres deep as the algae need light for photosynthesis.

The azooxanthellate (**deep water or ahermatypic**) corals do not contain zooxanthellae and therefore gain their nutrition solely from filtering plankton from seawater. These isolated, solitary or colonial forms rarely build big constructions and many of these coral species are present in non-reef environments in coastal areas such as Moreton Bay in Queensland.

Answer key for next page: row 1 (hard, hard & no zooxanthellae, hard), row 2 (hard, hard, soft), row 3 (hard, hard, hard), row 4 (hard, soft, hard), row 5 (hard, soft, soft).



Chris Roeliseima

Tubastrea (azooxanthellae)

Hard and Soft Corals

Types of corals - Classroom

Identify the images below. Are these hard or soft corals? Are there any without zooxanthellae?



Monique Grol

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Chris Roelfsema

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Diana Kleine

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CoralWatch

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Chris Roelfsema

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Chris Roelfsema

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Dave Logan

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Justin Marshall

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CoralWatch

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