

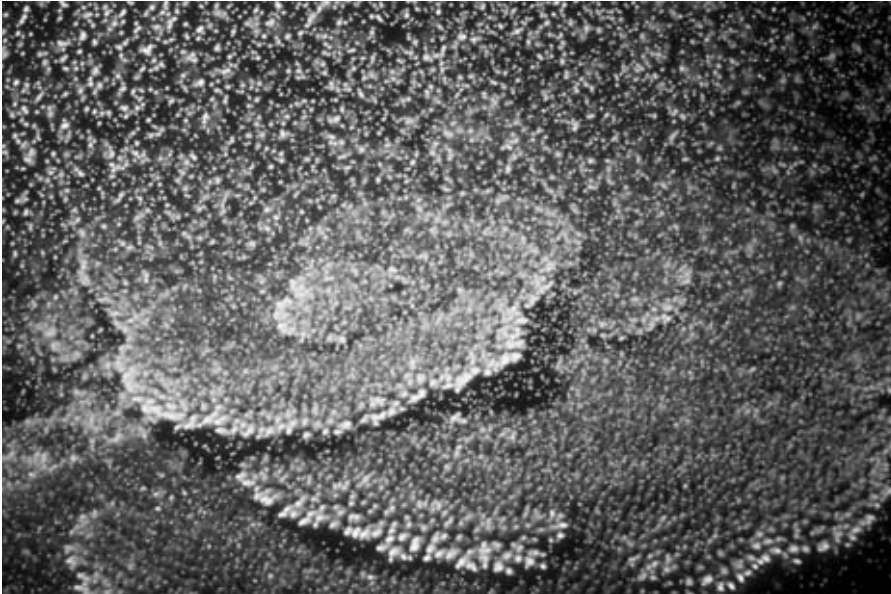


Australian Government

Great Barrier Reef
Marine Park Authority

Coral Spawning

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Corals are magnificent creatures and they are responsible for the formation and beauty of the Great Barrier Reef. About 400 different kinds of corals are found in the Great Barrier Reef Marine Park and they come in many different shapes, sizes and colours. Corals are animals closely related to jellyfish, but do not move through the water. Instead, corals remain in one place throughout their lifetime. Like most creatures, corals require food, water, shelter and sunlight to survive.

How do corals reproduce?

Corals can reproduce in two ways: by asexual reproduction, known as budding and sexual reproduction, which is broadcast spawning or

brooding. When corals reproduce asexually, colonies are started with just one coral polyp. The polyp is known as the 'founder' and it reproduces through a process known as budding. This process is repeated over and over for the entire life of the coral colony. Each new polyp is genetically identical to the 'founder' polyp. As hard coral colonies grow, layers of limestone are laid down, and the polyps move up to the new layer.

What is broadcast spawning?

Broadcast spawning (sexual reproduction) happens only once a year during a mass spawning. Most corals are hermaphrodites. That is, both eggs and sperm

develop within the same colony. The eggs for this process start to develop in the polyp at least six months prior to the spawning, but may take as long as 22 months. Sperm maturation generally only takes three to four months.

Broadcast spawning involves expelling eggs and sperm (gametes) into the water at the same time to ensure fertilisation. When an egg is fertilised by a sperm it develops into a planula that floats around in the water for several days or weeks before deciding where to settle on the ocean floor. After the planula has settled in a particular area it starts to bud and the coral colony develops.

When do corals spawn?

Three triggers that set off spawning in corals have been identified:

1. Rising water temperature stimulates the maturation of eggs and sperm inside the adult coral.
2. The lunar cycle provides important cues about the exact timing when corals are to release their eggs.
3. The diurnal cycle – corals always spawn in the darkness of night.

The time of year corals spawn depends on their location. Those





on inshore reefs usually start spawning one to six nights after the first full moon in October, whereas those in outer reef areas spawn during November and December. Mass spawning usually lasts about a week. This is because different species release their gametes on different days to prevent hybridisation.

How fast do corals grow?

The exact rate at which coral colonies grow varies amongst species. Some corals, such as



staghorn corals, can grow up to 30 centimetres each year while the massive porites corals grow at an average of one to three millimetres per year.

Some unique facts about corals

Colouring - Some corals have pigments in their tissues that give them their orange, yellow, green, blue, red and purple colours. Others get their golden-brown colour from the algae (zooxanthellae) that live within their tissues.

Feeding - Corals eat tiny animals which drift around in the water (called zooplankton) and very small fish. These animals are caught by the coral's tentacles that are loaded with specialised stinging cells called nematocysts. Corals can also feed from the tiny plants or algae called zooxanthellae that live within their cells. Like plants, zooxanthellae use the sun to make food for themselves and the coral. This is why it is important for corals to live in clear, shallow waters where they can get lots of sunlight.

For Further Information

Visit the Great Barrier Reef Marine Park Authority's website:
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