

## Checklist

Before purchase make sure that:

- 1 You have the appropriate equipment and position for the aquarium.
- 2 You have researched all the species you are interested in and your final choices are all compatible.
- 3 You are familiar with how to transport and release your fish.
- 4 You are aware of the daily, weekly and monthly maintenance your aquarium will require.
- 5 You are prepared to look after your fish properly for the duration of their life.

## Equipment

- 1 Glass or plastic aquarium
- 2 Gravel cleaner
- 3 Water testing kit
- 4 Marine salt
- 5 Marine substrate & live rock
- 6 Filter & protein skimmer
- 7 Food
- 8 Heater, thermometer & hydrometer
- 9 Reverse osmosis/de-ionised water or tap water conditioner

Before purchase make sure:

- 1 Your chosen species is compatible with your current aquarium set-up
- 2 The aquarium is large enough
- 3 You are aware of the individual requirements of your chosen coral species



### Never release your aquarium animals or plants into the wild

Never release an animal or plant bought for a home aquarium into the wild. It is illegal and for most fish species this will lead to an untimely and possibly lingering death because they are not native to this country. Any animals or plants that do survive might be harmful to the environment.

### Important things to remember

#### Always buy...

test kits and regularly check the water for ammonia, nitrite, nitrate and pH. This will allow you to make sure the water in your aquarium is not causing welfare problems for your fish.

#### Establish a routine...

for testing the water in your aquarium. Record your results to enable you to highlight fluctuations quickly. Also check the temperature of the water.

#### Maintain...

the water in the aquarium within the accepted parameters highlighted in this leaflet. You may need to do regular water changes to achieve this.

#### Always wash your hands...

making sure to rinse off all soap residues, before putting them into your aquarium. Wash your hands again afterwards and certainly before eating, drinking or smoking.

#### Never siphon by mouth...

A fish tank can harbour bacteria which can be harmful if swallowed. Buy a specially designed aquarium gravel cleaner which can be started without the need to place the siphon in your mouth.



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If in doubt contact your OATA retail member for further information



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How to care for...



## Corals

90 Tropical marine invertebrates



# Introduction

Keeping corals is often thought of as the ultimate for aquarium enthusiasts. Sometimes portrayed as difficult and expensive to maintain in the home aquarium, advances in equipment have made many coral species manageable even for the novice keeper. This leaflet will highlight some of the basic requirements for corals, however there are also species differences which should be researched before venturing into reef aquariums.

## Water requirements

Coral care requires stringent water monitoring and good quality. The parameters should fall within the following guidelines although they may acclimatise to slightly different water over time:

**Temperature:** 23 to 26°C

**Ammonia:** 0 mg/l (0.01mg/l may be tolerated for short periods)

**Nitrite:** 0mg/l (0.125mg/l may be tolerated for short periods)

**pH:** 8.1 to 8.4

**S.G:** 1.020 to 1.025 at 24 to 29°C

**KH:** 8 to 9 °DH

**Phosphate:** Undetectable

**Magnesium:** 1300 to 1500 ppm

**Calcium:** 400 to 425 ppm

## Biology

Despite their plant like appearance, corals are animals that are closely related to anemones and jellyfish. Corals are also indirectly capable of photosynthesising. By incorporating Zooxanthellae (a type of single-celled algae) into their tissues, corals can obtain much of their nutrition. This symbiotic relationship in turn provides a safe environment for the zooxanthellae. Therefore, corals are highly dependent on good quality light.

Corals also obtain further nutrients by feeding upon zooplankton. Like jellyfish and anemones, corals possess stinging cells (or nematocysts), but are completely harmless to humans.

Corals can be loosely divided into two groups. Many corals extract calcium from the water to produce a hard 'skeleton' that the polyps can withdraw into. Soft corals, such as mushroom, leather, button and polyp corals, do not produce this skeleton and their dependence upon calcium in the water is much lower.

## Aquarium requirements

Minimum aquarium size is less relevant for corals. They can be successfully kept in large and small aquaria alike. Instead, the limiting factors are water quality and lighting.

Soft corals are less demanding and can usually be kept under standard lighting. Hard corals are harder to keep, but the use of high output metal halides, T5 fluorescent or LEDs can make keeping these corals easier.

Corals can be sensitive to ammonia and nitrite, so good filtration is essential. A protein skimmer would be beneficial for soft corals, but essential for hard corals.

Incorporating live rock into a reef tank is a great way of aiding filtration, but also allows corals to be positioned at the right height where they can obtain the greatest amount of light. With time, the live rock will also act as a base for the corals to grow on to.

Some corals benefit from having a rapid water current flowing over their polyps. Small powerheads carefully positioned can be used to achieve this.

## Maintenance

At least every two weeks, a partial water change of 25 to 30% is strongly recommended (a siphon device is also useful to remove waste from the gravel). This helps to reduce the build-up of potentially harmful nitrates and other pollutants. Replacement water should be dechlorinated using strong aeration or a tap water conditioner (if not using reverse osmosis water). Ideally, replacement water should be heated and enough salt should be added to achieve the correct salinity.

Filters should be checked for clogging and blockages. If the filter needs cleaning, then do not wash it using tap water; any chlorine present may kill the beneficial bacteria that has established within the media. Instead, it can be rinsed in tank water which is removed during a partial water change. This should reduce the number of bacteria lost.

Good husbandry is essential as corals can be sensitive to even the smallest amounts of ammonia and nitrite. Test the water weekly to monitor ammonia, nitrite and nitrate, especially after initial set-up and after adding new fish. If keeping hard corals, monitor calcium levels for healthy growth. Do not forget to check the salinity as this may increase due to evaporation of water.

Corals are highly sensitive to copper which may be found in some fish medications. If a medication is required, consult your retailer to obtain a copper-free medication.

## Feeding

In the home aquarium a plankton food source should be recreated. This can be done through manufactured or homemade foods with combinations of meats, shrimps, algae, nutrients and vitamin enrichment. Switching protein skimmers and power heads off can also ensure the corals receive the food.

Always monitor the water quality of the tank because coral feeding can cause waste levels to rise. Different corals have different feeding patterns; some prefer to be fed at night while others during the day, and some will benefit from more frequent feeding. Consult your OATA retailer or other resources as to a coral's particular needs.

## Potential problems

Monitor the behaviour of your corals. These animals are not active, however they may be found to be 'open' or 'closed' throughout the day. Remaining 'closed' or withdrawn for prolonged periods, or loss of colour, may be signs of illness. Check the water quality immediately. Insufficient lighting may cause the death of zooxanthellae which will be shown by coral becoming noticeably paler, known as corals bleaching. If in doubt ask your OATA retailer for advice.

## Compatibility

The most important factor for keeping corals together is space. In the wild these organisms do not move. They use their stinging tentacles to protect and attack other corals which attempt to grow into their space. This means you should avoid placing coral species close to each other.

It is also important to ensure the fish in your aquarium are compatible to reef tanks. Butterflyfish, angelfish and parrots are generally not reef compatible and may nip, eat or knock over coral, which may ultimately lead to death. However, an individual fish from a seemingly compatible species may also attack corals when others do not. Always get advice from your OATA retailer before purchase.

## Breeding

It is unlikely that corals in home aquariums will successfully sexually reproduce as these produce free swimming larvae which will be eaten by other tank mates. However asexual reproduction through budding is likely to occur. Small portions of coral will be replicated and released to create a new colony.