

Tropical Marine Fish

How to care for clownfish

Clownfish are arguably one of the most famous marine fish and are often the first marine fish that many hobbyists keep. They are from the damselfish family, *Pomacentridae*, and live on coral reefs all over the world. Clownfish range in size and temperament, with some species being larger and more aggressive than others. Always consult your OATA retailer before purchasing any clownfish to ensure they will mix with current tank mates.



Water requirements

Clownfish are usually undemanding of water chemistry and their suggested parameters are shown below. These parameters are a general guide for this group of fish, so it is important to check with your OATA retailer for any species-specific requirements before purchasing. Please also note that if keeping these fish in a reef aquarium, some parameters will need to be altered to accommodate more sensitive species.

Salinity:	Between 1.020-1.025
Temperature:	Between 24-26°C
pH:	7.9-8.3
Ammonia:	Zero mg per litre
Nitrite:	Zero mg per litre
Nitrate:	Not to exceed 50 mg per litre
Carbonate hardness:	Hard (8-12°dkH)
Calcium:	Between 380-450 ppm
Magnesium:	Between 1250-1350 ppm

Biology

The common clownfish (*Amphiprion ocellaris*) and percula clownfish (*Amphiprion percula*) are the most common species in the trade and are unlikely to grow over 10cm. There are also many other clownfish species such as maroon (*Amphiprion biaculeatus*), tomato (*Amphiprion frenatus*) and Clarkii (*Amphiprion clarkii*), which will grow larger than 10cm.

By using selective breeding techniques, many different patterns and colours have been developed within tank-bred clownfish species. These can include strains such as snowflake, Picasso and gladiator. Regardless of species or colour, these fish can live for many years in a well-matured set-up with good water quality. Most clownfish in the trade are tank-bred, which makes them very adaptable and an excellent beginner species.



Sept 2022

www.ornamentalfish.org info@ornamentalfish.org

Copyright: OATA, Wessex House, Station Road, Westbury, Wiltshire, BA13 3JN

As clownfish mature, the more dominant individuals will grow larger and become female, whilst the males stay smaller. There may be some squabbling during this process, so it is best to monitor their behaviour carefully. Clownfish should be kept in pairs with one male and one female, as some individuals may be bullied when kept in groups. However, as they are capable of changing sex, it is recommended to buy two juveniles and let them naturally form a male and female pair. Although most clownfish live in a symbiotic relationship with anemones in the wild, anemones are not required to successfully keep clownfish in aquariums. Clownfish may also try to host other species of corals when kept in captivity. If you do decide to keep an anemone, speak to your OATA retailer to ensure you have the right set-up to keep one healthy as well as pick a species that your clownfish will live with.

Aquarium requirements

As a general rule, you should within reason, buy an aquarium as large as possible. It is recommended that an aquarium of at least 60 litres is used for a single pair of the smaller species, such as common clownfish or percula clownfish. For larger species, an aquarium of at least 120 litres is recommended. Aquariums will need to be even larger if you wish to keep clownfish with other species. A larger aquarium will also provide more stability to environmental conditions such as temperature and water quality. Whatever the size, **a filter is essential**. For marine set-ups this can be in the form of live rock with sufficient water flow, an internal or external filter, or a sump-based filter. A protein skimmer can also be beneficial for maintaining water quality as it will help to remove dissolved organic waste before it can break down into more harmful substances.

Clownfish are relatively undemanding in terms of aquarium décor. Either live or artificial rockwork is good as it provides a site for them to host and they will likely spend most of their time here. It is also important to include space for them to swim and other areas of rock work should other species wish to be kept. A thin layer of coral sand (approximately 2cm) is useful to make clownfish feel secure and to maintain carbonate hardness levels. There should be a moderate water flow to provide good surface movement and to ensure detritus doesn't accumulate.

A heater is required to maintain a suitable temperature all year round. To minimise fluctuations in water temperature, the aquarium should not be situated near any draughts or heat sources. It should also be out of direct sunlight and away from loud noises, vibrations and sudden movements. Overhead tank lighting is recommended to maintain a correct day-night cycle. This will not need to be particularly bright for clownfish alone but may need to be brighter if keeping with coral species, - see our coral care sheets for more information.

Water testing kits are essential so that water quality can be checked on a regular basis (once a week) to ensure it does not slip below the water requirements stated above.



Sept 2022

www.ornamentalfish.org info@ornamentalfish.org

Copyright: OATA, Wessex House, Station Road, Westbury, Wiltshire, BA13 3JN

Introducing your fish

Before adding any fish, seek advice from your OATA retailer to make sure that your aquarium is an appropriate size for the clownfish you would like to keep. Check that the water quality in your aquarium is suitable i.e. levels of ammonia and nitrite are zero. Only increase the number of fish you have in your aquarium slowly as the population of beneficial bacteria established when maturing your aquarium filter need to increase every time more fish are added and feeding increases. Overstocking or stocking your aquarium too quickly can result in 'new tank syndrome'. This occurs when there are not enough nitrifying bacteria to cope with the increased waste from the fish, leading to unhealthy levels of ammonia and nitrite, which may cause fish to become ill or die.

Healthy fish have clear bright eyes, undamaged fins, intact scales, no ulcerations or bumps, appropriate swimming behaviour and steady breathing. Do not purchase a seemingly healthy fish if sickly fish are present in the tank with it. Signs of disease can include clamped fins, flicking against gravel or décor and shimmying (shaking). Diseases can be easily carried by fish that do not show any clinical signs. If in doubt, ask your OATA retailer for advice as they will have in-depth knowledge and experience.

Your OATA retailer will usually sell your fish to you in a plastic bag, try not to keep them in this for too long. Once purchased, take your new fish home as quickly as possible because fish are easily stressed by bright lights, extreme temperatures, noise and movement.

Once home, your fish will need to acclimatise to their new environment and a common method of doing this is known as the 'floating bag' method. Switch off the aquarium lights and take the bag containing your new fish out of its outer wrappings carefully, avoiding exposure to bright light. Float the bag in the water of your tank to ensure the temperature in the bag is the same as the aquarium water. After 10 minutes, slowly introduce small amounts of aquarium water into the bag containing the fish for up to 30 minutes. Once complete, carefully release the fish into the aquarium whilst introducing as little bag water into the aquarium as possible. This is especially important if keeping fish with any invertebrate species as some retailers run copper in their systems, which is toxic to invertebrates. After this, dispose of the bag and any excess water appropriately.

For sensitive species or to ensure retailer water does not enter your aquarium, a better method might be the use of drip acclimation. This could be achieved by keeping the fish in the container in which it is sold and a small airline siphon started to drip water into the container, slowly changing the water parameters to that of the aquarium. Ensure that the temperature does not fall too low during this procedure. Once conditions match, carefully net the fish from the container into the aquarium. Dispose of the water in the transport container appropriately. Monitor your new fish carefully for the first week, paying particular attention to water quality. If in doubt, contact your OATA retailer for advice.



Sept 2022

www.ornamentalfish.org info@ornamentalfish.org

Copyright: OATA, Wessex House, Station Road, Westbury, Wiltshire, BA13 3JN

If possible, quarantining new livestock in a separate aquarium for at least a week before they enter the main tank can help reduce any risk of disease spread from new inhabitants. Ask your OATA retailer for advice on this topic.

Maintenance

At least once every week, a partial water change of 25% is strongly recommended (a siphon device is useful to remove solid waste from the gravel). Filters should be well maintained, with regular checking and cleaning to prevent blockages. If the filter needs cleaning, do not run it under the tap because any chlorine or chloramine present may kill the beneficial bacterial population that has established in the media. Instead, it should be rinsed lightly in the tank water which is removed during a partial water change as this reduces the amount of bacteria which are lost. Protein skimmers should be regularly cleaned to maintain their performance.

Good husbandry is essential as clownfish can be stressed by even the smallest amounts of ammonia and nitrite which may then cause them to develop various diseases. Test the water to monitor the ammonia, nitrite and nitrate levels, together with pH and carbonate hardness every week, especially during initial set-up and after adding extra fish. It is also important to regularly monitor salinity and use reverse osmosis water to replace any water lost through evaporation.

What to watch out for

All fish will have slight variations in their behaviour or appearance, but keeping an eye on any changes in the following will help to identify any potential problems before they become a real health issue:

- ▶ swimming behaviour – hanging at the surface, sitting on the bottom or erratic swimming
- ▶ colour – turning a darker or paler colour than normal
- ▶ temperament – changes in level of aggression or hiding more than normal
- ▶ breathing – gill covers moving at a slower or faster rate than normal
- ▶ appearance – development of white spots or fluffy growths, loss of fins or scales
- ▶ condition – increase or decrease in body weight and condition
- ▶ feeding – reduced intake or lack of interest in food

If you are concerned about the health of any of your livestock, then test your water quality and contact your OATA retailer for further guidance.

Feeding

Clownfish are omnivorous and require a wide range of foods to be in their best health. A good quality flake or pellet will fulfil most of their nutritional needs, but this should be supplemented with frozen feeds such as mysis shrimp, enriched brine shrimp or red plankton.

Clownfish may also graze on any algae which is offered to herbivorous species or grows in the aquarium. Clownfish should only be fed what they can eat within a



Sept 2022

www.ornamentalfish.org info@ornamentalfish.org

Copyright: OATA, Wessex House, Station Road, Westbury, Wiltshire, BA13 3JN

few minutes, twice a day. Take care not to overfeed as this can lead to a build-up of uneaten food which breaks down releasing toxic waste into the water. If in doubt, ask your OATA retailer for advice on appropriate feeding levels.

Compatibility

Clownfish species vary in temperament, with species such as common or percula clownfish generally being less aggressive than the other larger species. However, all clownfish species are territorial over a certain area of the aquarium. This site will usually be protected from other species, especially if they breed, therefore it is important to allow sufficient room for clownfish to establish their territory and not to mix them with any species which are shy or easily intimidated.

In addition, the female is normally the dominant fish within the pair and will often bully the male. This is normal behaviour but should be monitored closely to ensure that the male is not injured.

Breeding

Clownfish are one of the easiest marine species to spawn in the home aquarium. The male and female will clean a site, on which the female will lay eggs for the male to fertilise. They will fan the eggs to provide water flow around them and will remove any non-viable ones by eating them. After about 7 or 8 days, the larvae will hatch. These are too delicate to survive in a home aquarium as they are likely to get sucked into filters and pumps or eaten by other aquarium inhabitants. They also require specific live feeds and so a specialist set up is required to raise them to adulthood.

Checklist

Before purchase make sure:

1. You have the appropriate equipment and position for the aquarium.
2. You have researched all the species in which you are interested 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.



Sept 2022

www.ornamentalfish.org info@ornamentalfish.org

Copyright: OATA, Wessex House, Station Road, Westbury, Wiltshire, BA13 3JN

Shopping List

- ▶ Glass or acrylic aquarium
- ▶ Filter*
- ▶ Heater*
- ▶ Lighting*
- ▶ Gravel or sand
- ▶ Aquarium salt and a hydrometer or refractometer
- ▶ Access to reverse osmosis water or a reverse osmosis unit
- ▶ Water testing kits (ideally ammonia, nitrite, nitrate, pH and water hardness)
- ▶ Gravel cleaner/siphon cleaning device (recommended)
- ▶ Aquarium decorations
- ▶ Bucket for water changes
- ▶ Live or artificial rock
- ▶ Protein skimmer* (optional but recommended)
- ▶ Ultraviolet steriliser (optional but recommended)

*may be included in branded aquarium sets but can be purchased separately.

Before purchase make sure:

- ▶ The aquarium is of a suitable size that ideally can accommodate the fish once they are fully grown
- ▶ Water parameters are as advised in this leaflet.
- ▶ Aquarium is cycled and ready to receive fish.

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 clownfish.

Maintain...

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

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 or primed without the need to place the siphon in your mouth

Establish a routine...

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

Always wash your hands...

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



Sept 2022

www.ornamentalfish.org info@ornamentalfish.org

Copyright: OATA, Wessex House, Station Road, Westbury, Wiltshire, BA13 3JN

Five Welfare Needs Checklist:

The Animal Welfare Act 2006 states that all pet owners have a legal duty of care to their pets. Anyone who is cruel to an animal or is found not to be providing the five animal welfare needs, as listed below, can be prosecuted.

- ▶ A **suitable environment** e.g. appropriately sized tank (with water heater if tropical set up) within a suitable location in your home.
- ▶ A **suitable diet** which meets the needs of your chosen fish.
- ▶ **Behaviour** - Fish are able to exhibit their normal behaviour e.g. hiding places for timid fish, enough room for fish to swim freely.
- ▶ **Companionship** - Ensure you know whether your chosen fish need to be kept with, or apart from, other fish.
- ▶ **Health** - Protected from pain, injury, suffering & disease e.g. you are aware of the daily, weekly and monthly maintenance that your aquarium will need.

- ▶ **Water quality test kits are a necessity not an optional extra**
- ▶ **You must be prepared to look after your fish properly for the duration of their life and provide an aquarium which can accommodate your fish when fully grown**



*Never release your aquarium animals or plants into the wild. It is illegal and for most fish species this will lead to an untimely and possibly lingering death. Any animals or plants that do survive might be harmful to our native countryside. Take care to properly dispose of any soiled substrate (e.g. sand or gravel) water or decorations so that non-native organisms do not enter natural watercourses.

Visit ornamentalfish.org to find a full range of how to guides and species-specific care sheets to help you look after your fish successfully.



Sept 2022

www.ornamentalfish.org info@ornamentalfish.org

Copyright: OATA, Wessex House, Station Road, Westbury, Wiltshire, BA13 3JN