Tropical Freshwater Invertebrates
How to care for freshwater shrimp & snails

Freshwater shrimp and snails are popular aquarium inhabitants as they help to control nuisance algae. They vary in their distribution, but most of those popular in the trade originate from Asia or Africa. However, most individuals sold for aquariums are bred in captivity. Freshwater shrimp and snails make good aquarium inhabitants, but they should be mixed with caution as they may be eaten by common aquarium fish.

Water requirements

Freshwater shrimp and snails are usually undemanding of water chemistry and their suggested parameters are shown below. The parameters are a general guide for this group, so it is important to check with your OATA retailer for any species-specific requirements before purchasing.

Temperature:	between 17-27°C
pH:	6.5-8.0
Ammonia:	Zero mg per litre
Nitrite:	Zero mg per litre
Nitrate:	Not to exceed 20 mg per litre above normal tap water levels
General hardness:	Soft-hard (4-18°dH)
Carbonate hardness:	Soft-hard (3-15°dkH)

Biology

The two most popular shrimp species are Amano shrimp (*Caridina japonica*) and colour variants of *Caridina cantonensis*, which include cherry and bee shrimp. Amano shrimp grow slightly larger (5cm) than the smaller species (3cm) but are not as colourful. There are many snail species which are popular in aquariums, such as apple, nerite and assassin snails. They come in various colours, shapes and sizes but are unlikely to grow any larger than 5cm. Freshwater shrimp and snails are not particularly long-lived, but they can live for a couple of years in a well-matured set-up with good water quality.

Being invertebrates, both freshwater shrimp and snails are very sensitive to copper and will die if exposed even to low levels. Always ensure that any treatments added to the aquarium are safe for invertebrates.

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Whilst snails are not social creatures, shrimp species usually are and should be kept in groups of at least five in the home aquarium. Those which are kept singly or in too small groups will often become stressed. It can be very difficult to identify the sex of freshwater snails, and some are hermaphrodites. Shrimp can easily be sexed because mature females will hold eggs under their abdomen. Shrimp frequently moult and so you should not be surprised if you see a 'skin' resembling that of a dead shrimp in your aquarium.

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 10 litres is used for a group of small freshwater shrimp or snails. Larger species, such as apple snails or Amano shrimp, will require a slightly larger aquarium of approximately 20 litres. This will need to be larger if keeping freshwater shrimp or snails with any fish species. The larger the aquarium, the more stable the environmental conditions such as temperature and water quality will be. Whatever the size, **a filter is always essential**.

The tank should also have aquarium gravel or sand and ideally live plants present to provide cover. If live plants are not used, then the addition of plastic plants and suitable ornaments is recommended, such as plant pots or model caves, which provides the shrimp with shelter. Sand or fine gravel is important for some species as they need to be able to move through it to find food. A cover is also a good idea to prevent snails from escaping and shrimp from jumping out.

For some species 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.

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.

Introducing your shrimp or snail

Before adding any freshwater shrimp or snail, seek advice from your OATA retailer to make sure that your aquarium is an appropriate size for the species 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 shrimp or snails you have in your aquarium slowly as the population of beneficial bacteria established when maturing your aquarium filter need to increase every time more livestock 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

inhabitants, leading to unhealthy levels of ammonia and nitrite, which may cause freshwater shrimp and snails to become ill or die.

Your OATA retailer will usually sell your freshwater shrimp and snails to you in a plastic bag. Try to avoid keeping them in this for too long. Once purchased, take your new livestock home as quickly as possible because they are easily stressed by bright lights, extreme temperatures, noise and movement.

Once home, your freshwater shrimp or snails 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 livestock 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 shrimp or snail for at least 30 minutes. Once complete, carefully release the shrimp or snails whilst introducing as little bag water into the aquarium as possible. After this, dispose of the bag and any excess water appropriately. It is important to take your time during this process as invertebrates are prone to shock from sudden changes in water chemistry. Monitor your new shrimp or snails carefully for the first week, paying particular attention to water quality. If in doubt, contact your OATA retailer for advice.

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). The water should be tested regularly (at least once per week) to ensure that ammonia and nitrites don't build up. Ensure that the replacement water is treated with tap water conditioner to remove any harmful chlorine or chloramine present before adding to the aquarium.

Filters should be checked for 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.

Good husbandry is essential as freshwater shrimp and snails 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 water hardness every week, especially during initial set-up and after adding extra livestock.

What to watch out for

All animals 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:

- behaviour – lethargic, hanging out in the open, sitting on the bottom or erratic movements
- colour – turning a darker or paler colour than normal
- temperament – changes in level of aggression or hiding more than normal
- appearance – development of white spots or fluffy growths, loss of body parts
- 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

Freshwater shrimp and snails are generally herbivorous and will graze on algae in the aquarium. This should be supplemented with algae wafers to ensure they are being given enough food. There are commercial pellets which are made for freshwater shrimp that can also be used for both shrimp and snails. The assassin snail (Nassariidae species) predates on other snail species and is useful for controlling excessive snail populations, but they will also feed on commercially manufactured foods.

Freshwater shrimp and snails should only be fed two or three times a week. They will need time to eat and any pellets or wafers should be left for at least 30 minutes to allow them to feed. 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

Freshwater shrimp and snails are generally compatible with most species in the aquarium. Freshwater shrimp should not be mixed with any fish which can fit them in their mouth, or any species known to be predatory. Snails should not be mixed with fish that can eat them, such as pufferfish or loaches. Always check with your OATA retailer before mixing freshwater shrimp or snails with fish species.

Breeding

Breeding of freshwater shrimp and snails varies greatly. Colour morphs of *Caridina cantonensis*, will reproduce on their own, provided there is enough protective cover and food for young shrimp. This is also true of some snail species, such as apple

snails, which reproduce frequently under the right conditions. Other species, such as Amano shrimp, are unlikely to breed in home aquariums because the larvae are planktonic, require brackish water and have specific food requirements. A specialised set-up is required for best success with all freshwater shrimp and snail species.

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 shrimp or snail.
4. You are aware of the daily, weekly and monthly maintenance your aquarium will require.
5. You are prepared to look after your shrimp or snail properly for the duration of their life.

Shopping List

- Glass or acrylic aquarium
- Filter*
- Heater
- Lighting (required for live plants)*
- Gravel or sand
- Tap water conditioner/dechlorinator
- Water testing kits (ideally ammonia, nitrite, nitrate, pH and water hardness)
- Gravel cleaner/siphon cleaning device (recommended)
- Aquarium decorations and/or live plants
- Bucket for water changes

*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 shrimp or snail once they are fully grown
- Water parameters are as advised in this leaflet.
- Aquarium is cycled and ready to receive invertebrates.

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 freshwater shrimp or snail.

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.

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

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.

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 shrimp or snail.
- **Behaviour** – Freshwater shrimp or snails are able to exhibit their normal behaviour e.g. hiding places for timid species, enough room for individuals to move freely.
- **Companionship** - Ensure you know whether your chosen shrimp or snail needs 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 animals properly for the duration of their life and provide an aquarium which can accommodate all fish when fully grown.**

*Never release your aquarium animals or plants into the wild
It is illegal and for most shrimp and snail 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) 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 animals successfully.

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