

## Freshwater Aquatic Animals

### How to care for freshwater turtles

Terrapin is usually a term given to turtles living in freshwater, so although terrapins and freshwater turtles are often referred to separately, they are actually the same. Most originate from North America but most in the trade are captive bred. Although freshwater turtles make good aquarium inhabitants, they should be kept in the appropriate set-up and not mixed with fish.

Thanks to Maidenhead Aquatics for use of this picture



### Water requirements

Freshwater turtles 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 22-25°C
pH:	7.0-8.0
Ammonia:	Zero mg per litre
Nitrite:	Zero mg per litre
Nitrate:	Not to exceed 40 mg per litre above normal tap water levels
General hardness:	Medium-hard (8-18°dH)
Carbonate hardness:	Medium-hard (10-15°dkH)

### Biology

There are many different types of freshwater turtle, however the species most suited to be kept in aquariums is the eastern musk turtle, sometimes called a stinkpot turtle (*Sternotherus odoratus*) as it does not grow over 14cm. In the past, slider turtles or red-eared terrapins (*Trachemys scripta*) were commonly sold but these are now listed as invasive species and as such are illegal to be kept as pets. There are also other species of turtles which may be offered such as the snake-necked turtle (*Chelodina mccordi*) or soft-shelled turtle (*Pelodiscus sinensis*), but these can grow large, and it may be difficult to meet their care needs in most aquaria.

Although considered aquatic, freshwater turtles are actually semi-aquatic and will need access to land in order to bask (see the Aquarium requirements section below). Failure to provide this can cause health issues. Freshwater turtles can live for over twenty years, and you should be prepared to look after the individual for the duration of its life. Freshwater turtles will not appreciate being handled and should be held as little as possible.



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Male freshwater turtles will have longer and larger tails, and bulkier heads than females. Freshwater turtles can be kept singly or in groups if there is enough space. However, to reduce any potential conflict, individuals should be of a similar size.

### 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 a metre long is used for the smaller species of freshwater turtles (under 15cm). Larger species will need larger aquariums, so ask your OATA retailer for guidance. Aquariums for freshwater turtles should be as long and wide as possible to provide adequate surface area. 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**. This should be efficient enough to deal with the waste produced, but not provide a strong flow.

Freshwater turtles require a specific aquarium set up. The aquarium should have an area where turtles can get out and bask. This can be achieved through the use of floating platforms or floating logs, however more stable basking areas are appreciated. This is best achieved by creating a beach or bank using stones and wood. The aquarium will also need to be half or three-quarters filled with water to provide basking areas from which the turtles cannot escape. It is best that all décor is quite robust as turtles can be destructive when moving around the aquarium. Live plants may be eaten, and so plastic or hardy species of plants may be better suited. Sand is the preferred substrate as it will not cause any harm if accidentally ingested. Larger gravel can be used, provided it is too large to fit in the mouth. A cover is advised to prevent individuals escaping.

Freshwater turtles need to bask and require a specialist light bulb that provides heat and emits UV-B. It should be situated above the basking area and provide an air temperature of 28-32°C. Ideally, the basking area should be situated at one end of the aquarium so that there is a temperature gradient with a hot end and cooler end. Ask your OATA retailer to ensure that the light on your set-up is appropriate. The light bulb should be switched on for 10-12 hours per day in the summer and 12-14hrs in the winter.

For most species, a heater is required to maintain a suitable water temperature (see “Water requirements” above) 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.

**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.



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## Introducing your turtle

Before adding any freshwater turtle, 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 freshwater turtles 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 is 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 turtles to become ill or die.

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

Once home place your turtle straight into the aquarium, provided that the water temperature in the aquarium is within the correct temperature range. They should be handled gently to minimise any stress. Monitor your new freshwater turtle 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 50% is strongly recommended (a siphon device is useful to remove solid waste from the gravel but this should not be 'primed' by mouth). A full water change should be performed once per month or more frequently if there are bad odours from the aquarium. 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, and the water should be tested 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.



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## 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:

- ▶ colour – reddening of the skin or shell
- ▶ behaviour – changes in level of activity and being less active than normal, not retracting into its shell when disturbed, discharge from the nose or mouth and wheezing sounds, floating with one side down (non-symmetrical buoyancy)
- ▶ appearance –swelling of the soft tissues, softening or damage to the shell, eyes swollen or closed, ulcerations on the skin
- ▶ feeding – reduced intake or lack of interest in food

It can be difficult to assess the behaviour of freshwater turtles as they are often still or slow moving with periods of fast movement. This is normal and should not be cause for concern. Health issues are generally a slow process with reptiles and they are unlikely to recover quickly, therefore it is important to regularly check the health of your turtle and catch any health problems early. If you are concerned about the health of any of your livestock, then test your water quality and contact your OATA retailer or local veterinary surgeon who specialises in reptiles for further guidance.

## Feeding

Freshwater turtles are carnivores and so should be fed accordingly. Frozen meaty items should be fed according to the size of the individual. Smaller individuals should be fed brine shrimp, bloodworm and other insect larvae. Larger freshwater turtles should be fed larger items such as prawns, mussels and cockles. It is best to supplement these with specialist prepared pellets to ensure they are getting a balanced diet. Some individuals may also consume plant matter if there are live plants in the aquarium. It is important that sufficient calcium is provided in the diet, therefore a calcium supplement with vitamins A and D3 should be added to the food, particularly when turtles are young.

Freshwater turtles should only be fed once a day. They will need time to eat and food should be left for about 10 minutes to allow them time to feed before removing any that is uneaten. 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 turtles are best kept in species-only aquariums because they will predate on any fish they can fit in their mouths.



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## Breeding

It is possible to breed freshwater turtles in the home aquarium, but it can be difficult as eggs will need to be incubated at a stable temperature until hatching. Once hatched, the young can be cared for like adults. Careful consideration should be taken before breeding these species as they are long lived and there should be sufficient demand for them before they are bred.

## 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...

Establish a routine...



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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 turtles.

### 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

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.

## 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](http://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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