Tropical Marine Fish
How to care for seahorses & pipefish

Seahorses and pipefish are popular due to their interesting body shape and feeding behaviours. Both seahorses and pipefish are from the *Syngnathidae* family and live on coral reefs and associated environments all over the world. Seahorses and pipefish make excellent aquarium inhabitants provided their needs are met. Always consult your OATA retailer before purchasing any seahorse of pipefish to ensure they will mix with current tank mates.

Water requirements

Seahorses and pipefish 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

Popular seahorse species include erectus (*Hippocampus erectus*), kuda (*Hippocampus kuda*) and reidi (*Hippocampus reidi*). Popular pipefish include the blue striped (*Doryrhamphus excisus*), snake (*Corythoichthys intestinalis*) and the candy (*Dunckerocampus pessuliferus*) pipefish. Seahorses do not grow very long, but they are tall. Reidi are the largest species and grow over 30cm tall. Dwarf seahorses (*Hippocampus zosterae*) are much smaller and are unlikely to grow over 4cm. Most pipefish species grow to around 15cm. Regardless of species, these fish can live for many years in a well-matured set up with good water quality.

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In the wild, seahorses will cling onto algae, sea fans and other invertebrates, and wait for passing prey items. Pipefish are more active and will swim on and around corals and rocks looking for prey. Some pipefish are unlikely to accept frozen foods. It is important to introduce these pipefish into a mature aquarium as live food populations will have had time to build up.

Almost all seahorses for sale are tank-bred as they are listed on CITES.

Seahorses and some pipefish are easy to sex as the male will have a pouch on the underside which is used for incubating the eggs. Some pipefish can be harder to sex, but some display differences in colour. Seahorses and pipefish are sociable and can be kept in pairs or small groups. However, they should be mixed carefully with other species (see the Compatibility section below).

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 80 litres is used for a pair of the smaller species. Aquariums will need to be larger if you wish to keep multiple seahorses and pipefish or keep them with other species. Aquarium height is important for seahorses, and it should be at least 2.5 times the height of the species you are keeping. 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.

Seahorses and pipefish are relatively undemanding in terms of aquarium décor. Seahorses will require points to hold onto with their tail. This can be achieved by using different algae species, thin pieces of live rock or artificial ornaments. Ensure there are plenty of these dotted around the aquarium. For pipefish, plenty of live or artificial rockwork is recommended to provide cover, live food and an opportunity for this fish to behave naturally. A thin layer of coral sand (approximately 2cm) is useful to make seahorses and pipefish 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, however many seahorses and pipefish are not strong swimmers and so the flow should not be too strong.

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. Seahorses and pipefish can be sensitive to high temperatures and a chiller can be used to prevent temperatures getting too high in warm weather. Overhead tank lighting is recommended to maintain a correct day-night cycle. This will not need to

be particularly bright for seahorses and pipefish 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.

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 seahorse or pipefish 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 transfer 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.

When moving seahorses or pipefish it is important to avoid exposing them to air since this can be ingested or trapped in the pouches of the males, which can lead to buoyancy issues. It is best to gently "herd" them towards the aquarium glass, before scooping them carefully into plastic containers.

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 seahorses and pipefish 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

Traditionally seahorses have been considered difficult to feed because they were captured from the wild and struggled adapting to commercially available feeds. Tank-bred specimens are much easier to feed and will consume most meaty frozen feeds such as mysis shrimp, enriched brine shrimp, krill or copepods. Some pipefish can be harder to feed and may require live food such as mysis shrimp, brine shrimp or copepods. Many mature aquariums will naturally build up copepod populations, but it is best to supplement these with live or frozen copepods which can be bought from your OATA retailer or bred at home. In more advanced set-ups, a refugium can help boost natural live food populations, but speak to your OATA retailer for more advice.

Seahorses and pipefish should be fed three times a day. They are not competitive feeders and so will need at least 20 minutes to feed on any food offered. It can be useful to use a pipette or similar device to target feed individuals. Some will become tame and can be fed by hand. 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

As seahorses and pipefish are not competitive feeders and can be shy, they do not mix well with many species. Marine invertebrates such as shrimps, hermit crabs and snails are useful additions as 'clean up crew' for any uneaten food. Seahorses and pipefish can be mixed with smaller, shy gobies, firefish and cardinalfish, but it is important to ensure there is no aggression and that the behaviour of the other fish does not intimidate them. Seahorses should not be mixed with stinging corals or anemones as they may try to hold onto them. Always ask your OATA retailer for advice before mixing seahorses or pipefish with any other species.

Breeding

Seahorses are some of the easiest marine fish to breed as they do not have a planktonic larval stage. The male and female seahorses will court and swim up to the surface where she will deposit the eggs into the male's pouch. After these have hatched, the male will expel hundreds of perfectly formed seahorses. There is no parental care and the fry

need to hunt for themselves. They will require live, enriched brine shrimp nauplii but can be weaned onto frozen foods once they are large enough. For best results, a separate aquarium with a gentle circular water flow is required, as it is unlikely seahorse fry will survive in the same aquarium as adults. Pipefish will reproduce in a similar method, but it is much rarer in aquariums and the fry are harder to raise.

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.

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 your 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 seahorses and pipefish.

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.

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**

BE PLANT WISE

*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.

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