

Setting Up And Maintaining A Tropical Aquarium

A tropical aquarium is a welcome addition to any room. In it a wide variety of colourful and interesting fish and plants can be maintained with a minimum of effort and expense. For the newcomer to the hobby, the prospect of setting up such a tank is a daunting one, however, it need not be. This leaflet provides the basic information required in order to set-up a tropical freshwater aquarium.

PLANNING

Before setting up an aquarium it is advisable to read one of the many books on the subject as this will help the would-be aquarists to avoid some of the early pitfalls.

EQUIPMENT

Having read a little about the hobby, the next stage is to draw up a list of equipment that is required. The types of fish you intend to keep will affect this list, however, for a community aquarium (containing a range of fish species) the following items are necessary.

- Aquarium and stand
- Decoration such as stones and Mopani wood
- Cover and lighting
- Aquarium Plants - live or plastic
- Heater Thermostat
- Air pump
- Internal Filter
- Fish Food Thermometer
- Fish net(s)

Although the above list of equipment can be purchased at the same time. Do not buy any fish at this time. These will be added later, when your aquarium is installed and running correctly.

SITING THE AQUARIUM

The aquarium must be sited away from draughts and room heaters as these can cause temperature fluctuations in the aquarium which can adversely affect your fish. It should also be positioned out of the path of direct sunlight which can cause unsightly algal growth and overheating.

Remember that when the tank is full it will be very heavy. Each 4.5 litres (1 gallon) of water weighs 4.5 kg (10 lbs). Therefore, an average tank 60 x 30 x 30 cm (24" x 12" x 12") plus gravel will weigh around 115 kg (250 lbs) so be sure that the stand is strong enough.

To provide even support to the base of the aquarium it is recommended that most aquariums purchased, should be seated on a thin layer of polystyrene tiles. If your aquarium is to be sited upstairs or on a raised floor make sure that it stands across and at right angles to the run of the main floor supports.

COVER AND LIGHTING

Most aquariums are manufactured so that a cover or hood can be attached or with a hood and cover as part of the package. The cover serves several very important purposes including preventing evaporation, reducing heat loss and preventing the fish from escaping.

Aquarium hoods usually provide a space for the installation of artificial lighting. This is preferable to sunlight because the intensity and duration can be accurately controlled to enhance plant growth and minimise the growth of algae.

Lighting available for the aquarium hobby today, is most commonly in the form of fluorescent tubes which are cheap to run, and easy and safe to install. The lights should be "on" for approximately 10-14 hours per day.

If the aquarium does not already come with its own in-built condensation covers (normally as sliding glass covers), it is advisable to place a clear condensation tray between the water surface and the lighting to prevent condensation forming on the electrical equipment.

HEATING THE WATER

Most tropical fish require a water temperature of 23-27°C achieved by using an aquarium heater thermostat. It is important to choose a heater that will generate sufficient heat to maintain the required water temperature but not to go for too large a unit as this can create very rapid fluctuations in water temperature during its heating phase. Ensure you buy the correct size of heater (measured in watts) for the size of your aquaria.

Heater thermostats should be placed at the back of the aquarium, close to, but not touching the gravel and preferably in front of a filter outlet or in an area of good water movement to ensure even heat distribution throughout the tank.

FILTRATION AND AERATION

Filtration in the aquarium has two main functions. Firstly it removes pieces of suspended debris from the aquarium water keeping the aquarium water clear (a process known as mechanical filtration). Secondly, once "mature" it also removes harmful pollutants from the water which the fish themselves generate (a process known as biological filtration).

Most filters whether air driven, electrically driven, internal or external, work in very much the same way. Water is usually pumped through some kind of "filter media" such as an expanded foam, which does two things. Firstly it sieves out the suspended debris from the water making it clear and secondly it provides a large surface area on which useful filter bacteria live and it is these bacteria which remove the harmful fish wastes from the water. Several types of filter are available, which may use different types of filter media such as the gravel in an under gravel filter or bio-rings in an internal or external filter. Some of the more complex internal filters and many "external" aquarium filters contain several filter media chambers so that additional media can be added such as activated carbon (chemical filtration).

Aeration for the aquarium is usually provided by an aquarium air pump and causes the water in the aquarium to circulate and also increase the surface area of the water, so allowing toxic gases to escape from the water and oxygen to be absorbed. Extra aeration of the water can also be achieved by using a high pressure "venturi" inlet, found on many internal aquarium filters.

Setting Up The Aquarium

The following steps describe the basic method of setting up an aquarium.

WASHING

Thoroughly wash the aquarium gravel, rocks and equipment in clean water (Do not use soap or detergents). The gravel in particular may contain large quantities of dust. It should be washed in a bucket using running water until the water remains clear after stirring.

If you are using "bogwood" as opposed to the cleaner "Mopani" style wood for decoration, this needs to be washed and then soaked in water for 3-4 days to allow any residues to be released.

A 2-3 inch layer of gravel should be added. Slope the gravel towards the front of the tank so that any debris accumulates here and is easier to remove. If an under gravel filter is being used, the filter plates should be positioned before the gravel is added.

ADDING EQUIPMENT AND NON-LIVING DECORATIONS

Position the equipment towards the back of the aquarium. Heaters, thermostats and filters should be attached to the glass using the suction cups provided. The wires from the electrical appliances (heater, thermostat, air pump, light etc.) can be connected to a cable tidy to reduce the number of unsightly wires around the back of the tank and make controlling the system much easier. Air pumps should be positioned above the level of the water unless you are using a Whisper Check Valve in the air line to stop water siphoning into the pump.

Bogwood and rocks can be used to form terraces in the gravel or as separate features. When landscaping the tank try to hide any equipment in the tank using the decorations (and plants).

ADDING THE WATER

Fill the aquarium one third full using water that is approximately 24 °C (75°F).

Pour the water onto a plate or polythene sheet to avoid disturbing the gravel. The water should be conditioned with a chlorine remover or use R O water. You can also at this stage add a product which provides beneficial bacteria to help kick start your filter and produce quicker maturation of your system.

LIVE PLANTS

If using live plants rinse them in water at approximately 24°C (75°F) to remove any snails and other unwanted pests. Remember to keep the plants moist at all times to prevent damage. The plants should be positioned to hide any equipment and provide a pleasing background for the fish. Plant carefully and avoid excessively bending the roots. Ready potted plants are worth the extra expense as they are already established.

ADD THE REMAINING WATER AND START EQUIPMENT

Fill the tank in the same way as before. Remember to add a chlorine remover to any new water or use R O water. Once fitted, all of the equipment should be turned on and left running for 24 hours. Do not switch on any heater until it is fully submerged.

ALTERATIONS

Check the water conditions and temperature after 24 hours. Any alterations should now be made. The water in new aquaria often becomes cloudy for a day or two. This is caused by harmless bacteria and will disappear naturally.

THE FISH

Two or three days after setting-up the aquarium and once you have checked that all the equipment is working as it should and that the temperature of the water is stable, a small number of relatively hardy fish (e.g. barbs and swordtails) can be added. 5 or 6 fish in a 90 cm (36 inch) long tank is suitable. In order to allow the water temperatures and types to equilibrate, open the bag in which the fish were purchased, and float it in the aquarium for 20-40 minutes. During this time, slowly mix some aquarium water with that in the bag, before releasing the fish, or use a Fintro which is a safe and easy way of introducing fish and can be purchased from us. These first few fish will help the aquarium and its filters through a characteristic maturation period. During this time a rise and fall in ammonia and nitrite concentration occurs as a population of beneficial bacteria develop in the filter. This change can be followed using test kits for Ammonia and Nitrite. After a further 10-14 days the ammonia and nitrite levels should have fallen to a safe level. At this time it is advisable to conduct a 25-30% water change and check the levels with your test Kits. The water to be added should be the same temperature as the aquarium and have been conditioned with a chlorine remover or use R O water.

Over the next 6-8 weeks the stocking level may be increased to its maximum recommended level. As a general rule each 2.5 cm (1 inch) of fish (excluding tail fins) should be allowed 75 cm² (12 square inches) of water surface. Take care not to overstock as this can lead to problems with water pollution and disease.

Make sure that the fish you add will safely mix together in the aquarium and will not fight. Our staff will guide you with the correct choice of fish. When buying fish only choose those that are active, have outspread fins and show no signs of disease. Choose fish that are seen to feed if possible, and never buy from a tank containing dead or diseased fish.

FEEDING

Tropical fish should be fed 2-3 times a day on as much food as they will eat in 1-2 minutes. Take care not to overfeed as any uneaten food will pollute the water. We recommend Tetra foods. Feeding the fish provides an ideal opportunity to observe them and spot any that are behaving unusually, which may be the first indication of deteriorating tank conditions or an impending outbreak of disease.

TANK MAINTENANCE

Regular tank maintenance is the secret of successful fishkeeping. The tasks can be grouped into those which are performed daily, monthly or on an occasional basis (once or twice a year). The following table summarises the tasks which should be undertaken.

DAILY	MONTHLY	OCCASIONALLY
Check water temperature	Measure pH, ammonia, nitrite and water hardness using test kits	Check all electrical equipment and connections for signs of moisture or corrosion
Turn lights on or off a plug – in electrical timer can make this task easier	Remove algae from glass and decorations	Thin live plants if used. Replace air filter pad in Whisper airpump
Feed Fish – take care not to overfeed	Carry out a partial water change and remove accumulated debris from gravel	Renew fluorescent tubes every six months
Check fish behaviour	Clean filter medium and/or gravel using a Tetra Hydroclean	
Check operation of filter and airpump		