

Hot Aquarium

If the plants and fish are too warm, there are numerous way to cool things off a bit.

By Karen Randall

Q. I hope you will be able to help me. I have a 50-gallon freshwater aquarium with live aquatic plants and use 110 watts of light. Everything seems fine except the water temperature is very high now, at 84 degrees Fahrenheit.

Could you recommend something that would help? I am concerned with the long-term health of both the freshwater fish and aquatic plants in this environment. Also note that the aquarium receives no direct sunlight and the hood that I constructed is open at the back to allow fresh air access. The lights are fluorescent and are suspended approximately 6 inches above the water line. I cannot raise them higher.

Finally, any advice on keeping stem plants anchored in the gravel? I only have tetras and corys.

A. Thank you very much for the kind words! I am surprised to hear that 110 watts of fluorescent light is heating up your aquarium, particularly where it is quite a distance above the water level. Here in the Northeast I run my 55-gallon aquarium with 160 watts and my 70-gallon aquarium with 240 watts — in both aquariums I must use heaters for the better part of the year. Here are some things to check to see where the heat buildup is coming from, and a few ideas on how to alleviate the problem.

While 84 degrees Fahrenheit might be higher than ideal for many aquarium fish and aquatic plants, it is not unmanageably high. In fact, aquarists who keep planted discus fish aquariums often maintain their aquariums at this temperature on purpose. Still, I can understand your desire to keep the aquarium a little cooler.

If your room temperature is substantially higher than average (usually 68 to 72 degrees) you won't need much extra heat from the lights to send the temperature of the aquarium water up. This can affect even those who live in cooler areas of the country during summer heat waves. As a temporary expedient, the cover can be cracked open and air from a fan blown across the water surface to facilitate evaporative cooling. Keeping windows open and moving air through the entire house will also keep heat from building up around the aquarium.

In a worst-case scenario, if temperatures are remaining above 90 degrees in the aquarium for extended periods, cut the photoperiod down and shift it into the evening hours when the house is likely to be cooler. At these temperatures, it is probably a good idea to run an airstone in the aquarium when the lights aren't on to make sure the oxygen levels stay high enough not to stress your fish.

If the room isn't too warm, the heat is probably coming from some equipment associated with the aquarium. If you have a large filter or other electrical equipment in a closed cabinet under the aquarium, these can add to heat build up. Finally, as you have mentioned, the lights can put off quite a bit of heat.

If the lights are mounted inside a wooden canopy, the wood will act as a very good insulator, keeping the heat in. You noted that the back of the canopy is open, but even with this the heat may build up in the enclosed area. Small fans called "muffin fans" can be purchased from electronic supply stores and installed inside the hood to move the warm air out. Electronic ballasts produce less heat than cheaper "tar" ballasts, and thus are a better alternative. You might also consider mounting the ballast(s) in a remote location to completely remove this heat source.

One further thought occurs to me — the thermometer you are using. Are you sure it's reasonably accurate? If it is mounted close to the top of the aquarium, it might not be giving an accurate representation of the temperature of the entire aquarium. This is particularly true if your aquarium does not have a reasonable amount of water movement. Many filtration systems both remove and return water close to the surface of the aquarium. If there is no supplemental method of water movement, you can end up with a situation in which the warmer upper water layer is not mixing with the cooler bottom water layer. If this is a problem, it is easily alleviated by the use of one or more small powerheads dropped deep enough in the aquarium that they create flow just above the surface of the substrate.

While I would look for ways to reduce the temperature in an aquarium, in the meantime you should rest easy. Except for a few cool water species, most commercially available tropical fish and aquatic plants are very adaptable and will do fine even in the low 80s. Most can tolerate even higher temperatures for short periods if other conditions in

the aquarium are good.

As far as anchoring stem plants is concerned, unless you are using gravel that is too large, (more than 3 millimeters in diameter) or you have large fish that are knocking the aquatic plants loose, the only trick is to keep plants down long enough to get their roots started. Once they are rooted, you should have no trouble at all.

My favorite method to planting in a planted aquarium is to place no more than three stems at a time in the gravel, and then put a couple of small stones around the base, right up against the stems of the plants. This is usually sufficient to keep the aquatic plants in place, and within a week or so the roots should have grown enough that the stones can be removed.

Another method that works well for some aquatic plants is to just leave them floating until they develop some roots. The problem with this method is that the stems usually become curled when left floating on the surface, and it takes a few days for them to straighten out again once they are planted.

If all else fails, place the stem horizontally on top of the substrate and put a couple of stones on top of it near the cut end. Before long, the plant will root itself and the stones can be removed. In fact, you will probably find that the aquatic plant has begun to root at several nodes and is sending up new leaf shoots from these nodes as well. This last method can be used for cultivating many of the stem plants more quickly as well.