

## FAQ: DISEASES AND OTHER PLAGUES

[Editor's Note: Volumes are in US gallons; Temperature is in °F]

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#### Freshwater Diseases

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- + Prevention
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- + Some Common Diseases: bad water quality, ich, fin rot, injuries, dropsy, hole-in-head disease, swim bladder disorders, parasites, and velvet.

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#### Saltwater Diseases

Algae  
Snails

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## FAQ: ALGAE

(contributed by George Booth)

[Editor's Note: Volumes are in US gallons; Temperature is in °F]

The following descriptions and control techniques are for common types of algae found in freshwater aquaria.

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### Introduction

There are two categories of algae of concern to aquarists: "good" and "bad". Good algae is present in small quantities, is indicative of good water quality and is easily kept in check by algae eating fish or simple removal during routine maintenance. This algae is a natural consequence of having a container of water with nutrients and a light source. Bad algae is either an indicator of bad water quality or is a type of algae that tends to overtake the tank and ruin the aesthetics the aquarist is trying to achieve. The label of "bad" is entirely subjective. For example, one type of green, hair-like algae is considered a plague by some American aquarists, yet is cultivated by European aquarists as a valuable addition to most tanks, serving as a dietary supplement for the fish.

### Algae Types

#### Blue-green, slime or smear algae

Grows rapidly in blue-green, slimy sheets. Spreads rapidly over almost everything and usually indicates poor water quality. However, blue-green algae can fix nitrogen and may be seen in aquariums with extremely low nitrates. Sometimes seen in small quantities between the substrate and aquarium sides. Will smother and kill plants. This is actually cyanobacteria. It can be physically removed, but this is not a viable long term solution as the aquarium conditions are still favorable for it and it will return quickly. Treatment with 200 mg of erythromycin phosphate per 10 gallons of water will usually eliminate blue-green algae but some experts feel it may also have adverse effects on the biological filter bed. If erythromycin is used for treatment, ammonia and nitrite levels should be carefully monitored.

#### Brown algae

Forms in soft brown clumpy patches. In the freshwater aquarium, these are usually diatoms. Usually indicates a lack of light or an excess of silicates. Increased light levels will usually make it disappear. Easily removed by wiping the glass or siphon vacuuming the affected area.

#### Green water

Green unicellular algae will sometimes reproduce so rapidly that the water will turn green. This is commonly called an "algae bloom" and is usually caused by too much light like direct sunlight. An algae bloom can be removed by filtering with micron cartridges or diatom filters. UV sterilizers can prevent the bloom in the first place. Green water is very useful in the raising of daphnia and brine shrimp.

#### Film algae

Grows on the aquarium glass and forms a thin haze. Easily removed by wiping the glass. Considered normal with the higher light levels needed for good plant growth.

#### Spot algae

Grows in thin, hard, circular, bright green spots, usually on the aquarium glass but also on plants under high light conditions. Considered normal for planted tanks. Must be mechanically removed. On acrylic aquariums, use a cloth pad or a gentle scouring pad like a cosmetic "Buff-Puff" and a lot of elbow grease. On glass tanks, scraping with a razor blade is most effective.

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## Staghorn algae

Looks like individual strands of hair algae but tends to grow in single branching strands like a deer antler and is grey-green. Seems to grow mostly on tank equipment near the surface. Difficult to remove mechanically. Soak affected equipment in a 25% solution of household bleach and water to remove it.

## Brush algae

This grows in feathery black tufts 2-3 mm long and tends to collect on slower growing leaves like Anubias, some Echinodorus and other wide leaf plants. Also tends to collect on mechanical equipment. This is actually a red alga in the genus *Audouinella* (other names: *Acrochaetium*, *Rhodochorton*, *Chantransia*). It cannot easily be removed mechanically. Remove and discard the affected leaves. Equipment can be soaked in a 25% bleach solution, then scrubbed to remove the dead algae. Siamese Algae Eaters (*Epalzeorhynchos siamensis*) are known to eat this algae and can keep it in check. A more drastic measure is treatment with copper.

## **Prophylactics for Algae**

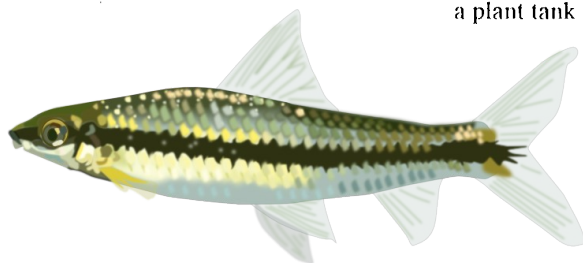
Algal spores are everywhere and will always be present in an aquarium unless drastic measures are taken. For fish only tanks, a properly set up ultraviolet sterilizer will kill algal spores in the water and prevent them from gaining a toehold. For planted tanks, this is not a good solution since the UV light will also oxidize trace elements needed by the plants and will limit the plant's growth potential. Unfortunately, conditions that are good for growing plants are also good for growing algae. Fortunately, plants will usually out-compete algae for the available nutrients. However, if there is an imbalance of nutrients, algae will opportunistically use whatever is not used by the higher order plants. Different algae will utilize different nutrients, causing sporadic outbreaks of new algae types in apparently stable tanks when a temporary imbalance occurs. An ounce of prevention is worth a pound of cure. To avoid introducing a new algae type to a planted tank with new plants, a simple bleach dip seems to work well. Mix 1 part bleach in 19 parts water and dip the new plant in it for 2 minutes. Immediately rinse the plant in running water, then immerse it in water containing a chlorine remover to neutralize any remaining bleach. This will kill the algae and only temporarily slow down a healthy plant. Plants in poor condition may succumb to this treatment, but they probably would not have lasted anyway.

## **Algae Eaters**

The most effective control of algae in a planted aquaria is via algae eating fish. It is especially critical in the set up of a new tank to make sure algae does not get established before the plants have had a chance to establish themselves. For this reason and to help the biological filtration get established, it is recommended that some hardy algae eaters are added right away.

## Black mollies

Black sailfin mollies are excellent candidates for the break-in period of a planted tank since they are cheap and easy to find. They are usually considered expendable and are removed after a month or so. It is important to NOT FEED THEM. If they are fed, they will not be quite so eager to consume algae. When they are hungry, they are eager consumers of most algae types seen during the break-in period.



## Otocinclus sp.

Otocinclus are diligent algae eaters, but are best kept in schools due to their small size. One per 10 gallons is a useful rule of thumb. Various species of otos are seen in the shops at various times; most are good algae eaters but some seem to prefer the slime coat on fish to algae. Unfortunately, there seems to be no way to distinguish the "attack otos" from normal otos. Otos seem to be very delicate fish, but this is probably due to capture and shipping abuse rather than an inherent weakness. When a fish shop gets some in, it is wise to wait a while before purchasing to account for die offs. Most people report getting a dozen and having them die over a period of a few months until just a couple are left. Those then seem to last for a long time.

## "Plecostomus" sp.

Plecostomus is the generic name for a wide range of sucker-mouth fish. Only the smaller types are useful in a planted tank, since the larger varieties tend to eat the plant right along with the algae. Two common types that are useful are the "bristle-nose plecostomus" and the "clown plecostomus" or *Pekoltia*. Both stay under 4" long and don't seem to cause too much plant damage. Sometimes broad-leafed plants like Amazon swords will be scraped a little too closely by the plecos, so they bear watching. Their diet can be supplemented by blanched zucchini and bottom feeder tablets. They also appreciate a chunk of driftwood in the

aquarium to satisfy their need for cellulose. See the GOOD FIRST FISH FAQ for more information on keeping suckermouth catfish.

## Siamese Algae Eater

Do not confuse this fish with the Chinese Algae Eater, which is very aggressive and does not eat algae. The siamese algae eater, *Crossocheilus siamensis*, is a very good algae consumer and is known to eat black brush (red) algae. The only problem is that these fish are hard to find in the United States (see the RESOURCES section of the PLANT FAQ for one mail-order source). There are two common fish in this family. The most commonly seen is *Epalzeorhynchos kallopterus*, commonly known as the Flying Fox. The Flying Fox is the more attractive of the two. It tends to have a brownish body with a very distinct, sharp-edged black stripe with a distinct, thin gold or bronze stripe above it. These tend to be very aggressive when they are full grown and don't eat red algae (as far as one aquarium reference is concerned). The other member is the Siamese Algae Eater. It is the same shape as the Flying Fox but tends toward a silverish body with a somewhat ragged black stripe. There may be an indistinct gold or bronze stripe above the black. These are definitely not aggressive; they are good companions for discus and small tetras. When they are young, the differences between *E. kallopterus* and *C. siamensis* may not be very apparent, especially if you haven't seen both types together. Unfortunately, most wholesalers don't sell fish to stores by their scientific name and the common names that are used sometimes get pretty silly (like "siamese flying fox"). If you really can't tell which one the store has, buy it anyway, but be prepared to sacrifice it if it turns out to be the wrong kind (unless your fish aren't bothered by it, of course).

## Farlowella

Farlowella are useful algae eaters although they are very sensitive to water conditions. The type known as the Royal Farlowella will get too large for a plant tank and may cause damage.

## FAQ: SNAILS

(contributed by George Booth)

Snails are usually considered disasters in a plant tank, but with dense planting and good plant growing conditions, the right type of snail can be very useful by consuming dead plant material and detritus. Any damage they do cause will be compensated for by fast plant growth.

### Water Hardness

Most snails do best in harder/alkaline water. If the hardness/ph drops below a certain point, their shells will start to dissolve and/or grow improperly (the behavior seems to be based on species). Malaysian trumpet snails seem the hardest, showing little adverse effect from soft water. The Ramshorn snails shell will start to dissolve, and gaps will form in the new shell growth. Mystery snails will form gaps. Most of these problems can be corrected by hardening the water, and the snails will recover, although exterior shell damage (from dissolving) will remain.

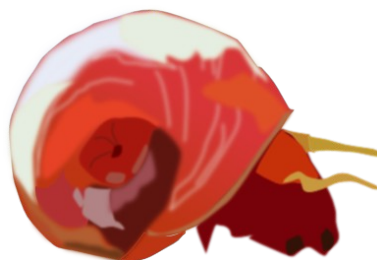
### Types of Snails

#### Malaysian trumpet snail

The Malaysian snail, *Melanoides tubercularia*, is an interesting creature in that it lives in the substrate during the day and only comes out at night. Its shell is a perfect cone shape and gets to about 2 cm long. It is a livebearing snail and reproduces quite readily. It is considered beneficial to a plant tank and doesn't seem to harm plants, even in large populations. They are hard to find for sale, but usually come for free on plant shipments. If desired, Clown loaches will keep them and other snails well under control.

#### Ramshorn Snail

Ramshorn snails are very common and come in various sizes. Their shape is as their name suggests. The smaller varieties (under 1 cm) are not too damaging to a plant tank, although they seem to relish the tender leaves of the *Hygrophila* family. The other type is the dark and light brown striped Columbian Ramshorn that can grow big as large as 2 inches in diameter. The stripes run the length of the shell with a pattern of random width light-dark- light stripes that stays constant throughout the snails life. These snails are extremely prolific and have a terrific appetite for plants.



#### Pond Snails

Pond snails are football shaped snails under 2 cm in length. They are to be avoided, as they will happily eat all your plants.

#### Mystery (Apple) Snails

One of the most beautiful kinds of snails are the Mystery snails. These snails have a shape similar to the Pond snail, but their spiral is rounder, and they grow much larger. They can reach tennis-ball size if well taken care of. They come in many varieties. The snail's body can be dark, or almost albino (very light with a bright orange speckle pattern). The shell can be dark, bright orange, albino, or multi-colored striped (length-wise like the Ramshorn). The Apple snail variety typically has the multi-colored stripes, with a dark body. In general these snails don't eat living plants. They prefer algae and dead plant/animal material (canned spinach will get you a very large Mystery snail).



### Snail Prophylactics

To guard against unwanted snails, use a weak potassium permanganate solution. The Manual of Fish Health recommends a concentration of 10 mg/l as a 10-minute bath as a general disinfectant for aquarium plants. Then rinse them in running water. This kills snail eggs and parasites and might guard against algae spores. Alum is also useful. Get "Alum U.S.P." at the drug store. Soak the plants in a gallon of water that has up to 10 teaspoons of Alum. The Alum kills microscopic bugs. Longer soaks (2-3 days) will kill snail eggs and/or snails.