

## Golden Gouramis

**Is a reliable method to sex them.**

*By Al Castro*

Q. I am a somewhat experienced fish hobbyist and have bred a few freshwater fish. Recently I purchased a "pair" of what the owner at our local pet store called golden "gouramis." Since then I have checked just about everywhere to find more information on them and have found nothing.

I am interested in breeding these fish and therefore am curious as to whether there is a reliable method to sex them. My fish are housed in a 5-gallon aquarium with an undergravel filter system. They are about 2 inches long, not including the tail. The patterns on my fish are almost identical to that of the three-spot gourami, except for the fact that mine lack the spots and are a gold color. What is the species name of my fish and will I be able to breed them? I have other aquariums to raise the fry in. Also, how exactly do my fish spawn? I really appreciate your help in this matter.

A. Nature has provided us with some very attractive fish to keep in our aquariums, but mankind has some driving urge to try to "improve" on nature's works. As you discovered by careful observation, the golden gourami is a selectively bred color form of the three-spot gourami, *Trichogaster trichopterus*. It was derived from the Sumatran form, *Trichogaster trichopterus sumatranus*, which has provided us with such interesting variations as the blue gourami, the gold gourami, the silver gourami, the marble gourami, the Cosby gourami and the opaline gourami. I do not doubt that there will be more in the future.

This is a relatively large aquarium gourami that grows to almost 5 inches in total length, making it a bit too large for your 5-gallon aquarium. It is somewhat aggressive toward small, peaceful fish or others of its own kind, but generally does no damage if given enough room to move about and enough aquatic plants or hiding places to feel comfortable.

As with all of the other gouramis, this fish has an accessory breathing organ, called the labyrinth, that allows it to take in atmospheric air. It is important to keep a lid on any aquarium with gouramis so that the air temperature above the aquarium is the same temperature as the water temperature, preventing chills and associated stress that can lead to serious illness for the fish.

This is an easy species to induce to spawn. Start with a mature pair of fish. The male will be approaching 4 inches and the female will be close to 3½ inches in length. Bigger is better in both cases. When he matures, the male is easy to distinguish by his larger, longer, pointed dorsal fin. The female has a short, rounded dorsal fin, is more rounded in the belly than a male and is generally smaller than a comparably aged male.

I have had the best success by setting up a 15-gallon aquarium with a sponge filter, a heater set at 80 degrees Fahrenheit and a close-fitting lid. I also reduce the water level to 8 or 9 inches in depth. I add a layer of surface plants, such as water sprite or small pieces of water wisteria, plus a few aquatic plants, such as *Cryptocrynes* or Java fern, that will give the female a place to hide if she feels it is necessary.

While the aquarium is stabilizing, I move the male and female into separate aquariums and condition them on a rich diet that includes worms — either *Tubifex* or white worms will do. A week's worth of conditioning is more than enough time. I add the female to the aquarium at night and add the male the next morning.

Once the male settles down in the breeding aquarium, he will notice the female and start his courting. Don't be alarmed if he "pokes" her with his thin, thread-like "feelers." These are his ventral fins and he is simply doing his mating dance. When she gives the proper signal indicating that she is interested in spawning, he will begin to build a bubble nest at the surface. Once he has built the nest to his satisfaction, he will start the courting in earnest.

This is the time to keep an eye on him! If the female does not respond to this new series of courting gestures, the male may get very rough, sometimes causing physical damage to the unwilling mate. If she does respond, the pair will move near the nest (but not necessarily under it), curl their bodies around each other and complete the spawning act.

After they produce and fertilize a batch of eggs, the male picks them up in his mouth, transports them to the nest and spits them into the bubbles. If he does not get them all, the female will help gather the eggs, but she is not allowed near the nest. She must spit them toward the male so he can gather them up and put them in the nest. They will then repeat the

spawning act, producing another batch of eggs. This process can be a long session, with a pair of large fish producing as many as 4000 eggs (most of which will hatch).

Once spawning is complete, the female should be removed. The male can become very rough in his protection of the nest. Depending upon the temperature of the water, the eggs will hatch in 24 to 30 hours. The fry appear as tiny slivers of glass hanging down from the bubbles and any bits of aquatic plant in the nest. Occasionally, the fry will fall out of the nest and sink toward the bottom of the aquarium. The male will catch them in his mouth and return them to the nest.

After two days of this, the male begins to get very tired of the process as the numbers of fry leaving the nest increase. It is best to remove him from the aquarium at this time. On occasion, the strain of tending the fry will get the better of the male's protective instincts and he will begin to eat his own offspring.

On the fourth day the fry will be seen in the mid-water region of the aquarium. They will be in a more or less horizontal position, which indicates that they have used the stored nourishment in their yolk sacs and are beginning to look for food. The first food for the gourami must be very tiny, such as Paramecium or cultured rotifers. It is very difficult to provide in the quantities needed for the entire batch. However, many hobbyists have had success with commercial liquid fry foods. Five to seven days of this size food is needed before newly hatched brine shrimp nauplii can be added to the diet.

Once the fry have reached the stage where they can eat baby brine shrimp, most of the problems of raising them have been conquered. I should note that most hobbyists lose one-half to three-quarters of the spawn by this stage because they did not provide enough food for all of the young. This need not happen if preparations are made in advance to have the necessary food for the fry.

With the addition of so much food to the aquarium, frequent partial water changes must be made and care must be exercised to ensure that the new water is the same temperature as the water in the aquarium. The close-fitting lid should also be kept in place.

The next critical stage in the rearing of gourami babies is when the labyrinth organ develops, sometime between the sixth and eighth week. At this time the fry will go to the surface and take their first breath of atmospheric air. If there is a major difference in the temperature of the water and the air, the respiratory system of the young fish will be affected adversely and may cause death, or at the very least almost certainly impair the development of the young into healthy, mature fish. If there are no problems when they go for their first breath, development will progress at a normal rate and a new generation of golden gouramis will inhabit your aquarium.

You will have the pleasure of finding a new home for all your fish. Talk to your aquarium store dealer. He may not be in the market for the fish, but he may know of a wholesaler who is interested in a large quantity of locally bred stock.

Breeding and raising a brood of gouramis is a challenge, but it is worth the effort. They are beautiful fish.