Eyeballs On Oddballs:
Ummmmm, Chocolate… (Gouramis)

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At the November 2008 monthly auction, I had the opportunity to pick up two pairs of chocolate gouramis (*Sphaerichthys osphromenoides)*. I've dabbled with gouramis in the past, most notably when I was in university and kept both the blue and gold version of the three spot gourami (*Trichogaster trichopterus*), and the pink, marbled and green versions of the kissing gourami (*Helostoma temminckii*). I still have one lone green kisser in my tank, but other than that, haven't kept them that much in the last ten years or so.

Last year, when I was determining what species to keep in my "Cryptic Emersion" tank, I briefly considered the chocolate gourami, but decided that due to the shallow tank depth and the specific requirements of this fish, that I would try something else. I must admit that this somewhat disappointed my wife, as she thought this was a particularly striking fish.

Well, as luck would have it, I had a newly set up 29 gallon tank at home with a pair of turquoise rainbowfish (*Melanotaenia lacustris*), one gold spot pleco (*Baryancistrus* sp. L018), one sultan pleco (*Leporacanthicus joselimai*), and eight oto cats (*Otocinclus affinis*). It was heavily planted, nicely cycled, but still new enough that I would be able to make some relatively drastic changes relatively easily and it had room for new additions. So at the auction, I aggressively bid on and won the two pairs of chocolate gouramis, knowing that a) I would be able to provide a suitable environment for them, and b) that it would make my wife happy. (Face it, anytime we can spend money on our fish hobby, and make our spouse happy… it's just simply a win-win scenario!)

As I write this, it has been three weeks since I acquired these fish, and they have acclimatized very well. The only major change I had to make to my tank to make it suitable for these fish was to filter through peat to lower my pH, and the increase the temperature by 1°C (3°F). I was lucky because I had done some research on these fish previously, and knew how delicate they are and what specific requirements they need. However, in the early part of the meeting, several people had expressed their interest in these items, but after talking with them, I realized that they didn't have this knowledge. So to those I discouraged from bidding but who later saw me grab them both, please be assured that I was not trying to scare you off so I could get them, but rather I knew that they had some specific requirements and knew that I could provide the required conditions. Hopefully we will have some more chocolate gouramis for sale in future auctions, and would like to provide some of the required information for those who wish to try their hand at keeping this delicate but beautiful species.

The Chocolate Gourami

For those unfamiliar with this species, the chocolate gourami is a smaller fish originating from peat swamps and the associated black water streams in Sumatra and Borneo. These biotopes are found in heavily forested areas of the islands, and the water, referred to as "black water", is stained brown by acids released from decaying organic material found in the water. This results in very little mineral content in the water, with the pH sometimes dropping as low as 4.0 or 3.0. As the native habitat is found in densely forested areas, very little light penetrates the forest canopy to actually reach the water, and this results in dim lighting of the water. Also due to the overhanging canopy, the substrate of the swamps and streams is usually littered with fallen branches and rotting leaves.

The fish are labyrinth fish (meaning they possess an breathing organ known as the "labyrinth organ", which is a maze-like structure that allows the fish to breath atmospheric air to a limited extent) that grow to no more than 6.5 centimeters (2.5 inches). The body is oval shaped with a pointed mouth, and the main colouration of the body is a chocolate brown with some specimens showing a variation to a reddish brown. Irregular stripes, which vary from white to yellow in different specimens, run vertically along the body. The dorsal and anal fins, which are brown with a yellow ridge along the margins, are long and extend from the midsection of the body almost reaching the caudal fin. The upper edge of the caudal fin closest to the body usually has a dark spot edged in yellow.

The chocolate gourami is a very social fish, and it is recommended that you keep these fish in groups of six or more. They are usually offered for sale in pairs, and you should attempt to keep an equal number of males to females. They will form group hierarchies, and dominant individuals will chase other fish to claim a feeding location or preferred spot.

Gender Identification

It is actually very easy to sex these fish, and contrary to many types of freshwater fish, the female is actually the more colourful of the two genders. While the visual differences exist at all times, they tend to be more pronounced when these fish are in breeding condition. The male tends to exhibit a more pointed mouth, with the females head being rounder in appearance. The above-mentioned spot on the caudal fin tends to be almost black in females, and can be light brown to tan in males, and the dorsal and anal fin are edged with a white to yellow border in females. (It should be noted that historically there has been a great deal of confusion about which of these fish is male and which is female. While I have been unable to locate a definitive scientific study, and while acknowledging

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that the information I have found does have differing and indeed contrasting opinions, I believe that the information I have presented above is in fact accurate.)

Environmental Concerns

When keeping these fish, there are several very important conditions that must be maintained. First, the water quality has to be excellent, and frequent water changes of smaller amounts (such as three water changes of 10% over a week rather than one weekly water change of 30%) are recommended. The water should be soft and acidic (a pH range of 6.0 – 7.0, a GH of less than 89.5, a KH range of 0 – 4), and rather warm with a temperature of 23°C – 30°C (75°F – 86°F). In order to achieve the soft and acidic water required, and to re-create the black water of the natural biotope, filtering through peat is strongly recommended.

As mentioned, the chocolate gourami comes from relatively still waters. Therefore, a filtration system that creates only slight circulation, such as a sponge filter or filter output on the lowest setting, is also recommended.

The tank should be heavily planted, and there should be significant shaded areas. It is recommended that a mixed planting of anchored plants and floating plants be used, to provide both hiding areas and areas of shade. Driftwood and rocks should be used to provide additional areas for hiding, with the added benefit that some driftwood (especially newer wood) will also release tannins adding to the black water environment. The substrate can be either gravel or sand, with some suggesting the addition of dried beech, oak or Ketapang almond leaves.

As these fish are very susceptible to water fluctuation, and as there are some reports that these fish can be territorial, it is suggested that a tank no smaller than 76 litres (20 gallons) be used. This will provide some room for fluctuation in the water (in that if the water deteriorates you will have time to notice it), and allow for the establishment of multiple territories within the tank if you are keeping six or more chocolate gouramis. Finally, it is recommend that the tank be covered. As these are labyrinth fish, they will occasionally breath from the surface of the water. That air should be both close in temperature to the water and should be humid. The use of a tight fitting cover helps to ensure these conditions.

There are a variety of fish that you can add to a tank with chocolate gouramis, but many recommend a species only tank. However, if you do add other fish, you will want to keep small, calm and non-aggressive species. Some of the smaller tetras such as the neon tetra (*Paracheirodon innesi*) or black neon tetra (*Hyphessobrycon herbertaxelrodi*), cory cats (*Corydoras* sp.), the harlequin rasbora (*Rasbora heteromorpha*), the celestial pearl danio (*Celestichthys margaritatus*) and oto cats (*Otocinclus affinis*) have all been recommended as suitable co-inhabitants.

Feeding

Feeding the chocolate gourami is also relatively easy. An omnivore, they like both algae-based foods, as well meaty foods. The following is a list recommended as portions of a diet for these fish. I would highly recommend that you don't rely on one source, and include both algae and meat based foods. I would also recommend that you use flakes or pellets if you want a pre-packaged simple food. I will note that I have been feeding mine a variety of foods, but they by far prefer New Life Spectrum Small Fish Formula.

- Brine shrimp
- Mosquito larvae
- Fruit flies
- Freeze-dried bloodworms
- Tubifex worms

Breeding

As most of you know, I do not actively breed fish. However, to ignore the breeding habits of the chocolate gourami would not do this fascinating fish justice. Therefore, I am providing a brief overview of their breeding habits, but would suggest that if you want to attempt breeding of this fish, you undertake some serious research.

The chocolate gourami is reportedly difficult to breed, but in researching this, it appears that this difficulty comes from the special environmental concerns required. However, with a bit of effort it appears that these circumstances are able to be met.

There are some confusing and contradictory reports of the breeding of the chocolate gourami. It has been reported to be a livebearers, a free laying species, a bubble-nest builder, and alternatively a male mouthbrooder or female mouthbrooder. Interestingly enough, two of these methods, a female mouthbrooder and a bubble-nest builder, are accurate.

To initiate breeding, the pH should be around 6.2. The water level should be reduced and the temperature allowed to rise over two days by about 2°C. At the end of that time, some cooler water should be added. If the fish enter into a breeding cycle, the fish will colour up, with the females sometimes taking on a reddish hue. The male will try to convince the female to spawn in an open area, sometimes on the surface of a rock. If she does so, the male will fertilize the eggs, and then the female will collect the eggs in her mouth. (If this a case in which the chocolate gouramis build a bubble-nest – the rarer of the two forms of breeding – the female will then deposit the eggs in the nest and the pair will stand guard.)
As these fish can be very secretive spawners, it should be noted that you can tell that a spawning has taken place when the female hides and refrains from eating. If you do see the female, you may notice a swelling of the throat, and her mouth may move in a chewing motion. In addition, the male will be guarding her against possible attackers.

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My Green Wet Thumb: Floating Gardens

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"Garden In Tank"

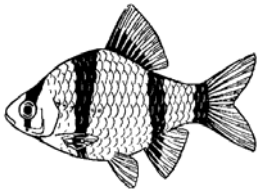
The final step is to place the Froster cover over the top of the strainer. Even though the cover has a hope in the top, it will retain some moisture.

"Garden Covered"

The single piece of Styrofoam cost about $2.00, and you will be able to get approximately 10 rings from it, or about 20 cents per ring. If you decide to use only the large strainer, it will have cost you about $2.00. The Froster cover is free with the purchase of the largest Froster there is, and it sells for $1.79. Therefore for about $3.99, you can make your own small floating garden to grow plants emersed (and you get a large Froster to drink!).

There are actually three different sizes of Froster covers, so this, combined with the smaller strainers, gives you the option to have smaller floating gardens.

Should you be interested in trying to grow aquatic plants emersed, this may be a viable option for you.



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The eggs will be held from around 14 days, after which twenty to forty 7millimetre (1/4") fry will be spit out. They will be reddish or brown in colour, and will have a distinctive white or cream coloured stripe.

The fry will be very delicate and slow moving. There is no notation of parental predation but some recommend removal to a rearing tank. Should you have a species only tank, you may be able to rear the fry with the parents, but if there are other fish in the tank, it might be a good idea to remove them. If you do use a rearing tank, it should be covered similar to the recommendations above to maintain a humid environment above the surface of the water, and to keep out cold air.

The fry need to commence eating within a few hours of being released by the female, or they will starve as they will have no remaining yolk sac. They should feed on rotifers and your rearing tank should therefore be established well in advance of the fry being released. The rearing tank should be planted with species of plants that will have plenty of rotifers in their leaves, such as Java moss (*Vesicularia dubyana*) or crystalwort (*Riccia fluitans*). It is also recommended that there be a ground cover of peat fibre and leaf litter, which provide the added benefit of soft water and microorganisms – an additional source of food.

After about one month, the fry should be 1.5 – 2.0 cm (1/2" – 3/4") in size, and will be big enough to eat brine shrimp and mosquito larva. Feedings should be frequent servings of small amounts of food to ensure that all of the food is eaten and does not foul the water. Water changes of 10% daily would also be beneficial.

***Sphaerichthyus* Species**

The are in total four members of the *Sphaerichthyus* genus, and all exhibit a reversed sexual dimorphism (with the female being more colourful than the male). They are

- *Sphaerichthys acrostoma*
- *Sphaerichthys osphromenoides*
- *Sphaerichthys selatanensis*
- *Sphaerichthys vaillanti*

Sphaerichthyus osphromenoides is the fish that has been detailed above, the common chocolate gourami.

The chocolate gourami is an extremely fascinating and beautiful fish, whose reputation for meticulous care is well earned. Should you have the resources and ability to keep and breed this fish, you will not be disappointed.

Species Profile

Latin Name:	*Sphaerichthys osphromenoides*
Common Name(s):	chocolate gourami
Size:	6.5cm (2.5")
Temperature:	23°C – 30°C (75°F – 86°F)
PH:	6.0 – 7.0
GH:	0 – 89.5
KH:	0 – 4
Diet:	
Distribution:	Sumatra, Borneo, Malay Peninsula