



Newsletter Winter 2011 (February)

There are approximately 26,800 aquatic vertebrates referred to as fish. Forty percent of all the fishes evaluated in 2007 (3,100 fishes assessed) are classified threatened (IUCN 2007).

<http://www.endangeredspeciesinternational.org>

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Do you have an area of interest you love to talk about, or find yourself answering a lot of questions about from friends or forum members, even total strangers? Please tell me about it - I'd love to include your article. And if writing's not your thing, let me interview you, or just give me the relevant facts and let me write the article. For this newsletter to be full of great information I need your expertise. I know nothing about discus breeding, setting up a fowlr tank, or CO2 dosing, to name only a few. Send your email to newsletter@ovas.ca or PM me (Anja) on the forum.

The Ottawa Valley Aquarium Society (OVAS) is a non-profit, educational, and recreational organization. It has four main objectives:

- to further the study of all forms of aquatic life,
- to promote interest, exchange ideas, and distribute information concerning the hobby,
- to encourage breeding and displaying of aquatic life,
- and to work toward the conservation of endangered species.

OVAS is a member of the Canadian Association Of Aquarium Clubs.

OVAS club meetings are held at **7pm on every 4th Monday** of the month. Everybody is welcome! Meetings take place at the **J.A. Dulude Arena - Mel Baker Hall**, located at **941 Clyde Avenue**.

Please note that there are no meetings in December (Xmas), July and August (summer break).

Editorial

I hope you had a good start into the New Year, everyone, and maybe enjoyed a romantic Valentine outing, skated on the canal, admired the ice sculptures ... Some nice things to be done in the snow. Buuut, if you're anything like me, you're starting to look forward to the end of winter by now. I want to see some green, some flowers, and the ice gone from the pond, so I can see if the fish all made it through the winter alright. Good thing that I have my tanks to keep me occupied, because it looks as if it's going to be a bit longer yet.

Over the winter months I set up a small tank for *Heterandria formosa*, given to me by a thoughtful friend. I enjoy them quite a bit, and they need only a very minimal set-up.

I also jumped on two bandwagons. One being the Fluval Edge, a very welcome Christmas present and the pride of my living room. The other is what I thought to be a pair of *Badis bengalensis*. They're enjoying a well deserved hike in popularity at the moment, and I would really have liked to try my hand at breeding them -- alas mine turned out to be two males. I haven't given up hope of finding females yet, though, so, fish stores, if you're reading this, please bring in more females.

Talking of breeding, Jasmine (freshfishies) is very busy revamping our Breeder Awards Program. Ever thought of breeding fish? It can be fun, interesting and educational for the kids (as well as the grown-ups). Maybe this month's article can set you off on a new adventure, or at least answer some questions you always thought were too stupid to be asked. (For the record, I believe the only stupid questions out there are the ones you don't ask.)

In the meantime we've been throwing ourselves full tilt into the task of setting up the annual Giant Auction. Please check the calendar on page 11 and the forum (<http://ovas.ca/index.php?topic=48793.0>) for details.

Happy fishkeeping,
Anja Kriebber

How Do Fish Make Babies ... and Can I Watch?

By "Mr. A. Non c/o Calypso"

Article donated by Gerald Jennings of www.calypso.org.uk to Aquarticles.com

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Fish breed in many ways, and yes you can watch. In fact, watching fish breed is one of the great fascinations in the hobby because there are so many interesting breeding strategies among fish.

There are two main strategies that fish use: egg-laying and livebearing.

Livebearing fish do what the name suggests. The female gives birth to fully formed, free-swimming young. The female fish is internally fertilized by the male fish, and carries the fry for about a month before delivering them. Upon delivery, the babies swim off, hide, and begin searching for food.

Livebearers include the popular mollies, platies, swordtails, and guppies. Other livebearers are halfbeaks, anableps, and fish in the Goodeid family. They are easy to sex, as the female is larger, and the male has a rod-like anal fin called a gonopodium that he uses to internally fertilize the female. After fertilization, the female can produce multiple batches of babies without a male present.

Egg-laying is also what the name suggests: the fish lay eggs instead of giving birth to little fish. As the fish grow, they hatch into fry with an attached yolk sac, and then mature into fish. The process usually takes around a week to 10 days, although it can vary widely.

Egg-layers have many methods of laying their eggs

Egg scatterers usually scatter eggs around weeds, or onto gravel. The male chases the female during spawning, and the eggs are fertilized as they fall. Spawning runs can be spectacular to watch since the fish race around the tank and ignore anything else, including food. Examples of egg scatterers are tetras, barbs, rasboras, and danios.

Substrate spawners are a little choosier about where they put the eggs. They lay eggs that attach to some sort of substrate. Plants, rocks, wood, and even the aquarium glass may be chosen as a spawning site. Both fish participate in the egg laying, with the male fertilizing the eggs as the female lays them. Examples of substrate spawners are many catfish, some cichlids, and killifish.

Bubble-nest builders lay their eggs in a nest of bubbles blown by the male fish. The bubbles are held together with saliva and look like foam. They tend to attract infusoria that the babies can eat, and keep the eggs at the surface of the water, where they are well-oxygenated. The eggs are laid a few at a time, and carefully placed in the nest where they hatch. Examples of bubble-nest builders are bettas and gouramis.

Mouthbrooders actually keep their eggs in their mouths until the eggs hatch. The eggs are again laid a few at a time, and once the male fertilizes them, the parent doing the mouthbrooding gathers them up in his/her mouth. That parent eats sparingly, if at all, until the baby fish are released. Examples of mouthbrooders are male arowanas and female cichlids.

Marine fish also lay eggs. Some are substrate spawners, but many lay pelagic eggs that float in the plankton. There the eggs hatch into a larval

stage, and the larvae float freely and eat tiny plankton until they grow into fish. See the Moe reference for a more complete description.

Breeding and Agression

"Help! Why have my angelfish (or kribbs or African cichlids) started killing everything in my tank?"

"Why did my female platy just turn around and eat her babies?"

"I think my tetras spawned. Where are the eggs?"

Parental care in the fish world varies widely. Parents can be anywhere on a continuum from eating all their eggs or fry, to both parents fiercely guarding their eggs and fry.

Many fish parents show some common behaviors, so I will discuss them here.

Most fish consider any and all fish eggs and young to be a tasty treat. Therefore most fish will not hesitate to snack on any they find, including their own. This means that egg scatters and many substrate spawners really cannot be bred in a community tank, as the eggs will quickly be eaten by the parents and other fish. Marine fish and invertebrates also eat eggs. Livebearers are especially notorious for eating their young.

A few fish ignore their eggs or fry, and so can be bred in a species tank. White cloud minnows can breed this way, and many killifish will at least ignore the eggs. Baby killies are fair game, though. Guppies will also often ignore babies.

Other fish have one parent that guards the eggs and fry. Most bubblenest builders and mouthbrooders operate this way, as do some substrate spawners. The responsible male or female stays with the eggs and young, until they are free swimming. With bubblenest builders, the male tends the nest, blows bubbles as they pop, and keeps any falling eggs or fry in it. He will also defend the nest against other fish. Mouthbrooders simply hide their eggs in their mouths, and some substrate spawning catfish will hide the eggs underneath them. Certain substrate spawning cichlids also have one parent care for the eggs and fry.

A more common setup among cichlids is to have both fish guard and care for the young. This setup can be really fascinating to watch. The parents will take turns fanning or blowing fresh water onto the eggs, and removing any fungused eggs. They will also fiercely defend the spawning site, which can often cause injury or even death to other tankmates. Once the eggs have hatched, the parents will also guard the fry. Some fish will even move the fry to a different place each day. Once the babies are free swimming, some fish continue to guard them, while others end their parental duties. Many African cichlids guard their babies until they spawn again. Discus even feed their babies off of their slime coats.

A more extreme version of guarding is practiced by some Tanganyikan cichlids. There, older siblings will stay around the nest and help the parents defend subsequent spawns. The babies are allowed to stay until breeding age, when they are driven off.

Breeding Tanks

“My fish just laid eggs. How do I keep the eggs or babies from being eaten?”

The most common way to keep eggs from being eaten is to use a separate breeding tank. There the parents can spawn or give birth to their young, and be removed once they are done. Egg scatterers can be placed over a piece of netting, a grate, or a bed of marbles to protect the eggs as the fish spawn. Bubblenest breeders and mouthbrooders can be left in the tank until they stop caring for the young. Livebearers can be allowed to give birth in a dense thicket of plants or plastic spawning grass, so the babies can hide until the mother is done giving birth and is removed.

A breeding tank also is good because it can be kept clean. Eggs and fry need very clean water to hatch and grow. There are also no adults around to compete with the babies for food. Many breeders use a bare tank with only a sponge filter as filtration. Debris and extra food are easily seen and siphoned off daily. Frequent water changes can be done on the tank, as there are no other fish around to stress.

Another solution is to allow fish to breed on yarn mops, a plant, or a piece of slate or glass in the community tank. The eggs can then be moved to the breeding tank to grow. This works well for angelfish, catfish, and Australian rainbowfish. Killifish eggs can be collected from peat or yarn mops and set in a separate container or dried to incubate. Livebearers can be bred in a commercial breeding trap or breeding net within a community tank. The trap separates the babies from the mothers and then gives the babies a safe place to grow.

Some cichlids protect their babies well enough to just be left in a community setup, although this can stress the other fish in the tank. In fact, there are species of cichlids that will turn on each other if there are no other fish in the breeding tank for them to threaten.

Breeding Requirements

“I have fish in a breeding setup, but they just won't breed.”

“Why do my fishes' eggs keep fungusing and the fry dying?”

Many fish will not breed successfully without specific requirements. These include:

A mix of male and female fish.

I know this sounds obvious, but some fish are not easy to sex. In species that are difficult to sex, it is best to start out with at least six young fish so that you are certain of getting both males and females. Starting with many fish also gives monogamous fish a chance to pick compatible mates. Sometimes if a single male and female are introduced, they will not breed. Other fish, like livebearers, killifish, and polygamous cichlids need more females than males so that females are not harassed by amorous males.

Extremely clean water.

Most fish will not breed if there is any ammonia or nitrite present, and large amounts of nitrate are toxic to baby fish. Some fish, especially tetras, must be bred in a breeding tank that is bare and sterile so that their eggs do not fungus. For more information about clean water, see the beginner FAQ. 5

A varied diet.

Fish that are producing eggs need better food than fish that are just living in a community. Breeders call the process of specially feeding parents conditioning. Conditioning foods include live foods, fresh frozen foods, or spirulina based foods. Find out the specific requirements of the fish you intend to breed. If you need information about live foods, see the live food FAQ.

The correct environment.

Fish that breed on substrates need proper substrates to breed on, like peat, rocks, shells, or plants. Some fish are shy and require a lot of cover, caves, or dim light. There are also fish that require a particular water chemistry to breed. Examples are discus, which require very soft, acid water or African cichlids which require very hard, alkaline water.

External cues.

Many tropical fish breed in the rainy season. When it rains, streams flood, the water hardness drops, and there is thunder and lightning. Adventurous breeders with rainy season fish may try large water changes with distilled water, watering cans to simulate rain, strong currents, and even flashing lights and loud noises. Temperature changes may also stimulate spawning, as may changes in the light/dark cycle.

Raising Fry

“My fish bred, but I cannot raise the fry to adulthood.”

Rearing fish can take some work. Baby fish require clean water, and some require special foods.

Baby livebearers are usually the easiest to raise. Some will take finely crushed flake foods from the start, and only require frequent water changes to keep up with their growth. They also need algae or spirulina.

Baby egglayers are often more difficult to raise. Most are too small to eat adult fish foods, and so require special foods. Live baby brine shrimp are the food of choice for most baby fish, although some require even smaller infusoria. Sifted daphnia also work. Baby algae eating catfish require algae or blanched vegetables. There are also commercial fry foods that work or, in desperate situations, cooked egg yolk. Be careful, though, because non-living foods pollute the tank water terribly -- especially egg yolk.

Actually, keeping the tank water clean is probably the biggest challenge in raising fish. The growing fish require lots of food, and they are not very good at finding it which means even more must be added to the tank. As in any fish tank, adding lots of food must be balanced with keeping the water quality extremely high. In fact, fry require cleaner water than adult fish. Frequent water changes are a must, as is efficient biological filtration. Baby tanks often require daily water changes of up to half the tank. Sponge filters are the preferred method of filtration because they are great biological filters but cannot suck up baby fish.

Marine fish larvae have the strictest requirements of all. They must be fed extremely small plankton or rotifers in a tank with near-perfect water. For more discussion of marine fish rearing, see Moe.

Finally, as the baby fish grow, they must be transferred to larger quarters.

Clearly the 10 gallon tank that housed 100 fry cannot house those 100 fish for long. Betta breeders have even more work on their hands, since the little male bettas will fight and have to be put into separate jars or a partitioned tank.

“I have a ton of baby fish. What do I do with them?”

“Can I make any money breeding fish?”

Finding homes for baby fish can be almost as much of a challenge as breeding them. Young fish can be given away, auctioned at aquarium society auctions, traded for other species, or sold. Pet stores will sometimes take African cichlids, guppies, and bettas, but many only give store credit rather than cash.

As for turning breeding into a commercial venture, remember the laws of supply and demand. For most common community fish, pet stores can order whatever they want whenever they want it from importers, fish farms, and wholesalers. The hobbyist, on the other hand, has occasional batches of fish that the store may not need or want at that time. The only thing on your side when you walk into a store with a batch of unrequested fish is that locally bred fish are often healthier and less stressed than fish that have been shipped and must be acclimated to local water conditions.

If you insist on breeding saleable fish, try rare catfish, rare rainbows, African cichlids, show quality fancy guppies, or marine fish. Those are all difficult for stores to obtain. To make money selling more common fish like angels, barbs, tetras, cory cats or livebearers (other than guppies), you need many breeding tanks and breeding pairs of fish to assure a constant supply. You must also have fish of consistent quality.

Personally, I would recommend that you breed fish for the sheer pleasure of it, rather than turning your fun hobby into a business venture. There is nothing like seeing a pair of cichlids court, disappear into a cave, and emerge in a few days with a swarm of babies.

Picture of the Month winners

November



Anja Krebber (yours truly) with a full tank shot of a 25G planted tank housing tetras and catfish.

December - 2010 Picture of the Year



FocusFin (Mike):

This picture captures something that for practical purposes, we don't often get to see in the hobby - natural light. My favourite time of the day is late afternoon when the sunlight streams in from the west and cuts across the tank. It creates the illusion that I'm perched on a reef looking up through the water to the sunlight.

- Mike

Sixty-two OVAS forum users voted this picture as their favourite of all the entries submitted in our 2010 POTM contests.

January



Darth

Congratulations!

Voting for February starts soon. Don't miss it.

Upcoming events

February

28nd, Monday, 7pm – General Club Meeting

Introducing Debbie McGuire of the Canada Border Services Agency, who will provide information on customs and trade legislation and talk about the work of the CBSA.

Time permitting, Peter will present a quick slide presentation on the 2010 OCA trip.

Due to the Giant Auction coming up, there will be no mini auction at this meeting

March

06th, Sunday, 12pm – 2011 Giant Auction [Jack Purcell Centre](#)

Item setup and viewing starts at 10:00 am. All items being auctioned off must be registered and present at the auction by 12:00. No new items will be accepted after 12:00.

General information

All items being auctioned are placed on tables in the viewing area. During the auction the tables will be auctioned off in a order.

If you wish to have your item(s) sold at the start of the auction, we will have a priority table this year. The cost is \$5 per item and this fee must be paid before your item is placed on the priority table.

For the Giant Auction the starting bid is \$2. If necessary, please group your items to ensure that your lots have a \$2 value.

Raffle tickets

We will be selling raffle tickets during the auction. \$1 for 1, \$2 for 3 and \$5 for 10. Prizes include a brand new 75 gallon aquarium and Fluval Nano Shrimp tank

Item registration

The following methods are available to register your items.

- On-line registration of your items. Click [here](#) to submit your items for the auction. If you have more than 10 items for sale, please fill out as many forms as needed.
- PM me with your list – including the description and minimum bid.
- If you do not pre-register your items, please download the [OVAS item form](#), complete it and give it to me before 12:00.

The following items WILL NOT be accepted at this year's Giant Auction

- Used heaters
- Used light bulbs
- Plastic plants

- Used/opened filter media
- Used airline tubing

We are limiting the number of **identical items** that a single vendor can sell to 3 items, please group your items accordingly. If you want to sell more than 3 bag of Val, you have the choice of either grouping your items to create 3 lots, removing the extra item(s) or donating the extra item(s) to OVAS.

Identifying your items

Pre-printed labels are provided for all auction items and will be handed out when you arrive at the registration desk.

For all items the starting bid is \$2.00. If you would like to start the bidding for you item at a higher amount please indicate the minimum bid on your registration form.

Packaging your items

Please package your items carefully! Bags can leak, light bulbs can break, and fish can jump out of pails - just to mention a few possibilities.

All fish placed for auction must be in an appropriate container:

- Proper fish bags (preferred method)
- Glass jars of an appropriate size (Acceptable, but should be avoided if possible for safety reasons)
- Plastic buckets

Any fish placed for auction in an unacceptable container will have to be bagged at our Bagging station. OVAS will supply thick, heavy duty fish bags and will do the bagging. Cost is \$1 per bag, regardless of the number of fish bagged. Anyone wishing to bring fish to the auction without proper bags are encouraged to bring their fish in a bucket, and we will happily bag them for you for the auction table.

Payment for bagging must happen BEFORE the auction commences.

Bidding

For those who are new to the club the auction works as follows:

- The auctioneer will read the lot number, description and starting bid amount.
- Anyone who wishes to bid on the item is asked to raise their hand at the start of the bidding.
- The auctioneer will increase the price and the last person with their hand raised wins the item.
- All items must be paid for immediately after the bidding has ended for that item. Payment and item pickup is done at the Treasurers location on the right hand side of the meeting room.

Auction fees

Any items preregistered before 8:00pm on Saturday the 5th of March will be charged a 25% commission. Any items registered after this time will be charged a 35% commission fee for OVAS members, and 40% for non-OVAS members, NO EXCEPTIONS.

Donations

If you wish to donate the proceeds from any of your auction item please indicate this to me before the auction. Any unsold donated items must be picked up after the mini-auction is over - OVAS will not be responsible for any items left at the meeting.

Vendor payment

Please see me after the auction to be cashed out. I will provide you with a receipt which will be taken to the Treasurer for payment. If you are unable to stay to the end of the auction please contact me and alternate arrangement will be made for you to receive your funds.

Note

Please respect your fellow club members - excessive talking during the auction is distracting to both the auctioneers and the people wishing to purchase items.

If you have any questions or concerns please feel free to contact Randy (White Lightning)

Many thanks to our sponsors: 1000 Islands Aquaria, Aqua Valley, Big Al's Aquarium Services, Fish Tail Aquariums, Forty Fathoms, La Niche, Marinescape Aquarium, Ray's Marine Livestock & Aquatic Supplies, Reef Gate