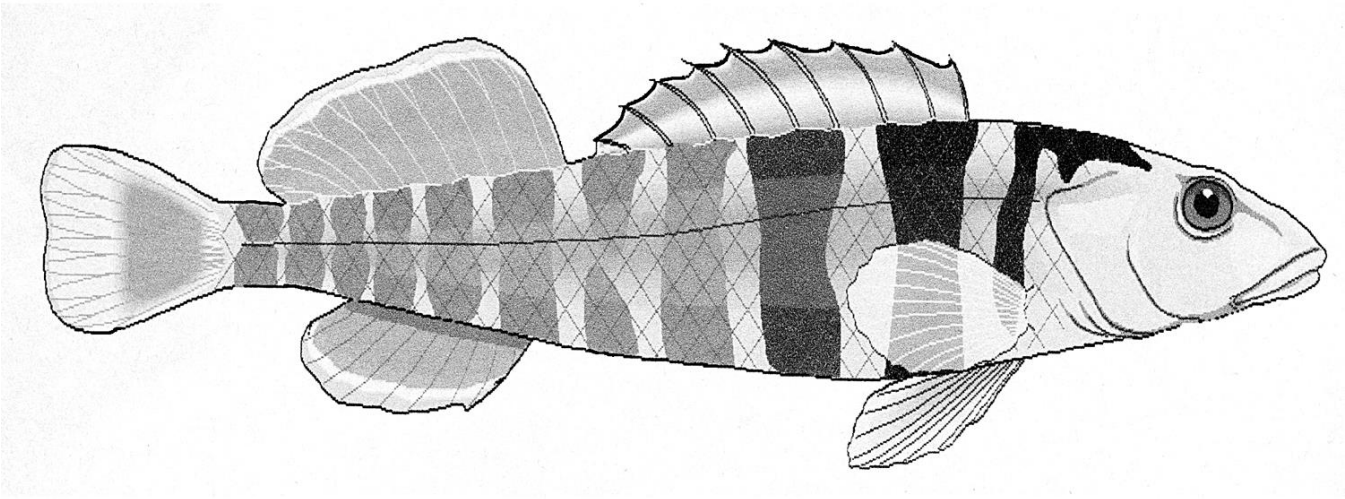
The Darter

January - February 2008



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St. Louis, Missouri

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Join the MASIFishHeads Yahoo Group. See web page for instructions.

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EXCHANGE AND REPRINT POLICY

The Missouri Aquarium Society will exchange their publication, THE DARTER, with other aquarium societies. Failure to receive three consecutive issues of a society's publication will be considered as a termination of our exchange with that society, unless advised to the contrary.

Please send exchange publications to: MASI Exchange
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Places to Be / Things to See

SUNDAY February 10, 2007
Auction, 12:00 @ the Stratford Inn
Contact: John Van Asch – 618-277-6165, johnsfishy@att.net

THURSDAY February 21, 2007
General Meeting, 7:30 PM @ Dorsett Village Baptist Church

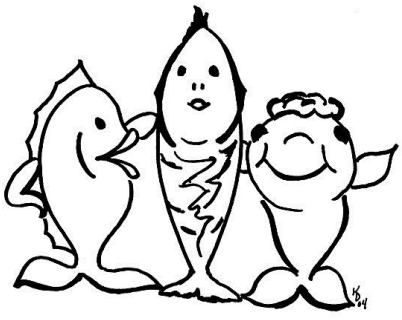
THURSDAY March 20, 2007
General Meeting, 7:30 PM @ Dorsett Village Baptist Church

THURSDAY April 17, 2007
General Meeting, 7:30 PM @ Dorsett Village Baptist Church

ALL WEEKEND April 18, 19, and 20
Annual Show, Banquet, and Auction @ the Stratford Inn
Contact: Gary McIlvaine - 314-352-3334

THURSDAY May 15, 2007
General Meeting, 7:30 PM @ Dorsett Village Baptist Church

THURSDAY June 19, 2007
General Meeting, 7:30 PM @ Dorsett Village Baptist Church



Membership - Renew for 2008

Yearly membership in the Missouri Aquarium Society, Inc. is $20 per calendar year. Membership includes the Darter subscription for the year, which is currently 6 issues. New memberships and renewals can be submitted at club functions such as meetings and auctions, or by contacting our membership chair, Kathy Deutsch at 314-741-0474, kathy@skdeu.com, or 9 Old Jamestown Ct. Florissant MO 63034

Presidential Preamble

By Mike Hellweg

Happy New Year!

As you read this I hope that you have all had a great holiday season, have settled into the New Year, and have made your New Year's resolutions. I hope some of those include your fish, and maybe even MASI. In case you haven't yet made any fishy resolutions, or in case you have and have already dropped off the bandwagon, here are some suggestions:

Do more water changes! You can never do too many.

Clean those filters. Many folks do regular water changes, but only change the filters when they stop working because they are clogged. Give your fish a break this year and clean the filters on a regular schedule.

Try breeding something. Many hobbyists have never tried to breed fish before – give it a try. Try just sitting in front of the tank and watching the fish once in a while. So many of us get so busy "working with the fish" that we forget to just sit and watch them.

Write an article on your fishy experience. It doesn't have to be a masterpiece, or about spawning the newest watchamacallit, but it can be about your experiences working with your guppies, or zebra danios, or what ever. If it's about YOUR experience, then it can't be wrong! After all, it's your experience on that particular subject.

Attend our Annual Show and Workshop. Enter a fish or two, come for the speaker programs on Saturday, come on Friday morning to help set up, or just come and socialize. But take some time and participate in this great event!

Attend a regional or national convention. There are many to choose from – the Northeast Council of Aquarium Societies – the biggest all species convention in the US, is the weekend before our show.

The American Livebearer Association Convention is two weeks after our show.
The American Killifish Association Convention is Memorial Day weekend.
The Greater Chicago Cichlid Association weekend is Memorial Day weekend.
The American Cichlid Association Convention is in mid-July and features the world's largest public aquarium – something not to miss!
The International Catfish Convention is in October in our Nation's Capitol.
The Aquatic Gardener's Convention is the first weekend in November.

Participate in other Society events – our Auctions are among the best of any organization in the USA, our Swap Meet gets better and better each year, our mini auctions and speaker programs at our monthly meetings are among the best you could find anywhere, and we've got lots of other events planned for 2008 – fishroom tours, shop hops, a picnic or two, and more!

…and for now, 'nuff said…

Characodon audax and the Goodeid Factory

By Randy Carey

Reprinted from July/Aug '97 **Aqua News** Of the Minnesota Aquarium Society

Some species are worth preserving. Some because they are attractive. Others because they are rare. *Characodon audax* is a species worthy on both counts.

One problem with livebearers is that many species eat their young. An added problem of Goodeids and Halfbeaks are that females produce few young. The averages of many are only in the teens per female. For *Characodon audax* it is 10 to 20.

Recently I have developed a technique for mass harvesting livebearers, specifically Goodeids and Halfbeaks. This technique takes advantage of them being viviparous rather than ovoviviparous.

As you may recall, being ovoviviparous, a female Poeciliid can give birth to several successive broods from a single insemination. In contrast, females of the Goodeids and Halfbeaks (two viviparous families) require insemination for each brood. Add the facts that livebearer males are always eager to fertilize and, that the females' acute gestation periods are rather regular, one can target the time of births by placing the female with a male at a certain time and then let nature take its course.

Characodon audax

This is a very attractive livebearer, but unfortunately an uncommon one. The body is a metallic silver and the unpaired fins on the males are jet-black. A couple of years ago **Aquarium Fish Magazine** published an article on rare livebearers. The large, eye-catching photo which opened the article was of *Characodon audax*.

As I recall, the article mentioned that this species was threatened in the wild. Even in the hobby some aquarists have had a difficult time propagating the species. Livebearer expert Mike Schadle told me that typically a hobbyist who would obtain the species would seldom get more than one generation before the whole colony would die. He added that he knew of only two other aquarists in the country who are maintaining this species. When I purchased my original specimens at an MAS meeting over two years ago, they were the only four Jim Mathis had to BAP. However, for some reason I had successive luck with the fish right from the start. My third generation of *audax* is now giving way to the fourth.

A few difficulties have been claimed about successfully breeding *Characodon audax*. One peculiar characteristic of this fish has set me back on several occasions. When I harvest livebearers, I place the female in a small tank by herself. I stuff the container (usually a one gallon bowl) with plants (live and/or plastic) but still leave ample room for the female to swim. This allows the fry to take safe haven among the clutter of plants. This technique worked fine for my *audax*, but the problem arose when I would transfer the fry from the bowl to a larger container such as a ten gallon tank. Typically when the fry would encounter new water, either by transferring them to a larger tank or by adding/changing water to their container, I would loose half or more. Eventually the fry grow out of this sensitivity, but it has been a real problem for the first couple of weeks - especially when I was unaware of this sensitivity.

Since I don't want to leave over a dozen fry in a bowl of unchanged water for two or three weeks, I need to harvest the fry into the larger grow-out tank. But this seems to suggest that I set up a 10 gallon tank for each female whose fry I want to harvest. If I want to harvest from several females, I will need several tanks.

The Goodeid Factory

I want to harvest *audax* from multiple females. Necessity is often the mother of invention, and in this case it was. I could not justify several fry tanks with a dozen or so fry per tank. The solution was to

harvest all of the fry in the same tank. Any *audax* male left with the birthing females will surely reduce the number of fry. (The same is true of all Halfbeaks which I have had.) So the birthing tank should contain only the required females. For a time I thought the females would also cannibalize, but evidence suggests they don't, if I provide ample cover for the newborns.

As another goal, I want the fry in the grow out tank to be roughly the same size. I feel this gives each young fish an even opportunity at feeding time.

So my solution is to coordinate the females to all give birth about the same time and in the same tank. Fortunately, this can be done for Goodeids and Halfbeaks. You may recall that the gestation time for each livebearer species is quite regular. This maternity period usually ranges from four to six weeks depending on the species. So if you know when a female is inseminated, you can predict the time of birth usually to the day.

Females of the Goodeids and Halfbeaks require insemination for each brood, so the breeder has some control of when a gestation period begins. Since the Poeciliid females will produce several broods from a single encounter with a male, keeping multiple females on the same cycle will be difficult.

Armed with these two facts about Goodeids (and Halfbeaks), I developed a schedule in which I could predictably harvest the young from many females at a time. The technique requires that I introduce all females into the same tank and time the births to all happen about the same time. If I can coordinate all of the females to be on the same schedule, I can accomplish several goals: [1] reduce the risk of cannibalism, [2] keep the fry sizes about the same for multiple broods, [3] be able to keep all the fry in one tank instead of several (without forcing the fry to undergo a change in water during their first weeks), [4] track only one date of expected birthing rather than a date for each female (while trying to remember which female is due next).

The ever repeating schedule follows these steps:

1. Females who have yet to be with a male since they last delivered are all introduced into a tank of males at the same time. Male livebearers are typically eager to mate, so I will assume that all females will be fertilized within the first day or two.

2. The females are withdrawn after a week to a females-only tank. By limiting the mating opportunity to a week, this will prevent the possibility that females will be fertilized weeks later. If this breeding cycle is to be repeated, the system cannot tolerate staggered gestation periods. Either all of the females must wait for the one or two late females or the late females need to skip the next cycle. I would rather have an unfertilized female wait out the current cycle and the get back on schedule rather than have it deliver unpredictably late and miss or delay the next cycle.

3. Prepare the spawning/rearing tank just days before the earliest possible births. Preparation includes fresh water, lots of plants as refuge for the fry, and the introduction of the females. Since *Characodon audax* has a six-week gestation, the first fry could come six weeks from the day they were introduced with the males. I prepare the spawning tank two days before that target date.

4. As females become noticeably thinner, I remove them to the female tank. This will reduce the chances of cannibalism.

5. The females are given a time of rest and are fed well. By giving the females a two-week rest, I have noticed larger broods. Presumably the females are developing more eggs during this time. They are also garnering needed rest. If I want more fish, I will use more females. If I want healthier fry, I will give the females a resting period.

[Repeat the cycle]

I have applied this approach to *Characodon audax* with good success. One attempt yielded seventy-some fry from five females and one birthing tank. I have also applied the technique to the Halfbeak *Nomorhamphus ebrardtii*, a species which eagerly hunts down its young.

Perhaps the trickiest part is being disciplined enough to get started. The breeder must be willing to hold out all females from the male tank until all breeding females have delivered. The aquarist needs to be sure that all females which begin the cycle have not been fertilized. In the case of a six weeks gestation species like *Characodon audax*, the first harvest from the technique might be as long as three months after the breeder starts the program!

Species Maintenance

My Goodeid factory accommodates an important principle in species maintenance: Produce offspring in breadth, not depth. In other words, produce the fry you need from one generation as long as you can before you start producing from the next.

Each time the offspring of a species are bred together (or even with a parent), this line is taking another step toward inbreeding. For species which can be obtained repeatedly from the wild (such as most of our common fish), an inbred line can be discarded in favor of wild caught stock. However, when species such as *Characodon audax* are rare and seldom if ever imported, the keeper of that species should work to slow the rate of inbreeding - an important aspect of species maintenance.

So an important tactic of maintaining a species is to keep a generation going as long as it can before breeding is passed on to the next generation. When the breeding colony starts to die or becomes unproductive, replace the breeders with the best specimens from the most recent broods. When we must replace a breeding colony, the younger the specimens we use as replacements, the longer that generation will continue, and the amount of inbreeding is less through time. Without adding new blood into our colony, the affects of inbreeding will increase with each generation.

Some aquarists refrain from introducing new specimens into the breeding colony because they want to keep the strain (or even the location) pure. Unless the strains are quite different, I believe in mixing new blood to strengthen the genetic diversity. Fortunately for me, I was able to pick up two females from one of the other two hobbyists who are keeping *Characodon audax*. I added the fish to my breeding colony.

So...

Most aquarists do not aim to breed their livebearers in large numbers. The occasional birthing of a single female may provide more fry than there is demand. *Characodon audax*, however, is quite attractive and thus will be in demand from even the amateur aquarist. Furthermore, its threatened status and rarity in the hobby add to the importance of maintaining this species. But who is talking about just maintaining it? Perhaps it can enjoy a resurgence in the hobby. Keep the factory rolling.

Member Classifieds

Charles Harrison (314) 894-9761, csharrison@inkmaker.net -

Thiosulfate crystals (Chlorine Remover) ..... $3.00 a half pound
OTO double strength Chlorine/Chloroamine test kits - 4 ounce - $12.50
Flubendazole, 5% powder 10 grams .... $5.oo, 25 grams - $20.00
Lavamisole HCl Powder - 5 grams treats 100 gallons $10.00
Methylene Blue 5% solution (2 ounces) $12.75
Acriflavine Concentrate (4%) solution, 2 ounces $12.70

MASI Members can place a classified ad in the Darter for free. Ads may be up to 30 words in length. Send your ads to the editor. The ad will run for one issue unless you specify how long to run in, in which case it will run as requested.

Aquarium Tech Tips - Moonlight

By Andy Walker

Moonlights that attach to your light canopy can be purchased for $15 to $25. They have one or two ultra-bright white LED that simulates the cool white glow of a full moon. The soft light glimmering through the water helps you observe nocturnal nightlife you may not have seen before. I bought one and was able to observe all of my Otocinclus cleaning plants while they enjoyed a nice evening meal along with my some of my Corydoras that preferred the dark to my 4 watts/gallon of compact fluorescent lighting. You can also assemble one of these with little effort as far as projects go. All you need is an ultra-bright white LED, a resistor, an old discarded AC to DC power adapter and a device to house and attach to moonlight to your tank or hood. To illustrate how simple you can make it, I used a "bendy" soda straw and wire clamp to house and attach the moonlight to the aquarium. Since the straw I had was white with red and blue stripes so I decided to spray paint it black. That's the color of the paint that I had.

The most confusing part of this project is knowing what size resistor to use. You can make this circuit work with a 1000-ohm resistor. This is very conservative and should work with any power adapter rated less than 17 volts. If you want a brighter light, however, you can opt to calculate the smallest resistor that will work by using Ohms Law. It is the difference between the power adapter voltage and the LED voltage (usually 2V, but 4V for ultra-bright blue and white LEDs) divided by the LED current (about 20mA). For example, If you have a 12VDC power adapter, an ultra-bright LED with voltage of 4 and a current of 20mA, the calculation, (12-4)/.020, shows the minimum resistor value is 400 ohm. Any resistor 400 ohms or larger will work. Use the closest standard value that is higher, e.g., 470 ohms. Please note that power adapters have their voltage rating on their label and the LED voltage and current is on the package or specified in the catalog if purchased on the web or through mail order.

The 5mm LED I had fits nicely inside the soda straw. My idea was to enclose all of the wires and resistor inside the tube and attach the straw to the hood stand that sits atop my tank using a wire clamp. Coupled with the flexible end of the straw, the wire clamp allows freedom to adjust the position of the light. Note that you could also use PVC coupling and tubing to make the housing if you have that. Nevertheless, start the assembly by soldering the long lead of the LED (the anode) to the resistor. Plug in the power adapter and find the positive wire to solder to the anode resistor by connecting the adapter wires to the LED. If it doesn't light, switch the wires. Note that my positive wire had a white stripe. Now that you have identified the positive wire, feed it through the straw and solder the wires to the LED. Be sure to insulate one of the leads so you don't get a short. Fill the end of the straw that holds the LED with aquarium sealer, hot melt glue or some other adhesive and pull the LED into the straw using the power adapter wire. Your moonlight is ready to go once you have attached your wire clamp.

For price and ease, you can't beat the simple commercially available lights. I bought my first one locally at Marine Solutions in St Charles. You can also order them from a number of web retailers. Use your favorite search engine and type in "aquarium moon lights" and that will get you started. If you

don't have any of the components or tools on hand and mounting the light is enough challenge in itself, that's the way to go. If you want to tinker and have the ability to change the color, brightness and configuration of your light, a do-it-yourself project is in order. Radio Shack has the LED's, resistors and additional hardware (like multimeters, soldering irons, power adapter, etc) that you will need. You can also order all of this through the web as well. You can use a search engine to find a source but retailers for the public that won't hit you with substantial minimum order or large shipping charge can be hard to find. You can start with Futurlec and Electronics Goldmine and go from there. If you want to start an electronic project, keep in mind that this one is as simple as it gets and could be quite rewarding in the long run.

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ACA Introduces Two New Programs for Local Clubs

By Steve Edie

The American Cichlid Association is adding new programs for participating local aquarium societies. The areas of focus for the programs are breeding Cichlids and writing articles about Cichlids. Awards will be given to recognize achievement in these areas by both individuals and their clubs. The purpose is to help promote awareness of both the ACA and the local clubs and to increase participation in the local clubs' BAP program and club publications. MASI has elected to participate in this program; I will be the club liaison to the ACA.

The first program will recognize the individual and the club that has the most Cichlid spawns in a given year. Since each club has variations in how many BAP points they award for the same species, it will simply be who has the most spawns individually and which club has the most spawns collectively. There will be separate classes for all-Cichlid clubs and for all-species clubs. The submissions to the ACA will be certified by the BAP chair of each participating club. For those who have already turned in a given Cichlid species in the past, you may breed them again and turn them in for the ACA program, but they would not receive additional MASI BAP points unless they were also on the CARES priority list. Even if you feel you won't have enough spawns to compete for individual honors, your spawns will count toward MASI's total.

The second program will recognize individual writers of Cichlid articles for their local club publication. At the end of the year the Editor of each participating club will submit Cichlid articles written by his club's membership. A winner will be chosen from the submitted articles in different classes. I (and the Editor) would hope that many of you will choose to participate.

BAP Report

Steve Edie

Member	Species	Common	Pts	Total
Nov 2007				
Jack Berhorst	*Archocentrus spilurus*	Cutter's Cichlid	10	185
Tammy Clemente	*Hemichromis bimaculatus*	Red Jewel	5	5
Charles Harrison	*Xenophallus umbratilis* "Arenal Volcano"*****	Golden Teddy	20	1767
Charles Harrison	*Xenotoca eiseni*	Red Tail Goodeid	0	1767
Mike Hellweg	*Apistogramma hongsloi*		15	2847
Mike Hellweg	*Dario hysginon* *****	Flame Dario	20	2867
Mike Hellweg	*Poecilia reticulata*	Yellow Scarftail Guppy	1	2868
Jerry Jost	*Aphyosemion australe*	Orange Lyretail Killifish	15	225
Cory Koch	*Xystichromis phytophagus* **@**	Christmas Fulu	20	711
Mark Langer	*Julidochromis regani* "Kipilli" *****		15	770
Mark Langer	*Pelvicachromis pulcher*		2	772
Gary McIlvaine	*Characodon lateralis* **@**		30	482
Gary McIlvaine	*Ilyodon furcidens*		15	497
Gary McIlvaine	*Phallichthys amates*	Dwarf Merry Widow	5	502
Gary McIlvaine	*Tanichthys albonubes*	White Cloud	5	507
Gary McIlvaine	*Xenophallus umbratilis*	Golden Teddy	15	522
Gary McIlvaine	*Xiphophorus helleri*	Twin Bar Swordtail	1	523
Gary McIlvaine	*Xiphophorus maculatus*	Hi-Fin Platy	1	524
Ed Millinger	*Geophagus* "Red Head Tapajos"		10	555
Philip Newell	*Poecilia reticulata*	Fancy Mix Guppy	5	52
Rick Tinklenberg	*Allodontichthys hubbsi* ***@**	Whitepatched Darter Goodeid	35	1500
Rick Tinklenberg	*Characodon lateralis* "Los Berros" ***@**	Rainbow Goodeid	35	1535
Rick Tinklenberg	*Chromidotilapia guentheri loennbergii* *****		15	1550
Rick Tinklenberg	*Nanochromis splendens* *****		20	1570
Rick Tinklenberg	*Nanochromis transvestitus*		15	1585
Dec 2007				

Gary McIlvaine	*Geophagus brasiliensis*		10	534
Gary McIlvaine	*Poecilia reticulata*	Moscow Tiger Guppy	1	535

* = First MASI species spawn (5 point bonus)

** = First MASI species and genus spawn (10 point bonus)

*** = First MASI species, genus and family spawn (15 point bonus)

@ = C.A.R.E.S Species at Risk (Double base points)

Mike Hellweg has passed the milestone of breeding over 200 different species, and now trails only Pat Tosie, Peggy Scott and Jim Lovins

Editor's Notes

Steve Deutsch

It's hard to believe this is the fifth year I will be putting the Darter together. As always, it works only because we have Charles printing, Gary mailing, members collating, and all of you writing. Thank-you, each of you.

I recently finished printing all of the articles from last year for judging. I believe there were 22 in total, which is not bad for 6 issues. We are not starting quite so strongly this year, so I could use that article you have been thinking of but haven't gotten around to writing. This year, as well as the club awarding the Ralph Wilhelm Publication award for the best article in our publication, the ACA is awarding an award for the best cichlid article in any publication, as Steve Edie writes about elsewhere in the Darter. Now you have multiple chances to win, but best of all you can share your thoughts, experiences, and tips with the rest of our club, and the other clubs we exchange with. Not to mention those BAP and HAP articles you need for that next level.

We are trying to start a new column in the Darter. Kathy wants to print information about our members, both biographical so the new members and old members can learn about each other, and significant things that happen in our members lives so we can keep up on the members and not just their fish. Please send Kathy anything you would like printed in this column.

Please note that Kathy and I have new email addresses – see the computer page. You can send articles either to editor@missouriaquariumsociety.com or to my personal email, or hand me a CD or printed article at a meeting, or mail me something.

Article deadlines will be Feb. 15, April 15, June 15, Aug. 15, Oct. 15, and Dec. 15.

HAP Report Nov-Dec 2007

Mike Hellweg

Member	Species	Common	Rep	Pts	Total
Jerry Jost	Potamogeton denticulatus		V	10	1415
Jerry Jost	Potamogeton denticulatus		IB	15	1430
Jerry Jost	Alternanthera reineckii Red Hedge		IB	20	1450
Mike Hellweg	Anubias barteri nana 'Ekona'*		V	15	2630
Mike Hellweg	Anubias barteri Moliwe*		V	15	2645
Mike Hellweg	Anubias sp. Tonde*		V	15	2660
Derek Walker	Potamogeton natans		S	10	2135
Andy Walker	Lysimachia nummularia	Moneywort	V	10	230
Tammy Clemente	Lemna minor	Dwarf Duckweed	V	5	10

Reproduction Key: V = Vegetative, OB = Outdoor Bloom, IB = Indoor Bloom, S = Seedling
* = MASI First

2007 HAP Year End Totals

Mike Hellweg

164 entries from 15 entrants represent 102 different species from 39 different families
10 Outdoor Blooms
20 Indoor Blooms
9 Seed Reprodcutions
125 Vegetative Reproductions
The most widely propagated species in 2007 was Ceratophyllum demersum, turned in by 4 different entrants. 8 other species were turned in by 3 participants each.

Participant	Points this year	Species this year	Total Points	Total Species	Rank	Award Status
Andy Walker	105	9	230	21	Senior	To be presented
Charles Harrison	110	7	610	48	Master	Needs 12 species for Grand Master
Derek Walker	750	54	2135	160	Master	Needs 6 articles or program for Grand Master
Diane Brown	5	1	305	26	Senior	

Dwayne Peters	15	1	15	1		
Gary Lange	30	3	1140	97	Senior	Needs 2 seed reproductions, 6 articles or program for Grand Master
Gary McIlvaine	15	3	35	6		
Harold Walker	260	17	795	71	Master	Needs 6 articles or program for Grand Master
Jerry Jost	385	23	1455	92	Grand Master	Needs 8 species & 1 article or Program for Advanced Grand Master
John Van Asch	90	5	705	59	Master	Needs 1 species and 6 articles or program for Grand Master
Marlon Felman	40	4	55	5	General	To be presented
Maureen Green	10	1	1295	81	Grand Master	Presented
Mike Hellweg	110	8	2660	186	Supreme Grand Master	Needs 1article & 14 species for Ultimate Grand Master
Rick Tinklenberg	15	3	15	3		
Tammy Clemente	10	2	10	2		

Love, Luck, and the Lonely Loach

By Susan Priest

Reprinted from Oct 2004 **Modern Aquarium** Of the Greater City Aquarium Society

Scientific Name: *Botia sidthimunki*
Common Names: Chained Loach, Monkey Loach, Dwarf Loach, Mouse Loach
Native: Thailand and India
Size: 2-1/2 to 3-1/2 inches
Water: slightly acidic (pH 6.5-6.9) and soft
Temperature: 76° - 85° F
Temperament: peaceful (should be kept in groups)

Nutrition: Omnivorous
Reproduction: Egg scatters (not sexually dimorphic)
Note: This is an endangered species

Botia sidthimunki

Love has been known to prod us into doing many a strange and sundry thing. You can never predict when love is going to take over your brain, and put into motion a chain of events over which you have little control. At first, you don't even realize what has happened. But, minute by minute and hour by hour, an idea is slowly growing, until a fully developed plan appears in your mind.

Al and I were prodded into this particular act of love by the news that GCAS was going to be visited by Sallie Boggs (who is well known for her expertise in the area of Loaches, among other things). We said to ourselves "Let's take a photo of a Loach for the cover of **Modern Aquarium**." Well, we have a couple of Clown Loaches in our 90 gallon community aquarium, but one of them has already been in a cover photo. There are a couple of very large Khuli Loaches in there as well, but shrimp pellets cannot always be counted on to lure them from whatever hiding place they are using on a particular day. So, our love of **Modern Aquarium** took us on a shopping trip in search of a Loach to photograph.

Lo and behold, we found ourselves at a pet store which just happened to be next door to our favorite restaurant - what a coincidence! Within said store we found a tank with four or five varieties of Loaches. We spotted a handsome specimen, but quickly noticed that it had a nasty temperament. (Ultimately we expected to incorporate the "photographee" into our community, so this one was quickly ruled out.) "What about that 'checkerboard' fish; it should photograph well." I won't recount the tale of what the store employee had to resort to in order to capture the frisky fish. Let's just say that it was a challenge!

For the sake of keeping focused on my topic, I will also spare you the details of how this fish ended up in a five gallon tank by itself, and move on. I pulled out a couple of books in order to research what genus and species we had acquired. After I had accomplished this task, Al looked it up on the internet. Here's where the "luck" part of the title comes into play. It turns out that this fish is endangered! Now, I'm not sure who is lucky; us or the fish! However, I do maintain that luck of one variety or another is at work here.

Rather than waterlog you with any more storytelling, I want to move on to the fish itself, the *Botia sidthimunki*, or Dwarf Loach, and tell you what I have been able to observe about it so far. It is an active fish which rarely rises above the lower third of the aquarium. It prefers to eat live blackworms over commercially prepared sinking foods, but has refused neither. It spends most of its time in a sheltered location; however it does not shy away from human observers. For a small fish in a tank by itself, it seems to produce a lot of waste.

Now we come to the third part of the title: this fish is lonely! Every source I have consulted as to the nature of these fish says that, in order for them to thrive, they need to be part of a group of several of their own kind. This social structure provides stress relief to every member of the group, and more importantly in this particular case, provides an opportunity to reproduce.

Upon learning of its endangered status, as well as the importance of tankmates, we returned to the store in hopes of acquiring at least one more of these fish. It was at this point that our luck took a change for the worse. (When I say "our," I am including the fish.) So, it now becomes a labor of love for me to educate you further, as well as to make a plea for one of you to come forward and offer a more suitable home for this endangered orphan.

The *Botia sidthimunki*, with such common names as the Chained Loach, the Monkey Loach, the Mouse Loach, and the Dwarf Loach, is the smallest and most peaceful member of the *Botia* genus. Adult size may range from 2-1/2 to 3-1/2 inches. It is native to muddy-bottomed lakes and streams in Thailand and India, where the water is soft, and slightly acidic at a pH of 6.5-6.9, and the water temperature ranges from 76-85 degrees F. They are best kept in groups of at least five. They are omnivorous, in that

they will eat worms, crustaceans, insects and plant matter, as well as frozen and commercially prepared sinking foods. Their tank should provide plants and hiding places, as well as open areas for free swimming.

A challenge to the aquarist is to provide excellent water quality by means of frequent water changes, and at the same time leaving behind a layer of mulm, which to this fish will be reminiscent of its native waters. All members of the *Botia* genus fall into the category of "prickly-eyes," meaning that they have protective spines under their eyes which they extend during times of stress. If you are going to transfer one of these fish from one container to another, you would do well to try using a paper or plastic cup. If they catch their spines in a net, they could be injured by your efforts to disentangle them.

These fish are not sexually dimorphic (which is to say that the males and the females look the same). There have been sporadic reports of successful breeding in an aquarium; however I have been unable to locate any detailed accountings. One source reports that they become very pale in color at this time, and another states that they will not breed until they reach the age of seven years. Juveniles sport the "chain" pattern, but mature fish of breeding age develop one thick black stripe which runs the length of the flank on both sides. Spawning behavior includes latching onto each other via their spines, and swimming in circles. The sources I have consulted have not used the term "egg scatterer" in describing this fish, however I cannot imagine what other "breeding strategy" would apply.

At one time this fish was considered to be extinct in nature; however a population has been discovered in a small river. It is currently on the International Union for Conservation of Nature (IUCN) Red List of Threatened Species. Bear in mind that any specimens available in the hobby have most assuredly been wild-caught, and a successful breeding program will serve to help protect these precious few that are still surviving in nature.

I'm willing to guess that most of you have done stranger things in the name of love than buy a fish in order to publish a photo of it. As for luck, what probably comes to your mind is a number with several zeros at the end (must be 18 or older to play!).

Lastly, I can only hope that there is one among you who will adopt our lonely Dwarf Loach. If a few members of its own species cannot be located, we will eventually incorporate it into our community tank, but this is a fish with a past as well as a future to preserve! The **Baensch Atlas** considers this fish to have a degree of difficulty of 2 (with 1 being suitable for a beginner, and 4 requiring the skills of an expert). Don't be too quick to overlook yourself as an adoptive parent. When visiting your neighborhood fish shop, or an aquarium club auction, keep a mental picture of this fish in the back of your mind. If you come across some, well, maybe it is not a coincidence. Perhaps love and luck have led the way!

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"*What I Like About You*"

by Robert A. Slaton

Reprinted from Nov 2007 **The Scavenger** Of the Louisville Tropical Fish Fanciers

My son and daughter were heading off to college in Bloomington, Indiana recently, and we all agreed that they should have a nice aquarium to enjoy in their apartment. Fortunately I was able to use store credit to purchase a new 38 gallon aquarium, heater, and glass top. The stand, filter, and light I salvaged from my stock of "used, but not used now" equipment. Of course I made my fish available for them to browse. After looking over the ample selection of fish my daughter surprised me with this comment: "I want some colorful fish. Where are those bright red one's you used to have?" Since I had several colorful fish including *Pseudotropheus saulosi*, *Pseudotropheus lombardoi* (*kenyi*), Honduran red points, and yellow labs, I was kind of stupefied that she did not think I had fish that were colorful enough. A few months back I had some red jewel cichlids that had raised several spawns and were often a very bright red. To her those were the quintessential "colorful fish."

This episode caused me to question, "Why do people choose the fish they do?" or "What is it about certain fish that causes one to choose them over others?" I thought it would be interesting to explore the attributes of fish to discover what desirable traits they might have that would cause one to "fancy" one species over another. These desirable qualities can be grouped into these headings:

1. Appearance
2. Behavior
3. Care Requirements
4. Economic Considerations
5. Rarity

Obviously the appearance of a fish has a lot to do with its desirability, and one of the main components of a fish's appearance is its color. While most fish are a silvery brown color, many fish are strikingly colorful. The fish mentioned earlier are good examples of colorful fish. Bright blues, yellows, and oranges are easily found in the African cichlid section of most tropical fish stores. Except for bettas, and red jewel cichlids, solid red fish are hard to find. I had not thought much about this until my daughter's comment. While many fish have red area's, such as a firemouth's throat or a rummy nose tetra's head, few have an entire red body. Such a fish would probably be very popular. Even red jewel cichlids are seldom "colored up" in the fish store tanks.

Included in the idea of color is the reflective quality of the fish's scales. Certainly a tinfoil barb or a *Geophagus* with lots of reflective spangles can attract the attention of some aquarists. The *M. boesemani* rainbow fish, neon tetras, and Congo tetras, among others, have special pigments in there scales that give a bright iridescent gleam of color when the light reflects off of them. Color, in its various degrees of brightness or reflectivity, is a desirable quality that makes a big first impression on the aquarist.

Another aspect of a fish's appearance that is taken into consideration when choosing a fish is the overall shape of the fish. From the position of the mouth to the shape of its tail, there are many forms in the world of fish. Some fish, such as the rope fish, or the peacock eel, are so oddly shaped they hardly look like fish at all. Fish, such as *Neolamprologus brichardi*, sail-fin mollies, and bettas have outstanding fins that make them appealing to certain fish keepers. Many find the comical faces of some catfish charming. While some find the *Corydoras* catfish to be the epitome of fishy cuteness, my daughter thinks they are ugly, (and she loves cats, go figure!)

One of the most outstanding examples of unusually shaped fish is the discus. The round form and highly compressed body make the discus look noble and unique. Couple the shape of the discus with the amazing array of color forms and patterns, not to mention fascinating behavior during breeding/fry rearing, cost of prime specimens, and challenging care requirements, and you have what many people consider the most desirable fish of all.

The last component of appearance is pattern. Stripes, dots, and other pattern markings on fish can raise a fish's stock quite a bit in the eyes of some aquarists. *Synodontis multipunctatus* would still be a cool fish even if its sides were solid brown. But those polka dots all over make it much more attractive. The tiger barb and clown loach possess bold striping that is appealing to most people. More often than not a striped or speckled species will out-sell a fish with no pattern. Some people, however, appreciate the elegance and simplicity of a solid colored fish. Knowing your preference in such matters can go a long way in making the hobby more satisfying.

Behavior is the second major influence on the desirability of a fish species. Often behavior is a major interest to more advanced aquarists, while beginning fish keepers do not know enough about a certain species' behavior to make their choice based on that criterion. As one becomes more knowledgeable about the vast array of behaviors in the world of fish what a fish does sometimes ends up overshadowing its appearance. One has only to look at a dynamic colony of plain-looking *Neolamprologus multifasciatus* to know that behavior can be the primary reason for keeping some fish.

The most important aspect of fish behavior, one that separates fish into two major categories, is level of aggression. As any pet store employee can tell you, one can either have a community tank or an aggressive fish tank. This distinction is especially important for the beginning fish-keeper. More advanced aquarists might be more successful at combining aggressive and non-aggressive fish, but often the knowledgeable aquarist will choose to put aggressive fish in a single species tank or even a single specimen tank in order to provide an optimum environment for their aquatic charges. Clearly the level of aggression is something that one must take into consideration when choosing a fish, and whether one prefers aggressive fish or not is a matter of personal preference that will influence one's choices.

Body shape and behavior go hand- in- hand. If a fish has an upturned mouth they generally feed at the surface of the water. Species with a down turned mouth generally bottom-feed. So feeding behavior is one consideration in the desirability of most fish. If you think the bottom grubbing of a catfish is charming or cute then you're in luck because there are many suitable candidates from which to choose. The sand-sifting *Geophagus* is quite entertaining to watch. Some people like the predatory nature of fish with big teeth, like a piranha, or a large mouth, like a *Lamprologus compressiceps*. Watching some juvenile piranhas get into a feeding frenzy at a local Indiana pet store recently reminded me that feeding behavior can definitely be important to one's choice of aquarium pet.

Another important aspect of fish behavior is the swimming style of the fish. Puffer fish have always fascinated me with their helicopter-like swimming style. Their fin nipping and aggression have deterred me from ever purchasing one. In the salt water realm, the trigger fish have a unique and graceful swimming motion that is impressive. The *Synodontis multipunctatus* that I mentioned above, as well as several other catfish, have a shark-like swimming motion that I really like. Included in the idea of swimming behavior is the propensity of some fish to swim together in schools. This group swimming is a huge selling point for tetras and barbs that really shine in larger groups. A group of cardinal tetra's schooling in a planted tank with open area for swimming is stunningly beautiful. Clearly the way a fish moves can be vital to one's opinion of that fish.

The pet-like behavior of Oscars, Pacus, gouramis, and other fish appeals to some people. A fish that recognizes its owner, eagerly awaits its feeding, and seems to have a perception of life outside the tank can have a huge impact on some fish owners. There are many stories of fish human interaction that speak to the special bond that some feel with there aquatic friends. Others do not relish such interaction and instead like to see a slice of the wild as the fish interact with each other seemingly oblivious to the world outside.

Reproductive behavior in fish is another fascinating area. The fantastic mating displays that many cichlids perform make them the favorite of many aquarists. Some prefer livebearers and the sudden appearance of baby fish that they provide. After the fish are born many cichlid parents provide phenomenal care for their young. The sight of a large cichlid guarding their young brood can be a pivotal moment in the fish-keeping life of some aquarists. The habit of discus fry and Uaru fry of grazing off of their parents is almost surreal. Some fish keepers prefer fish that reproduce in a manner that provides the aquarist with a hands on approach. People who keep killifish often hand pick the eggs from spawning mops to ensure a productive harvest. Once again the *S. multipunctatus* catfish, (can you tell I like these fish) has a unique breeding behavior that is amazing. While mouth brooding cichlids are spawning, the multi's swim in and drop their eggs and sperm where the female cichlid will pick them up, thinking they are her own. While the female cichlid incubates both sets of eggs in her mouth, the catfish eggs hatch first and the young catfish eat the cichlid eggs as their first food. Truth is sometimes stranger than fiction.

Care requirements are another thing that one might like about a certain fish. For the beginner aquarist, or the fish keeper without a lot of spare time, some fish make more sense than others. Some fish almost take care of themselves. Guppies, zebra danios, Siamese algae eaters, Cory cats, and bettas are hardy, and have minimal care requirements. If you are away for a few days, chances are these fish will be in good shape when you get back. Regular water changes and feeding should be all that is needed for successfully keeping these fish. They also don't require a large tank or special equipment.

Some aquarists are at the other end of the spectrum when it comes to care requirements. Usually these are people who love a challenge and being on the cutting edge of the hobby. Adjusting water pH and hardness, making their own special fish food, growing live food cultures, or creating grand planted tank environments, are just a few of the many chores that these people do to care for some special species of fish. Often the person who enjoys keeping more difficult fish tries to find specimens from the wild. Large predatory fish, discus, puffers, and peat spawning killifish are just some of the more challenging fish that these fish keepers enjoy.

An additional criterion for choosing a fish is the economic factor. Keeping fish can be an expensive hobby but it certainly does not have to be. That being said, most people, especially beginners, will look for inexpensive fish. I have often made fish buying decisions based on the cost effectiveness of the purchase. All things being equal, many people will buy the cheaper fish now and get the more expensive one later. Also entering into the equation for people who enjoy breeding fish is whether there is a market for the fish's babies. This type of thinking will appeal more to bargain-hunting people. As one becomes more advanced in the hobby, and more economically stable personally, this criteria tends to fade into the background. One reason for this is, many times some cheap fish ends up killing your prize fish. Also, eventually one realizes that the number of fish keeping choices is finite, so why not keep the very finest fish that you possibility can.

The final reason for choosing a fish is the rarity or scarcity of a species. This could range from being an infrequent pet store option, to being extinct in the wild and only existing in the tanks of a few aquarists dedicated to preserving that species. Several Goodeids, (small fish similar to platys) are extinct or near extinct in the wild. Fortunately, these fish have been chosen by some people, at least in part, because of their endangered status. Difficulty in shipping, remote or dangerous native waters, or difficult spawning, are other reasons why a species might be rare, and for that reason, desirable to some aquarists

More often than not your choice of fish will be based on some of the reasons that I have tried to clarify in this article. Many fish rank high on several criteria, and are therefore quite popular. Others have only one or two desirable qualities, but enough for the right person to choose them. Whatever your reason is for picking a fish to take care of, make sure that you can properly care for the fish. This includes making sure you have enough room for the fish, and its tank mates are appropriate. Also be

sure that your water parameters and foods are healthy for the fish you choose. The more intentionally you choose your fish, and the better you know its needs, the more successful you will be.

Observations Of *Nimbochromis livingstoni* In the Wild

By Chuck Rambo

Reprinted from Mar/Apr 2004 **Cichlidae Communique**
Of the Pacific Coast Cichlid Association

Many years ago I saw a group of 2-inch fish in a store that was new to the hobby and resembled a small saltwater grouper. The mottled brown and white pattern was very intriguing. At the time there really wasn't much information on these fish except they were from Lake Malawi. A few members in my local club in Southern California were familiar with these new fish and warned me that they got big. Living at home with only a 40-gallon tank at the time severely limited me to my choices of fish so I had to pass on them for a while.

Years later being older and wiser I still stayed away from these giants. Although I could easily keep some in one of my 100-gallon tanks, I found them to be very common. Florida fish farms were breeding them by the thousands and I never did get any. These were on my "someday" list of fish to breed.

In October 2003 my wife and I went to Lake Malawi with a small group led by Ad Konings. We stayed at Stuart Grant's place for a few days and then went on a 10-day camping/diving trip in the Northern part of the lake. The boat stopped at Likoma and Chisumulae islands. From there we made a day trip over to Cobue on the eastern shoreline of the lake in the country of Mozambique. This was a great place to dive. We saw many cichlids including the beautiful *Cynotilapia afra* "cobue." I saw many *Nimbochromis livingstoni* here. They ranged in size from 4 to about 8 inches. I had read about these fish in Konings' books and how they catch their prey so I was very interested in seeing this for myself in person.

This fish is found throughout the lake. It is a Piscivore that feeds on small inexperienced cichlids. It is not a chaser like the *Rhamphochromis* or *Champsochromis* are but instead is an ambush predator. The color white seems to be are very attractive to young fish. In fact the local fisherman use a white bait to catch cichlids. But cichlids are pretty smart fish and young cichlids can still spot a large predator no matter what the color. *N. livingstoni* disguises itself by lying motionless on the bottom on its side. In sandy bottoms, some of the grains of sand cover the fish and add to the deception. In rocky areas I observed a small 4-inch fish back under a rock so only the front half of the fish was exposed. If no young fish were around then the *N. livingstoni* would move to a new area and try again. This strange behavior has earned this fish the name of kaligono by the local fisherman. The term means "sleeper." In the same area the closely related species *N. polystigma* was found. It is more mottled and browner in color. I observed it lying vertically between rocks, motionless waiting for some small cichlids too. It never did lie on its side.

Large breeding males are blue and apparently do not eat since their entire white and brown ambush coloring is gone. They establish a territory in a semi-rocky area. The male picks an area near a rock and excavates a shallow pit next to it. A ready female is approached by the male and drawn to the rock by the male's behavior and breeding colors. The female lays a string of eggs on the rock and then

the males passes over them to fertilize them. Then the female picks them up. So the actual fertilization takes place outside the female's mouth. This is called promptocavus and may actually be more common than once thought. When the spawning is complete the female is chased away.

Many females in the area were holding either fry or eggs. In fact I saw numerous females guarding large schools of fry. When I approached one of them she would take the fry into her mouth over several tries. The fry seemed to be pretty big but she managed to get them all. This observation was repeated many times. The size of the breeding females ranged from six inches up to about 10 inches.

I had heard stories of these freshly imported cichlids diving to the bottom of the aquarium when smaller feeder fish were added. Eventually though these cichlids learned that their little ambush tactic was not necessary and discontinued to perform as in the wild. One of our fellow aquarists on the same trip commented how hers still do this in the aquarium. She is a well-known aquarist in England and I am sure she gives her fish nothing but the best. I assume they get a steady diet of young fish too to reinforce their unique feeding behavior. After talking to a few other aquarists and some friends, we were discussing a way in which we could get this fish to reproduce this behavior in the aquarium. The consensus was to starve the fish for a while in a fairly large tank. Then add smaller faster fishes to the tank. If they are still able to catch them then they may need to separate with a piece of glass for a while. It would be an interesting to see if it could be done.

It is observations like this that really makes a trip like this worthwhile for the avid aquarist. Not everything can be observed in a tank. Seeing the sleeper cichlid in "action" was definitely a treat. After reading about all these unusual fish for many years and then finally seeing it is a feeling hard to describe. If you are interested in going on a trip to Lake Malawi it really isn't that difficult. It a nutshell it runs about $4,000 per person and takes a little over two weeks.

The trips are always around October. Information on the next trip this fall can be found on Ad Konings website, Cichlid Press, under "Safari's." There you will find all the details about what is needed and where you will be going. On our two trips to Africa Germans, French, English, Swedish, and Canadians accompanied us. So you will get an international flavor to your trip. Become a certified diver first if you can.

You can still see many things while snorkeling, but if you dive you can see many more things. Your photos will turn out better if you are not working all the time to hold your breath. The trips fill up every time.

It is my understanding that at the time of this writing there are two different trips being planned. One trip will include daily excursions from Stewart Grant's compound. Every morning you will wake up in your room, have a hearty breakfast and leave for a dive in the southern part of the lake. You will return to the compound, have a great dinner and then relax in the bar with your fellow guests. The other trip requires some travel. Some of it will be on the road by truck or van. Much of it will be by boat moving from location to location around the lake. This trip will require overnight sleeping in primitive lodges or camping on some remote beach somewhere. Food will be camp chow and sometimes can be a mystery too. This trip is definitely for the more adventurous type. Which one would you take?

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The Four Types of Aquarists

by Robert A. Slaton

Reprinted from **The Scavenger** Of the Louisville Tropical Fish Fanciers

No two people keep fish exactly the same way. Whether it is monetary reasons, a question of style, education level, skill level, or imaginative capability, each person interacts differently with the aquatic media they work with. A secretary tries to recreate a beautiful coral reef which she saw on a recent Caribbean vacation. A five year old boy picks out a bright orange goldfish and an air-driven deep-sea diver to put into a 10 gallon aquarium on his night stand. He names the fish Freddie and says goodnight to it every night before closing his eyes. A retired high school teacher keeps a breeding pair of cobalt blue discus in a bare 20 gallon tank and mixes beef heart and a half-dozen other ingredients to feed them. These are just a few of the myriad of ways that people practice the aquarist's art.

If a person keeps fish for more than a couple of years, they generally pass through different phases. I would argue that most fish keepers end up changing their aquatic set-up as their knowledge and interests progress. While it is possible to begin and end one's fish keeping career with nearly the same aquatic theme, (a beautiful freshwater community tank could remain essentially unchanged for many years) most people's fish keeping knowledge and goals change over time. An example of this is the young man who buys a 29 gallon tank during his teenage years. He sets up a community tank which he enjoys. Soon one of his guppies has babies. Next thing you know a second tank is set up with plenty of java fern for breeding guppies. After a vacation in Mexico he sets up a 55 gallon salt water tank. Later after several fishing trips with a work friend to a local reservoir, he converts his 55 gallon aquarium into a biotope aquarium, mimicking the environment of native fish he has caught. The order of these changes, while somewhat dependent on the knowledge of the aquarist, is not important. The young man could have caught fish to stock his initial aquarium. One's first aquarium might indeed be a beautiful reef tank or lushly planted freshwater tank. A person may enter or leave the hobby in a variety of ways.

Somewhere along the way most people find their fish keeping focus, their aquatic niche. Whether it springs from some outside recognition or praise, or some innate drive within the aquarist, most people in the fish hobby become a certain type of fish keeper. From my own personal reflection, reading in the hobby, and observation of other hobbyists, I believe that there are at least four identifiable types of fish keepers:

1. The Pet-lover
2. The Collector/Adventurer
3. The Breeder
4. The Aesthetic

The pet-lover has a warm relationship with their fish. They often name their fish. They frequently pick fish that are known for being especially personable such as Oscars, Discus, Uaru, or Goldfish. I once had a freshwater sunfish that I caught in a nearby stream. We called it Bumper because it would bump the fish flake can if you held it over the water. The pet lover will either do whatever it takes to accommodate their fishy friends or say a tearful goodbye as their charges head off to another "good home." The pet-lover will likely have non-fish pets such as cats and dogs in addition to their fish.

The collector/adventurer enjoys catching fish. They like getting out into nature, whether it is in their own backyard or some exotic tropical destination. Their equipment may be as simple as a dip net

and a bucket or as complex as dodging alligators while using a 50 foot seine and breathable bags. The adventurer can be a youngster catching tadpoles and minnows in a small creek or a thirty year veteran of the aquarium hobby making trips to Belize, Honduras, and Mexico in search of endangered and undescribed species. The tanks of the collector contain the fish they have collected.

The breeder is enamored with the breeding aspect of the hobby. At some point in their journey their fish, or the fish in a tank they observed, were breeding, and the breeder was captivated. Breeder's award points or other recognition for their skill reinforce the satisfaction they experience when they provide the right conditions for their fish to breed. The breeder may enjoy giving away the fry, or may receive monetary reward by selling the offspring. Breeders often choose live bearers for their ease of breeding, or cichlids for their intriguing parenting behavior. More advanced breeders may seek the challenge of breeding more difficult tetras, barbs, or catfish. Breeders often have multiple tanks. They rarely pay attention to the beauty of their tanks, focusing instead on ease of maintenance and quality of food and water. Some breeders settle on a few favorite species. This focus may include line-breeding, (repeated breeding to enhance certain traits over the course of several generations.) Other breeders may breed as many species as possible with a special interest in new or rare species.

The aesthetic, or artistic, aquarist keeps fish for their beauty with an emphasis on tank décor. The aesthetic sees the tank as a canvas upon which to paint their watery picture. This picture can be as decorative as a Dutch style planted tank or as true to nature as a biotope aquarium. The aquarium is the ultimate natural decoration. The aesthetic either picks spectacular fish, or fish that fit into a certain aquatic aquascape, such as tetras in a lush planted tank. A reef tank is also a worthy canvas for the aesthetic. The aesthetic typically has a single tank or a small number of tanks.

The aquarist types are not mutually exclusive; they can be practiced simultaneously by the same person. I personally have been a pet-lover and an adventurer at the same time but both have been replaced by my breeder tendency. One type will typically overcome the others for a significant period of time. The various fish keepers can have quite positive interactions, such as the adventurer who supplies the breeder with wild caught breeding stock, or the aesthetic who shows the pet-lover better ways to make their fish feel at home. Perhaps the pet-lover can remind the other three types how to feel the deep connection with the fish rather than seeing them as a mere commodity. Knowing what type of aquarist you are can help you see your place in the fish keeping community, and set goals to become the fish keeper that you really want to be.

Club Hopping

Steve Edie

Feb 10, 2008 -- St Louis, MO: Missouri Aquarium Society – Auction

April 11-13, 2008 -- Hartford, CT: Northeast Aquarium Council – Annual Convention

April 18-20, 2008 -- St Louis, MO: Missouri Aquarium Society – Annual Show and Auction

Jul 17-20, 2008 – Atlanta, GA: American Cichlid Association – Annual Convention

Oct xx, 2008 – Laurel, MD: All-Aquarium Catfish Convention – Convention

Jul xx, 2009 – Cincinnati, OH: American Cichlid Association – Annual Convention

The Computer Page

Steve Deutsch

MASI's official web page: **www.missouriaquariumsociety.org**
MASI's email group: MASIFishHeads Yahoo Group - see web site for joining instructions

Addresses are only printed with permission of the owner. If your address is not printed and you would like it to be, please email me at fishfan@i1.net. If you would like yours removed, or if it needs correction, also please email me.

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Membership Corner

by Kathy Deutsch

Do you have news? Something you want to brag about? Let MASI know!
-did your cichlids spawn?
-did your child get straight A's in school?
-did you get a promotion?

Why not let everyone know?

Our club is about fish but it is also about its' fish people. We are a community of fish keepers who also have families and lives.

I am starting a page in the Darter about our members' doings'. I will also have interviews with club members. It's a way to get to know each other. Please email me any info you want on the "members page" . I will also be contacting members for their interviews this winter.

So, think about what you'd like to tell others about. Or else we might end up with a page with me bragging on my kids (;0)

Kathy Deutsch
membership chairman
kathy@skdeu.com

How to Raise Daphnia - My Way

By Rich Serva

Reprinted from Feb/March 2006 **Tank Topics** Of the Greater Akron Aquarium Society

First thing to know about daphnia is aged water, not even a cup of tap water can go into that tank. Chlorine is the fastest way to undermine a thriving culture. That means when you feed, mix you food with aged water, not tap.

To feed the culture I use yeast – the dry stuff that you can buy in jars in the baking aisle of the grocery store. I have heard that you can use spirulina powder or dry pea soup mix or baby foods (peas, beans, carrots or sweet potatoes). Mix the food and aged water so you have a dissolved/dispersed meal. If it is lumpy put it through a filter funnel. (You can buy one in the camping equipment at Wal-Mart.) You could feed your culture with green water but that is tedious work trying to keep green water growing fast enough for a daphnia culture - I know; I tried it. I have sponge filter bases in the tanks with the air cranked up to help keep the water circulating.

I suggest that you try all those foods and see which one gives you your best results. I feed enough to make the water cloudy and I feed again when the cloudiness goes away. If you let the water clear up for too long the colony starts producing males then the males breed with the females and eggs are formed. You want to keep the colony in the state where females keep giving birth to live daughters.

Keep more than one container going since sooner or later the colony will crash. Give the old container a good rinse then fill it up, age the water and start all over.

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717-898-7224 (leave message) Easternaquatics@yahoo.com

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