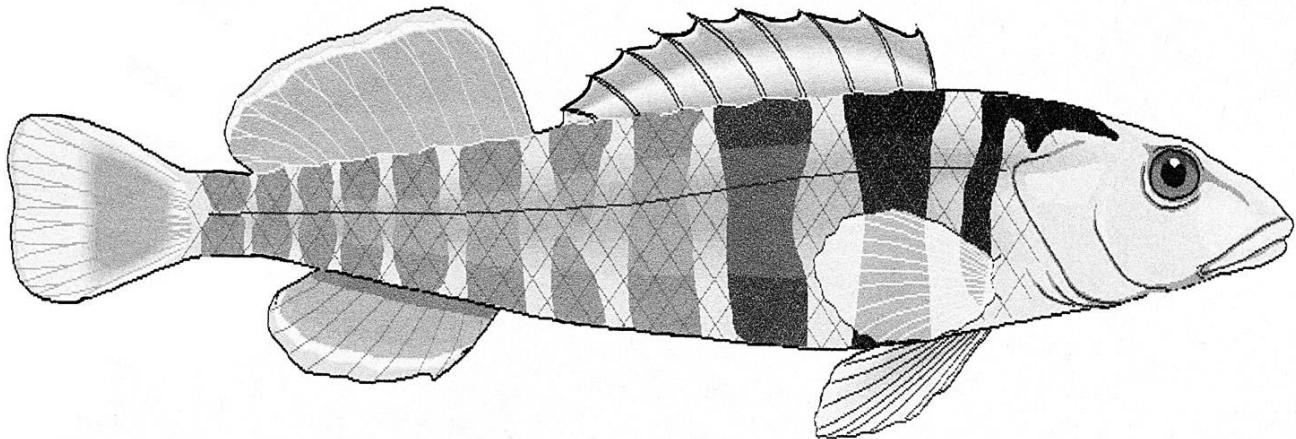


The Darter

September - October 2013



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St. Louis, Missouri

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MASI's official web page: www.missouriaquariumsociety.com

Join the all-new MASI FishHeads Forum. See web page for instructions.

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.

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Opinions expressed by the contributors are their own and do not necessarily reflect the opinions of the Missouri Aquarium Society, Incorporated.

Places to Be / Things to See

SUNDAY September 22, 2013

MASI, CAFE, and TCTFS Meet-up at Sailfin Pet Shop in Champaign, 3:00 PM

SATURDAY TBD, 2013

Executive Council hosted by Nick Scarlatis

SATURDAY October 5, 2013

Swap Meet

Crowne Plaza Hotel

THURSDAY October 17, 2013

General Meeting, 7:30 PM @ Dorsett Village Baptist Church

SATURDAY October 26, 2013

Executive Council hosted by Pat Tosie

SUNDAY November 10, 2013

MASI Fall Auction

Crowne Plaza Hotel

THURSDAY November 15, 2013

General Meeting, 7:30 PM @ Dorsett Village Baptist Church

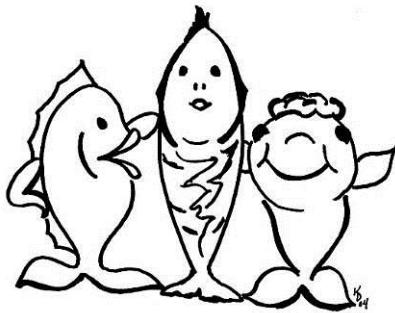
SATURDAY December 7, 2013

Executive Council hosted by Ed Millinger

THURSDAY December 19, 2013

General Meeting, 7:30 PM @ Dorsett Village Baptist Church

Membership



Yearly membership in the Missouri Aquarium Society, Inc. is \$20 per calendar year for members receiving a paper copy of the Darter. Starting in 2013, it will only be \$15 for members electing to receive the Darter electronically. 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 Ron Huck, our membership chair.

From The President's Tank

Pat Tosie

Things are happening and MASi is moving forward!

Editor: After 10 years as Editor, Steve Deutsch will be stepping down and taking a well-deserved break and I would like to everyone to thank Steve for doing such a wonderful job for our club, so next time you see him, please tell him how much you have appreciated the job he has done. Our next Editor will be Mark England, please help me in welcoming Mark to such an important position in our society. Mark has some exciting new changes that I'm sure you will love.

Auctions: The Crowne Plaza been a great and profitable location for our auctions and we have had some of our most profitable auctions in our clubs history. Join in the fun for our next auction on November 10!

Show: Coming up on April 4, 5 & 6, 2014 MASi's Annual Spring Show & Auction titled: Spring Fling Fishy Thing! will be held at the Crowne Plaza Hotel - St. Louis Airport just south of Hwy 70 on N. Lindbergh. Scotts been hard at work and some speakers confirmed so far include; Dr. Paul Loiselle, Rachel Oleary, Lawrence Kent, and Gary Lange. Start talking up this fantastic and fun filled weekend and start watching your fish to see what show winners you can enter!

Swap Meet: Our Swap Meet is quickly approaching and Derek has done an outstanding job getting over 40 tables sold with people coming from all over the Midwest to sell to us. He will have hourly attendance prizes as well as a \$100 auction credit for the November auction to give away to one lucky attendee!

Speakers: Gary has been busy lining up outstanding speakers for our upcoming meeting and I'm sure you will want to keep your calendars open to see and hear them. Some speakers include; Barb Farintino, Mike Hellweg, Jeff Michaels, Karen Randall, Chuck Rambo and just to name a few.

Officers & Council: I would personally like to thank the returning officers and council members: Cory Koch, Marlon Felman, Nick Scarlatis and John VanAsch plus welcome Gary Lange as our new Vice-President and new council members Larry Allbright, Ed Millinger, Debbie Sultans, and Derek Walker. In addition many thanks go to our outgoing Vice-president Kathy Deutsch and outgoing council members Charles Harrison, John Stollhans, Mark Theby and Andy Walker.

Volunteers: Thank you to the many new, current, and past volunteers who make our club such a wonderful place to share our passion with our loved aquatic creatures.

Keep looking below water...

Editor's Notes

Steve Deutsch

MASI has our next Editor! Mark England has volunteered. Mark provided copies of publications he has edited for another organization, and we are definitely leaving the Darter in good hands. I believe you will like the look of the new Darters, I know I do. Of course, Mark will make the Darter look good, but we still need all of you to make it BE good. The quality of the Darter is the content, and the whole club is responsible for that. I know it has been fun for me to be able to publish the many interesting articles I have received; please give Mark the same support. This is my second to last Darter; I will finish the year as an even 10 years was too tempting. When I finish the November December edition on Nov. 1, Mark will take over as editor. If you don't already know Mark, please get to know him over the next few meetings. The first 'new Darter' will be January – February 2014.

I have one more to do, so please send articles by Oct. 15th, and start thinking about what you want to write for next year so Mark has something to work with.

MASI Speakers for 2013 & 2014

Gary Lange

I've been busy trying to fill up the entire speaking schedule for the next year. I think we have some exciting speakers lined up. Some you may not know much about but some of the names should be familiar. For those of you that are new in the hobby I'll try to point out some of the "do not miss this talk" speakers as we get closer to their speaking dates. Get it marked down on your calendar, avoid those vacations around your favs, tell the spouse you have to move the birthday celebration....

September 19th – Mike Hellweg – Tank Repair – I've already put up quite a bit on our forum about Mike's talk. Learn how to fix those annoying leaks. As our older members already know, Mike is a fountain of information. Aquarium clubs fly him in from all over the country to hear him speak and they spend a lot in plane fares to get him there. We are indeed lucky that he is local and we get him almost for free.

October 17th – Surprise Speaker – hoping to pull this off but you won't know the name or the topic until the meeting starts and the speaker steps up to the microphone!

November 21st – Jeff Michaels – Apistogramma The ABCs and Beyond.

December 19th – No speaker, annual party

January 16th - Barbie Fiorentino – "Spawning Loricariidae" – Also known as Pleco Barbie on the Internet. I had been hearing great things about her talk and her expertise

with Plecos. I got the pleasure of hearing her speak in May of 2011 down in Dallas and knew that someday I had to get her here for you guys. You will enjoy. Barbie has also offered to give a second talk on Friday January 17th. It will be about tips and tricks for plumbing, condos and water flow, title yet to be determined. Stay tuned.

February 20th – Jeff Cardwell – “Back to Brazil, Rio Negro 2012” – It was about 25 years ago when I was at an Indianapolis Aquarium Society show when I saw Jeff and Charley Grimes pouring over a topographical map of Brazil. They had some check marks on the map where they intended to go plus a scratch list of “Target” fish that they wanted to collect. It was at that moment that I knew that someday I wanted to do the same thing. I know Jeff will give us another interesting talk and perhaps this will be “the one” that gets you chasing a special fish or perhaps even planning for your own exotic collecting trip.

March 20th – Kathy Leahy – “Breeding Saltwater Fish--Lessons I Learned From Everyone, Including Freshwater Breeders”. Kathy has been breeding Clownfish for many years; you may have seen her stock at the local fish stores under “Kathy’s Clowns” see kathysclowns.com. She is also now working with and breeding neon gobies. To be successful with breeding clownfish she had to be able to raise two kinds of copepods, and of course rotifers and phytoplankton. So many of the advancements in the saltwater hobby have been also been successfully applied to the freshwater hobby. If you have ever thought about breeding and raising some of the freshwater gobies that have tiny fry you might be able to find some useful information right away in her talk. If you’ve ever wondered if you have what it takes to breed saltwater fish then you will also find some very helpful information in Kathy’s talk.

April 17th – Karen Randall – "Kerala, Exploring God's Own Country". This talk will deal with Karen’s adventures collecting plants in India with Christel Kasselmann. We are in the planning stages for a possible second talk on Friday the 18th. For those of you that have heard Karen before you know you are in for a real treat and I don’t need to say anything more. For those who haven’t heard her before, get it marked on your calendar now, take a vacation day whatever, just make sure you’re there.

May 15th To Be Determined

June 19th – To Be Determined

July 17th – Do you want to see an “Ask the Experts” panel on this date? The ACA convention is the 10th-13th so all “experts” should be at the meeting but just a little “tired” from the long weekend.

Club Hopping 2013

Steve Edie

Sept 22 – Champaign, IL: Club Day at Sailfin

Sept 22 – Chicago: GCCA – Swap Meet

Sept 28 – Kansas City: HAAS – Fall Auction

Oct 5 – St Louis: MASI – Swap Meet

Oct 10-13 – East Brunswick, NJ: North Jersey Aquarium Society – 60th Anniversary Weekend

Nov 3 - Chicago: GCCA – Swap Meet

Nov 10 – St Louis: MASI - Fall Auction

Nov 15-17 – Chicago: Aquatic Experience – Trade Show & Convention

Nov 17 - Indianapolis: Circle City Aquarium Club – Fall Auction

Nov 22-24 – Cleveland: Ohio Cichlid Association – Extravaganza

Jan 18, 2014 – Champaign, IL: CAFÉ – auction

Feb 16, 2014 – St Louis: MASI – Winter Auction

Feb 16, 2014 – Chicago: GCCA – Swap Meet

Mar 27-30, 2014 – Hartford, CT: NEC Annual Convention

Apr 4-6, 2014 – St Louis: MASI – Annual Show

Apr 27, 2014 – Chicago: GCCA – Swap Meet

Jul 10-13, 2014 – Louisville: ACA – Annual Convention

Aug 10, 2014 – St Louis: MASI – Summer Auction

Oct 4, 2014 – St Louis: MASI – Swap Meet

Oct ??, 2014 – Virginia: Catfish Convention

Nov 9, 2014: St Louis: MASI – Fall Auction

Check with the individual clubs for more details.

From The Fish Room

By Ed Millinger

There are many ways to judge the health of an organization but one that I find reliable is the attendance figures during the summer. Many groups don't even meet during the summer because so many people go on vacation or have so many other things to do. This past July we had 47 members and nine guests for a total of 56 attendees. In August we had 44 members and five guests (including Gary Ketts, a former MASi member who retired and took to the road in an RV quite a few years ago). For a little perspective, back in 2010 the ACA was held in Milwaukee and we had only 13 members on that July meeting date. MASi is in a very strong position right now and this is due in large part to the participation of all involved. No matter how small a part each of us plays, together we are very strong. So keep showing up, ask questions, get involved, bring a fish to the bowl show, write an article, take advantage of the knowledge in each other and most of all enjoy your plants and fish.

Recently I traded some fish for a wrought iron stand from Mark Theby. After sanding off the worst of the rust I applied a product that I found at the hardware store called READY STRIP- RUST REMOVER made by the Sunnyside corporation. I was a little skeptical at first but this product really works. It helps remove the deep pitted rust that sanding misses. You just spray it on and wipe off immediately, you don't have to let it soak in. After two coats of Rustoleum the stand looks as good as new. So if you come upon a rusty wrought iron stand don't hesitate to renew it.

You know what they say about auction items, you only need two bidders that want the same thing to drive the price up. Recently on Aquabid a high back golden arowana went up for bid and two bidders took it from a starting price of \$600 to a final price of \$3001!

I am in the process of videoing different fish rooms, if you would like me to include yours on the DVD that will result from it please let me know. The best time for me to video is the afternoon of our monthly meeting or the following Friday morning.

If I had one bit of advice to anyone building a fish room it would be this, figure out how many electrical outlets you need and add another 50%. It is amazing how creative you can become when figuring out how to add another tank here or there, and it's certainly easier to add outlets at the outset that it is later on.

The MASi way back machine this issue takes us to the Nov./Dec. 1987 issue of The Darter. John Van Asch was president, Charles Harrison, Gary Lange and Pat Tosie were on the council. The September bowl show had 24 entries, the October Super Bowl results were published and showed Jim Thale took best in show with a Rosy Barb, Jim Miller (Jr.) won judges award with a Synodontis pleurops and I took home the best novice exhibit with a red-tailed shark. Both Gary Lange and Pat Tosie contributed articles and there were ads for The Gilded Guppy, D&E Tropicals, K&K Aquariums and Tanks for your business and Fintastic Earthworm flakes.

HAP Report May - June 2013

Mike Hellweg

Member	Species	Common	Rep	Pts	Total
Cory Koch	<i>Aponogeton boivinianus</i>		S	20	100
Gary Lange	<i>Crinum calamistratum</i>	Wafflle Leaf Bog Lily	S	20	1495
	<i>Helianthium bolivianum vesuvius</i>	Vesuvius Sword	V	15	1510
	<i>Alternanthera reineckii lilacina</i>		OB	15	1525
	<i>Ludwigia</i> sp. red		OB	10	1535
	<i>Ludwigia</i> sp. <i>repens</i> x <i>palustris</i>		OB	10	1545
	<i>Staurogyne</i> sp. <i>bihar</i>		OB	20	1565
Holly Paoni Wise/ Kevin Wise	<i>Bolbitis heudelotii</i>	African Water Fern	V	10	50
	<i>Ceratophyllum demersum</i>	Hornwort	V	5	55
	<i>Limnobium laevigatum</i>	Brazilian Frogbit	V	5	60
	<i>Taxiphyllum barbieri</i>	Java Moss	V	5	65
	<i>Utricularia floridana</i> *	Florida Bladderwort	V	5	70
Andy Walker	<i>Fissidens fontanus</i> *		V	20	620
	<i>Heteranthera zosterifolia</i>	Stargrass	V	15	635
	<i>Hydrostemma longifolium</i>	Barclaya	S	20	655
James H Miller	<i>Hygrophila balsamica</i>		V	15	355
Evan Wright	<i>Hygrophila</i> sp. Tiger*	Tiger Hygro	V	5	145
Charles Hoppe	<i>Spirodela polyrhiza</i>	Giant Duckweed	V	5	120
Chris Mohrle	<i>Nymphaea lotus zenkeri</i>	Tiger Lotus	IB	20	20

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

* = MASI First

Electronic Distribution Now Available

For those who prefer, the Darter is now available electronically, instead of the paper distribution. To change from paper to electronic distribution, email me at editor@missouriaquariumsociety.com. You will get your Darter sooner and the club will save printing and postage. And, starting in 2013, you will save \$5 on your membership.

Breeders Award Program Report

Steve Edie

Member	Species	Common	Pts	Total
<u>May 2013</u>				
Charles Harrison	<i>Ataeniobus toweri</i> , “Laguna Media Luna, San Luis Potosi” *@ <i>Tateurndina ocellicauda</i>	Peacock Gudgeon	35 15	2655 2670
Jerry Jost	<i>Corydoras</i> sp. “CW008” * <i>Thayeria boehlkei</i> <i>Xenotaenia resolanae</i> @	Penguin Tetra Leopard Splitfin	15 15 30	1855 1870 1900
Mike Hellweg	<i>Ancistrus</i> sp. “Pucallpa” <i>Betta pi</i> *@	Pucallpa Pleco Arithmetic Betta	10 35	5359 5394
Holly Paoni & Kevin Wise	<i>Amatitlania siquia</i> <i>Ancistrus</i> sp. “Bristlenose” <i>Apocheilus lineatus</i> <i>Poecilia reticulata</i> <i>Poecilia</i> sp. “Domestic Molly”	Platinum Honduran Red Point Longfin Marbled Bristlenose Golden Wonder Killie Purple Fire Guppy Dalmatian Molly	10 10 10 5 5	30 40 50 55 60
<u>Jun 2013</u>				
Mike Hellweg	<i>Characodon</i> sp. “Guadalupe Aquilera” * <i>Girardinus microdactylus rivasi</i> “Isla de Juventud” * <i>Skiffia multipunctata</i> “La Luz” @		20 10 40	5414 5424 5464
Holly Paoni & Kevin Wise	<i>Epiplatys dageti monroviae</i> <i>Poecilia</i> sp. “Domestic Molly” ^ <i>Poecilia reticulata</i> ^ <i>Poecilia wingei</i> ^ <i>Xiphophorus</i> sp. “Domestic Platy” <i>Xiphophorus</i> sp. “Domestic Swordtail”	Gold Calico Sailfin Molly Berlin Buttercup Guppy Hi-Red Endler’s Livebearer Assorted Platy Hi-Fin Red Swordtail	10 1 1 1 5 5	70 71 72 73 78 83
Nick Scarlatis	<i>Callochromis stappersii</i> <i>Copadichromis azureus</i> * <i>Puntius titteya</i>		15 15 10	415 430 440
Debbie Sultan & Tom Corradini	<i>Ancistrus</i> sp. “Bristlenose”		10	130
Pat Tosie	<i>Pygocentrus nattereri</i>	Red Bellied Piranha	20	4130

Jul 2013

Eric Beger	<i>Aphyosemion striatum</i> "Cape Esterias" (85-6) *	20	20
Jack Heller	<i>Aphyosemion bivittatum</i> "Funge"	15	260
	<i>Aphyosemion coeleste</i> "Malinga" *	20	280
	<i>Fundulopanchax avachang</i>	20	300
	<i>Fundulopanchax gardneri inidere</i>	15	315
Mike Hellweg	<i>Amatitlania nigrofasciata</i> "Rio Choluteca"	5	5464
	<i>Brachyrhapis roswithae</i>	10	5474
	<i>Cryptoheros septemfasciatus</i> @	20	5494
	<i>Oryzias</i> sp. "Danang" *	Vietnamese Rice Fish	15 5509
	<i>Zoogoneticus tequila</i> @	Red Crescent Goodeid	30 5539
Jerry Jost	<i>Aspidoras spilotus</i> *	C125	20 1920
	<i>Corydoras panda</i>	Panda Cory	10 1930
	<i>Corydoras weitzmani</i> *	Two Saddle Cory	15 1945
	<i>Corydoras</i> sp. "Orange Laser" *	CW008	15 1960
	<i>Poecilia wingei</i>	Endler's Livebearer	5 1965
Holly Paoni & Kevin Wise	<i>Amatitlania siquia</i> ^	Honduran Red Point	2 85
	<i>Heterandria formosa</i>	Least Killie	5 90
	<i>Poecilia wingei</i> ^	Black & Pink Endler's	1 91
	<i>Xiphophorus helleri</i> "Yucatan Peninsula" Wild Spotted Swordtail	5 96	
	<i>Xiphophorus xiphidium</i> "Rio Purification"	5 101	
Nick Scarlatis	<i>Otopharynx lithobates</i>		10 450
	<i>Poecilia reticulata</i>	Cobra Guppy	5 455
	<i>Poecilia wingei</i>	Endler's Livebearer	5 460
Pat Tosie	<i>Melanotaenia sexlineata</i> "Tabubil"		10 4140

Aug 2013

Don Atkinson	<i>Mikrogeophagus ramirezi</i>	Blue Ram	15	215
	<i>Poecilia wingei</i>	Endler's Livebearer	5	220
Eric Beger	<i>Aphyosemion elberti</i> "Samolobo" *		25	45
	<i>Scriptaphyosemion schmitti</i> "Juarzon"		15	60
	<i>Fundulopanchax gardneri</i> "Rayfield"		15	75
Charles Harrison	<i>Pachypanchax sakaramyi</i> @	Sakaramy Killifish	20	2690
Mike Hellweg	<i>Horadandia atukorali</i> **	Dwarf Indian Carplet	20	5559
	<i>Hyphessobrycon stegemanni</i> *	Savannah Tetra	20	5579

	<i>Pyrrhulina eleanorae</i> *		25	5604
	<i>Tanichthys thacbaensis</i> *@	Topaz Minnow	25	5629
	<i>Xystichromis</i> sp. "Dayglow" @	Dayglow Fulu	20	5649
Charles Hoppe	<i>Ancistrus</i> sp. "Bristlenose"	Albino Bristlenose	10	127
Jerry Jost	<i>Corydoras similis</i> *	Violet Cory	15	1980
Cory Koch	<i>Alcolapia alcalica</i> #@		15	2872
	<i>Amatitlania siquia</i> "Rio Cabayo Nicoya Peninsula" *		15	2887
	<i>Cryptoheros nanoluteus</i> #@		10	2897
	<i>Cyathopharynx foae</i> "Sibwesa" **		25	2922
	<i>Haplochromis lividus</i> "Murchinson Bay" *@		25	2947
	<i>Konia eisentrauti</i> "Lake Barombi Mbo" #@		15	2962
	<i>Limnotilapia dardennii</i> *		20	2982
	<i>Psammochromis riponianus</i> #@		10	2992
	<i>Pundamilia nyererei</i> "Makobe Is" #@		10	3002
	<i>Pyxichromis orthostoma</i> "Lake Nawamps" #@		10	3012
	<i>Stomatepia mariae</i> #@		15	3027
Bruce Mayhew	<i>Hemichromis</i> sp. "Moanda"		10	315
Holly Paoni &	<i>Ancistrus</i> sp. "Bristlenose" ^	Albino Longfin Bristlenose	2	103
Kevin Wise	<i>Xiphophorus</i> sp. "Domestic Platy" ^	Dwarf Teapot Platy	1	104
Nick Scarlatis	<i>Chalinochromis brichardi</i>		15	475
	<i>Skiffia multipunctata</i> "La Luz" @		40	515
Rick Tinklenberg	<i>Barbus hulstaerti</i> *		25	2395
	<i>Benitochromis nigrodorsalis</i> @		30	2425
	<i>Chapalichthys encaustus</i> @		30	2455
Evan Wright	<i>Tilapia bythobates</i> @		30	65
	<i>Xystichromis phytophagus</i> @	Christmas Fulu"	20	85

* = 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)

= Species previously submitted = 0 points, except for C.A.R.E.S. = base point bonus

^ = Species previously submitted, limited points for additional color varieties

Sources:

Cal Academy - <http://research.calacademy.org>

CARES - <http://www.carespreservation.com>

Auction Chairman's Message

Mike Hellweg

Hello all,

Wow! What an excellent auction we just had. Our August 11, 2013 was another record setter! We had record sales, record number of items, and record numbers of both buyers who bought something and sellers who sold something!

Our volunteers made it all worthwhile. Thanks to everyone who helped out from check in to check out, the front table, back table, and our auctioneers and runners. We had several folks who came in and just helped other members bring in their items and take them out to their vehicles. The special bidder raffles went over well, too.

We received some spectacular donations from Florida Aquatic Nurseries, Tropical World Pets, Tony Orso USA and from a couple of our members. Thanks to all who donated. The 55 gallon tank raffle, supplied by our friends at Tropical World Pets, was won by Dan Keenan of Osage Beach, MO. Fortunately he had not yet hit the road as was able to pick up the tank on his way home. Congratulations Dan!

Our next auction is coming up quick! November 10, 2013 is just around the corner. We'll need volunteers to help out with check in and helping sellers get their items unloaded around 9:00 am. Many folks are now using credit cards and that seems to be going well for both them and for the club. I hope we see all of you at the next auction in November.

And for now, 'nuff said
Mike
auction@missouriaquariumsociety.com



An expanded line of MASI Logo merchandise is now available from Café Press. Derek Walker has picked up management of the site and added many new items. Pick from T-shirts, jerseys, caps, tote bags, coffee cups, and more.

Go to www.cafepress.com/MissouriAquariumSociety to view and order the merchandise.

Take Time to Smell the Calas

Crinum calamistratum Blooming, Seeds and Seedlings

By Gary Lange



Closeup Photo of *C. calamistratum* leaf structure

I always wanted a *Crinum calamistratum* for my aquarium but just never seemed to find the time to go and seek one out. In the photos this plant looked like a green “cat o nine tails” whip, but with many more leaves than just nine per plant. All of the skinny leaves radiate out from the base of the plant giving it that whip-like look. The literature says that this *Crinum* originally came from West Cameroon, near Kumba. I knew *Crinums* in general get big because I took a picture once of the plant queen, Dorothy Reimer, holding a *Crinum natans* which was almost as big as she was! Finally at the MASi fall auction in 2011 I got my wish. Florida Aquatic Nurseries (FAN) <http://www.floridaaquatic.com/> had donated a box of plants for our club auction.

This tiny eight inch plant that I won at the auction grew to 18 inches cubed by August of 2012. Although it was big the individual leaves were quite thin and I could grow shorter plants underneath it. The leaves of this plant are very unique looking and worthy of at least an attempt to describe them. Each leaf has a width of about 1 cm (3/8th inch) at the base and tapers to a width of less than 1/2 cm (3/16th inch) at the tips. The leaves have a central green vein that runs all the way to the tip. But along both sides of this vein are two dark green “ruffles” that extend from the base all the way to the tip. Imagine a curtain valance with the fabric pulled together and you can get an idea of these ruffles. When you look closer you can see that it’s a perfect oscillation from the top of the vein to the bottom over and over again, hundreds of time for every leaf. Perhaps the flutes on the edges of a “perfect” pie might give you a better idea of these ruffles. If you cut a piece of cardboard on edge you will also notice these “ruffles” inside the cardboard. It’s kind of like that. The leaves of this plant are so different than any of the other plants in my aquarium, perhaps that’s why I like it so much.

I grow the plants in my 210 gallon aquarium using 55 watt and 96 watt power compact lights with AH Supply (<http://www.ahsupply.com/>) reflectors. The total wattage is about 2.5 watts per gallon with a medium amount of CO₂ used. The literature suggests that this is really not a very difficult plant to grow so you could probably grow it successfully with less light but you just have to make sure that you give it a lot of room. I feed this tank with Seachem liquid plant products and use their Flourish tabs near the roots of heavy feeders like swords and certainly this *Crinum*.

In August of 2012 it rewarded me for my care by putting up a nice green spike and then produced a flower off of this spike. Unfortunately I was going out of the country for a few weeks right after this happened and I didn’t get to even see the flower fully opened. When I got back I waited a few weeks

hoping it would bloom again, but at that time it just wasn't to be. Now my first mistake was not reading the books (Kasselmann of course) which suggest that the plant "reacts negatively to relocation" which is German for "don't move it stupid"! Yeah, I planted my monster in the wrong place and now it had to be relocated. I moved it to the center of my 2'x2'x7' aquarium to allow it to grow as big as possible this time without the leaves crushing against the sides of the tank again.

Flash forward another nine long months to May of 2013. The plant is now even bigger at almost 30 inches cubed with a 2.5 inch diameter base. It's not an aquarium plant, it's a tree! It has been busy reproducing vegetatively by sprouting young plants right next to the base of the mother plant. These are known as bulbils. I find it best to wait until the young plants get about 8 inches tall before trying to separate them from the mother plant to ensure that they have a few well-developed roots. This takes a bit of doing to pull the young plants out without snapping off these first big roots. I found that instead of one big yank it was better to do a series of mini-pulls, tugging the root out just a few fractions of an inch at a time. Once removed from the parent plant they quickly set up a decent root system like the mother plant.

In mid-May of 2013 my Cala started to produce a thick green stalk that definitely wasn't another leaf. This plant is now smack dab under the glass brace in my 210 which can't be moved. I pulled the stalk toward an open section of my aquarium with a long, large rubber band loosely wrapped around it. This first stalk had two blooms on it, one blooming a few days after the first. These are really big flowers, I would estimate perhaps as much as 4 inches in diameter! I pulled out my trusty step stool so that I could climb up over the top of the tank to get a whiff of this beautiful, delicate, pure white flower. They smelled pretty good too, not unlike honeysuckle but not quite so potent. I photographed this first of seven blooms on May 24th. After documenting the bloom with my 50 mm macro lens it was time to help Mother Nature along with my trusty paintbrush. I gently brushed one of the Anthers of one flower and removed some of the yellow pollen onto the paintbrush. The Anther is the male part of the plant that sticks up on a stalk (filament) that contains the pollen. This entire structure is called a stamen. Hopefully with the help of my 100 mm macro you can see these parts easier. There are six stamens to the one female stalk, the Pistil. I gently brushed some of the pollen onto the top portion of the Pistil (the Stigma). The Stigma is a bit sticky so the pollen stuck rather easily. Now it was time to sit back, cross our fingers and squeeze our thumbs (it's a German thing), wait and hope that we can produce some seeds! For the second flower on this stalk I was a bit tardy with my brush. I realized later that if you want to pollinate you have to be quick about it.

On June 1st, both blooms are now gone BUT there is a gentle swelling just below where the flower was on the first bloom. On June 4th that swelling continued to get bigger. Now it was just hurry up and wait, we're gonna have a baby! What is even more exciting is that I have a second stalk coming up. I was worried that I was only going to get one stalk a year, like it did the last time it bloomed. This stalk produced three flowers each blooming about a day apart from each other. Each flower was dusted like the first ones but again I was a bit tardy on one of the flowers and only two of them set. But now I had THREE developing seed pods. What was I going to do with all of these tiny plants from the seedpods when they finally germinated? And finally toward the end of June my Cala put up yet another stalk and another two flowers. This time I made sure that I got out the brush in time and both flowers developed seed pods. But let's go back to the first seed pod. On June 21st (28 days after blooming) it was about 2 centimeters in diameter and growing every day. By June 27th though I was sure it had stopped growing and now was turning yellow. Had I done something wrong, was it going to die? Or maybe like many seed pods it was now going to rot away from the stem to be "washed" down-stream, or in this case fall to the bottom of my aquarium. By June 29th (36 days after blooming) the seed pod is very yellow and has a decided crack on the side of it. The pod though still feels rather

hard to the touch. On the 30th one half of the outer yellow layer of the seed pod fell away to yield a beautiful little green “seed” inside it. Eventually the rest of the outer pod fell away too. I put this “seed” right up near the front glass of the aquarium where I could easily observe it but my Amano shrimp had other ideas. They kept taking the “seed” away and hiding it under my crypts. I wasn’t going to let them steal my seed so I pulled it out and put it in a much smaller tank with my cherry shrimp. Cherry shrimp are too small to carry it off and there’s no place to hide it in a 2.5 gallon tank even if they wanted to play hide and seek with me.

When I first examined this “seed” the ridges in it suggested it might break into six pieces. In some ways it looked like garlic or perhaps a very tiny orange. But it was obvious that this seed pod was not going to produce hundreds of tiny seeds, perhaps six at the most. This first seed pod then split into two pieces, I’m not sure why it split. One portion that was only $\frac{1}{4}$ of the original “seed” started developing roots and then a stem, some 44 days from the first bloom. The other $\frac{3}{4}$ portion of this “seed” still hasn’t developed any roots or stems, now some 78 days from first bloom. I guess it’s also time to stop calling this pod a seed pod but more along the line of a corm, only one plant was going to develop from it.

For the plant it seems like this is an awful lot of energy just to produce one tiny plantlet from each flower. At first it doesn’t seem to make sense. Perhaps in nature each stalk produces many more flowers than what I had in the aquarium so maybe 7-10 flowers like it’s been shown with some other Crinums. That would at least produce a few more copies of itself. Also in nature many of these corms would be the result of cross pollination from another Cala and not just a clone of the mother plant, like my corms. Here was a method for the plantlet to escape its immediate environment, for the corm to wash away downstream. This was a dispersal method, perhaps giving it a better chance to survive. The vegetatively produced plantlets, growing next to the mother plant would end up having the same fate of the mother plant if that section of the stream went dry. The corm, floating downstream, with any luck would find a way to keep the species alive. The mother plant put some 45 days worth of effort into producing a single version of itself along with a huge sack of energy in the form a seed corm to ensure it had enough food for the first month or two.

What is clear now though is that I have 5 corms that have developed from my seven blooms and in each case only one seedling has developed from each and every one of them. There isn’t going to be any more seedlings to pop, one corm, one seedling.

In conclusion this has been one of the more enjoyable plants that I have grown over the past 12 years in my planted 210. It’s going to take up a lot of room in your aquarium but I think it’s a plant that you will enjoy. If you give it room and food you will certainly obtain small vegetative versions of your mother plant. With a little luck and patience you too might also get to take the time to smell the Calas!

Crinum calimistratum Blooms, Seeds and Seedlings in the Home Aquarium



Crinum calimistratum with seed pods



Crinum calimistratum bloom



Stamen



Brush & Pollen



Stigma & Pollen



Swollen Seed Pod



Outer Pod Layer Removed



First Seedling



Developing Seedlings

FISHES as DISHES

Patrick A. Tosie, Sr.

We all love our fish! This column will be dedicated to using our fish for something tasty to enjoy. Try it, you may like it. If you have leftovers, bring it to a monthly meeting for others to enjoy.

Cajun Catfish

EAT MORE



Ingredients:

4 catfish fillets (4 oz. each)
1/2 teaspoon cayenne pepper
1 ounce wheat flakes cereal
1/2 teaspoon black pepper
1 tablespoon paprika
1/2 teaspoon white pepper
1/4 teaspoon salt
1/2 teaspoon thyme
1/4 teaspoon onion powder
1 tablespoon oil
1/4 teaspoon garlic powder



Directions:

Wash the fish fillets and pat dry. In a bowl mix the ground wheat flakes and all the seasonings. Pour the dry mixture onto a piece of foil or wax paper, and dip the fillets into the seasoning, coating both sides. In a heavy cast iron fry pan heat the oil. Fry the fillets for 2 minutes on each side. Lay the fillets on a plate lined with a paper towel, cover with another paper towel, and pat to remove excess oil.

Serve with your favorite vegetables. Serves 4

Cichlisoma festae, the Red Terror

By Charley Grimes

Reprinted from the May/June 2011 Youngstown Aquarist of the Youngstown Area Tropical Fish Society

If you were to picture, in your mind, a big, mean, nasty, anti-social Cichlid, surely your first six or eight candidates would be Central American Cichlids

I have been keeping fish, pretty seriously, for 50+ years----and most of those years, I had a lot of fish tanks, usually a fair number of those tanks were large and I have enjoyed, more or less, keeping a large variety of cichlids over those years. I have had the big bruisers, like *Tilapia buttikoferi* (a west Africa riverine species, also known as the Zebra Cichlid. At an inch, *T. Buttikoferi* is somewhere between cute and beautiful. And when large (I've seen specimens over 16 inches) they are magnificent!

The problem is that they grow more and more territorial as they get larger. At four inches, a 55 gallon tank is too small to house two of them. I ended up with six *T. buttikoferi*, nine to twelve inches in six 55 gallon tanks before I finally got tired of the challenge and gave all six to a zoo. Likewise, I've had smallish fish--- the four or five inch 'Brown Auratus' from Lake Malawi and the six inch 'Long-ear Sunfish' from right here in Indiana, that inch for inch----or ounce for ounce are, my opinion the most territorial, anti-social, nasty little drinkers that ever swam in a lake or stream. I've had gigantic bruisers like *Cichlasoma umbiferum* and *Parachromis dovii* (pussycats).

However, when I think of the BIG NASTIES, I invariably think of Central American Cichlids. These fish with names like Red Devils and Red Terrors did not get those names because they were good community tank fish.

The Red Terror (*Cichlasoma festae*) gets about a foot long, total length and is, since appearances are often deceiving, a strikingly beautiful animal.

The male, is a yellow/gold color when adult, handsome, but not remarkable. The female gets a very hot orange-red, which to my eye, is Chinese red----and is one of the most beautiful of any of the fishes, fresh water, or salt water. However, never forget that the common name, Red Terror, was applied to these fish for a reason!!!!

Now, as to breeding these fish in the home aquarium, unless you have a 300+ gallon aquarium, the younger/ smaller the fish, the better. This concept, as a general rule, is well advised for all of the larger Central and South American cichlids. And, since these fish are so predictably precocious regarding spawning, this method will reduce the odds of whole-sale slaughter in a breeding tank. The scheme is to obtain six or eight young (under two inches) cichlids and plop them into a 30 gallon tank with lots of cover---- the water can be hard or soft (Central American Cichlids are not particular), feed them well, and do water changes. Keep an eye on this tank because you will likely have a spawning in two or three months. In my experience, this scheme is pretty reliable.

Because I know, from many years of experience, that any Central American Cichlid can turn from a devoted and caring parent into a rampaging and deadly killing machine----overnight, I don't trust the pair or pair bond any longer than I have to.

The minute I see the pair has free swimming fry, I remove all of the adults from the tank and raise the fry myself. As I related above, this procedure comes from many years of experience----not all positive. Regarding this specific experience with spawning Red Terrors, I obtained a group of eight young fish from George Coy. George had the eight in a 20 gallon tank, knowing George, crammed with mops, when he got his spawn. When I got the eight fish from George, I was able to pick out the probable spawning female but was unsure which of the other two larger males was the most likely breeding male.

I plopped all eight into a 30 gallon 'flat breeder' tank with lots of bricks and flower pots for cover. The water was Indy tap water, water temp was 75/80, and they were fed pellet food as their main diet.

Then, rather than pay close attention to the tank so I could relate the details of the spawning, I took a fall off our deck --- severely tore my shoulder cuff, had surgery, and have been sort of banned from the fish room until I am released by the surgeon.

However, I sneaked out to the fish room about three weeks post-surgery and saw a male (golden yellow) and a female (brilliant orange red) guarding a school of 50, or so, two week old fry.

Fortunately for all concerned, Mike Downey was also in the fishroom giving some much needed attention, so he pulled the pair out and put them into another tank and also removed the other sub-adults to yet another tank. If Mike hadn't been there, quite likely, within two days either the parental male or the female would have killed all of the other adult fish, including the mate and possibly the fry. Thanks to Mike Downey, I am able to write this BAP report.

I reckon there were more like 200+ fry to start with, but, 50 is still plenty as far as I'm concerned. Two week cichlid fry are easy to feed----they will eat anything---and they grow fast.

I still 'hate' Central American Cichlids!!! But I will have to admit--again--that they provide a beautiful, interesting, and rewarding challenge. Right now, with a tank full of Red Terror fry, telling myself, 'Never again'! But, I also know it won't be long and I'll be ready for another adventure with those darn Central American Cichlids.



Breeding Bettas Basics

Reprinted from the January 2011 Pisces Press of the Nassau County Aquarium Society
(Author not credited)

If you want to house a Betta couple together the aquariums doesn't have to be big and Bettas are known to successfully spawn in aquariums no larger than 5-10 gallons. The aquarium must contain a lot of good hiding spots because the female needs to hide from the male to relieve stress and avoid injury. Live plants will help you keep the water quality up, but artificial plants will be just as good as hiding spots.

The Breeding Couple

Choose a male and female fish of roughly the same size, but do not house them together yet. (They should be of roughly the same size to avoid one of them ending up badly injured.) The pair should be given a lot of nutritious food; you can for instance provide them with a combination of high-quality flake food and live brine shrimp. The water quality must also be kept up and the water chemistry should resemble that of their native environment. When both fishes are healthy and well-fed, it is time to introduce them to each other. Start by placing their aquariums close to each other and allow them to watch each other for a couple of days. Proceed by making it impossible for the male to see the female for a while, before moving him to the breeding aquarium. When the male has spent an hour or so getting used to his new home you can put the female in a hurricane globe and gently place it in the breeding aquarium. This will prevent the male from getting at her right away. Carefully monitor your fish and see if they show any interest in each other. Flaring is a good sign, and hopefully the male will soon start building a bubble nest.

Betta Breeding

Do not release the female from the hurricane globe until the male has built a fairly big bubble nest and the female is showing vertical stripes. She should also be assuming a head-standing position in the globe and ideal have a protruding breeding tube (look behind the pelvic fin). When you release the female, it is perfectly natural for the couple to engage in some nipping and chasing. Keep an eye on them and only intervene if one or both is getting badly injured. Really violent attacks means that they couple is not ready to breed, or simply incompatible. Place the female back inside the hurricane bowl and let her stay for a few days. Some couples need to be together for 4-5 days before they start to breed while others can start within an hour. Some females will even start releasing eggs while they are still inside the hurricane bowl. When the time is right, the male will try to attract the female to his nest and she will follow him. As they reach the nest, the male will embrace the female and she will release her eggs. The eggs will sink to the bottom of the aquarium and the male will swim down and pick them up. Directly after releasing her eggs, it is normal for the female to stay completely still and motionless for few seconds while the male swims down. When the spawning is finished, the female will leave the nest voluntarily or be chased away by the male. In most situations she will have plenty of time to swim away and hide while he is down at the bottom searching for eggs. The female should now be removed from the aquarium since she will either eat the eggs or be violently attacked by the male as she tries to eat the eggs.

Both the male and female will normally have acquired torn fins during the courting process and they are therefore quite susceptible to disease. Most breeders therefore safe-guard by treating the breeding aquarium with MarOxy or similar and placing the female in a separate recuperation aquarium instead of letting her join other fish in a community tank. Treating the recuperation aquarium is also a good idea. Betta eggs and fry Betta eggs are white and can be easily spotted inside the bubble nest if you use a magnifying glass. Using MarOxy or any similar treatment is not only good for the male; it will also decrease the risk of fungus attacking the eggs. To prevent cool air from entering the breeding aquarium you must cover it with glass or plastic wrap. Without this type of protection the fry can easily develop pneumonia when they swim up to the surface to test their labyrinth organ for the first time. (This normally happens when they are 5-7 weeks of age.) Approximately 36 hours after the spawning really tiny fry will start falling out of the bubble nest and landing on the bottom of the aquarium. At this stage, the fry will look more like a black dot with a tiny tail than a miniature fish. The male will swim down to the bottom, pick up the fry, and place them back inside the bubble nest. As you can see, it is very important to let the male stay with the fry. Do not remove him until the fry is free swimming. In some cases, the male will however start eating the fry that he retrieves from the bottom and if you notice this type of behavior the male should be removed from the aquarium. It is possible for Betta fry to develop even if they have fallen down to the bottom of the aquarium, as long as there are no other fish in the tank that can eat them. *Newly hatched fry will feed off their yolk sac and should not be given any addition food. When the yolk sacs are gone, you can start giving them infusoria. After roughly two weeks the fry will be big enough to eat newly hatched brine shrimp and microworms. Feeding your fry a lot of small servings throughout the day is better than giving them a lot of food 2-3 times a day.*

It is very important to keep the water quality up in the breeding aquarium. The new water has to be of the same temperature as the water in the breeding aquarium, because Betta fry do not handle temperature changes well. It is hard to perform water changes without involuntarily sucking up the tiny Betta fry, but they will normally survive being siphoned out as long as they are returned to the aquarium immediately. Betta fry are extremely small when they hatch and even when kept on a nutritious diet they are remarkably slow growers. In most cases, you will not be able to notice any coloration until they are over 7 months old. The tiny fry will spend most of their time at the bottom of the aquarium and move only when you feed them. As the males mature, they will grow increasingly aggressive and should be moved to their own aquariums or jars. The females are more docile and can be kept together in the same aquarium until they are big enough to be sold or given away to other aquarists. If you have used a very small breeding aquarium you may have to provide them with bigger housing to keep them healthy and happy.

Swap Meet
Crowne Plaza Hotel
October 5, 2013
11 am to 3 pm
Admission \$2 per person
Children under 10 free

Annual Awards: ***NOVICE OF THE YEAR and HOBBYIST OF THE YEAR***

Each year the Missouri Aquarium Society, Inc. recognizes the outstanding contributions of those members performing services for the Society during the calendar year (Jan. 1 thru Dec. 31). Points are awarded for service and involvement in the activities of the Society. At the Annual Awards Banquet of each year, *Novice of the Year Award* and *Hobbyist of the Year Award* are presented to the members accumulating the most points during the preceding year.

The minimum following requirements must be satisfied to qualify for these awards:

1. A minimum of eight (8) points must be earned for attendance at the general meetings.
2. A minimum of ten (10) points must be earned for service to the society other than listed above. These points do NOT include any meeting attendance points earned.

Service points will be awarded to individuals only (Mr. Smith, Mrs. Smith, Child Smith, etc.) and NOT to families (Mr. and Mrs. Doe, Doe Family, etc.)

* * * * *

PARTICIPATION AND SERVICE POINTS SCHEDULE FOR AWARDS OF *NOVICE OF THE YEAR* and *HOBBYIST OF THE YEAR*

SERVICE	POINTS
Attendance at any meeting	1
Officers of the Society (President, VP, Secretary, & Treasurer)	3/mo.
Member of Executive Council (excluding Officers)	2/mo.
Committee Chairperson (as listed in THE DARTER)	2/mo.
Publication Editor	5/mo.
Society Printer	2/mo.
Bowl Show Judge	1/mo.
Donating Refreshments	1/mo.
Donating Door Prize	1/mo.
Working for an Auction (assigned by Auction Chairperson)	up to 10
Working for Annual Show (assigned by Show Chairperson)	up to 15
Working for Super Bowl	up to 3
Programs given (no points given for programs required by BAP rules.)	5
Published original article or original artwork for THE DARTER	
One page in length or longer	5
Half page minimum length	2
(A maximum of 30 points per year will be credited for articles. Committee reports are considered a responsibility of the chairperson and will not earn points. No points will be awarded for articles required by BAP rules.)	
Collating THE DARTER	1/issue
Advertisements sold for THE DARTER (new ads only)	1
Special Services	As awarded by Executive Council

If you have any questions, contact the Points Tabulator. (Effective 1/88)

The Computer Page

Steve Deutsch

MASI's official web page: www.missouriaquariumsociety.com

MASI's email group: MASIFishHeads Yahoo Group - see web site for joining instructions

Addresses are only printed with permission of the owner. If you would yours added, please email me at steve@skdeu.com. If you would like yours removed, or if it needs correction, also please email me.

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Harold Walker, Jr.	fiveinall@sbcglobal.net
Jim & Rosie Yaekel	jryaekel@htc.net

Member Classifieds

Ed Millinger is looking for a wrought iron double 75 gallon tank stand.

I have bloodworms and brine shrimp. Brine Shrimp eggs 16 oz. can. I am looking for a 200 gallon tank. Jim Miller, 314-638-1134.

Charles Harrison (314) 894-9761, charles@inkmkr.com –

Thiosulfate crystals (Chlorine Remover).....	\$3.00 a half pound
OTO double strength Chlorine/Chloroamine test kits - 4 ounce ...	\$12.50
Flubendazole, 10% powder 25 grams	\$20.00
Lavamisole HCl Powder - 5 grams treats 100 gallons	\$10.00
Methylene Blue 5% solution (4 ounces)	\$12.75
Acriflavine Concentrate (4%) solution, 2 ounces	\$12.70
Bromthymol Blue pH test solution, 4 ounces	\$7.00

Wanted: Small Styro shipping boxes - 12 x 12 x 12 or a little bit smaller. If your company uses them and throws them away, save them! Bring to the meeting or I'll come pick them up. Mike 636-240-2443

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 it, in which case it will run as requested.

EASTERN AQUATICS

717-898-7224 (leave message)

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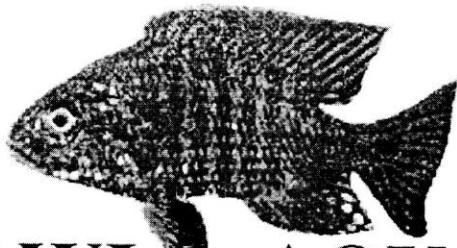
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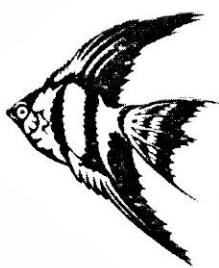
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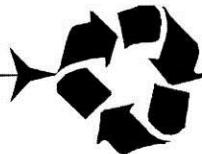
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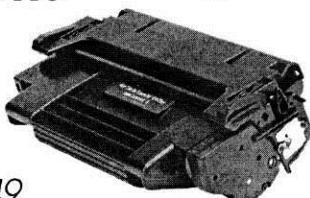
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