

DELTA TALK

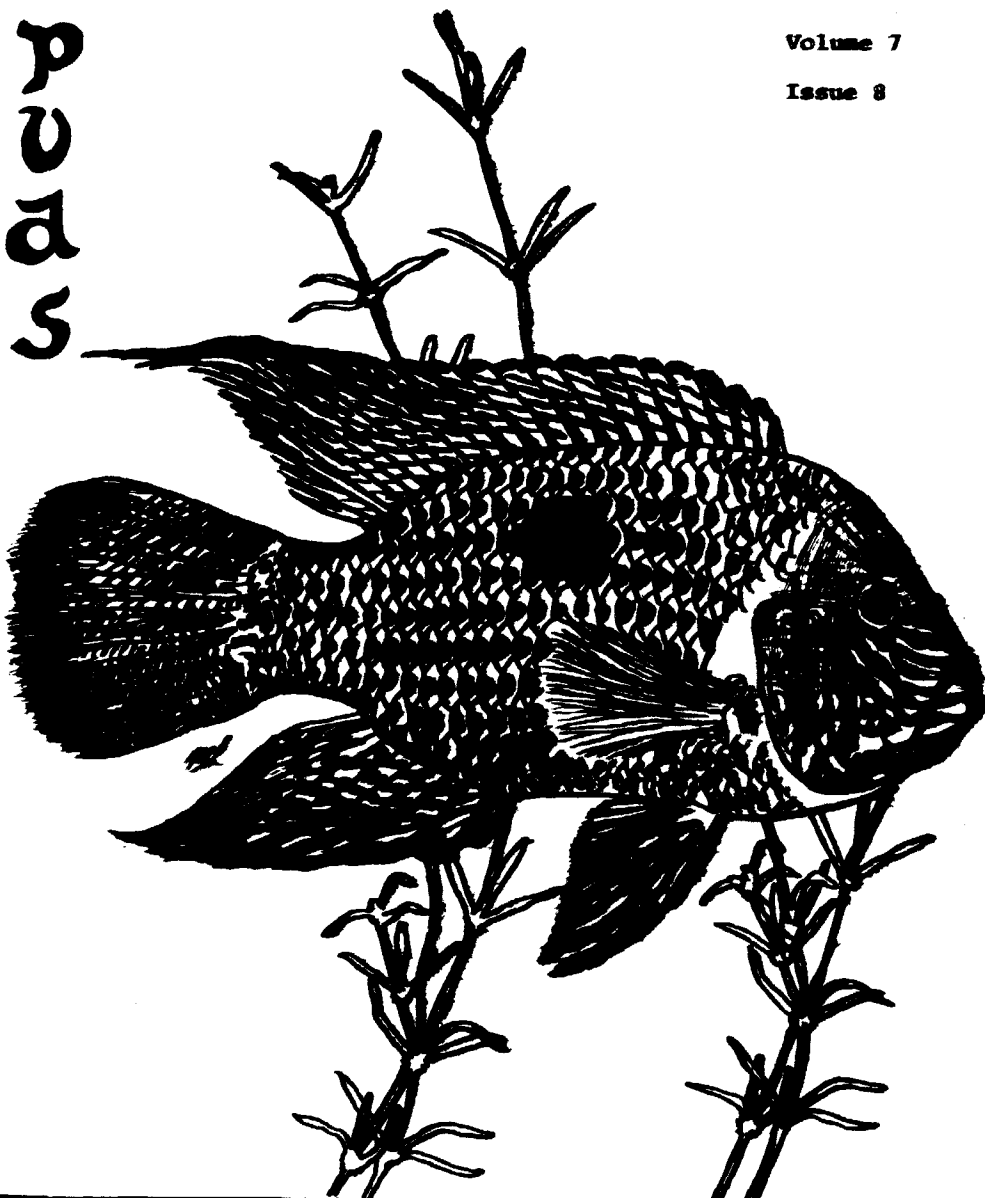
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AUGUST 1976

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Volume 7

Issue 8



DELTA TALE is published for the benefit of the Potomac Valley Aquarium Society (formerly the Potomac Valley Guppy Club), a non-profit organization, established in 1960 for the purpose of furthering the aquarium hobby by disseminating information, encouraging friendly competition, soliciting participation in its show, and promoting good fellowship. Correspondence should be addressed to Secretary, P.V.A.S., P.O. Box 6219, Shirlington Station, Arlington, Virginia, 22206. Original articles and drawings may be reprinted if credit is given the author and DELTA TALE. Two copies of the publication in which the reprint appears should be sent to DELTA TALE which will forward one copy to the author. All materials for inclusion in the DELTA TALE must reach the editor no later than the Saturday after the monthly Monday meeting.

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Editor: Ruth Brewer

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This month's cover is a tracing by Michael Sprague of a slide by Ruth Brewer. The fish is Aequidens rivulatus, the Green Terror, and those who attended the PVAS Spring Show will remember this stunning fish as the Best of Show winner in the Cichlid Class.

BOARD OF GOVERNORS MEETING

Wednesday, August 4

Pat & Pete Tietjen
1728 S. Monroe St.
Arlington, VA

BOWL SHOW AUGUST 9, 1976

Guppies: H/B AOC, Female, AOC
Cichlids: Cent. & S.A. Medium, Tanganyikan, Open
Other: Barbs, Anabantoids, Open

Program: Highlights of the ACA Convention
(By those lucky ones who went)

THERE WAS NO MEETING OF THE BOARD OF GOVERNORS IN JULY, HOWEVER, AT JULY 12 GENERAL MEETING, THE MINUTES OF THE JUNE 9, 1976, MEETING OF THE BOARD WERE APPROVED. (SEE DELTA TALE FOR JULY, 1976.)

BAP REPORT

For the first time since the BAP program got under way, we have no changes in standings to report. The totals still are:

NAME	POINTS	
	<u>Firm</u>	<u>In process</u>
Susan & Mike Sprague	130*	-
Ruth Brewer	115*	25
Gene Aldridge	80	15
John Jessup	55*	45
Walt Lilley	200**	-
Diane Nixon	60*	-
Pat & Pete Tietjen	15	-
Jan & Dave McInturff	215**	-

* Breeder Award

** Intermediate Breeder Award

Gene Aldridge, BAP Chairman

TRADING POST

10-gal. used tanks - \$3.50
20-gal. used tanks - \$10.00
7 ft. long racks with fluorescent
lights - \$25.00 ea.
15-gal. tanks - \$7.00 ea.

Six racks 7 feet long with tanks
and fluorescent lights.
Also Conde \$300

Used Bubble-up filters - 50¢ to \$1.00
New backgrounds - \$2.00 to \$5.00
New Aqua-scaper plants - 50¢ to \$1.00

35 20-gal. tanks
12 15-gal. tanks

AND MANY OTHER ITEMS!!!

Call Carl or Mary Hardy
765-1940

* * * * *

GOING BACK TO SCHOOL SALE
(Almost) EVERYTHING MUST GO

1 55-gal., 1 30-gal., 1 20-gal. long, 1 20-gal. high, 9 10-gal. and
1 8-gal. tanks. Miscellaneous equipment, including diatom, filters,
gravel, stands, covers, lights, driftwood, rocks, etc.

Lotsa FISH, including Aphy. ndianum, E. dageti, misc. killies, large
Blue Gularis, Aphy. gardneri, fancy swordtails (hi-fin, lyretail
heterozygous), double-tail bettas, pearl and opaline gouramis, black
mollies, plecostomus, banjo cat, splash tetras, large blushing gold
angels, Phase II jewels (adult), Geo. brasiliensis (adults and breed-
ing pair), Geo. jurupari (3-4"), red-hump Geophagus male (4-5"),
Aequidens geayi, C. salvini, orange chromides, Haplo. burtoni (adult,
young and fry), Nannacara anomala (adult and fry), Aequidens curviceps
(fry), Roloffia guinensis.

Fish available Aug. 1 -- tanks available as they empty, but by Sept. 1.

Gary Haas
437-3314
Herndon, VA.

CAPPAERT v. UNITED STATES

OR

The Pupfish Lives!

By: Peter Tietjen
PVAS Legal Writer

Fifty thousand years ago a series of events began which culminated in the United States Supreme Court on June 7, 1976. Even though the American judicial system is slow, it doesn't take 50,000 years for a case to come to a decision. It does take at least that many years for a species of fish to evolve into a unique, one-of-a-kind specimen. Such is the case of the Devil's Hole Pupfish, Cyprinodon diabolis. However, it only takes a few years to completely wipe out a species by destruction of its habitat. Such is also the case of C. diabolis. That is where the federal courts and ultimately the Supreme Court come into the picture.

C. diabolis is one of several species of desert pupfishes which evolved from a single ancestral fish. The ancestral fishes lived in a large body of water known as Lake Manley which occupied much of the Southwest desert over 30,000 years ago. This lake began to dry up as the climate changed and over a period of 20,000 years had almost completely disappeared, except for isolated pools and small marshes that broke through the surface of the desert. These pools were fed by an underground water system of over 4,500 square miles. It was into these pools that the ancestral fishes retreated as Lake Manley dried up. The pools were completely isolated from each other, so that the fish in each pool would evolve separately and not be able to interbreed. Over 10,000 years many species evolved, some spread over many pools and others completely unique to a single body of water. C. diabolis is one of the latter. It lives solely in Devil's Hole, a natural limestone cavern located in the mountains east of Death Valley. The cavern is 10 feet wide by 65 feet long. The maximum depth of the pool is over 200 feet but at one end a rocky shelf slopes gently before dropping off. The only area of the pool that receives any light is the shelf, and on this shelf grows the blue green algae that nourish the planeria and small beetles that in turn are eaten by the pupfish. The pupfish live solely in this self-contained world. Water temperatures range up to almost 100° and the salinity is almost twice that of sea water.

C. diabolis itself is a small fish, seldom larger than 1-1/2 inches in length. It is similar to killifish species and apparently lays eggs, although very little is known about its spawning. Males are an iridescent blue above, especially when in spawning color, with a lighter shade below and a dark dorsal and anal fin. Females are all light with the dark dorsal fin. There are never more than 800 of these fish alive in Devil's Hole at a single time. The fish has an amazing ability to withstand the high water temperatures in its habitat. The temperature ranges up to 109° F., but will drop to as low as 43° F., an amazingly wide spread. This ability, coupled with the ability to live in extremely saline water, makes the pupfish an invaluable specimen for science for no other species can tolerate these conditions. The reason for it is unknown and a scientific curiosity with potentially valuable application to human medicine.

The area surrounding Devil's Hole is desert, dry and capable of supporting little life. But with 4500 square miles of ground water lying under the desert, it is very tempting for land owners to drill wells to bring the water to the surface to irrigate the land to make the desert bloom. This drilling of wells is what both threatened the existence of the pupfish and brought the Supreme Court riding to the rescue of the little fish.

In 1952, President Truman created a 40-acre addition to the Death Valley National Monument. This "detached component" was the area surrounding Devil's Hole. The proclamation stated that a major reason for creating the protected area was the existence of "a peculiar race of desert fish . . . which is found nowhere else in the world . . . [and] the said pool is of such outstanding scientific importance that it should be given special protection . . ." Proclamation No. 2961, 66 Stat. c.18, 17 Fed. Reg. 691. And so the pool was protected, at least from surface destruction.

In 1968 Francis Leo Cappaert drilled two wells to obtain ground water for his ranch. The Cappaert ranch was located 2-1/2 miles away from Devil's Hole on land that had never been owned or used by the federal government. However, the water came from the same source as that of Devil's Hole. As soon as Cappaert began extensive pumping, the water level in Devil's Hole began to drop. Since measuring began in 1962, the water level had stayed fairly constant at 1.2 feet below a marker installed to measure the water level. By 1969 the level was 2.3 feet below the marker, and by 1973 it was 3.93 feet below it. This drop uncovered part of the rock shelf which supported the pupfish, cutting off a substantial portion of their food supply, as well as the major spawning site. It was the loss of the spawning site that was most critical for it prevented the necessary level of spawning to perpetuate the species.

In 1970, Cappaert sought to get permission to pump even more water. The Park Service filed a protest with the Nevada State Engineer to prevent or delay this, citing a study under way to determine if Cappaert's pumping was affecting the water level in Devil's Hole. The State Engineer refused on the ground that the federal government had no water right with Devil's Hole, that pumping wouldn't unreasonably affect the Hole, and finally that economic development of the area was in the public interest. The pumping continued.

By 1971 the water level had seriously dropped and the government sought an injunction in the U.S. District Court for the District of Nevada to limit the water that could be taken from the ground. The injunction was based on the novel legal doctrine that Devil's Hole included all the water necessary to maintain it and that these waters, even if underground could not be used for any other purpose. The Cappaerts and the State Engineer denied these allegations. In June of 1973 a preliminary injunction issued requiring that pumping be suspended so as to return the water level to 3.0 feet. Following investigation by a Special Master, the District Court made the injunction permanent, for otherwise the pupfish would be destroyed resulting in

irreparable injury to the United States. The court supported the implied reservation of ground water theory as advanced by counsel for the United States. United States v. Cappaert, 375 F. Supp. 456 (D.C. Nev. 1974).

Cappaert appealed to the U.S. Court of Appeals for the Ninth Circuit, but the result was the same. The Court of Appeals affirmed the District Court decision stating that "[t]he fundamental purpose of the reservation of the Devil's Hole pool was to assure that the pool would not suffer changes from its condition at the time the Proclamation was issued in 1952" 508 F.2d 313, 318 (9th Cir. 1974).

Again Cappaert appealed, this time to the Supreme Court, and here the pupfish received its final vindication. Chief Justice Burger, in a unanimous opinion affirmed the decision of the Ninth Circuit, 44 U.S.L.W. 4756 (U.S. June 7, 1976). The Court based its affirmance upon the reserved water rights doctrine, extending the doctrine to underground water. This was the first time that underground water had been regarded as being able to be reserved to support a surface function, i.e., Devil's Hole pool. The Court ruled that when the monument was set up pursuant to a statute, the monument impliedly reserved all water needed to maintain the monument. Thus Devil's Hole was entitled to water needed to keep it as it was in 1952 when the monument was created.

The entire Supreme Court opinion did not mention the pupfish as an endangered species. It was a typical Court opinion, based on sound precedent. But even though they weren't mentioned in such context, the pupfish were present in thought. For by its legal machinations of "reserved groundwater" the Court accomplished what it couldn't do directly. It saved the pupfish. For even though the pupfish were an endangered species, supposedly protected by the Endangered Species Act of 1973, the government could do nothing directly to protect it, for the Act does not prohibit a private person from doing anything on his own land, even if it destroys a habitat of an endangered species. Only because the pupfish lived in a national monument could it be saved. This says little for the future of other endangered species, but that's another story.

So the pupfish have made it. They will go on living in Devil's Hole as they have for 30,000 years. A new \$10,000 Refugium has been built near Hoover Dam to try to raise them artificially. It has met with mixed results, but there is hope. But suppose the pupfish had become extinct. Would it have mattered? Would the death of a species of fish really have resulted in "irreparable harm to the United States"? It's hard to say. Would it be better to let Cappaert pump more water to irrigate his alfalfa? I don't know. It's something citizens and government have to decide, and it's a hard question. But for now, just be glad because, **THE PUPFISH LIVES!**

BOWL SHOW RESULTS AND STANDINGS
July 12, 1976

	<u>1st</u>	<u>2nd</u>	<u>3rd</u>
<u>Guppy:</u>			
Green	Walsh	Hardy, Bertha	Hardy, Bertha
H/B Red	Walsh	Walsh	-
AOC	Hardy, Don	Walsh	Hardy, Dan

<u>Cichlid:</u>			
Cent/S. Amer			
Large	-	-	-
Mbuna	-	-	-
Other	Mahoney	-	-

<u>Egglayer/ Livebearer:</u>			
Betta	-	-	-
Corydoras	-	-	-
Other	Lenzen	Lenzen	-

	<u>POINT STATUS</u>			
	<u>July</u>	<u>Ann.</u>	<u>July</u>	<u>Ann.</u>
<u>Guppy:</u>			<u>Egglayer/ Livebearer:</u>	
Walsh	15	104	McInturff, D.	-
McInturff, S.	-	5	Donnelly	-
Nixon	-	2	Lenzen	-
Hardy, B.	5	5	Nixon	-
Hardy, Don	4	4	Warren	-
Hardy, Dan	2	2		
<u>Cichlid:</u>				
McInturff, J.	-	59		
Warren	-	22		
Sprague	-	9		
Nixon	-	6		
Lenzen	-	4		
Tietjen	-	3		
Mahoney	4	4		

LAMPROLOGUS BRICHARDI

By: Susan P. Sprague, PVAS

I first started with this beautiful fish about two and a half years ago. A very good friend of mine gave me six young (1/2") L. brichardi. At the time they were called L. savoryi elongatus which I think fits the elegance of the fish. Their total length does not usually exceed 2 1/2-3". Their color is usually pale grey to beige with lovely elongation of their dorsal and anal fins as well as the caudal fin forming a lyre. On the operculum there is a quite prominent yellow spot.

The native habitat is Lake Tanganyika in Africa where they frequent rocky boulders. They are extremely secretive substrate spawners so I have never seen their eggs.

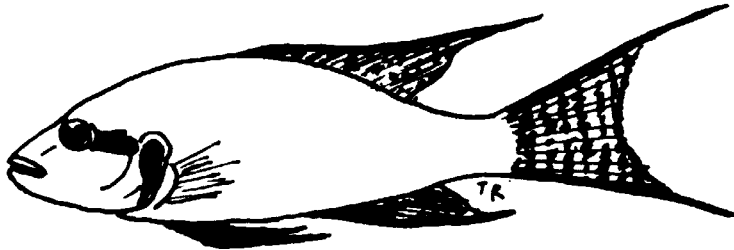
I originally housed the six fish in a 10-gallon tank until they had grown sufficiently to warrant a 20-gallon long. They were placed in this tank with plenty of rock caves to prevent any damage to each other when they decided to pair off. As soon as one was seen hanging in a corner, that fish would be moved to another tank. In this way I only lost one of the fish and finally ended up with a pair. At this time, the fish were 1 3/4-2" TL and had the beginnings of their lyre tails. It was only a month or so before my husband spied some wigglers in a very tiny crevice. They had a slight grey tinge and were only 3/16-4/16". Approximately a week later, I could see the tiny fry swimming in a group near their parents. They were easily frightened and I could only see them for a flash. In a few more weeks they became bolder and would swim more independently from their parents and would only be frightened by sudden movements. I fed baby brine shrimp when I had it available but relied mostly on the algae covering the rocks and sides of the tank.

Approximately a month later I noticed a group of smaller fry in the tank. I assumed this was a new spawn since these fish will raise numerous spawns together. I was correct. Soon thereafter my husband was photographing this tank and the flash frightened the female. Her mate immediately took after her so I removed her before she jumped out. They remained apart for four months until I put them together in a 5-gallon tank for the Spring 1975 show. They got along beautifully and even won the first place trophy in their class. I brought them home and again set them up in a 20-gallon tank by themselves. Months went by and no spawning though the pair seemed to be compatible.

The fish were then transferred to a 40-gallon tank with various Julidochromis and Lamprologus tetracanthus. They still didn't spawn. When I had a free 20-gallon long, I put the pair in again with various rock caves. They eventually spawned in January, 1976. I found the wigglers after the female had been driven from the tank by the male and was found in a dried condition on the tank top. I concluded from this that the pair were basically incompatible, hence the long break in spawning activity. I raised the fry on algae, some baby brine shrimp, and crushed Tetramin.

The father was left with the young until the fry were eventually moved in with various other Julidochromis and Lamprologus young in a 40-gallon tank.

These fish are very appealing visually. Most people who have never seen adults before are immediately awed by them when seeing the L. brichardi for the first time. I don't think there are many fish who can match the elegance of this species.



Lamprologus brichardi



THE JULY COVER

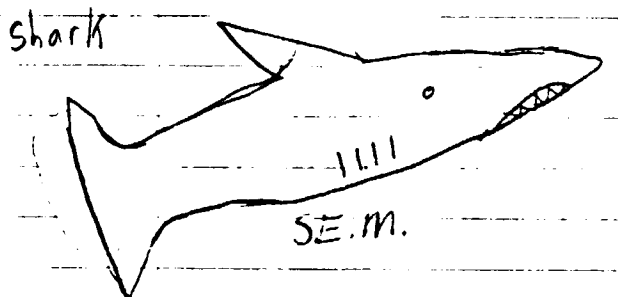
Michael Sprague's "mystery" cover last month was a tracing of a slide by Ruth Brewer of a group of Sarotherodon mossambicus owned by the McInturffs. These fish were purchased about a week before the Spring Show and were about an inch and a half at that time. At the time this slide was made, the fish were about two and a half inches. They are now four inches or more in length and one (the large male in front) has an almost black body with a silver grey face. He's a very handsome fish.

O'CONNELL AQUARIUM SOCIETY FALL CICHLID SHOW

The O'Connell club is planning its first "Fall Cichlid Show" for Saturday and Sunday, September 18-19. The classes will be:

- | | |
|--|---|
| I - New World Cichlids
Cent. & S.A.
Dwarf
Asian
Angel & Discus
Open | II - Old World Cichlids
Rift Lake Mouthbrooders
Rift Lake Substrate Spawners
Non-Rift Lake Africans
African Pairs |
| III - Set Tanks
New World Community
African Community
Open | IV - Color Slides |

Registration for the show will be Saturday (9/18) AM, judging and public viewing that afternoon. There will be an auction Sunday (9/19) immediately following the awards and raffle. John Terwilliger of the O'Connell club has promised to be at our August 9 meeting with more details and, hopefully, some flyers. Since PVAS is not having a Fall Show this year, here's a golden opportunity to show that prize specimen of yours anyhow.



DID YOU SEE THIS?

Remember Bruce, the big, bad shark in "Jaws"? According to a report in the Washington Post June 18, he didn't get blown to pieces at the end after all. He's out in Hollywood serving as part of a Universal Studio guided tour of old movie sets. Bruce's "act" consists of attacking a man in a row boat, all but destroying a section of the "Amityville" pier, crashing out of the water and, in a grand finale, snapping his jaws barely two feet from the crowd. But the other day, Bruce was activated by accident while undergoing a little touch-up of his paint job. The painter was knocked into the water and horrified as he saw Bruce charging him with wide open jaws. Disaster was averted -- this time. Good grief, haven't these people ever heard of Frankenstein and his monster?

JOHN D. DINGELL
18TH DISTRICT, MICHIGAN

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Congress of the United States
House of Representatives

Washington, D.C. 20515

July 9, 1976

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ENERGY AND ENVIRONMENT
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MIGRATORY BIRD
CONSERVATION COMMISSION

Ms. Ruth Brewer
2167 Evans Court, #203
Falls Church, Virginia

Dear Ms. Brewer:

This is with reference to your recent call to my Washington Office concerning my bill, H. R. 6631. I am enclosing a copy for your use. A great deal of controversy has ensued since the introduction of this legislation as a result of the dissemination of erroneous information and subsequent misunderstanding.

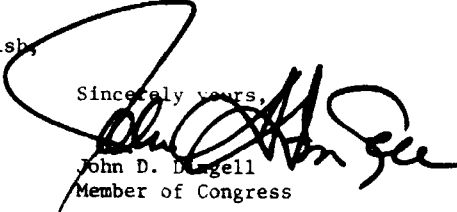
The intent and purpose of this measure is to establish a Federal Zoological Control Board to insure that zoos and other animal display facilities maintain minimum standards for the humane care and husbandry of animals. Evidence of a significant number of wild animals imported into the United States and maintained under inhumane conditions provided the impetus for this legislation. H. R. 6631 would regulate the importation, interstate shipment, public exhibition, research and captive maintenance of all wild animals.

Contrary to erroneous reports, the measure does not encompass nonzoological animals, specifically excluding those commonly maintained as pets or farm animals. The licensing procedure and requirements in the bill would apply only to zoological animals.

I had hoped by the introduction of this legislation that Congressional hearings could provide a forum for discussion of a variety of approaches in which to solve the growing problem of assuring humane care. However, with the heavy workload of the Merchant Marine and Fisheries Committee, action on the bill is not anticipated in this Congress.

With every good wish,

Sincerely yours,


John D. Dingell
Member of Congress

Y

THIS STATIONERY PRINTED ON PAPER MADE WITH RECYCLED FIBERS

A COLLECTING TRIP

By: Marc Lenzen, PVAS

A few weeks ago my father and I went to a dinner meeting of the Tidewater Aquarist Society where Rosario LaCorte was the guest speaker. While we were on that trip, we had a chance to go collecting. The party was made up of Messrs. Ed Taylor, Rosario LaCorte and Bud Hampshire and Ed Taylor, Jr., my father and me.

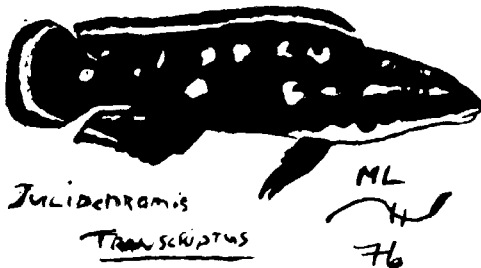
We went to a collecting site a couple of miles out of Franklin, Virginia, where the particular fish we were looking for had been caught on a previous collecting trip. The fish was Fundulus lineolatus, a native killifish which has a pale brownish body with dark brown stripes. The interesting thing is that the stripes are vertical in the male but are broken horizontal stripes in the female.

We took an assortment of storing buckets, plastic bags and some styros, and various sizes of nets with both short and long handles. We forgot to take any small aquarium type nets which would have helped in handling some of the smaller fishes. We also forgot to take along a photography tank, but we improvised by using a filter basket.

It was a very successful trip. We even found three Chologasters, a rare native livebearer which looks very much like a darter and has a vent situated immediately behind the pectoral fins. We were also looking for turtles, but were not able to catch any. Mr. LaCorte took home a cutting of a flower in the Passiflora family.

Messrs. Taylor and LaCorte both took home a number of species and lost very few which is remarkable since Mr. LaCorte transported his specimens all the way to New Jersey. Native American species must be kept cool and require much oxygen.

From my own observations, collecting parties should be small and the participants should not be afraid to wade into muddy water waist high regardless of snakes, etc.



BREEDING THE ORANGE CHROMIDE, ALAS
or
Raising Healthy Fish on Etropus Eggs

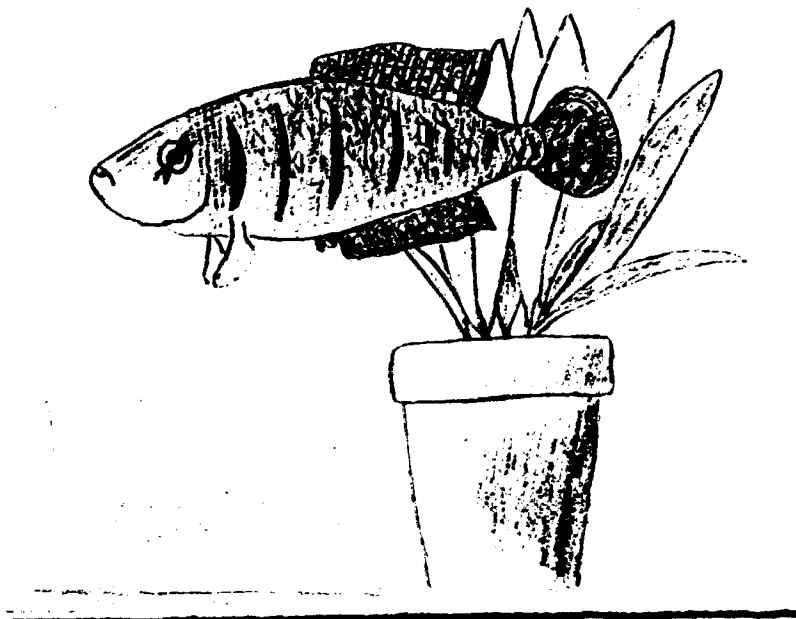
By: Gary Haas, PVAS

Being that I wanted to see the glancing behavior in person, and being that Discus and I can't seem to live in the same house, I snatched up four Orange Chromides when they turned up at Fish, Ltd., lo, these many months ago. A 30-gallon tank was set up with one tablespoon salt per gallon of water, temperature of 82°, planted but not heavily, with a piece of driftwood known as the Spawning Stump (not for sale). pH was probably neutral or a little below as the tap water was pretty fresh. One fish, the smallest, had a smoky, dark shading on his sides, darkest near the belly and fading towards the back, all the time. When another fish began to darken also, my hopes rose. The pair began running the other two fish to the other end of the tank and I witnessed a dry run of the eventual spawning, the fish taking turns swimming slowly down the side of the stump pretending to discharge sexual products. The next day they laid the eggs, maybe 50-75, which bobbed and bounced on their little threads as Momma fanned them with her pectorals. The old man was kept busy keeping the other two fish down in their end of the tank. At feeding time they would both leave the eggs, though they did keep a half-watchful eye on them. The third day the eggs were gone.

Shortly thereafter I moved the little ingrates to a 20-gallon, more heavily planted, probably more acid, as the gravel wasn't cleaned and it used an undergravel filter. Conditioning continued on flake food and earthworms. Once again they spawned upside down on driftwood this time and ate the eggs. This time I missed the preliminaries or I would have removed the tank mates.

Shortly thereafter (maybe six weeks) the spawning female colored up again, which usually preceded a spawn by a week or so, but instead of meekly acquiescing, the other two fish (which I suppose were also females) colored up too and the little male ended up spending a lot of time in hiding. After a month of seeing him only at feeding time, I tried pulling out the rougher of the two spare females, but got the wrong female. (I could identify them by territories, but not as individuals.) I removed another female and still got the wrong one (leaving the poor male with Big Momma). Figuring that the gods were trying to tell me something, I plopped the females all into the community 55 and isolated the little male till his tail grew back and he could in general recuperate.

I'm going to put a pair together again tomorrow. They haven't had any eggs to eat in a couple of months and are starting to look a little peaked.



ARTWORK CREDITS

The drawing above is a freehand sketch of the Cynolebias alexandri by Jerry Donnelly. Too bad we have to publish in black and white since this is a very pretty rendering in colored pencils.

The pen and ink drawing of the Lamprologus brichardi on page 7 is by one of our "irregular regulars" -- Tony Rizzuto.

And on page 8 we have a pencil sketch of a shark by Sharon McInturff. Upcoming in future issues will be Sharon's sketches of the khuli loach and her female guppy.

Marc Lenzen did the water color sketch of the Julidochromis transcriptus on page 10. Again, too bad we don't have color.

Thanks to all our artists (including, especially, our cover artist, Michael Sprague and to our writers who really came through this month!