

TROPICAL FISH

HOBBYIST

MARCH, 1965

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Expedition in Colombia





PIRANHAS, by Harold Schultz, 50c from your dealer or direct from TFH.

The many species of characid fishes making up the group popularly known as piranhas have a solid and devoted following within the aquarium hobby. Beginners and experts alike at some time or other determine to find out for themselves whether piranhas are the dangerous marauders legend has made them or whether they are merely suffering from the exaggerations of folklore.

Harold Schultz, famous Brazilian scientist-explorer, knows the truth about piranhas and tells it in his fascinating account of the life habits of these enduringly popular aquarium specimens. But part and parcel of the value of *Piranhas* is the book's masterful presentation of both text and photographs that enable hobbyists to tell the many piranha species apart, to separate the relatively dangerous fishes from the completely harmless ones. Vividly illustrated with 18 full-color natural photographs in addition to its many informative black and white illustrations, *Piranhas* gives a comprehensive view of the sub-family Serrasalminae from all angles of importance to hobbyists.

TROPICAL FISH HOBBYIST

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COVER	
The Blue and the new species <i>Pomacentrus</i>	
planned on the cover are only two of many	
fishes found by Dr. Herbert R. Axelrod	
during his recent expedition to Colombia.	
You'll see photos of the others (including	
the new colored Red Baby Tetra, which is	
already being imported and sold in large	
numbers by Gulf Fish Farm) in this issue,	
for they accompany Dr. Axelrod's fascinat-	
ing account of his trip. For an inside look	
not only at the excitement and thrill of a	
collecting expedition, but also, the design	
and handling, turn to pages 5, 10, 11, 12,	
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EDITORIALLY . . .

The world in general, and Great Britain in particular has lost one of its most outstanding people: Sir Winston Churchill. We all know of this wonderful man's many activities, but most of us are not aware of the fact that he was a fish hobbyist for many years. He was greatly pressed for time to visit the many aquarium exhibitions in England, but always found a few minutes to look at some fish he particularly liked. There is an account of one time when he watched two male bettas in a tank furiously trying to push through a dividing glass to tear each other to bits. Somebody asked him if he liked fighting fish, to which his answer was: "No more than other fish, but I do admire their guts!"¹ Sir Winston Churchill was an honorary member in many aquarium societies in Great Britain, and it was known that he was greatly interested in the cold-water species. He began his fish-keeping at an early age, and there are numerous goldfish pools scattered about his birthplace, Blenheim Palace.

Many great people find it very relaxing to their jangled nerves to take a short rest in front of a fish tank and watch the fish as they go about their little tasks. Many a person with a problem on his mind has studied a tankful of fish and been surprised when he got up to have everything fall into place! I like to imagine Sir Winston Churchill sitting before a fish tank with all the complex problems he had during World War II, problems that would have broken the heart of many lesser persons, smoking his big cigar and murmuring his belief that there would always be an England.

William Vanderwinkler

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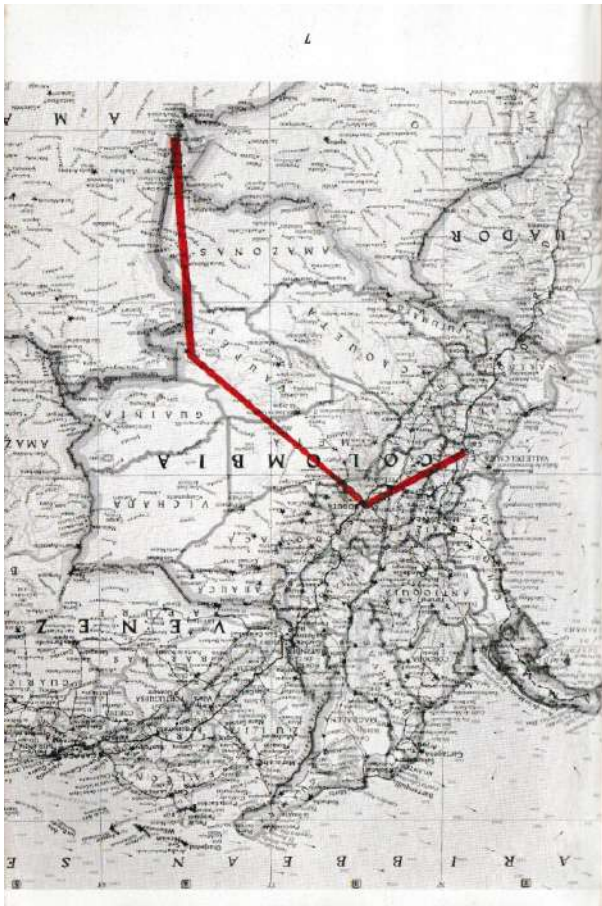
Chirodon axelrodi, the Cardinal tetra, found for the first time in Colombia.

My Most Successful Expedition—Cardinals in Colombia

by DR. HERRERT R. AXELROD with photos by the author.

I was tingling with excitement as our Avianca plane began to lose altitude over the high Andes Mountains, preparatory to landing in Bogota, Colombia. This rainy capital city, 8,000 feet up in the Andes, contains no fish which might ever adorn an aquarium, but it did represent the western gateway to the huge Amazon River system. It was from here that I was to take a breathtaking ride through the Andes, by taxi, to the first city on the llanos (plains), east of Bogota; it was here that Gulf Fish Farm had its beautiful compound.

With me on this expedition was William "Bill" Riese, of Aquatic Fisheries, New York City. Bill, my constant travelling companion, made valuable contributions to the T.F.H. expeditions. His sense of humor, even at a time when my spirits were at a low ebb, never failed to brighten even the most discouraging situation . . . and his knowledge of imported tropical fishes is almost legendary. Bill's losses from imported fish run less than 2% of his



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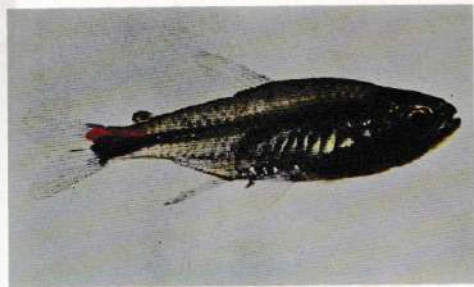
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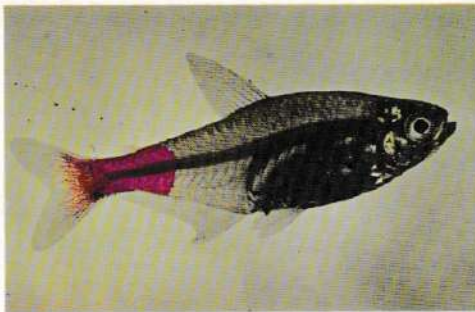
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The end of the Andes, immediately outside Villavicencio.

entire gross. There isn't another importer in the world who approaches that figure!

But back to Bill's sense of humor for a moment. The first night we were in Bogota, we stayed at the Steve's Hotel. This isn't the swankiest hotel in Bogota, but Steve is an American, he flies his own C-47, he has holding facilities for 250,000 Neons in his hotel, and he hauls tropical fish from Colombia to Tampa on a bi-weekly basis. We were waiting for Steve to make arrangements for hauling the fish we hoped to catch back to Gulf at Palmetto, Florida. Bogota in November is anything but a paradise. The temperature fluctuates from 75 to 45° in a matter of minutes; it is almost constantly



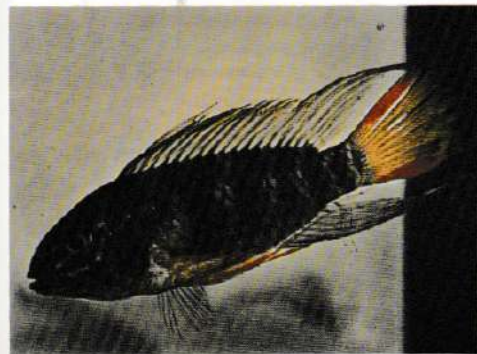
Hyphessobrycon stictus.

Apistogramma ramirezi; this is the wild form which retains most of its color even after several months in the aquarium!



Megaliphodus sweglesi, the Red Phantom.

The new *Apistogramma* species.





A view of Villavicencio from the mountains overlooking the city.

raining; and the air is so thin at 8,000 feet that we were plagued with spells of breathlessness and constant headaches. Rather than eat every meal at the Steve's Hotel, we decided to experiment with the local chow, and we took one meal at the "best" hotel in town.

Now everybody knows that Colombia is famous for its coffee, and I love strong black coffee and drink it without sugar (while most South Americans drink it with five or six spoonfuls to the cup). After finishing a very uneventful meal of a steak that dared you to chew it, I looked forward to my hot, strong coffee. I almost quivered with delight when we were served in cups that were a bit larger than the usual 2 ounce coffee cups for which Colombians are noted.

After the first mouthful, I noticed a decidedly peculiar taste and I said to Bill: "Even the coffee tastes bad here. Let's get rolling to Villavicencio; Steve will catch up to us."

Bill just sat and stared into space.

"I had to let you talk me into coming here, when I could be in Belem (Brazil) catching Discus?" he said, rather despondently.

Suddenly I broke the lethargy, and said: "Come on Bill, let's go. Let's take the first taxi to Villavicencio. This place is awful." With that, I picked up my coffee cup and drained the cup dry. Almost instantly I spat out the mouthful of coffee, for in the bottom of the cup was a huge 1 1/2" cockroach. . . . and as I spat it out, its spiny legs caught on my tongue and the side of my mouth, making the whole effort an awkward, sloppy splatter that decorated everyone within spraying distance.

In the jungle near Villavicencio, Bill Riese, with Capt. Saiz, fished in the nearby streams and caught some nice Pirulus.



Bill was unimpressed. He merely looked at his stained jungle jacket, shrugged, and said: "What are you getting excited about, he was dead, wasn't he?"

I tasted that dead cockroach for weeks afterward. (By the way, I took the insect with me, preserved it in formalin and donated it to the Smithsonian Institution along with my collection of fishes. Wouldn't it be a riot if this turned out to be a new species. . . . and we named it *coffoensis*!!)

I finally convinced Bill that we should head for Villavicencio the next morning, and thus began the most beautiful automobile ride I have ever taken. The road from Bogota to Villavicencio is a first class road most of the way. It goes through mountains and valleys that defy description. . . . and I have ridden through the Alps in Switzerland, the Burma Pass, the Khyber Pass, the Canadian Rockies and the mountains north of San Francisco, California. Nothing compares with this ride for sheer beauty. The trip takes about four hours, and almost exactly halfway there is a roadside rest which serves the traveler. It is manned by the local Indians, and the food is unbelievably tasty.

Capt. Emilio Saiz retired from the Colombian army to enter the fish business. He is employed by Gulf Fish Farms to run its compounds in Colombia.



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Our luncheon snack was about two quarts of the sweetest freshly squeezed orange juice I ever tasted (marred only by thousands of flies and dirty hands doing the squeezing) and potatoes boiled, and then deep fried (whole) in the fat of some kind of animal I have never seen cooked before. Perhaps it was a llama. From that experience on, Bill and I always took the cab ride of four hours from Villaviccencio to Bogota, even though the airplane made it in 20 minutes and cost the same.

Arriving in Bogota, we went immediately to the Hotel Meta where we were greeted by Capt. Emilio Saiz. Our whole experience with Capt. Saiz is so different that I must describe some of the details of this visit. First of all, the Hotel Meta (named for the Meta River). This is a beautiful tropical hotel. Here, only 75 miles from Bogota, the climate was better than Miami Beach . . . and the hotel almost as comfortable. In the center of the hotel is a huge, clean swimming pool with filtered water; a very comfortable bar is to be found in the hotel, in a room 100 feet wide and 300 feet long. The restaurant is clean and neat and, except for the huge rats which scampered about every few minutes, distracting you with their scratching sound as they moved quickly from one side of the room to the other, the meals were enjoyable and varied. . . . except for the beef, which was so tough it defied chewing.

The Saiz family . . . the dinner we had in Villaviccencio with Capt. Saiz and his wife, was a memorable one, especially after the filth and discomfort of the jungle.



Gulf's compound lies at the bottom of this mountain, the last mountain of the Andes before it becomes the famous llanos, or plain, of Colombia.

Capt. Saiz, trained as an accountant, is a university graduate and retired from the Colombian army. He served for many years in Leticia, the south-eastern-most tip of Colombia, at the Peruvian-Brazilian border. It was here that Saiz learned about fishes and fishing. . . . and it was here that he started in business after he retired from the military to enter the business world. What was most striking about Capt. Saiz was his command of English and his immaculate appearance. I hope I don't give you the impression that Capt. Saiz is an old man; far from it. He is a young forty, and extremely active. The compound he maintains for Gulf is also immaculate, and no small engineering feat either. In order to get running water, Capt. Saiz ran an aqueduct from a clear fresh stream in the mountains, through a 16 inch pipe, to his compound half a mile away and a thousand feet lower. The cool, fresh water is a tonic for the fishes, and the outdoor pools need never be shaded, for the running water keeps the pools sweet and the fishes cool. The water from the stream has a pH of 6.8 and is 74°F. in temperature. Ideal for handling fishes!

The next morning, after a very restful night at the Hotel Meta, we went to the river and started our fishing. In the shallow, rapid parts of the river close to the compound (which is near the airport about five miles outside of town), we used various types of nets to catch the beautiful *Corydoras metae* and *Hypostomus plecostomus*. Also in the same stream were colorless silver tetras and the magnificent green-gold variety of *Corydoras aeneus*. This variety is extremely beautiful and very valuable because the fish don't lose the reddish yellow glow to their bodies and lower fins. The accompanying color photo barely does them justice. They are different than the Trinidad *aeneus* in other respects, too. First, they are more "friendly" and don't spend so much of the daylight hours lying motionless on the bottom. Secondly, they are very peaceful and even when kept with a tankful of newborn Guppies, they didn't bother them. Thirdly, and most importantly, they are strong and hardy and live for many months in the home aquarium where they are subject to many abuses. The green-gold *Corydoras* is worth the few extra pennies it might cost. It is a very colorful scavenger.

Does this look like a barren river? In this shallow stream we collected thousands of *Corydoras metae*, *Corydoras aeneus* and *plecostomus*.



Assisting us in fishing were two Indian boys; one of them, named Inuma, was from Leticia and, as was typical of most Indians, was extremely capable, hardworking and uncomplaining. What a refreshing difference from the white-skinned campesinos of South America. Inuma knew how to fish and together we collected several hundred *Corydoras* and *plecostomus* in five or six hours. Gulf now has a regular pipeline for weekly shipments of both types of *Corydoras* and *plecostomus*. This is important because Trinidad, the usual source for *aeonius* and *plecostomus* is almost fished out, and the Government has placed an embargo on shipping fishes every other season. Each shipper is allotted a certain ration of fishes he can ship . . . and the season is open for three months . . . then closed for three months . . . in the Government's effort to prevent the complete extinction of catfish from the small island.

After completely investigating the fishes in the Villavicencio area, we chartered a small Norseman airplane and flew northeast to what looked like a promising area in the llanos (plains) separating the Amazon jungle from the Andes mountains. This plain is hundreds of miles wide and is infamous for its bandits. As a matter of fact, when we arrived at one small city on the Rio Meta, we were met by Sgt. Tomas Galan, Batallon de Infanteria, No. 21

Flying into isolated areas in our chartered Norseman, I brought along Capt. Saiz, Inuma and his Indian companion, and only fishing gear. We never brought food, but depended upon our ability to buy it . . . or catch it.



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The Colombian army, through Sgt. Galan, supplied us with a truck and an armed guard when we fished in the llanos (plains) in eastern Colombia.

"Vargas," of the Colombian Army. The Sergeant was extremely cooperative, and merely for a 55-gallon drum of gasoline, he provided us with military transportation and an armed guard. We needed a guard, too, for only a short time before we arrived, and at the exact same place in which we fished, a most cruel and inhuman murder took place.

The bandits approached the thatched hut of a cowboy living on the plains to steal his cows. They herded the entire family into the one large room of the house and bound all the children and their mother together, leaving them to lie helplessly on the floor. They took the cowboy, stripped him and slammed a drawer shut on his genitals, nailing the drawer locked after they finished. Then they nailed one of the cowboy's hands to a post in the house, threw a very old, dull knife on the table and set fire to the house. Even after the cowboy sacrificed himself to save his family, they murdered his wife and children and left the cowboy to die slowly in the hot sun. (He didn't die, having been saved by a chance visit from a neighbor.)

It felt comfortable to have the army, with cocked and loaded rifles, assisting us.

We drove out into the llanos for many miles, stopping only to dip a net experimentally into the water, now and then. Suddenly I gasped, for ahead of us on the horizon I could make out the familiar buriti-palm tree. This is the palm tree that is always found where Cardinal Tetras are found. I wondered. . .

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As soon as the truck arrived at the area in which we saw the buriti-palms, I jumped off the truck and headed for the water. Bill Riese followed me with the camera equipment and the net.

I could hardly wait as the truck drove slowly across the plains to the swampy land adjacent to the palms. This was the rainy season and everything was muddy. Even as we rode, the insects were eating us alive. But I forgot about the bugs now. This beautiful sight . . . buriti-palms in the middle of the plains . . . was overpowering. It's almost like finding banana trees in Central Park, New York!

When the truck had to stop about a mile from the water, I quickly jumped off, grabbed Inuma and Bill Riese, and we headed for the stream which was nourishing the buriti-palms. The water was cool (73°F.), perfectly clear, pH 6.4, and very deep. Though only ten feet or so in width, the stream was 20 feet deep in some places, and the local Indians who watched me fish refused to go in the water for fear of the large snakes that drag you down and drown you before you are eaten.

The sides of the stream went straight down and were lush with the most beautiful water plants. There wasn't an inch that wasn't bright green with plants I had never seen before (I didn't bring any plants back as I didn't have an import permit for plants . . . but they will soon be collected and sent around to all the commercial people specializing in aquarium plants). The scene was hypnotizing, and Inuma, Bill and I were standing there for at least ten minutes before the rest of the crew caught up to us.

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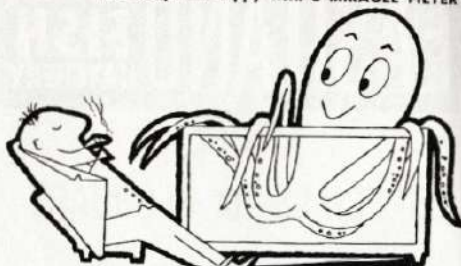
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TFH 65-3



This is what we saw in the distance . . . the buriti-palms and a small thatched roof hut that was deserted because it is too dangerous to live alone in that area where the bandits are still preying on the innocent.

Inuma and I went into the water immediately, and when we brought up the first net, we screamed with delight! Every fish in the net was a prize! Magnificent *Apistogramma ramirezi*, not the grubby washed-out specimens that result from years of inbreeding, but yellows, blues and reds that defy the imagination. Now I know why this fish is so popular . . . many years ago, when the first Rams came to the USA, their color must have been the same as these, for even several months later, as I look at them in my aquarium as I write these words, I see colors that no tank-raised Ram ever had. The color photo accompanying this article was not taken in Colombia, as were the rest of the photos . . . this photo was taken in Jersey three months later! Please try to buy one imported Ram; see what color can be in a small cichlid.

In the same net we found the paradoxical *Hyphessobrycon stictus*. In nature, this fish has a bright cardinal-red caudal peduncle. This soon fades if the fish is not kept in water which has a pH of around 5. We also found Marble Hatchetfish and a beautiful new *Apistogramma* which is going to be described shortly by Dr. Fritz Terofal of the Bavarian Museum in Munich. The second netful of fish brought up beautiful *Copelia* and one lone specimen of the Cardinal Tetra, *Cheirodon axelrothi*. Imagine finding Cardinals thousands of miles from the Rio Negro! We also found along with them the Red Phantom, *Megalomphodus roosei*. I have never found so many commercially

Continued on Page 69

Having Trouble Identifying Corydoras?

BY DR. HERBERT R. AXELROD
Drawings by Ingeborg Weirich
Identifications by Dr. W. Klausewitz

Next to Cardinals and Neons, the *Corydoras* species are probably the most popular fishes to come out of South America. So confused are the correct names of these fishes that every knowledgeable ichthyologist who has investigated the field strongly recommends a complete reworking of the genus.

Two groups, to my knowledge, are now working on this problem: Dr. Stanley Weitzman, Dr. George Myers' brilliant student, now working at the United States National Museum in Washington, and Dr. W. Klausewitz with his assistant, Fritz Rösse, at the Senckenberg Museum in Frankfurt, Germany.

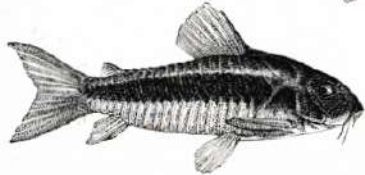
Klausewitz, the recipient of many of the *Corydoras* species collected by the staff of TFH in Brazil, cooperated with me by supervising an artist in the preparation of the accompanying drawings to assist both hobbyist and scientist in the proper identification of the *Corydoras* species. I showed the illustrations to Dr. Weitzman, who disagreed with some of the identifications and the validity of some of the species.

The popularity of *Corydoras* as scavengers is well deserved, and these peaceful, active fishes have a place in all community aquaria.

Corydoras aeneus



Corydoras aeneus schultzei



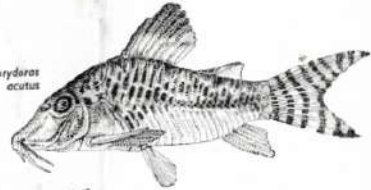
Corydoras schwartzi



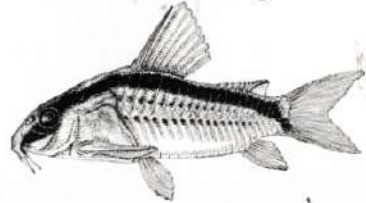
Corydoras schwartzi (variation)



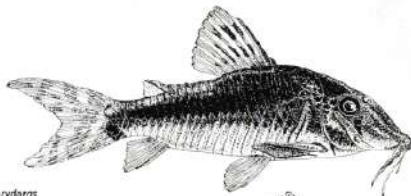
Corydoras acutus



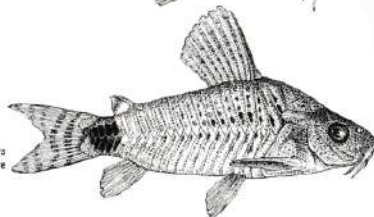
Corydoras arcuatus



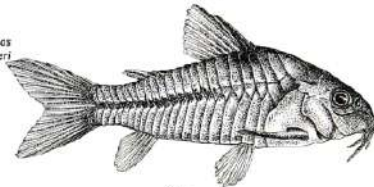
Corydoras treitli



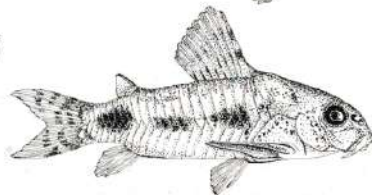
Corydoras guapore



Corydoras nattereri



Corydoras habrosus



Corydoras coccini



Corydoras axelrodi



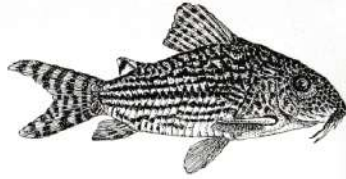
Corydoras erythraea



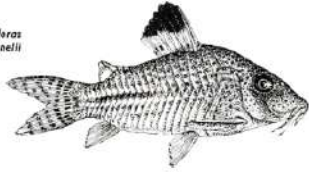
Corydoras cochui



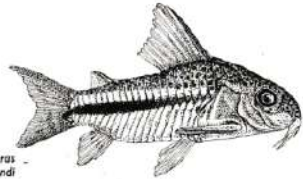
Corydoras hareldschtalzi



Corydoras funnelli



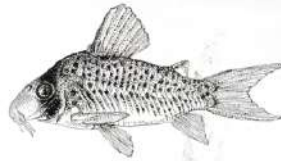
Corydoras bondi



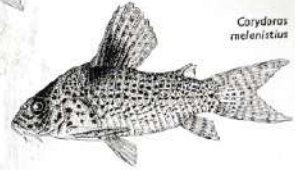
Corydoras embiacus



Corydoras sychri



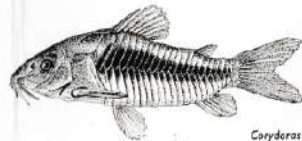
Corydoras melanistius



Corydoras barbatus



Corydoras equus



Corydoras spilurus



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MAIL CALL

By William Vanderwinkler

If you have an aquarium question and cannot find the answer in any of the standard reference texts, send it to MAIL CALL. Each month this column will publish the most interesting questions received and their answers. Letters containing questions cannot be acknowledged or answered personally. Address all questions to: MAIL CALL, T.F.H. Publications, Inc., 243-247 Cornelison Ave., Jersey City 2, N. J.

Breeding zebras

Q. I am interested in breeding zebra danios and would appreciate it if you would answer the following questions:

1. At what age should zebras be spawned?
2. Is a 3-gallon aquarium large enough for the spawning?
3. What kind of sand or marbles should be used on the bottom?
4. What kind and how many plants should be used?
5. How much light should be supplied?
6. What should the temperature be?
7. How long should the breeders be left in the breeding aquarium?
8. How long will it take for the eggs to hatch?

Norbert Leonardi, Baltimore, Md.
A. 1. The best time to spawn zebras is just after they have attained full

size (about 2 inches). Choose a female that is bulging with eggs and your most active male.
2. Yes. Zebras seem to spawn readily even in fairly confined space. They have been known to breed in small plastic bags while being carried home from the store!



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3. One of the best bottom coverings is a double layer of ordinary toy glass marbles. Keep the water level about 2 or 3 inches over the top layer and the cebra eggs will fall between the marbles before they are appeared by the fish in mid-water. Then the marbles will protect the settled eggs from further attempts by the parents to eat them.

4. It is preferable not to use any plants at all.

5. Give the breeders the amount of light they are accustomed to getting in their regular aquarium.

6. Temperature is not critical. Keep it between 74 and 78° F.

7. If you are around when they spawn, remove them as soon as they are finished. If you don't see them spawn, remove them when you see that the female has slimmed down. If you are not sure, remove them after about 36 or 48 hours

and look carefully for the fry during the next 4 days.

8. Depending on the temperature and water conditions, the eggs should hatch in 32 to 60 hours. Most of the fry will not be seen, however, until a day or two later when they become free swimming.

Forming a society

Q. I am very much interested in forming an aquarium society in my area. However, I have no idea of how to go about it. Can you help me?

Mrs. Roland Tompkins, Presque Isle, Me.

A. You can get more complete information than can be given here by writing to The International Federation of Aquarium Societies. Address your inquiry to TIFAS, 118 Court St., Monticello, Indiana.

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Plant troubles

Q. I have a 15 gallon tank that is planted heavily with Vallisneria, water sprite, and Cryptocoryne. My problem is that nothing seems to grow. The Cryptocoryne gets full of algae and the water sprite gets stringy. I use a total of 65 watts lighting for 6 hours a day. The pH is 7.4 and the hardness is 230 p.p.m. What could be the matter?

Cary Goldstein, Chicago, Ill.



A Cryptocoryne species.

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Vallisneria spiralis.

A. Your problem is a combination of too much light and water that is too hard. Cut down on the wattage

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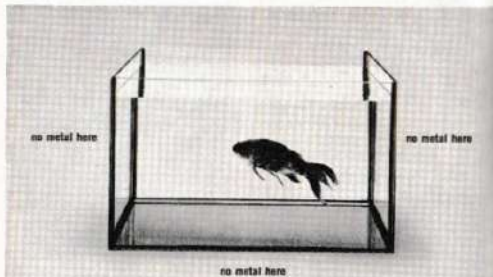
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Water sprite, *Ceratopteris thalictroides*.

of light rather than the time for 65 watts is too intense for such a small tank. This should eliminate the algae on the Cryptocoryne and the stringy growth of the water sprite. Hard water is particularly harmful to Cryptocoryne species. Reduce the water's hardness with a softening material or by replacing some tank water with rainwater or melted snow.

Overdue molly

Q. I have several black mollies. One female has been pregnant for 5 months and still hasn't had any babies. Can you tell me what is wrong with her?

David Durocher, Oswego, N. Y.

A. Sometimes a livebearer will drop its young over a long period of time rather than all at once. This is the most likely explanation of what is happening with your molly. If she is dropping one baby every day or two her gestation periods would overlap, causing her to be swollen

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Gravid molly

with fry constantly. You probably haven't seen any of the babies because they have been eaten.

Two filters

Q. I just started a 10-gallon aquarium about 2 months ago. I used an inside filter but that didn't seem to do a good job so I added an under-gravel plate filter. Unless I'm too particular, I'm still not getting enough filtration. When I change the inside filter, I disturb the gravel and stir up a cloud of debris. I now have 2 swordtails, 2 zebbras, 4 mollies, 2 neons, a tiger barb, an angelfish, a catfish, and a snail. I feed brine shrimp, molly food, and

regular dried food.

A. Mr. L. A. Jarosh, Perry, Iowa. The inside filter should have been enough for your tank. The addition of the under-gravel filter should certainly keep your water clear. Because of the way it operates, an under-gravel filter will always cause a slight amount of debris to be present in the top-most layers of gravel. This is the debris that is about to be decomposed, and it should not cause any trouble. It is possible that, as you suggest, you are being too particular. Your aquarium is not overcrowded and, unless you are overfeeding, your water and gravel surface should be more than clean enough.

Quick growth

Q. Recently one of my platies had babies. I put them in a net breeder. Somehow I overlooked one. In two weeks' time this one has grown much larger than the others.

A. Gary Grannis, Edina, Minn. Your platy got something the others evidently didn't. For one thing, he had all that space to himself. For another, he didn't have to battle with all his brothers and sis-

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ters for every bit of food. He had the life of Reilly for himself!

Ant pupae

Q. 1. This is a rather dry area, resulting in a scarcity of natural live foods for me to collect. However, we have a great many red, or harvester, ants. Would the pupae of these ants make good fish food? 2. I am not sure what the proper name is for my guppies. The female is nondescript in every way. The male is three-quarters black with a red tail. The dorsal fin is very long. He is similar to the guppy on page 56 of your August issue. His tail is not so wide but is longer. 3. I happen to have a fairly large amount of money which I would like to spend on a good tropical fish

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hook. Which would you recommend, the *Encyclopedia of Tropical Fish* and another book of about the same price, or *Exotic Tropical Fishes* alone?

Jaen Luft, Sterling, Colo.

1. I think they probably would. Try them in small quantities at first.
2. The shape of the tail you describe is called a scarf tail. I would say that your fish is best described as a three-quarter black, scarf tail puppy.
3. Many of our most knowledgeable aquarists consider *Exotic Tropical Fishes* to be the finest book of its kind. In addition, because new inserts for the book are published regularly in this magazine, it is undoubtedly the most up-to-date. I think this is definitely your best choice.

Trapped male

Q. I put a female guppy in a breeding trap with a male to breed them. After about an hour, she ate him. Why did this happen? 2. My hatchfish stay at the top when I feed live food. The food sinks down before they can eat it. How can I make sure they get live food?

A. Marian R. Klepser, Berwyn, Pa. 1. First of all, there is never any reason to put a male in a breeding trap. If mature male and female guppies are kept together the females will always be pregnant. The most probable answer to your question is that the male died a natural death and you observed the female picking at his body. It is highly unlikely that the female attacked and killed him.



A hatchfish—*Cornagella stigmata*.

2. Pour the live food into the tank so that it falls in front of the hatchfish. If they see it and want it badly enough they will follow it at least part way down. Another solution is to feed live foods that remain on top. You could use worms fed from a floating feeder, mosquito eggs, or wingless fruit flies.

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Tiger trouble

Q. We have 2 tiger barbs which have lost all the red coloring in their fins. They are in a 10-gallon tank with plenty of plants. The water is soft and clean and stays at a temperature of about 69 to 70°F. Can you tell me what we can do to restore it?

Mrs. Gerald Jones, Forgan, Okla.

A. Your water is too cool. This not only causes a loss in color intensity but is also harmful to the health of your fish. Raise the temperature to about 76°F. and the red coloring will return.

Three-spot opaline cross

Q. I. Can three-spot and opaline gouramis be crossed successfully? 2. If so will the offspring be of an in-between type or will they look



Three-spot gouramis.

like one or the other of the parents?

- Hank O'Hare, Los Angeles, Cal.
1. Yes, such a cross is not only made easily but results in a large number of offspring.
 2. At adulthood, each of the offspring will look like one or the other of the parents.

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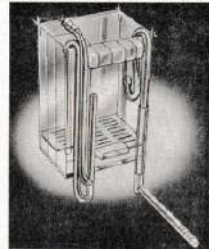
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SOCIETY NEWS

All inquiries about The International Federation of Aquarium Societies should be addressed to: TIFAS, 118 Court St., Monticello, Indiana.

Chicago, Ill. . . . The Midwest Aquarist Society, The Suburban Aquarist Society, and the Midwest Guppy Society are jointly showing at the Chicago World Flower And Garden Show at McCormick Place from March 20 to March 27. Exhibits will include idea and novelty aquariums, show guppies, bettas, and a marine display. There will also be a special display section for dealers. For further information concerning this show, contact Mr. Bruno Bywalec, 6337 N. Normandy, Chicago 31, Ill.

Iowa City, Iowa . . . The Eastern Iowa Aquarium Association recently completed its first year of operation. This past summer they ran the first tropical fish show in the Iowa City area and it was a great success. The club now has fifty members and is looking for about fifty more in the coming year. Those interested should address Dr. William Spector, 209 Ridgeview Avenue, Iowa City, Iowa.

Little Falls, N. J. . . . The North Jersey Aquarium Society, Inc. is holding its 9th annual tropical fish show on March 6 and 7 at the White Eagle Auditorium, 41 Broughton Ave., Bloomfield, N. J. Classes shown will include AGA guppy, broadtail guppy, betta, livebearer, and egg layer. Those interested in further particulars should contact Ray Mollilo, 15 Belmont Ave., Bloomfield, N. J. or call PI 3-0558.

Pittsburgh, Pa. . . . The South Hills Aquarium Society has changed its address from 743 East Warrington Ave. to 26 Millbridge Street, Pittsburgh 10, Pa.

Waltham, Mass. . . . The Waltham Tropical Fish Association has just been formed. Those in the area who are interested in further information should write to William D. Bright, Jr., 42 Gregory Street, Waltham, Mass. or call TW 3-6768.

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Guppy Corner



By Paul Hahnel

Hollow bellies.
Q. I have a 20-gallon tank and in it a couple of dozens of retailed guppies, 2 swordtails, 4 neon tetras, and one catfish. For the past several weeks my guppies have been dying out. Usually one dies every several days. This does not affect the other specimens. I have not added anything to the tank for the last few months, fish or plants. Fish get dried foods only. Symptoms: guppies get thinner, mainly in the belly area, the whole body becomes arched, fish has difficulty swimming and finally dies. The symptoms last approximately three to six days. What in your opinion may be the possible cause?
Dr. George Radensky, New York, N. Y.

A. There is a possibility that your fish are weak from being inbred, but it is more than likely that one-sided feeding is the culprit. There are always bacteria present in the aquarium which will attack a guppy that has become weakened. One of these bacteria is named *Octomitus intestinalis trutta* and attacks the intestines and gall-bladder. The result is that the fish becomes hollow-bellied. Your guppies need more than dry food. I recommend live and frozen foods, available in petshops.

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Sexing baby guppies.

Q. Recently I got a pair of guppies. They gave birth and now have about 20 babies. I hope you can help me and answer my questions:
1. When can I sex my baby guppies? What are the distinguishing sex features?
2. Do you know of any tropical fish or guppy club I can join?
Richard Walsh, Garden City, N. Y.
A. 1. To sex fish, I look them over daily and keep removing the ones whose tails are a little darker; these are the males. This has to be done before they are six weeks old, because at that time they are ready to reproduce. Other hobbyists use other systems.
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GUPPIES AS PETS is one of the best books ever written on the subject. The author is Dr. Myron Gordon, a fish geneticist for the New York Zoological Society. Its 56 pages are crammed full of guppy information. It tells the secrets of raising hormones to color fishes as well as formulas for food for guppies, etc. 35c.

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valuable fish in one small stream as I did there . . . but this is not the end of the story.

As I fished for more and more Cardinals, in water over my head most of the time, while the Indians gleefully watched expecting me to be gobbled up by a 30 feet long *Boa*, Bill went along with Inuma looking for other fish. Suddenly I heard a scream, and could only picture Billy being dragged down by the snake-monster the Indians were bragging about. Then, Billy's voice rang loud and clear.

"Herb, come here, I found a solid red Cardinal!"

It didn't take me long to reach Bill and I gasped at what I saw.

His hand at first looked red with blood, but on closer examination I noticed that he had a fist full of tiny red fish less than an inch long. Only their caudal peduncle sported a small black spot. What a fish paradise this was (financially, too, for all of these would be fishes available only from Gulf Fish Farms in Palmetto, Florida)!

Well any further excitement would be anti-climactic, but Capt. Saiz

The water here is 12 feet deep and I am treading water. This pool is loaded with aquatic plants and produced thousands of Cardinal tetras of all sizes.



Salts From The Seven Seas



By Alfred A. Schultz

Q. I have a problem with which you may be able to help me, I have kept fresh and salt water aquaria for about 4 years, but my problem concerns the latter: I live on the Gulf Coast of Mississippi and have used specimens collected here for my aquaria, except for sea horses ordered from Florida. I seldom find very interesting fishes, for I am restricted to collecting in shallow water and tide pools. I usually keep pipefish, puffers, crabs, hermit crabs and *Abudefduf*. I have ordered several marine fish price lists. I have found several companies who offer fishes and invertebrates at reasonable prices, but they all have minimum order requirements on fish such as \$10, \$15 or \$20. The companies who impose no such rule charge an outrageous price for even the common species. Can you recommend a company anywhere in the United States that charges reasonable prices and has either no minimum order requirement or a small one? I would appreciate any information you can give me and I am sure that many other hobbyists have the same problem.

2. I would also like to correspond with another tropical fish hobbyist like myself. I am 15 years old and would particularly like to exchange letters with a boy my age.

Jimmy Morton, 709 13th St., Pascagoula, Miss.

A. 1. The reason that most marine fish suppliers request a minimum order of \$10 or more is that the cost of packaging the fishes and their preparation for shipment becomes prohibitive for a single fish. Five or ten fishes in the same container bring down the cost from start to finish. Your best bet is to find a local dealer who handles salt water fishes and buy from him.

2. I added your address to your name and hope that you get a lot of interesting mail.

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Even Inuma smiles as Bill Riese hands me the first Red Ruby Tetras. Notice that the stream is completely shaded by palm trees.



The Polka-dot *Pimilodella* "angelicus," a new catfish which never stops swimming.

was no slouch either, and he came up with a magnificent catfish we call *Pimilodella* "angelicus". This is not the real scientific name, but only a nickname we are giving the fish because its silver body and contrasting black spots reminds us of the African *Synodontis angelicus* in reverse. (That African fish has white spots on black; this one has black spots on a silver field.) We were very fortunate in bringing back all of the fishes alive, thanks to Capt. Saiz, who maintained them for us until we were ready to return.

After consulting with Dr. Jacques Gery, we discovered that our all-red fish, which we call the "Red Ruby", is not only a new species, but also a new genus! Quite a find.

In the nighttime, we fished several rivers which were shallower, and caught many *Esodon paradoxus*, Green *Pimilodella*, giant 5' long Headstanders, *Caenotropus labyrinthicus*, as well as more *Corydoras metae* and other interesting forms.

All in all, because of the great people I fished with, and the accumulation of such beautiful fishes in one small area, I consider this to be the most successful expedition I have ever been on. Gulf Fish Farm now has a permanent compound on this site.

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Do you know this fellow?

Ounce of Prevention

BY WILLIAM VORDERWINKLER

Many of us have at some time or other met some person who seems to have a magic touch or "wet thumb" where fish are concerned. He has tankfuls of healthy happy fish whenever we see them and is constantly surprising us with such earth-shattering news as "Oh, by the way, do you remember those two small Discus I picked up last year? Darned things spawned yesterday!" He tactfully doesn't mention the half-dozen you bought at the same time, all of which died a scant two months after purchase.

What makes a successful fish-keeper? We all do just about the same things, but the fellow with the "wet thumb" usually does a few more, some of which we are accustomed to considering superfluous and inconsequential. Let us watch our friend and see how he operates.

First of all, you don't lure him by offering him "bargains." Although he will admit that most of them are merely young fish which the dealer wants to move quickly, he insists on buying nothing but first-class stock in the pink of condition. When he buys he looks over the tankful of fish very carefully beforehand to make sure *all* of them are healthy. It takes no time at all to spread a disease from one sick fish to a whole tankful, he will tell you, and a fish which has been exposed to a disease may look healthy enough when you buy him and be a very sick creature the next day. Do your friend's precautions end there? Not by a darned sight! When he gets home he doesn't open the little plastic bag and dump the fish into a community tank. He floats the bag in a separate small aquarium which he calls his "quarantine tank" until both temperatures are exactly equal. While waiting he takes a little water out of the bag and checks the pH of the dealer's water. This may call for a little adjustment of the water into which the fish is going, which is made at this time. Once the fish is in the quarantine tank he is carefully watched for at least a week. If any disorders show up, it is a comparatively easy matter to treat one or two fish and even if the fish dies, at least there hasn't been an epidemic which would have wreaked havoc with a lot of other fish if these precautions had not been taken.

Our friend is also careful as to what he feeds his fish. He finds out when his dealer gets his *Tubifex* delivered and makes it a point to buy the worms on that day, rather than get the tail-end of a shipment later on. This insures that his worms are fresh, and he takes precautions to keep them that way once he gets them. You'll never see any smelly gray bundles of dead and half-dead worms among what he feeds! Dry foods? Of course he uses them quite frequently, but he doesn't have just one can. He knows what foods his fish

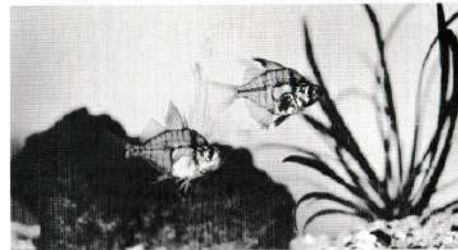
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The glass fish (*Chanda sanga*) is often kept in fresh water. The "ounce-of-prevention quart" would always provide the salt this fish needs for optimum health and color.

prefer, and on what they thrive best. He never gets over-generous with foods, and the gravel in his tanks is always immaculate. It is better, he will tell you, to give two small feedings every day than one big one. His plants are the envy of all who see them, and he is always giving some away. He knows what conditions are best for each plant species, and which tank has these conditions.

His fish collection is extensive, but he never adds a fish unless he has read about it first and decides that he can give it the conditions it requires. He never "takes a chance" that a fish will be hardy enough to accept any but the best water conditions he has to offer. He won't try to keep two fish species with highly different water requirements in the same tank.

Our friend knows how to use the many medications and has a good stock of them, but he never seems to have to resort to any of them. There is no need to dose a healthy fish!

What are the outstanding causes of fish deaths, we ask him, knowing full well what the answer will be. "Two things," he tells us: "Overcrowding and overfeeding! We always want to see a lot of fish hustling and bustling all over a tank, and it is a constant temptation to exceed the safe limit. And we're always worrying that our fish aren't getting enough to eat and give them more than they can put away in ten minutes. The result in both cases is dirty, bacteria-laden water which can quickly raise hob in any tank!"

Who is this omniscient paragon? I had nobody in particular in mind as I wrote these lines, but a few, and only a very few of the many hobbyists I have met, could be the model for this sketch.

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