

Read about: **The Smallest – and Rarest – Anabantid in the World**



March, 1969

tropical fish hobbyist

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cover

There are aquarists and fish keepers and there are fish photographers and people who take pictures of fishes . . . and then there's Dr. Karl Knaack, top-notch aquarist and eminent fish photographer, who best exemplifies the not-so-subtle difference between doing and dabbling in the aquarium world. On our cover this month is one of the many fine photographs produced by Dr. Knaack as an offshoot of his decades-long romance with the tropical fish hobby. Learn a lot about Dr. Knaack's background (and a little about some of the international brouhaha attendant to the most recent brutalization of Czechoslovakia by the Soviet Union) in Dr. Axelrod's "Meet the Hobbyist . . . Dr. Karl Knaack" article beginning on page 17. Cover photo by Dr. Karl Knaack: tiger barbs.

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Pages 33 and 34, 67 and 68. These pages are perforated for easy removal and punched to fit into the Looseleaf Edition of EXOTIC TROPICAL FISHES.

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editorial

If you've been paying attention to the various news media recently, you've probably noticed that some states have started their anti-piranha flapdoodle again. It goes something like this: a public official decides that his state is in great danger because some people in the state own piranhas, which (as everyone knows) are aquatic werewolves of the worst sort, ravening monsters of the not-so-deep who can bite the armor off a Patton tank in exactly 4.2 seconds. Whereupon said public official decides to throw the protective mantle of his enlightened authority over the shoulders of the unknowing and uncaring citizenry in his bailiwick. Whereupon a law is proposed or a regulation promulgated or an amendment offered or an ordinance expanded or some such, the net result of which is that the sale, possession, transportation, appreciation, deforestation and resuscitation of piranhas becomes a no-no for people in that state. (In California they do it up brown, with uniformed officials actually removing piranhas from their owners' tanks and stomping them to death.) Anyway, you know how these things work; you've seen them before.

So let's look at anti-piranha legislation. Let's look at laws outlawing piranhas strictly from the standpoint of their practicality wherever they're enacted. Let's assume that these laws are both legal (in the sense that they contravene neither state nor federal constitutional principles) and ethical (in the sense that they are enacted not out of spite, not out of political pandering, not out of greed or vanity or selfishness but out of a real concern for the public weal).

A question of a given anti-piranha law's goodness then becomes a matter of determining whether there's a need for it and, if there is a need for it, whether the statute as enacted will do the job it's supposed to do. Certainly there can be a need for a law in states that have waters warm enough to let piranhas live and multiply. In such places piranhas can be a danger to both other fishes and aquatic animals and to people, so a proscription on the possession of piranhas in such states can make a good deal of sense.

Continued on Page 32



So rare in its home waters that it wasn't discovered until the 1930's, *Malpulutta kreiseri* is even more rare in home aquaria, but the author hopes eventually to be able to establish a breeding colony of this interesting little air-breather. Photo by Dr. Herbert R. Axelrod.

The Smallest—and Rarest—Anabantid in the World

BY RODNEY JONKLAAS
CEYLON

About 200 yards away from my home as the crow flies (and many many crows fly here), is a streamlet which starts somewhere in a swamp and ends up in a canal, thence to a huge lagoon and finally into the sea at a place called Negombo—about 7 miles from here. Negombo is from where 90% of the world's supply of *Monodactylus argenteus* come . . . but that is another story.

Anyway, one of the many reasons why I chose to shift my business and living here (a nightmarish undertaking performed in October/November 1966) was the stream. Streams intrigue me as they undoubtedly intrigue every keen aquarist.

Within hours of getting into my new home, I was wading in the stream with a net, and as expected, I came up with *Anabas testudineus*, *Rasbora daniconius* (I am sure I said it was ubiquitous) *Horadandiya atukorali* (which I feed to my Oscars, Firemouths, Acaras and Red Devils when I run short



The colorful *Rasbora waterlilyfish* lives only on the island of Ceylon and is occasionally found in the same waters as *Malpulutta kreiseri*, although the species usually prefers faster, clearer streams. Photo by Dr. Herbert R. Axelrod.

The cherry barb, *Puntius titteya*, is one of the Ceylonese fishes that is seen most often in aquarium shops in the United States. Photo by Gerhard Marcuse.



of worms), *Aplcheilus dayi*, *Myxus vittatus*, *Clarias teymanni*, *Ompok bimaculatus*, *Puntius amphibius*, *Puntius chola*, *Puntius vittatus*, *Puntius filamentus*, even *Macropodus cupams* and a rather drab-hued *Belontia signata*. Subsequently quite a few of my stream finds found their way overseas but some months later, when collecting more carefully I found, to my great pleasure and surprise *Malpulutta kretseri*.

Malpulutta is an ichthyological rarity, discovered in the mid-30's by a friend (who only the other day rang me up and asked whether I knew the fish named after him by our famous Dr. Deraniyagala). For many years, only two or three dead specimens existed in Museums, until in 1956, I re-discovered scattered colonies in various parts of Ceylon, but nowhere so close to the coastline. I am six miles from the sea. To have *Malpulutta* living so close to me is indeed a rare honor. I collected four, two pairs, and released a few odd small ones in the dense nitella clumps in the stream whence they were netted.

Since *Malpulutta* so closely resembles a betta I gave them betta treatment; confinement in glass jars with a sprig of weed for lurking in, and a diet almost exclusively of mosquito larvae. They did splendidly and gained size and weight. Then, I put them all together in a small heavily-planted aquarium, whereupon they did what I wanted them to—they bred. Perhaps I am the first "to breed *Malpulutta*," perhaps not. I hasten to add that they did everything themselves. I just gave them the opportunity. No fooling around with hardness, pH, heaters, thermostats, lights, sterilisation, anything. I put them in tap water (which comes off a well, less than 50 yards away) and which averages a pH of 6.4 with mild fluctuations caused by rainfall or drought, and at a temperature close on 80° F. The water is always quite soft here and very often faint amber in color; most tropicals flourish in it, even goldfish. In fact, one of the factors which decided my moving into this place was the abundance of this very suitable water supply.

The male *Malpulutta* built a flimsy nest consisting of a few bubbles in between floating *Ceratopteris* plants and the pair mated in true anabantid fashion, if not more shyly and coyly unlike my brazen bettas and paradise-fishes. The tiny amber eggs floated to the top and were guarded mainly by the male. However, the other pair and the female which laid were not unduly harassed or bullied, and suffered no damage whatever. The fry hatched in two days, were free swimming in three more, and resembled baby bettas closely. At first they ate microworms, but rather reluctantly, probably supplemented this with free infusoria in the water, and within 10 days started on newly-hatched brine-shrimp nauplii. I removed the four adults as soon as I felt I could swish a small net in the tank without injuring or killing the babies. There were so few that I wanted to save as many as

possible. Now there are 18 of them, and less than two months after hatching, are half-grown.

Why is *Malpulutta* so rare in its wild state? I believe the de-forestation of the great part of Ceylon's moist, hot, fertile areas is one reason. *Malpulutta* loves, cool, dark, shady, shallow, weed-choked streamlets or ditches with flowing water. You seldom, if ever, see one swimming about in its natural habitat. It is so shy that long before you blunder close to its lair it has rushed into a dense mass of weeds or rootlets. Once, more than 10 years ago, I saw one or two *Malpulutta* swimming in a 3-foot deep clear stream in the company of Barbs and *Rasbora vaterifloris* but as soon as my net appeared they dashed for cover and had to be netted "blind," which means poking it in hopefully into a dense mass of weeds, pushing upwards and netting practically everything which has been enclosed in it, tiny shrimps, dragonfly larvae, *Belontia signata*, *Macropodus cupams*, *Puntius titteya* and *Aplcheilus dayi* and with luck *Malpulutta*.

But the relatively few eggs laid, and fry raised, no doubt also contribute to its rarity. About as scarce in India is *Macropodus cupams dayi*, which I hunted for in Kerala State last year. Out of hundreds of *Macropodus cupams* the odd one or two would be *dayi*. The few *dayi* collected by us were spawned by my friend "Sane" in Bombay, who sent me a nice lot of half-grown youngsters. They in turn proved to be hardy and prolific, and a single careful spawning got me well over 200 youngsters, which have been raised to maturity without difficulty. *Malpulutta* so closely resembles *Macropodus cupams dayi* that I often wonder whether the two can be crossed. Naturally I shall try this soon, and if successful report results in TFH. Who knows? Something exciting may come of it.

Meanwhile, I aim to raise a sizeable stable of *Malpulutta*. Occasional orders come in for rare fishes from discriminating collectors in Germany and U.S.A. and I am never able to supply *Malpulutta* in any numbers when they are needed.

Incidentally, the name *Malpulutta*, ascribed to it by the well-known Dr. Deraniyagala, is derived from a Sinhala word which sounds the same and which means "patterned or flowered *Macropodus*," which is about as appropriate a name as one could ever find. Its specific name "*kretseri*" honors Mr. O. L. de Kretser, a Ceylonese Lawyer, who first discovered it, and brought it to the notice of the Museum authorities in Colombo. Mr. de Kretser is still a tropical fish fan and is soon to be presented with some tank-raised specimens of the fish named after him.

Together with such aquatic midgets as *Rasbora maculata*, *Gambusia Aplcheilus blochi*, and a few others, *Malpulutta kretseri* holds a special attraction for aquarists fancying miniature tropicals which can be kept and bred in the most limited space possible.



Betaphile

Frederick J. Hess

Slow Male

Q. I recently purchased a male betta. He is a beautiful male whose glorious quality of color is most desirable to me. My problem is that he seems very inactive. He is not aggressive with any female, and his nest contains few bubbles. I have not yet received a living crop from him. I would like to know why he is this way and what I should do about it. I am very attached to him and have serious breeding plans. Karen M. Ching
Kahului, Maui, Hawaii

A. Every breeder runs into these males. It is very frustrating, especially when the coloring or finnage is unusual. I do not have a sure cure. The best advice is to keep trying. If he proceeds to the point of embracing the female, but refuses to care for the eggs, it is possible to pipette the eggs out and drop them near another spawning pair. The foster father will pick up the eggs and care for them. The trick is to get two pairs to spawn at once.

Important address

Q. Can you send me some addresses of people who raise and breed bettas with very good luck? William D. Steen
Citrus Heights, California

A. You can do no better than to join the International Betta Congress. For a \$5.00 membership fee you will receive the addresses of 200 of the top betta breeders in the country. Send your dues to Sharon Chappell, 2373 E. 7th Avenue, North Saint Paul, Minnesota 55109.

Black Females

Q. Where can I obtain a black female for my black male? At present I am breeding my black male to a beautiful deep green female. Mrs. John Tempera
North Lake, Illinois

A. I have never seen a black female and I suspect that the black pigment is developed completely only in males. The mating to an iridescent female is not the best for obtaining black, because the green will cover up the black. The best female would be a dark brown.

Egg Numbers

Q. According to *All About Breeding Tropical Fishes*, bettas are supposed to lay 400 to 500 eggs. The bettas which I am raising fail to lay a number anywhere near that number. I have observed approximately 50 eggs at the most. Even this number fail to develop into adulthood or even hatch. The hatchery here on Maui will not give me any information, so I am requesting sufficient data. Asa T. Ige
Kahului, Maui, Hawaii

A. I personally feel 400 to 500 eggs is larger than the average brood. I would say half that number is good, with young females producing about 100. Larger older females may produce up to 1000 eggs, according to some breeders. Counting eggs is tedious and tends to be very unreliable. A recent spawn of my own I estimated to be about 50 eggs based upon what I could see in the nest. I was wazy off because there were 256 fry when I moved them to larger quarters at 6 weeks of age.

Tropical Fish Hobbyist

Mysterious deaths

Q. At one time I had five bettas. I fed them tubifex, bloodworms, and dried foods. They would die at the rate of one about every two weeks. There were no external signs of disease. Their heads were usually bent upwards from the pectoral fins to the mouth. They were kept in one-quart candy jars at room temperature in pH 6.8 water. Can you account for the deaths?

Richard Homovec
Raleigh, North Carolina

A. It is impossible to be sure what the problem is here. I would suggest two changes in your setup. Unless you are absolutely sure that the tubifex is from a clean source, discontinue it. Secondly, try keeping your bettas warmer, about 80 to 85 degrees.

Color Change

Q. I have a blue male from a mating of two blue bettas. Recently a pink spot of Cambodia color appeared at the base of the dorsal fin on each side of the body. It has spread evenly on each side and up the dorsal. It does not seem to be a disease, because the fish acts normally. This process has taken two months. Do

you have an explanation of what this is and what triggered it?

Bob Beauchamp Phoenix, Arizona

A. I have seen reports of similar happenings before. No explanation has been suggested, but it could be an hereditary condition. The pinkish coloration of swordtails is very similar. This was reported by Dr. Jo Ann Norton in TFH January 1968.

Genetics

Q. If I mated a blue male betta with a red Cambodia female, could I get a blue Cambodia? If I mated a brown female to a blue male, would some of the fry be brown? David Brunton
Maple Valley, Washington

A. If you mean a fish with a pink body and blue fins, no. If you mean a fish with a pale blue body and blue fins, possibly. If the blue male had a Cambodian ancestor, there is a chance of obtaining these in the first generation. At any rate, mating brothers and sisters of the first generation should provide some blue Cambodia fry. Some dealers call these violet Cambodias. The chances are very high of getting brown females from the second cross. The males will tend to be much redder.

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The Smithsonian Institution and T.F.H. Publications, Inc., are pleased to announce the publication of a reprint, including the color plates, of the Philippine Bureau of Science's three Monographs on Philippine fishes: No. 1, Jordan and Richardson's Checklist, 1909; No. 23, A. W. Herre's Gobies, 1927; and No. 34, Montalban's Pseudocentridae, 1927. These rare historical works are available in a clothbound volume for \$5.50.

Two earlier numbers in this reprint series are: Jordan and Evermann's "The Fishes of North and Middle America," U. S. Nat. Mus. Bull. 47, Vols. 1-4, 1896-1900, \$25.00; and Smith's "The Freshwater Fishes of Siam or Thailand," U. S. Nat. Mus. Bull. 188, 1945, \$3.50.

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Meet the Hobbyist

Dr. Karl Knaack

BY DR. HERBERT R. AXELROD

Photos by the author

I had just left Istanbul when I received word that the famous fish breeder and aquarist Jiri Taborsky had fled Czechoslovakia with his family and was waiting for me in Salzburg, Austria, in hopes that I could help him find a new home somewhere in the free world. Our contact in Salzburg was a fish dealer who previously bought some aquarium stock from the famed Czech group of aquarists headed by Taborsky.

I arrived in Salzburg about 8 P.M. on a Saturday night. With me was Bernard Duke, a vice president of our company, visiting our European operations. We tried to locate the Taborskys, but the pet shop was closed until Monday. On the next morning I went back to the pet shop and tried to find where the owner lived. In my attempts to find the owner I went into

Tropical Fish Hobbyist

a small restaurant in the neighborhood. While asking where I could find Mr. Jähnel, the owner, a young man walked up to me and said, "Aren't you Dr. Axelrod?" "Yes," I answered. "How did you know?" "Just follow me, please," was all he said.

I followed him in my rented car, and 15 minutes later we pulled up in front of a mountain cottage on the outskirts of Salzburg. I recognized Dagmar Taborsky, the beautiful wife of Jiri, in a second floor window. She screamed when she saw me and came running down. In a few minutes our whole tearful group was hugging and kissing each other in typical Czech style, and Jiri unfolded his story.

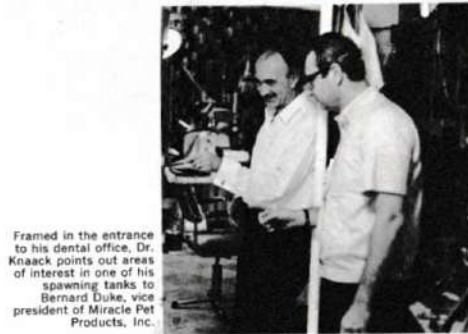
After leaving Czechoslovakia, the Taborskys went to Bulgaria, Hungary, and Jugoslavia. They then made their way to Salzburg, where Herr Jähnel was kind enough to put the whole Taborsky group of nine into his summer home . . . free of charge!

That evening we crowded into a small car and drove the 180 miles from Salzburg to Vienna.

On Monday morning we went to the American embassy in Vienna. It was already crowded with hundreds of Czechs begging for a chance to come to America. It was impossible. While Canada, Australia, and many other countries of the world welcomed these people fleeing for their lives, America was still debating what to do.

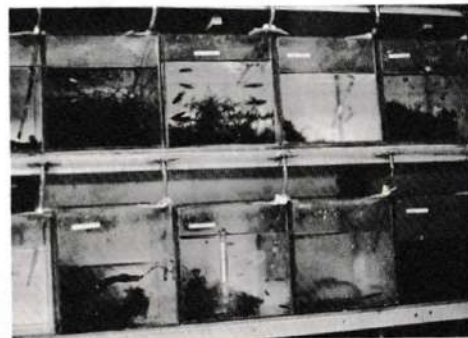
Anyway, we had a rough time . . . until we met one of the kindest, most understanding people I've ever met. He's a young consul and his name is

As Mrs. Knaack looks on, Dr. Knaack focuses camera on livingroom tank in which he regularly spawns discus.



Framed in the entrance to his dental office, Dr. Knaack points out areas of interest in one of his spawning tanks to Bernard Duke, vice president of Miracle Pet Products, Inc.

Here are a few of the home-made all-glass tanks used by Dr. Knaack in his breeding experiments; most of the tanks are used for breeding killifish species.



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Dr. Axelrod discusses the new remedies and tonics bearing his name during his visit to Knaack family in Vienna.

Salmon. He showed me how to legally get permission for the Taborskys to enter the USA, and within 48 hours they were all in New Jersey!

That night, Monday night, we already knew that we would be going back to the USA. We wanted to celebrate and we didn't know how. Then it hit me. Dr. Karl Knaack was my friend and also Taborsky's . . . why not call him? We did . . . and what a party we had in his home. Only a Viennese knows how to have a party, and the beautiful Mrs. Knaack entertained us with her singing and yodeling while I played the violin. The Knaacks' son is also an entertainer, a magician, but he had to return to his army base that night, so he could only stay for a little apple strudel.




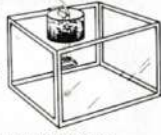


But you have to know Dr. Knaack. First of all he is a dentist. A darn good dentist, for many of his patients are Americans who need new teeth. Knaack is good . . . and relatively cheap, so word has gotten around that if you need a set of teeth, Dr. Knaack in Vienna is the man to see. For the same price as a new set of American teeth you can have a set of Viennese teeth and a visit to one of the most entertaining cities of the world.

Besides being a meticulous dentist, Dr. Knaack is an extremely capable aquarist and fish breeder, and one of the world's greatest fish photographers. Though he specializes in rivulins, he also breeds discus. In his laboratory



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where he makes the teeth himself, Dr. Knaack has dozens of small glass tanks which he made by cementing pieces of glass together with Silastic cement. In each tank of about one gallon capacity, he has a few rivulins. All in all, he has more than 60 species. His larger tanks, in the same laboratory, contain scores of dwarf cichlids and fancy rasboras. Dr. Knaack's tastes in fish are as all-embracing as his taste in fish photos, and I was amazed to see a collection of thousands of fish color slides which I was fortunate enough to buy after convincing him he needed a new car and better camera equipment.

As you can see from the accompanying photos, Dr. Knaack uses a Hasselblad camera with bellows extension and closeup lenses where necessary.

If you'd ever like to meet a great aquarist and a great person in one of the world's fun cities . . . or if you need a new set of teeth, visit Dr. Knaack. (Note: I guarantee that Dr. Knaack is a great fish photographer and an excellent fish breeder . . . but I can't guarantee his teeth!)

PEN PALS WANTED

I am a keen aquarist and philatelist from Ceylon and would like to correspond with penfriends in any part of

the world who are aquarists or philatelists or both.


I am 31 years of age and a medical laboratory technologist by profession. My aquarium consists of only fresh-water and brackish-water tropicals at present, but I hope to have marine fish in the near future, as there are many beautiful fish off the shores of Ceylon. As I have over 50 tanks, I do not have much time for philately and so have confined myself to collecting first day of issue covers and used stamps of new issues.

I shall be much obliged if you will publish my name and address together with my request for penfriends in your magazine. I assure ALL correspondents of a reply to their letters.

I hope my request for penfriends will meet with much success.

Yours faithfully,
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Photo by Muller-Schmidt



My Timid Octopus

BY DAVID WASSERMAN

As a natural result of the increased skill in maintaining marine aquariums, hobbyists are having greater success in keeping some of the more extraordinary creatures of the sea. Included among these is the grotesque but truly exotic Pacific octopus, *Octopus himaculoides*. This bizarre mollusk glides over sand and coral and jet-propels himself across a tank to the wonderment of his audience. As a performer, he provides more entertainment than

23

most fishes. A dramatic scene is staged in the tank whenever the stealthy octopus stalks his prey.

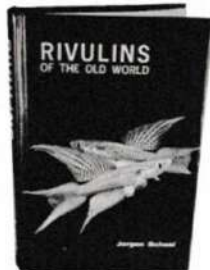
An octopus, or at least *Octopus bimaculoides*, soon becomes tame in the home aquarium and learns to recognize his feeder. It usually stakes out a territory in its tank and, being curious and incessantly hungry, will rush out and attack anything smaller than itself. Although octopuses are generally considered to be extremely difficult to maintain in captivity for any length of time, this finding is not consistent with my personal experiences.

When I came to live in La Jolla, California, an area widely known for its tide pools, one of the first projects I undertook was the exploration of these tide pools. After I examined the teeming life in the pools, I overturned some rocks in an area left virtually dry by the receding tide. Clinging to the undersides of the rocks, which were partially buried in the moist, cool mud, I found several octopuses ranging from one to eight inches in diameter. Upon being disturbed, they squirted jets of ink and attempted to creep away. Fortunately for me, they are not equipped to move fast on land. I was then able to simply scoop them up in my hand. I was surprised to discover that they were obviously able to live completely out of water for several hours while the tide was low. I concluded that they are hardy enough to adapt themselves to the confines of an aquarium.

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I selected three octopuses to bring home. The largest had a spread of about eight inches, and the smaller ones were about an inch and a half across. I placed them in a ten-gallon plastic tank which contained sand and a few conch shells. The largest octopus immediately dived under the sand while the others sought refuge in the corners of the tank. By morning the largest octopus had taken up residence inside a conch shell. I looked carefully for his companions, but, after finding nothing, I concluded that octopuses are cannibalistic.

In the weeks that followed my pet became tame. He would accept food from my hand when I overcame my natural revulsion about putting it into the tank.

His favorite food, as I learned by offering him a varied menu, was live crabs. Like a hideous phantom, he would stalk them, suddenly pounce upon them, and engulf them within his tentacles. His parrot-like beak could easily penetrate the hard shells of these silver-dollar-size crabs. The salivary glands of *Octopus bimaculoides* secrete an anticoagulant which inhibits the clotting of the blood of the crab. Octopuses wait for their crustacean victims to bleed to death and then drag them into their lairs. The morning after feeding my octopus I would find the shattered remains of crab shells strewn over the bottom of the tank.

The octopus has a remarkably keen sense of touch and always explores a prospective meal with his tentacles before attacking it. Because of this behavior pattern, most fishes can depart hastily before the octopus has the opportunity to swoop down and lay hold of them. Once I moved my big octopus (conch shell and all) to a fifteen-gallon tank that contained eight small fish. Fish and octopus maintained a peaceful relationship.

As this octopus lived only a few months, (which is the average life expectancy of *O. bimaculoides* in captivity), I decided to keep smaller specimens in the future, in hope that they would prove to be more adaptable to aquarium life. On my next collecting expedition, I chose specimens which had a spread of from one to two inches. These were much more satisfactory and more easily maintained than my larger captive.

The smaller octopuses were easy to feed, since adult brine shrimp were the largest size food they could handle. They also ate small bits of beef,

Continued on Page 85

READ IT NEXT MONTH IN TROPICAL FISH HOBBYIST

Those Satisfying Swordplants

BY FREDERICK J. KERR

Photo Contest

Grand winner of the monthly photo contests held during 1968 is Mr. Jens Meulengracht-Madsen of Copenhagen, Denmark for his puffer photo (published in the December, 1968 issue). Congratulations . . . and our check for \$50 . . . to him.

Rules

1. There will be two prizes each month; a two-year subscription to Tropical Fish Hobbyist magazine will be awarded to the monthly winner in each of the two photographic categories. At the end of the year a grand winner will be selected from the monthly winners of that year and will be presented with a \$50.00 grand prize. The monthly winning photographs will be published in Tropical Fish Hobbyist magazine. And there will be a "Meet The Hobbyist" article written in this magazine about the yearly grand winners.
2. Only black and white unmounted photographs will be eligible. The smallest size photo acceptable will be 3" x 4".
3. There will be two photographic categories: 1) Aquarium Interiors—these photographs must include the total length and width of the aquarium. The edges of the tank may be included in the photo, but none of the room in which the tank is displayed may be shown in the photo. Fishes, naturally must be included in the photographs but the main consideration should be the total photographic effect of the aquarium landscape with its integration of all elements (fishes, plants, lighting, aquarium decor, etc.). 2) Close-Ups of Fishes—either singly or in group compositions. In these photographs a segment of your aquarium interior can be used as background or foreground, but the main consideration must be the fish or fishes.
4. All photographs will be judged on the merit of their technical excellence and their pictorial effectiveness. The condition, quality, or kinds of aquarium decor, or the conditions, and kinds of fishes will not be deciding factors, although a messy tank setup and ragged fish specimens will naturally detract from the final effectiveness of the photo.
5. All photographs must be accompanied by the submitter's name and complete address. Photographs of aquarium interiors must include data as to the gallon capacity of the tank in the photograph. The fishes in photographs for either category must be identified.
6. All decisions by our editorial judges will be final. The judges will be the editors and publisher of Tropical Fish Hobbyist magazine.
7. All photographic entries for our first contest, starting with the August, 1968 issue, must be received at the T.F.H. offices by June 5, 1968. The deadline for each monthly contest will be the ninth day of the second preceding month. For example: the deadline date of the September, 1968 issue will be July 5, 1968.
8. All winning photographs become the property of T.F.H. Publications, Inc., who in becoming the owner of the complete rights of these winning photographs can publish them where and how T.F.H. so deems.
9. No photographs will be returned; so do not include return postage. T.F.H. will not be responsible for the loss, damage or non-receipt of any photographs submitted to this contest.
10. No employees of T.F.H. Publications and its subsidiaries, or members of such employees' immediate families are eligible.
11. This contest void where prohibited.
12. Mail all photographs to: Tropical Fish Hobbyist Magazine "Photo Contest", 245 Cornelson Avenue, Jersey City, New Jersey

Please note that rule #1 has been amended from the way it originally appeared. The original rule stated that there would be a "Meet The Hobbyist" article published about each yearly grand winner; we can no longer guarantee this part of the awards, although there's a good chance that it can be accomplished in most cases.

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EUGENE G. DANNER MFG., INC.
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Editorial
Continued from Page 3

And we believe that the proscription is rightly placed when it falls in the form of an absolute ban on the ownership of piranhas by private parties. We do not subscribe to the notion that safe and possession should be allowed and that only the act of introducing the fish to the state's waters should be punishable. If there's a truly demonstrable need to prohibit piranhas from entering a state's waters, it does not make much sense to let piranhas in and then disallow only their introduction to local waterways. We believe this even though we agree that there are very few people running around who would lay out their cash just to get their hands on some piranhas to drop into local waters; anyone so steeped in misanthropism that he wants to ravage a state's water wildlife and do harm to innocent bathers has much cheaper and more effective mechanisms at his command. He doesn't need piranhas to do his dirty work.

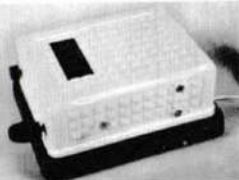
We propose this course of action to any state that feels that allowance of a trade in piranhas might possibly menace its waters and its citizenry:

1. Have a body of disinterested experts determine whether piranhas can actually live and multiply in the state's waters. Let their report be unequivocal.
2. If the experts find that piranhas pose a real danger, ban the piranhas, and ban them good. Make the penalties stiff. If the panel finds that piranhas constitute no real danger, forget about them.

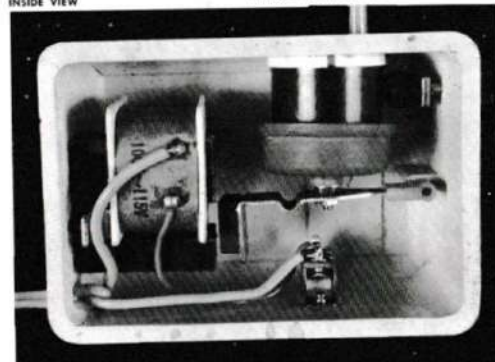
Neal French

making it beautiful wasn't enough

Styling and good looks never stopped a vibrator pump from breaking down and humming. But **Miracle's** newest invention does. These pumps have arms which vibrate on a pivot of a nylon-rubber bushing on a bronze post. No metal fatigue. ALL other vibrator pumps have a vibrating metal arm. After having sold almost 200,000 last year, with returns less than 1 in 3,000, we know our pump is best . . . and least expensive, since we don't have to build into the price the cost of returned, defective merchandise.



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For a
Change
Try



Puntius arulius

36



The extended rays of the dorsal fin of the male of this pair of *Puntius arulius* easily differentiates him from the female, but on younger specimens the distinction is harder to make. Photo by Dr. Herbert R. Axelrod.

The beautiful greenish iridescence of the upper body of *Puntius arulius* is especially noticeable here in the upper fish (the female). Photo by R. Zukal.

BY RUDOLF ZUKAL

BRNO, CZECHOSLOVAKIA

◇ This rather large member of the fishes affectionately known as Barbs (Cyprinidae) is not as popular among aquarists as for instance, the four-banded tiger barb. Why *P. arulius* (Jerdon) is not more frequently kept by aquarists I am unable to explain, for we are dealing here with a very pretty and smart-looking fish that measures up to four inches, but is totally and completely devoid of viciousness, and whose agile movements really turn a community tank into a lively showplace. Never keep only one speci-

37

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TWICE THE
DIRT IN HALF
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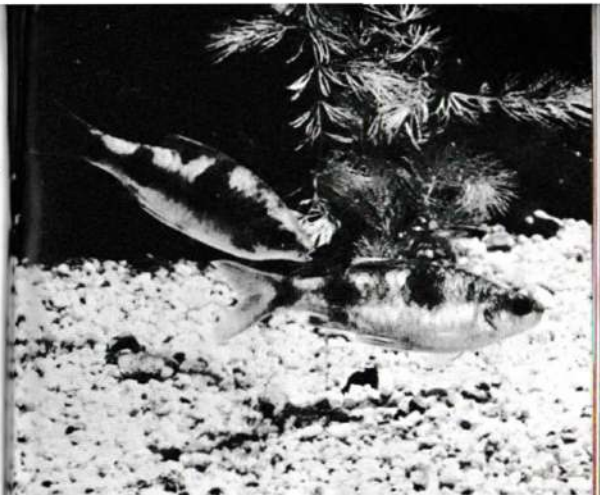
The straight fibers of glass wool trap dirt in your filter, but because they are not springy, the downward flow of the water and the weight of the material collected soon mat the fibers into one another, making them relatively poor filterers and allowing them to work only over a limited surface.

Miracle's Dacron® Polyester Wool, however, does not mat. Its springy network of fibers keeps thousands of tiny openings effective as filters. The debris works its way deeper into the material, leaving the top free to do a maximum amount of filtering. The Miracle product outperforms glass wool at least 4 to 1, never trapping less than twice the dirt in half the time.

Do not accept any substitutes. Only Miracle's Du Pont Dacron® Polyester Wool is made of non-toxic, non-disintegrating, non-soluble, super effective Dacron® 88 polyester fiberfill. Ask for it at your petshop.

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The female turns partially on her side, exposing her belly to the male and thereby indicating her willingness to spawn. Photo by R. Zukal.

men of this species, as this will make it grow very shy, and they are more enjoyable in groups.

From their native India, the fish arrived in Europe for the first time in 1954, despite the fact that Jerdon had described the species as early as 1849. *P. arulius*, according to this very early description, came from the Travancore region in northern India. Present day importers list the collecting site of this fish as additionally being Cauvery, as well as the general area north-east of Bombay. The body of this barb is slightly elongated, somewhat compressed laterally, and the mouth carries a pair of barbels. The upper half of the body and the back may show different hues of brown, while the lower part is silvery with a reddish sheen. The scales, especially those above the central length, are made beautiful by many tiny shiny green dots. The body is decorated with dark cross bands and large dark spots. The tail fin is yellowish to reddish with outstanding red tips. The anal fin shows a car-

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mine red outer seam, the ventrals being whitish. The dark eyes have a green sheen. Sexing the species is not always easy on younger specimens, but mature fish are easy to distinguish. The rays of the male's dorsal are drawn out, while the fin of the female is rounded.

The species is commendable to any aquarist with a larger tank. Normal tap water, not too hard, 68 to 70 F., and not too dense planting is what suits this fish best. Since this species prefers the lower reaches of the water, it is advisable not to use too coarse of a gravel. As was stated above, the fish should be kept in a community with other barbs, about several specimens, that is 8 to 10, of each species. This makes the tank quite lively. The barbs chase each other and play with each other in whirling motions as long as they



Male and female engage in pre-spawning chasing activities.

are not hunting for food. The other fishes then too are always kept on the move. *P. arulius* are omnivorous, but prefer live foods.

I got my pair of breeders, here shown in my photographs, from a friend who was not interested in spawning them. In the community aquarium, the fish swam contentedly through the tank, and flirted with the other barbs. Meanwhile I set up a medium-sized container (20" x 20" x 12") for spawning. In normal drinking water, 12 DH, pH 7, I placed some tree roots near the back, with a rather large bunch of Java moss in the center of the tank. Filtration was kept up during three days and the temperature was adjusted to 78 F. by means of a heater. On the fourth day, the breeders were put in. But exactly what I had feared happened: the fish disappeared

into the dark background and it took several days before I could catch a glimpse of them again. I was not even able to watch them while feeding. And only after about ten days was I able to see them occasionally while they crossed the tank in great haste. Finally, the time came when I could watch them courting, and then the actual spawning. Releasing the eggs into the plants took about three hours, with an output of some 200 to 300 eggs. After this, I returned the pair to the community tank. The young hatched after 36 hours. On the sixth day they were free-swimming and received very minute live foods. They grew very quickly, and after about three weeks I was able to distinguish the black design.

Dr Herbert R. Axelrod,
c/o T.F.H. Publications Inc.,
T.F.H. Building,
245 Cornelison Avenue,
Jersey City, N.J. 07302,
U.S.A.

Dear Dr Axelrod,

The advice given in your book *Guppies in color* (in the paragraph headed "Routine care of your guppies") that empty milk bottles should be used as a reservoir for aquariums could cause considerable embarrassment and loss to dairymen in the United Kingdom.

The distribution system of fresh milk in this country depends on the collection every day by roundsmen of some 30 million empty bottles from homes and shops, etc., for return to the dairy for washing, filling and delivery to customers next day. The actual glass bottle belongs to the dairyman, not to the customer, who buys only the milk it contains.

Unlike current practice in America, where the customer who wants her milk in glass has to pay a deposit on the container, and where bottles are mostly of from 1/2 to 1 gallon capacity, no charge for the bottle is made in England, and the standard size is only 1 pint.

Your book is readily obtainable in this country—in fact it was drawn to

our attention by a dairyman interested in tropical fish—and so you will see that if readers were to follow the advice it gives, many hundreds of milk bottles would be permanently taken out of circulation with serious consequences to the milk trade.

May I invite your co-operation and ask that a brief note be published in a forthcoming issue of your monthly journal reminding your English readers not to use milk bottles in the pursuit of their hobby: indeed not to use them for any other purpose other than to hold milk?

Patrick O'Neill,
General Secretary,
National Dairyman's Association

Not wanting to contribute any new difficulties to either Great Britain or the United States, both of which have enough troubles of their own without any help from TFH books and the economy-wrecking advice they might contain, we feel duty bound to accede to Mr. O'Neill's request by explaining the problem in his own words, as above. So, to all readers in the United Kingdom (and to all Americans and Canadians who don't pay a deposit on their milk bottles):

Few guppies breed in a milk bottle. But in a tank an awful lot'll.



The male has enticed the female into plant thicket (above), and has wrapped himself around her in the characteristic spawning posture (below). Photo by R. Zukal.



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water conditioner



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March, 1969

The "Prophet" in My Tank

BY MARGILEE JOHNS ROZELL

◇ There's a fish in my big community tank that is a real conversation piece, a fish that we call affectionately "The Prophet."

He is about 3½ inches long and swims incessantly, much in the manner of a zebra danio. He lacks one trait of the zebra, however—he does not gulp every baby livebearer in sight. He is long and slender, with a black stripe that goes horizontally around him, from his nose, through his eye, along his side to his tail. His upper half is grey-green, and there is a neon-like bar of silver above the black stripe; his bottom half flashes silver as he makes a sudden, abrupt turn.

Whenever my fish-keeping friends drop in, the conversation goes something like this:

"Hey, I see you've got a new fish. What is it?"

"We call him the Prophet," I answer casually.

"Well, he looks something like this Chinese algae eater you've got here, except his bottom half is silvery and he doesn't have a 'sucker.' He even looks a little like a one-lined pencil fish. Where did you get him?"

"Er—he was a gift," I stammer.

"What do you call him, besides 'The Prophet'?"

"Well, when I looked him up in a book, he was identified as *Notropis cornutus*," I say, hoping I had half-way pronounced it right.

47

Tropical Fish Hobbyist

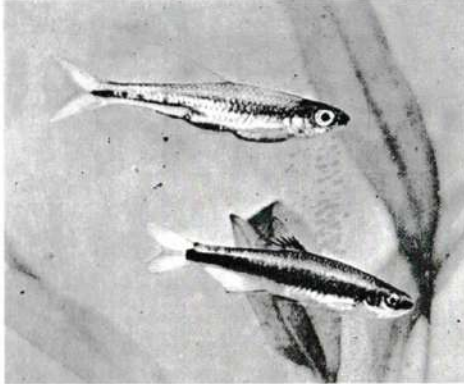
My guest usually whips out a pen and paper.
"Think I'll write that down, and get me one."
Feeling a little awkward, I tell them, "I don't think you'll find it in the tropical fish house. You can find them at the bait house, though."
The pen and paper are put away unused as I tell them how the Prophet came to be in my tank.

Last spring, my young son went down to the creek behind our house with a dip net, intending to catch some crayfish for a science project. In a few minutes, he came running to the house with two gasping fish in the folds of the net, saying he had a present for me, and quick, what could he do with them?

Well, I wasn't about to put them in one of my aquariums, because of the visions of leeches and fish lice that rose before me.

I grabbed up a two-gallon glass-bottom tank that I didn't use, ran some water from the faucet into it, and invited him to drop them in. (We have well water.)

Like other native American fishes that are almost completely ignored by hobbyists in the United States, *Notropis hypselopterus* makes a very satisfactory aquarium fish if not kept too warm. The species ranges through Alabama, Georgia and northern Florida. Photo by Dr. Herbert R. Axelrod.



50

freeze-dried FAIRY SHRIMP

Miracle 15 grams... 69¢



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51

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And look at the assortment! We made flakes out of algae for mollies and livebearers that need vegetable matter in their diet; we made flake food out of brine shrimp because all fish love brine shrimp and it's good for them; we made flake food out of tubifex worms because that's another fish favorite and has been proven to be an extremely nourishing food over the years. Then we mixed them all together in daily diet, plus some other goodies, and made the best flake food range we could.

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Available at net shops only

March, 1969



The red horse minnow, *Notropis lutrensis*, which has a wide range throughout the west-central portion of the country, is occasionally sold in aquarium shops; in recent months it was offered in some parts of the country as an "Asiatic Fire Barb." Photo by Mervin F. Roberts.

I fully expected them to die, being placed in a small tank without provisions for air, with a temperature change of no telling how many degrees from the creek's water. I was wrong.

In a few minutes, they were gaily chasing each other in circles, apparently unaware that they weren't back in their native creek.

In the clean water, these inch-long fish were beautiful!

I didn't have the vaguest idea what these minnows, called "shiners" by the bait houses, etc. I gave them some dry flake food the next day. They ate it at the surface as if they'd been raised on it, they ate the falling particles, and they picked up the pieces they'd missed off the bare bottom of the tank.

These two fish stayed all summer in the two-gallon tank, with no air or filtration as I have in my other tanks. About once a week I'd siphon off the bottom of their tank and add room-temperature water.

Some three months later, as I was feeding, I saw there was only one minnow. The other one lay on the rug, very dead. He'd jumped out during the night.

I looked over the remaining one. He'd had a three-month quarantine, he had no visible parasites or disease, and he looked healthy and frisky.

I put him in my community tank, thinking perhaps he would eat the excess baby guppies that were the result of my putting several golden guppy

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Tropical Fish Hobbyist

females in my community tank to keep my assorted veiltail male guppies happy.

The Prophet calmly ignored even the tiniest guppy, even though he had grown to double his original size, and has since grown another inch and a half in the nine months he's spent in the larger tank.

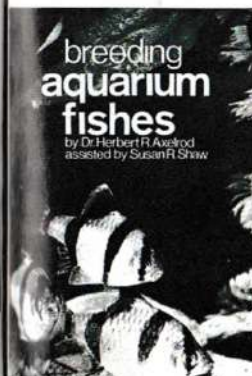
When winter came and I installed my heaters (I keep that tank at about 74 degrees) he seemed oblivious of the fact that my tank is much warmer than the stream he came from. When my family had the flu, one after another, my fish tanks were sadly neglected for about a month—and the Prophet was the only fish that did not get the white spots of ich that resulted from this neglect.

When my visitors turn to leave, they want to know why this fish is called the "Prophet." Then I come across with the old quotation about the prophet in his own country.

I fully believe that this fish would be a great seller in areas in which it is not native, since it is peaceful, hardy, and attractive. □



54



How often have you read an account of how to breed a species of fish and found the account lacking several important details?

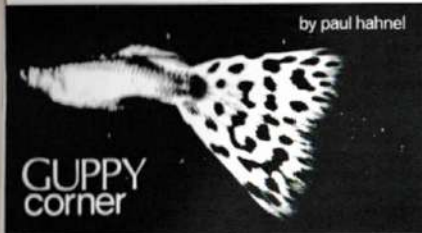
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BREEDING AQUARIUM FISHES contains almost 500 pages, complete with detailed and spawning photos.



by paul hahnel

GUPPY corner

Courtship Query

Q. When my male guppies chase the females they engage in a kind of movement that seems very strange to me. Without warning they will clamp their fins shut, quiver and swim backwards for a short way. This only lasts for a second or two, and then the chase resumes as though nothing had happened. Why do they do this?

Arnold Feinberg
Los Angeles, California

A. This behavior is completely normal. It is one of the many maneuvers the male guppy goes through in the courtship dance.

Indifferent Male

Q. I recently purchased a pair of veiltail guppies for which I paid

what I consider to be a good price. At the time of purchase the seller told me that the pair was only five months old. At that time the male was better than two inches in length. He seems to show no interest whatever in the female. He will dance around her and display his long tail, but past that he will not display the actions of a normal male

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Guaranteed to breed true.

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tank with too many plants. Your pH could be too acid and should be modified in the right direction. Water temperature should be between 75° and 78°. Brine shrimp is a good diet but it should be varied with other foods.

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guppy. How would I go about getting him interested in the female? I have my guppies in a 10-gallon tank in which I also have six different kinds of plants. Would it help if I took some of them out? The pH ranges from 7.2 to 7.4 and the temperature is kept at 74°. I feed only freshly hatched brine shrimp.

John Williamson

Ellicott City, Maryland

A. It is quite possible that your male guppy is really a male and therefore not capable of reproducing. Most 5 month-old males that measure more than two inches are sterile. That is one possibility. You should try not to overcrowd your

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salts FROM THE seven seas

BY
ALFRED A. SCHULTZ

Q. 1. Is artificial sea water preferable to natural sea water for use in the marine aquarium? I have read that natural sea water often decomposes and clouds the tank.

2. Is tap water better than rain water to replace water that is lost due to evaporation?

3. How long will epoxy cement last before breakdown occurs?

Bob Leonard
Durham, N. C.

A. 1. Artificial salt water is considered better than the natural

product. This is because you have eliminated a vehicle that is likely to contain many harmful marine bacteria.

2. There is no difference between the effects of properly handled tap water and rain water in a marine aquarium. Tap water might even be considered preferable since rain water is difficult to collect in quantity in many sections and also contains dangerous pollutants.

3. It has been my experience that epoxy does not break down regard-



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March, 1969

less of how long it is used in a marine tank.

Q. 1. What are the best fishes for beginners to the marine aquarium hobby?

2. Is a small inside filter using sand sufficient for a salt-water aquarium?

3. Does coral in the aquarium have any practical use beyond its decorative value?

Peter Krevey
Downers Grove, Ill.

A. 1. Clownfish, blue gregories and damselfish have all proven to be very durable and therefore well-suited to the beginner in marine tropicals.

2. No.

3. Yes. It provides hiding places for many of the smaller fishes and also tends to keep the water from becoming too acid in nature.

Q. Is there such a fish as a slippery dick, and where are they found?

Robert Kiken
Baltimore, Maryland

A. Yes, there is such a fish, and it comes from Florida waters. It gets its name because of the way it

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swims; it seems to slide in and out of small openings in the coral formations.

Slippery dick

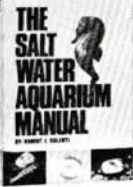


Photo by Dr. John Randall.

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Q. I have read in your column that salt-water fishes have not been bred in the home aquarium, but I have also heard that neon gobies breed for the marine hobbyist. What is your reaction to this?

Louise Douglas
Lavenport, Iowa
A. One sometimes hears or reads accounts of marine fishes spawning and of fry being hatched in captivity. Notwithstanding, we have yet to hear of anyone raising such fry to maturity. Neon gobies have been known to spawn in home aquaria more than once.

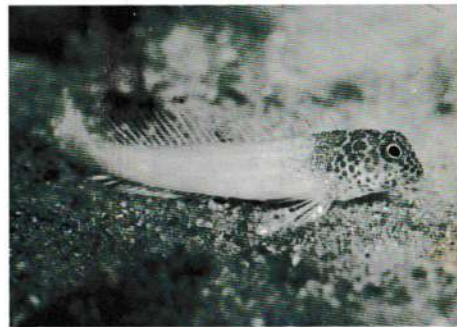
Q. I have a 10-gallon marine aquarium that has been a source of difficulty to me. The tank has been maintained at a pH of 7.2 with a density of 1.025. The fish were maintained on live brine shrimp. I originally had a jewelfish, two

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clownfish and a rock beauty. These died, for what seemed to me, no apparent reason. Just before I lost my fish I added a quantity of sea water taken from the Connecticut shore of Long Island Sound, but I filtered the water first. Can you tell me what caused the death of my fish?

Russell Bennett
New Canaan, Conn.
A. You have not given me enough concrete information to give you a complete answer, but I would say

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that your pH is far too low for the successful maintenance of marine fishes. The pH of a salt-water tank should be between 8.0 to 8.5, with 8.3 being a desirable average.

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Glass Fishes

Q. I have kept the various kinds of transparent fishes, such as glass cutfish, glass fish, glass tetras and glass gobies, for years, and people have often asked me why these fish are transparent. Is it merely the lack of pigmentation? The skeleton of the fish may be clearly seen through the flesh, but no veins or arteries are apparent. How does that part of the body receive nourishment?

Katherine Freed
Jacksonville, North Carolina
A. A great deal of the transparency of these fishes is indeed caused by a lack of pigment in the skin and scales. This can be seen in many aquarium varieties of normally highly pigmented species. For example, golden guppies are more transparent than gray guppies, and albino guppies are even more transparent than the gold. This, however, is not the whole story. The muscles of the glass fish are a great deal more transparent than the



Glass fish, *Chanda lata*

muscles of most species. Exactly how this tissue differs between the glass fishes and other fishes is not known to me. The transparent body areas are nourished by arteries and veins, just as the rest of the body is. You can't see these vessels because they are very small. If you look carefully at the bottom edge of the caudal peduncle on most glass fishes you will see a tiny dark

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Glass Catfish, *Kryptopterus bicirris*

line. The caudal vein is one of the largest vessels in the fish's body.

Fake Plants

Q. In a 5-gallon tank I recently placed several small plants I bought in a dime store. They never took root, but they retained their dark color. None of my books on aquarium plants identified them. Could they have caused the death of an angelfish?

A. The plant which you enclosed with your letter is *Lycopodium obscurum*, commonly known as club moss, ground pine and trailing evergreen. Whatever the name, the plant is not an aquatic; it is a terrestrial forest plant widely gathered for use in decorative wreaths. The plant does not grow in water. It is even debatable whether the plant is alive or not. Although

its use in the aquarium is questionable, it probably is not responsible for the death of the angelfish.

Gravel

Q. I recently removed all the gravel from my aquariums and replaced it with quartz gemstones placed among the plants. I feel that this looks better and is easier to keep clean. It seems upsetting, however, to some people. Should I come back into the fold and re-instate the gravel? I will if it is necessary to the health of my fish.

Melody Di Gregorio Las Vegas, Nevada

A. If you prefer to refuse the challenge presented in growing aquatic plants, there is no real reason for gravel except that some people think it looks better than bare slate or glass. Those who are upset by your arrangement no doubt go home and appreciate their own graveled aquariums even more.

Discouraged Aquarist

Q. I regard myself as an experienced hobbyist, since I have pursued the hobby for four years, learning from my mistakes. But now I fail to see where I am at fault. I have a 15-gallon aquarium with 76° water which is quite soft, with a pH of 6.8. I keep it clean and my plants are green and growing. There are eight small fish in the tank and they receive a diet of frozen brine shrimp, freeze-dried tubifex and three varieties

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of dried foods. I can spot a disease quickly, but I am never able to cure it or prevent it from recurring. I have lost nine fish in the last month. Please give me a bit of advice.

Tany Cook Bellevue, Washington

A. Every aquarist has discouraging periods. Patience is the essential thing. There are a number of things you can try. For one, try keeping the temperature at 80 degrees. It could be that your aquarium becomes chilled without your knowing it. Check your thermometer and heater to be sure they are functioning correctly. You might try changing dealers in hopes of finding healthier fishes. Also, try other brands of disease cures. Many commercial cures are too weak.

Jewels Strike Again

Q. About two months ago I bought a pair of jewel cichlids. I put them in my 30-gallon community tank. The new fish were one inch long and were the smallest fish in the tank. It surprised me to find about three days later that they had torn the fins and chased all the fish in the tank into the corners. Could you please give me some information about this fish?

Mark Murphy Ridgewood, New Jersey

A. The jewel cichlid, *Hemichromis bimaculatus*, deserves its reputation for viciousness. If it were not for the breath-

Jewel fish, *Hemichromis bimaculatus*



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taking beauty of mature fishes, this species would long ago have been abandoned by aquarists. Jewel cichlids are best kept in their own aquarium, or with larger, equally vicious cichlids. Jewels grow to about four inches in length and are easily spawned. They are excellent parents.

Old Aquarium Cement

Q. I have a question about the aquarium itself. After a certain number of years will the cement crack so that the aquarium will leak? If so, after about how many years should you expect this? How can it be repaired?

Craig Rees Minneapolis, Minnesota

A. Some aquariums are made with cement which hardens almost at once. The disadvantage of this is that the aquarium is more likely to develop leaks because the cement will not adjust to changes of pressure. As a result, the glass may pull away from the cement when the aquarium is emptied and not reset when the aquarium is refilled. I have aquariums 15 years old which still have soft cement. As to how long it takes for the cement to harden, it is impossible to say because of the different cements used by various manufacturers. If the aquarium does develop a leak, it is usually sufficient to seal the inside seams with one of the rubberoid aquarium cements. If this fails, it may be necessary to remove the glass and replace the cement.

Angel Spawn

Q. I have a pair of silver angels which have spawned in my community tank. I was not even aware that they were a pair, and I was not ready to care for the eggs. I attend school and I am not planning to use this pair for breeding until summer vacation.

1. Should this pair be kept separated or should they be allowed to spawn and have their eggs eaten by the other fish? 2. Is there anyway in which the fry could be fed during the time I am in school?

Alan Clayton Woodburn, Indiana

A. 1. It is probably best to let the pair lay their eggs. The other fish will not be doing the eating; it will be the parents. This may get them into a bad habit.

2. The obvious way is to have someone at home or a neighbor feed the babies about three times while you are gone. Anyone can be shown how to put frozen baby brine shrimp into the hatching tank, especially if you have cut it into pieces of the proper size. One obliging lady did this for me, and now she is a dyed-in-the-wool fancier.

Anacharis

Q. I have many anacharis plants in my aquarium and they have grown quite large. Is it possible to make cuttings from them?

Kent Konneker Tampa, Florida

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A. The many species of the genus *Elodea* propagate very easily from cuttings. There is no secret to making these cuttings; you simply pinch off the portion you wish to keep and throw away the rest.

Ripe Loaches

Q. One of my *Acanthopthalmus kuhlii* loaches is developing a green underside, indicating that she is approaching spawning condition. What can you tell me about the spawning of this fish?

Delmar Perry Urbana, Ohio

A. *Kuhli* (Coolie) loaches have not been spawned so often that we know for certain the exact procedure. Considering the habitat they come from, rain water or other soft water at about 75 degrees would be a good start. There should be stones or something similar that the fish can get under. Probably two or three males should be used for each female. The eggs may be guarded by one or both parents, but apparently the fry are ignored by the parents. Microworms would be a good first food. The aquarium should be an established one with a good layer of muck on the bottom.

Name Changes

Q. Just today I heard of the changing of

the scientific names of certain livebearers by Drs. Rosen and Bailey. What names were changed, and why?

Paul O'Brien Somerset, Massachusetts

A. Most of the name changes proposed by Rosen and Bailey deal with species of livebearers which are of little interest to aquarists. *Pseudoxiphophorus* was lumped with *Heterandria*, and the genera *Poecilia*, *Micropoecilia*, *Limia*, *Lebistes* and *Mollienesia* were all placed in the genus *Poecilia*. The authors of this classification recognize most of the old genera are valid as ways of dividing these fishes, but they do not feel that the divisions are worthy of a genus-level distinction. For this reason, *Lebistes* (combining the old genus *Lebistes* and the old genus *Micropoecilia*) becomes a subgenus, as do *Limia* and *Poecilia* (combining the old genera *Poecilia* and *Mollienesia*). Whether these names will be accepted by aquarists depends on



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whether they are accepted by ichthyologists. Although the study was presented in 1963, it is not clear to this writer that scientists have accepted the names because they feel they are valid or because this is the most current revision of the family. Dr. Rivus revised the work in Copeia, 1965, No. 1 and presented his opinion that the names Lebitis, Limia, and Mollinesta should be retained.

Kissing Gouramis
Q. Some books I have read say that the kissing gourami is a bubblehead, whereas others say just the opposite. Can you straighten this out?

Douglas Hubbard
Valley Stream, New York
A. I assume by "just the opposite" you mean that they do not build a bubblehead. The kisser builds a very scattered nest composed of few bubbles. It does not serve much of a purpose since the eggs float anyway because of an oil droplet enclosed in each one.

Little Devil

Q. I have a 2½-inch red devil that chases all the other fish in the tank constantly. Do I have to put up with this behavior or can I break him of this objectionable habit?

Cheryl Paul
Ellensburg, Washington
A. It is the nature of the red devil, *Cichlasoma erythraeum*, to be aggressive, and



Red devil, *Cichlasoma erythraeum*

the behavior cannot be changed. You can, however, keep the fish under more tranquil conditions by placing it with other cichlids of similar size and temperament.

Albino Corydoras

Q. I have been interested in spawning albino catfish but have had very little luck. The eggs seem to always fungus. I have a pair which spawned several times. Once I got seven young. Since then I have not had any luck. I do not have any trouble with the regular aeneus cats spawning and getting lots of "kittens." Would you please tell me what to use to keep the eggs from the albinos from fungus?

Ruth Botchek
Kalispell, Montana
A. Nothing will keep unfertilized eggs from fungus. Albino cats seem to have reduced fertility, and it is important to have two or three males for each female. If more males are used, a higher percentage of fertile eggs will result.

Bleeding?
Q. I have noticed that most of my male platies have developed internal bleeding

near the anal fin. Will it clear up by itself, or is there any cure for it?

Robert Hewitt
Canton, Massachusetts
A. Many strains of platies have red pigmentation in the area described. If your fish happen to be of one of these strains, there is nothing that can or should be done. If the color is due to bleeding, there is no remedy. Angelfish periodically may develop such spots along the base of the dorsal fin. They do not seem to affect the fish adversely.

Malachite Green
Q. Several books recommend malachite green as a cure for fungus. A number of druggists have told me that malachite green is obsolete and no longer available to them. Could you tell me where I can obtain malachite green?

Lewis F. Pietrzak
Warren, Michigan
A. Malachite green may be obsolete for human use, but it is very much in use for fish diseases. Many commercial preparations contain this dye. Some of the best are pure solutions with no other ingredients.

Dwarf Cichlids
Q. I have a pair of dwarf cichlids which I cannot identify. Their bodies are dark brown with black markings. The male has an extremely long lyretail. Their heads have blue-green streaks, and the fins have an orange cast. Can you

identify them and give me the spawning requirements?

Henry Bergilio
Fishkill, New York
A. The fact that the fish have a lyretail suggests the genus *Apostotogramma*. In this genus there are a number of species with lyretails, including *A. borelli*, *A. cacatuoides*, *A. kleei* and *A. ornatipectinis*. The fact that your fish are dark brown would seem to rule out *A. cacatuoides*, which has a bluish cast. You do not mention exceptionally long rays in the dorsal fin of the male, so *A. borelli* is ruled out. *A. kleei* is very rare, so that seems to leave *A. ornatipectinis*. Moderately soft water of neutral pH and a temperature around 80 degrees is optimum for breeding.

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Brine Shrimp

Q. There are many directions for the hatching of brine shrimp, and I have tried just about all of them. Each time I have gotten very poor results. What is the best way to hatch these most important delicacies?

Bill Davies
Alexandria, Virginia

A. I have found that San Francisco eggs hatch very well in a solution made from a synthetic sea salt. The solution should have a hydrometer reading of 1.025. Aeration is necessary, as is a temperature of 85 degrees. Under these conditions a good hatch is had within 24 hours.

Details, Details
Q. Why do so many articles about

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breeding a particular fish fail to give the exact water conditions (hardness and pH) when they go to great length describing spawning media, size of tank, etc., which I feel are less important and of a more general nature than water chemistry? To call for "soft" water can mean anything from 5 ppm to 80 ppm. I put the above question hoping that the authors of future articles may take note. I, for one, make a point in giving both readings when describing the successful spawning of a difficult fish, as only in this way can readers hope to learn and perhaps repeat the effort.

Ray Leggett
London, England

A. There obviously are many reasons why authors do not include hardness and pH information. One is that they do not know this information. Relatively few aquarists pay attention to such matters. While this may be unfortunate, no information is better than guesses as to water chemistry. It seems to me that there is a cult within the hobby which places excessive emphasis on water chemistry. In their attempts to produce "perfect" conditions through the use of various devices and chemicals they often succeed in creating a chemical pollution in which fishes cannot live. It is far better for the aquarist to utilize the water available to him in the form of tap, stream and rain or snow water.

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Porthole Catfish

Q. I have two porthole catfish, *Hoplosternum thoracatum*, that always swim and stay together. How are these fish sexed and how can they be bred?

Mr. Albert E. Kohler, Jr.
Richmond, Virginia



Hoplosternum thoracatum

A. Females of this species are generally somewhat larger than the males and tend to have greater girth. The usual method of spawning is to lower the water to 3 to 6 inches in depth and to float a saucer on the water. The male builds a slimy bubble-nest in which the female deposits the eggs. Fertilization is as in the Corydoras species. The male drives away the female and, although he ignores the eggs, does display some parental care of the fry for about four days. The fry are easily raised on brine shrimp and microworms.

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Moving Day

Q. I will soon be moving. My problem is this: what is the best way to move my fishes? Should I use one of the insulated containers now available, or would plastic bags be better?

Dwight A. Davis
Glenview, Illinois

A. Your moving container must do three things:
1. Provide sufficient air surface to prevent suffocation of the fishes.
2. Provide sufficient insulation to prevent chilling.
3. Be tightly closed enough to prevent spilling water.
The best bet is to use plastic bags inside an insulated container.

Drift Wood
Q. I have often seen drift wood used in aquariums.

1. Can it be used in the aquarium without being treated with something?

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2. What keeps the wood from falling apart?
3. What keeps the wood on the bottom?

John Stephenson
Weston, Ontario

A. 1. Treatment of wood for the aquarium depends on where it comes from. Wood from the bottom of streams and swamps often needs only to be cleaned of dirt. Wood from ocean beaches must be leached in water for several weeks to remove the salt. Live wood should never be used. Wood is safe in the aquarium only after it has been washed in water for several years.

2. Wood generally does not decay rapidly, and most kinds can be used for several years before falling apart. Wood from trees and bushes which normally grow in or near the water is especially resistant to decay.

3. Often wood which has been in water for a long time is sufficiently water-logged to stay in place. Naturally, if the wood is

allowed to dry out it floats again. Buoyancy can be overcome in a number of ways. One is to bore holes in the back of the piece and fill them with either cement or lead. When cement is used the piece must be aged for a week or two in a strong vinegar solution. A better way is to attach the wood to a stable rock with rubberoid cement.

Gold Swordtail

Q. I recently purchased a swordtail that is nearly transparent, but with a yellowish color. It has several red spots across its body where the lateral line would be and some red spots across the center of its dorsal fin. It has a black line along the bottom of the sword. Is this a new kind of swordtail?

Gilbert Caldwell
Newton, Iowa

A. You have described a golden swordtail, a variety that was once much more popular than it is today. In the colored swordtails it is one of the oldest varieties,



Gold swordtails

with the brick red sword being the oldest. The gold sword has been largely crowded off the market by more spectacular varieties.

Scratching Problem

Q. Most of my fish in all of my aquariums rub themselves on the gravel and other things in the tank. Even newly born guppies do this. What is wrong? (Unsigned)

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A. Fishes rub or scratch themselves for the same reason people do: something is irritating the skin. In this case, the irritation probably comes from bacteria. More careful feeding and partial weekly changes of water help prevent this.

Rocks

Q. Please tell me how I can determine whether the rocks I find are safe to use in an aquarium.

Ortis E. Carmichael
Columbia, Missouri

A. Rocks which contain metallic ingredients are not safe in the aquarium. There are a number of good books available to aid in the identification of rocks which tell the chemical compositions. It is also wise to place the rocks in a container of water and check the pH after a few weeks. Some rocks alter pH drastically and are not safe. It is also a good idea to place the rock in an aquarium with fishes which are not valued to see how they react to it before the rocks are placed with valuable fishes.

Silver Locust

Q. I have swordtails, platies, mollies, tiger barbs, black tetras, porthole catfish, kissing gouramis and a silver dollar in my aquarium. They get an ample supply of food, but they persist in eating every plant that goes into my aquarium.

1. What is the cause of this behavior?
2. Is there any plant that would not be eaten?
3. Is there anything I can give my fish to curb their plant-eating habits?

Gayle Greene
Lowell, Massachusetts

A. 1. The "cause" is that the silver dollar is a plant-eating fish. To put them in a planted aquarium and expect them to leave the plants alone is like putting an angelfish in a tank of baby guppies and expecting him to leave them alone.

2. I know of no popular aquarium plant the silver "locust" will not devour.

3. The obvious solution is either to get rid of the silver dollar or to use plastic plants. You might try feeding this fish canned spinach daily to curb its appetite.

Albino Mollies

Q. I have purchased a pair of albino sailfin mollies and hope to breed them.

1. Are there any special precautions which I must follow because they are albinos?

2. Will the young be harder to raise than normal?

Douglas Hill
Middleport, New York

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A. Albino sailfin mollies are among the most vigorous of all the albinos.

1. There are no special precautions to follow because they are albinos, but several you should follow because they are mollies. Give them an aquarium by themselves as large as you can provide. Place it where it will get a little sunshine and add about a



Albino sailfin

teaspoon of synthetic seas salts per gallon of water. Feed frequently with a food with a high vegetable content as well as frozen brine shrimp.

2. The young will be just as hard to raise in the aquarium as green or black sailfins. If you want your fish to develop good dorsal fins, do not try to raise more than twenty in a 20-gallon tank with full aeration.

DH and pH

Q. The water from my tap is hard and alkaline. Therefore, I must process this water before I can place it in the aquariums. When I soften the water

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with resin crystals, it lacks acid, so I put sodium biphosphate in the water to ensure an acidic condition, but this in turn rehardens the water. I would like to know how I can acidify the water and still retain its softness.

T. J. Burke

Philadelphia, Pennsylvania

A. First, I doubt your water is so hard that it needs to be softened to maintain most kinds of fishes. Assuming that it does, sodium biphosphate is a poor material for acidifying aquarium water. Boiled peat extract does a much better job. I doubt the resin crystals are doing the job you say they are. If the water were adequately softened, the sodium biphosphate crystals would not "reharden" the water.

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YOUR FISHES' HEALTH

SHIMMIES

By
Roger
Lee Herman

● The peculiar shimmying motion sometimes adopted by a fish is generally considered to be an indication of a too-low temperature. It can also be a symptom of parasites. The combination of "shimmies," loss of appetite, and a hazy, bluish-white color on the fish is a presumptive diagnosis of protozoan infestations with such parasites as *Costia*, *Chilodon*, or *Trichodina*.

Costia is a flagellated protozoan having two pairs of flagella, with one pair being longer than the other. Strong magnification is required to see the individual parasite.

The flagella are used in swimming and as an aid in attaching to the victim's skin. The longer flagella penetrate the skin and act as anchors. The cells around the parasite die and their remains are consumed by the invader.

Irritation caused by the presence of the parasites and the cell death (necrosis) brings about an excess secretion of mucus. This secretion of mucus is what we see as the bluish-white film mentioned above. On the gills, the mucus plus necrosis can lead to death by suffocation.

Costia often attacks the gills before it is found on the skin. When "shimmies," clamped fins, and/or loss of appetite occur without any obvious explanation, examine the gills for parasites. After the infestation becomes so severe that the parasites can be found on the body surface, the mucus film and "flashing" become apparent. One's attention is often attracted by the flash of the light-colored underside of a fish when it scratches by rubbing on the bottom or against objects in the water. Thus, the term "flashing" for this action. Such activity is a response to skin irritation—an itch.

Costia may leave a fish at any time and swim about. If it does not reattach to a fish within half an hour to an hour, it forms a cyst on the bottom of the tank. These cysts are not very resistant and die in a short time. A second type of cyst is formed when the temperature drops or other factors make a poor environment for the parasite. This

type of cyst is adapted to survive environmental change; this type is thus very resistant.

Costia does not do well at temperatures above 77°F. and is killed above 86°F. Raising the temperature above 86°F is therefore a simple means of treating an outbreak of the disease . . . provided the fish will stand this increase.

Several chemicals have been used successfully to kill *Costia* organisms: acriflavine—10ppm for 2 days, salt—1-2% for 20-30 minutes every two days until cured; do not use on catfish.

quinine—1-2 grains/gallon; harmful to plants.

formalin—2 ml/gallon for 15 minutes.

malachite green—1 drop of 0.75% solution/gallon; do not use with tetras.

Your local aquarium supply store usually has these compounds available in commercial packages. Other products may also be displayed as effective. Whenever a commercial product is used, read and follow the instruction on the label.

As with all other infectious fish diseases, the best treatment for *Costia* is treatment. The isolation and treatment of new fish is a must. A good diet and proper water conditions must be maintained. *Costia* parasites rarely cause disease in fish which are well fed and in a healthy environment. If your fish become infested, look for the basic cause; do not stop with identifying the parasite.

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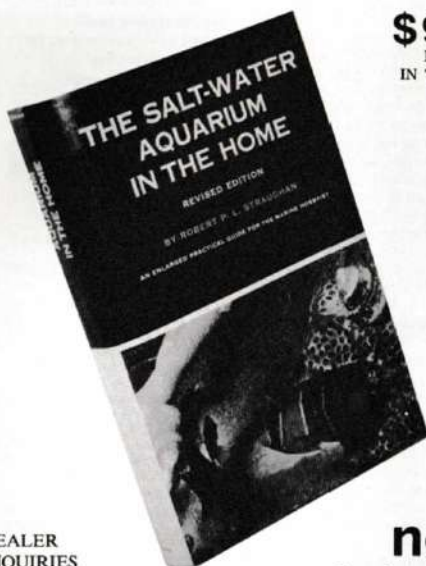
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Octopus *Continued from Page 29*

Much larger and more widely distributed than *Octopus bimaculoides* is *O. vulgaris*, the cephalopod most often exhibited in public aquaria. Note the suckers on the bottom of each arm; it has been estimated that a common octopus measuring no more than five feet in spread would have about 2,000 suckers.

clams, scallops, earthworms, and live daphnia. These miniature octopuses were utterly absurd as they attempted to appear as ferocious as possible while they pursued a luckless brine shrimp. They would wave their tentacles threateningly and display startling color changes.

These tiny specimens lived much longer in captivity than the larger sizes. Just as with fishes, the younger specimens probably adapt more readily.

My experiences have indicated that octopuses dislike staying out in the open. I always keep several gastropod shells in the tank in which my baby octopuses can hide. These shells should be fairly heavy and not easily moved by the octopuses. The shells give them a secure feeling, similar to that which they experience in their natural habitat. Octopuses become terrified if they find themselves in the open or cut off from their hiding places.

I would recommend as large a tank as possible for a baby octopus, since they seem to require a great deal of room in order to feel completely secure. I have, however, successfully maintained them for short periods in one-gallon bowls equipped with undergravel filters. Baby octopuses are quite safe to keep in a community marine aquarium, provided that the fish are

Continued on Page 88

your bookshelf

SWORDTAILS - FOR THE ADVANCED HOBBYIST by Drs. Myron Gordon and Herbert R. Axelrod, published by T.F.H. Publications, Jersey City, N. J. Price \$2.00.

When first introduced to the aquarium hobby in 1909, swordtails and platies were immediately accepted, and since then they have become two of the most popular fish species. Beginning and advanced hobbyists quickly realized that both species were easy to breed to achieve a specific color strain, so the attention they've received has resulted in the appearance of many brilliant color patterns and changes in design and size of finnage.

These changes have resulted in the successful development of such strains as the Simpson hifins, the lyretails and more recently a combination of both of these forms in both swordtails and platies by the noted gen-



eticist Dr. Joanne Norton. The explanations detailed in relation to the hybridization potentials between swordtails and platies is clearly defined.

Presentation of the genetic tables followed by a step-by-step procedure for achieving the breeding of various characteristics is very carefully defined and

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is of inestimable value to all hobbyists endeavoring to achieve good breeding results with swordtails.

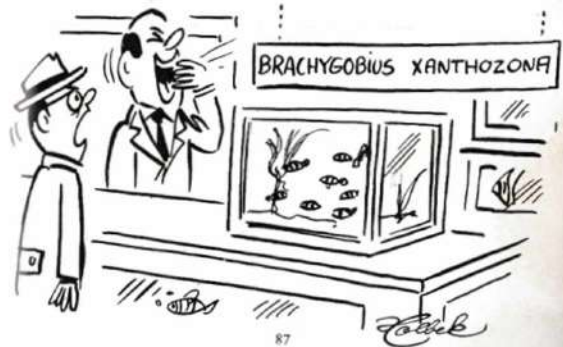
This treatment also applies to the similar instructions covering the potentials for producing the colored wagtails, and both of these instructional patterns should act as an incentive to hobbyists wishing to attempt breeding on a more specialized basis or to advance their knowledge in the techniques that are essential to providing the greater satisfaction and fascination that cannot be achieved by haphazard breeding that is the general rule today.

The section within this book dealing exclusively with sex re-

versal in livebearers sheds a great deal of light on what can only be regarded as a very puzzling topic. Even though much research and experimentation are still required before any concrete rule can be established as to whether or not sex reversals in the majority of cases have a tendency towards impotency, the authors have exposed the unscientific bases of a number of popular but erroneous concepts.

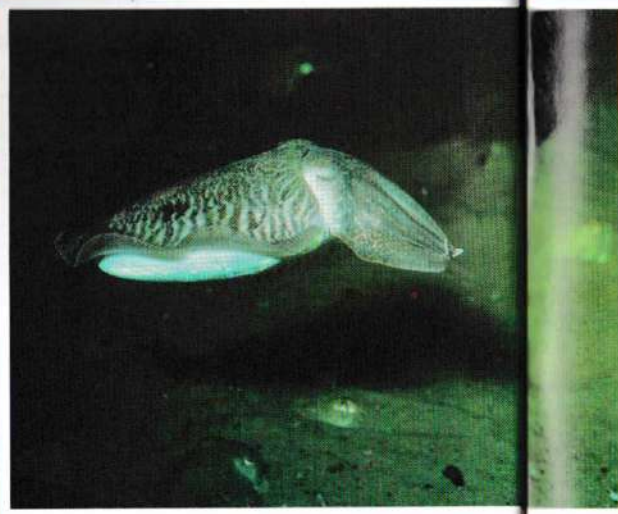
As usual, the publishers maintain their high standard of production of quality illustrations in both color and black and white, and these are greatly enhanced by the heavy coated stock on which they are printed.

"Never mind my pronunciation.....just give me a pair."



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Continued from Page 85



no larger than the octopuses. Most fishes consider octopus meat a delicacy.

When treating the fish with copper sulfate, the commonly used parasite killer, remove the octopus, because this substance is extremely toxic to him.

The high mortality rate of the octopuses kept in captivity is caused by the thoughtless aquarist's teasing and tormenting his pet. The owner is often disappointed because the octopus emerges only at feeding time and during the night. Since the octopus is nocturnal by nature and enjoys the tranquility of darkness, he resents the aquarist's disrupting his abode or his prodding him into activity. The aquarist must refrain from forcing the octopus into the open for the sheer purpose of entertaining. This action often results in deep shock and subsequent death.

I have had success with my octopuses because I have learned to leave them alone as much as possible. At feeding time, which is at dusk, I lure

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them out with brine shrimp. They glide around and perform their weird antics for about half an hour. After eating, they retire to their caves. They will not come all the way out of their homes at any other time while the lights are on. Keeping the octopus in a community tank enables the fish to become a beautiful attraction while the octopus is hiding.

When the lights are out, the octopus emerges and prowls about the tank. If a light is switched on, the octopus will rush around blindly and could easily hurt himself. It is always wise to introduce light gradually to a dark aquarium.

My experiences demonstrate that a properly maintained aquarium will provide a favorable environment for the octopus. And if he is treated with respect for his inherent timidity, he will live as long as any hardy marine animal.

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With a little
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knowhow, breeder
Charles Ash
has developed
a new strain
of
**Marbleized
Angels**



Charles Ash, developer of the new marbleized angelfish, has been able to fix the strain so that breeders reproduce the marbled pattern in their young; there are currently enough marbleized angels to maintain the strain as a permanent aquarium favorite. Photo by Hassie Smith.

BY CHARLES ASH

● The July, 1963 issue of *Tropical Fish Hobbyist* contained an article about two angelfish sports developed by Bud Goddard, a breeder in Lakeland, Florida. One of the sports was an albino angel, and the other was an angel with an odd pattern of markings that could best be described as "marbled." Although the marbleized sport bred, the strain was not fixed.

My report here is concerned with a new angelfish sport that I have developed over the last two years or so. I believe that my new angels represent a very definite improvement over the original marbleized angel in that they are much better looking fish . . . and they breed true. Here's how my new strain came into being.

Some time ago I noticed, in a batch of young regular angels that I was raising, a young fish that had a large V-shaped marking where the normal straight black bars should have been. The "V" had a chain pattern on one side and broken bars on the other. Being always on the lookout for anything unusual in color or shape, I took the young fish out and placed it into a tank containing young black lace angels that were destined to be future breeders.

As the fish matured it became very beautiful and showy. It was a female, so when it was a year old I placed it with three males. It wasn't long before the female sport paired off and spawned. I segregated the resulting young with an eye towards mating them back to their mother. When they were eight months old, these young angels were very large for their age. They

didn't have the "V" pattern exhibited by their mother, but their bar pattern was very pronounced and dark, and their dorsals were very large.

A month later I took several of the males and placed them in a 30-gallon breeding tank with their mother so that they would spawn with her. After many spawnings, I discovered only three marbleized angels. One was marbleized only through the tail to the mid-section; one was marbleized completely and was very dark; one was marbleized completely but was very light.

I was determined to perpetuate the marbleized pattern, so I gave the three youngsters the best care possible in hopes of getting them to grow up and reproduce. They were given a 30-gallon tank to themselves, and as the months passed their marbleized pattern became more pronounced and more attractive. As the fish matured I discovered that two were females. Finally, after much excitement and expectation on my part, one of the females—the lightly patterned one—mated with her marbleized brother. I immediately removed the unmated female. Unfortunately she died soon after.



Charles Ash at home in his fish room; he uses high tanks to allow proper development of the finnage of his angels and favors water sprite as a plant. Photo by Hassie Smith.

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Some people enjoy the hobby because they love "doctoring." The warning above is for these people. If you love "doctoring" more than you love "hobbying" — then please observe the warning.

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* **HYPOCHONDRIASIS**
a word meaning morbid
anxiety about one's health.

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TRANQUILIZER
WATER CLARIFIER
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BACTERIAL INHIBITOR**

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I hatch all of my angels artificially, so I removed the slate on which the spawn had been deposited to a hatching tank. The longest four days of watching and hoping went by, only to end in disappointment: all of the eggs were infertile. Two succeeding spawnings also resulted in infertile eggs, and I was beginning to get worried. But on the fourth spawning the eggs hatched and I was able to recover about two hundred fry.

After the fry had become free-swimming, I placed them in growing tanks and settled down to watch developments. No one can imagine my excitement. The fish were too small to present any evidence of what type of markings they bore, but when they were about three weeks old I took out a magnifying glass and examined them every night. Even though the fish were still very small and just beginning to look like angels, I could see a difference between most of them and regular angel-fish youngsters. By the time they were six weeks old there was no longer any question about it: 60% of the fry bore the new marbleized pattern. To add to my good feelings was the fact that during the six-week rearing period I had gotten four more spawnings from the parent pair, and from these spawnings I hatched about another 1,000 young.

Right after this my female marbled angel that had produced all of the young died; this stopped the production of any more marbled fry. Of the

Tropical Fish Hobbyist

five spawnings that she had been through before she died, I obtained a total of about 800 marbled young. After separating them from their plain silver brothers and sisters, I placed the oldest in 30-gallon rearing tanks. By the time they were nine months old they had accounted for two dozen proven pairs, and there are now many more.

This strain has now been established so that it breeds true, and I consider its development a truly worthwhile accomplishment, since it has added a very attractive new angelfish variety to the aquarium scene.

The delicately patterned beauty of the new marbled angels is evident in this young specimen; all of the Ash marbled angels in existence today are the descendants of a female sport found among the fry hatched from a normal angel spawning. Photo by Hassie Smith.



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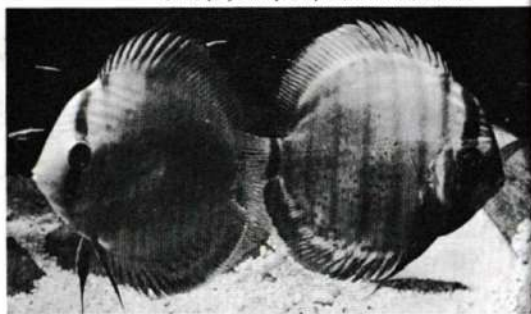


Contest Winners

See what happens when you start bragging? Last month we were patting ourselves on the back and making big talk about all of the photos hobbyists were sending us for the monthly photo contest and how it might cause us to expand the space devoted to the contest from one page to two, and how we might set up separate categories for freshwater and marine tropicals, and then blammo! . . . the number of submissions tapered off. But even so there were some excellent photos among them, as you can see from the winning photos shown below.

On page 30 you'll find the name of the grand prize winner for photographs winning monthly awards during 1968, plus a copy of the rules of the contest for those who want to enter but don't have a copy of the June, 1968 issue handy.

Close-up by Dudley Campbell, Huntsville, Alabama.



Landscape by Dwight T. Howard, Rochester, New York.



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