

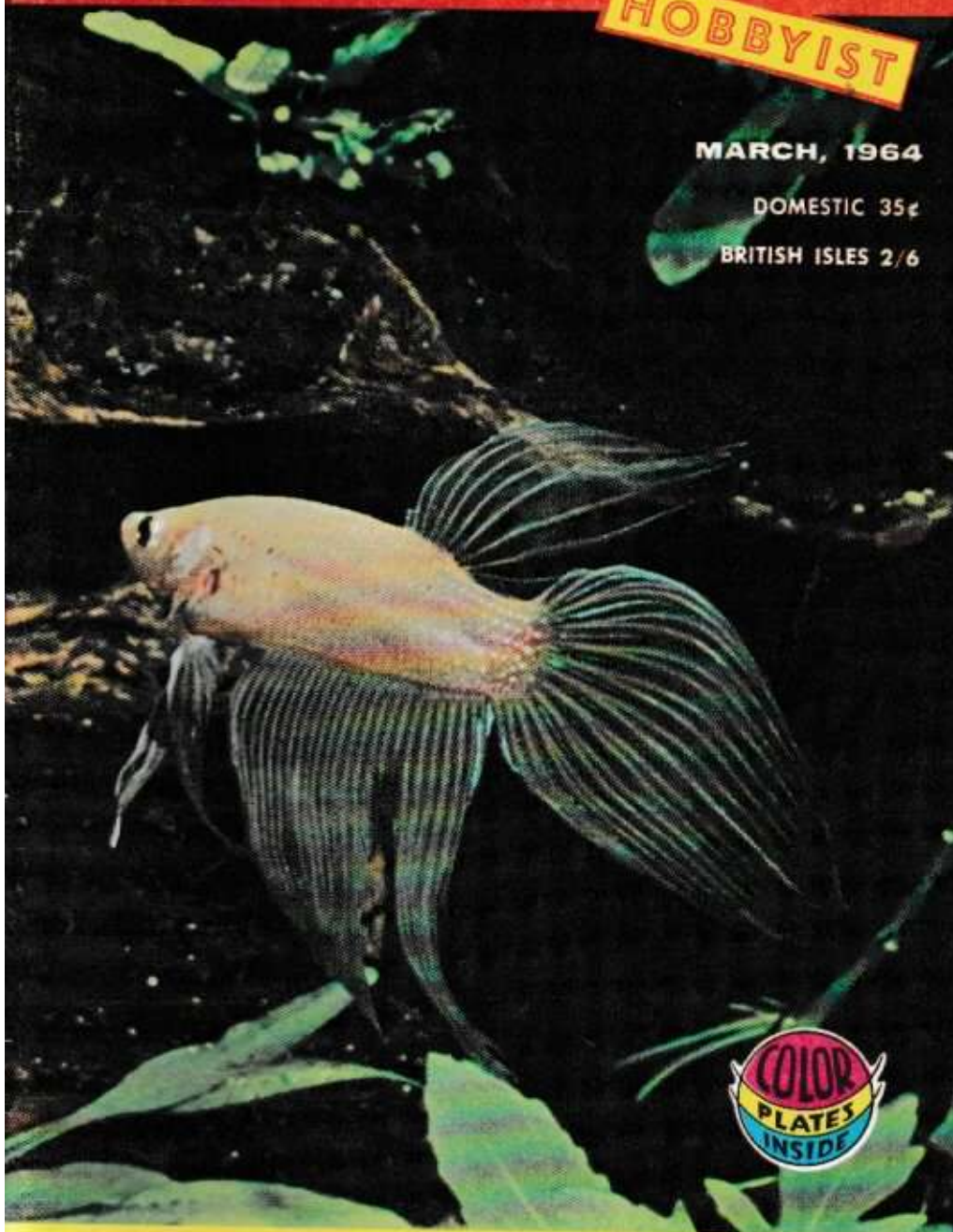
TROPICAL FISH

HOBBYIST

MARCH, 1964

DOMESTIC 35¢

BRITISH ISLES 2/6



A BEAUTIFUL NEW BETTA STRAIN THE YELLOW BETTA
SEE PAGE 5 FOR INFORMATION ABOUT THIS AQUARIUM DISCOVERY.



Colorful Tetras, by Wilfred L. Whitem, 50c from your dealer or direct from TFH.

COLORFUL TETRAS is a new TFH book devoted to giving hobbyists all the facts about those lively, flashing jewels of the aquarium, the Tetras. Necessarily broken into two volumes to allow the most comprehensive treatment possible, this Tetra information is given in two companion volumes, both by Wilfred L. Whitem. The two books are COLORFUL TETRAS and TINY TETRAS.

COLORFUL TETRAS covers the Characters of the genera *Hemigrammus*, *Moenkhausia*, *Aphyocharax*, *Phenacogrammus*, and others, with emphasis placed on the popular little *Hemigrammus* species. Everything that the hobbyist needs to know is covered, from aquarium arrangements and water conditions to foods and feeding and prevention and treatment of disease.

For each species customarily bred, author Whitem has listed all requirements for a successful spawning. Each species is treated both in general, in the section devoted to over-all recommendations for spawning the Tetras, and in particular, in the section which deals with the specific fishes.

Breeders, experienced or beginning, will find plenty of good, practical advice. For many, special benefit will be derived from the listings of the average amount of spawn received at each spawning.

TROPICAL FISH HOBBYIST

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COVER
Guide: TFH's cover this month is a pair of the beautiful delicately-colored Yellow Bettas developed by Dr. Edward E. Schmidt of Germany, from parents imported from Thailand. Photo by Dr. Edward E. Schmidt.

EXOTIC TROPICAL FISHES
SUPPLEMENTS
Pages 23 and 24, 29 and 40, these pages are perforated for easy removal and attached to the front of the last issue of EXOTIC TROPICAL FISHES.

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March, 1964

EDITORIALY...

The "Mail Call" Editor's Lament.

"I bought a pair of Swordtails,
And got them for a song;
I found them dead this morning,
Now tell me, what is wrong?"

"My neighbor raises Guppies;
Their tails are big and black.
My Guppies all have tiny tails,
Now tell me what they lack!"

"My friends all keep Dwarf Cichlids,
They spawn them, it is true.
My Cichlids only look at me,
So tell me what to do!"

I'm told only half a story;
My answer's condemned if I'm wrong.
I lose my hair, and sit and stare
And grumble all day long.

I'll change my name and grow a beard,
Then move to the Isle of Bali.
I'll live in a cave, ne'er wash nor shave
Nor answer such questions, by golly!

William Vanderwinkler

Tropical Fish Hobbyist

THREE NEW STAR SALES MAKERS

TETRA FROG: These realistic frogs capture the attention from an underwater perspective as they hover gracefully up and down to their sea shell homes.

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March, 1964



A pair of Yellow Bettas which were bred from parents having a flesh-colored body and transparent fin edges.

Maybe we'll see them soon!

The Yellow Betta

BY DR. EDUARD SCHMIDT,
Bad Homburg v.d. H., Germany
Photos by the Author

The gamut of colors which adorn *Betta splendens* has been enriched by the addition of a new, charming variety. A pilot for an American airline discovered the Yellow Betta in the tanks of a breeder in Bangkok and brought back two beautiful pairs for me.

A message of importance to all commercial aquarists

Triton Aquatics, chief distributor in the Western hemisphere for Ing. Erwin Sander, Essen-Werden, is greatly pleased to introduce to America a development that has been revolutionizing the keeping of fresh and salt-water fish, invertebrates and plants on the continent of Europe —

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6

Bettas are a very interesting study object for the scientifically interested hobbyist because of the great variability of colors. Probably no other aquarium fish delights us with as many pure, gleaming colors as our friend the Betta. The simple Mendelian laws of heredity which were taught to us in school with garden plants and guinea pigs can be applied much more effectively by the hobbyist when he crosses different varieties of Bettas. With the Yellow and the Black Betta variety, there are more complicated hereditary procedures. The yellow color of this new importation is only faintly indicated, a little more intense in the body than in the fins, interrupted by green rays on the otherwise transparent veil-like fins.

How did this yellow tone come to be? All Bettas imported so far have a red basic color, brought out by red color cells (erythrophores). The red color can appear in all shades from light to dark. The occasional dark color is dependent on the presence of black or yellow cells (melanophores and xanthophores). The more black color cells are mixed in with the red, the darker the red appears; the fewer black cells there are, the lighter the red. Red, black, and yellow are true color cells. In contrast to this the intense blues, greens, and slate-gray colors are brought out by the light-diffracting property of certain stored crystals which lie like prisms in the skin cells of Bettas (iridocytes).

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7



Yellow Bettas, like highly inbred color varieties of other species, are more delicate than normally colored specimens; they require a slightly higher temperature range.

The breeding of the Yellow Bettas had already been accomplished by me a decade ago. With the flesh-colored Bettas one finds not infrequently individuals where the edges of the fins are transparent; that is, the red cells are missing. If one breeds the Bettas with the fewest red cells for several generations, individuals eventually appear which are transparent, whose bodies and fins show only yellow cells besides green rays. Using these, one can arrive at a yellow Betta by selective inbreeding. The fact that there are green rays and that the eyes are black shows us that there still exist green and black color cells in small numbers. In contrast to this Albino Bettas have been bred, where the black color cells are totally missing. Albinism in Bettas resulted from a single mutation and cannot be brought about by selective breeding as it would with the Yellow Betta.

From my experiences the Yellow Betta from Thailand was developed by selective breeding. It is therefore an inbred variety which places higher demands on the breeder. Yellow Bettas require higher temperatures than the common strains (82 to 86°), and the females begin to develop eggs only when fed a variety of foods. Then it is easy to see the plump, stuffed, cone-shaped ovaries of the females. The Yellow Betta is a pure breed and only yellow progeny result.

8

A new *Moenkhausia* species.

Black Jacket

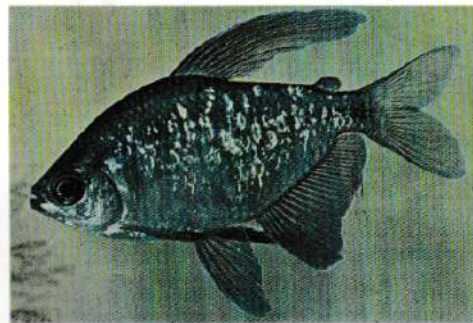
By HARALD SCHULTZ, São Paulo, Brazil

"Harald, your friend Takase gave me the message that his father has caught a few interesting, probably unknown fish again and sent them to São Paulo!" This is what my wife told me when I came home from the city. As you can see, anyone who lives in this paradise of tropical fishes needs only to wait if he wants to have the most beautiful new species come swimming to him.

A new fish? This is always good for a thrill. But my enthusiasm was always damped by doubt. How often had I been disappointed by such news? A fish hobbyist is like a hunter. Game is always plentiful elsewhere, and the same holds good for new fish species. When one finally gets there, nothing!

"What do they look like?" I asked. My wife has been well acquainted with the better-known species for years. "Quite unusual. I've never seen anything like them. They are elongated. The back is totally deep black. In the rear half of the body there is a deep black triangle. It's supposed to come from a small stream near Belém do Pará, in Amazonas," she said.

Moenkhausia pinitti, more similar to the popular conception of what a *Moenkhausia* should look like than the new Black Jacket, differs greatly from the new Black Jacket in both body shape and coloration. Photo by Dr. Herbert R. Axelrod. (For comparison, refer to the color photograph of the Black Jacket, *Moenkhausia tokasai*, on page 13.)



9

BRAND NEW

The Most Sensational Fish Food You Can Buy . . . Guarantees Your Fish Better Growth, Vigor, and Coloration or Your Money Back!

Now you can be sure your fishes and turtles get all the vitamins, minerals, protein, and bulk they need. No more spitting out essential foods they don't like—foods that collect on the bottom to cloud and contaminate your aquarium.

New Oscar foods are in pellet form, and each formula is blended with natural foods your fishes and turtles can't resist—shrimp, tuna, crab, liver, and high-protein whale meat. Either this revolutionary food gives them better growth, vigor, and coloration in 30 days, or you get your money back . . . no questions asked (see below).



HERE'S HOW IT'S DONE: Shown are some Tropical Fish Food pellets, in "coarse" grade. Each of these tiny pellets contains a balanced diet. Each contains an exacting blend of the nutrients your fishes must have for healthy growth, vigor, and coloration. Note the absence of powdery waste, the uniform size. Only the finest materials were used, and only Oscar's unique triple-grind, mix, press, and grading process makes this possible . . . guarantees you the finest fish food your money can buy.

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Each of five special formulas contains its own concentration of those nutrients ichthyologists state are the most beneficial to each variety of fish: a 54% protein formula for the tropical fish and guppy food; a concentrated carbohydrate formula for goldfish; a concentrated vegetable base formula for mollies. The turtle formula is fortified with vitamins A and D to help prevent soft shell.

TRY THIS FREE OFFER. Ask your dealer for your free sample of Oscar food. There's one for mollies, guppies, tropical fish, goldfish, and turtles, in several pellet sizes. If he has yet to stock Oscar foods, let us know. We'll see that free samples are sent to him immediately.

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If your fishes or turtles don't actually look better and more vigorous in just 30 days of feeding with the specified formula, return the unused portion to your dealer and your money will be refunded. Buy a can of Oscar Fish or Turtle food today!

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10

For several decades there have been millions of aquarium fishes caught and exported. From here they were shipped all over the world. Until a short time ago Belem do Para was the center of the American-Brazilian fish trade. Big planes would arrive empty and return loaded with hundreds of filled containers to the U.S.A.

Would this be a likely place for a new and particularly pretty fish? But you can never tell. Some years back the well-known ichthyologist Myers found some hitherto unknown species of *Cynolebias* during a Sunday excursion near Rio de Janeiro. And then I remembered how I had in a few afternoons of exploring the Neon Tetra streams of the Upper Amazon found more than ten different new Characins. They were scientifically classified and identified by the noted French specialist Dr. Jacques Gery. Among them were jewels like the lovely *Copella vilnae* and a new *Moenkhausia* species which has not yet been identified, a real beauty. It is a bluish-silver fish with wavy rows of red dots. Yes, there are plenty of beautiful and unknown fishes in Amazonas!

Naturally I returned to the city at once. Sixteen specimens of the little fishes swam in a densely-planted tank. They were elongated in form, resembling the typical *Hemigrammus* species. Fins were transparent, and the dorsal and anal fins each had a tiny white dot right at the tip. The basic body color was a smooth silver. From the beginning of the head the back as far as the caudal base was a deep jet black, separated from the middle of the body by a narrow bluish-silver and sometimes metallic red horizontal line. From the beginning of the anal fin to the caudal base, the lower half of the body beneath the horizontal stripe is adorned by a deep black triangle. Some individuals have their black color of the lower body right into the pectoral region, even covering it at times and losing the triangle shape which is so typical. Smaller specimens seem to have the tendency not to have the black color on certain parts of the body. Head and eyes are silvery, the eyes with black pupils. Covering the caudal base is a large four-cornered patch which is bordered above and below with white, typical for many species of *Hemigrammus* and *Moenkhausia*. Sex differences do not seem to be recognizable by the colors. Not all are similar to one another in intensity of coloration. Some go into slate-gray at times, and if frightened they may pale to look like nondescript silvery fish.

Best suited to them seems to be a subdued light, arrived at by numbers of plants which partly cover the surface, and crystal-clear water. They then show their deep black, shiny, very attractive backs clearly, as well as the pitch-black triangle in the rear lower half of the body. When one sees a group of these fish the immediate impression is of a formal occasion where everyone is dressed in a black dinner jacket. Truly elegant! Their maximum length seems to be about 2 inches.

Why are there so many authors who are so strongly opposed to community aquaria? I like my large 6-foot tank. Many fish varieties are found therein,

11



A number of *Lepturus fasciatus* lived in the large tank into which Harold Schultz introduced freshly-caught specimens of the Black Jacket, the tank, six feet long, also housed Asiatic Cyprinid species; all lived peacefully together. Photo by Harold Schultz.

even from other parts of the world. I keep Veiled Angelfish with flowing fins together with a school of pretty Tiger Barbs. "Impossible!" I hear some of my readers say, "It can't be done!"

You have my word; the Barbs have never molested the slow-moving Scalares. It seems that peace is more easily arrived at in a large space. Unfortunately this is not always the case with us humans. There are also eight Pearl Gouramis in this tank, and the Barbs never touch their tantalizingly long ventral fins.

Lovely Discus of the various color varieties are seen swimming here. They have their reserved quarters below a thin strip of water-soaked log which lies tilted in the tank. A school of always-lively *Balamiocheilus melanopterus* flits by. They dance about, almost on their heads, able to swim to their hearts' content in the ample space. A school of 22 *Rasbora heteromorpha* keeps closely together. Black and yellow banded *Lepturus fasciatus* nibble on the algae. Some *Danemus urostrata* with their black-and-white striped tails are real jewels of the aquarium. Armored Catfishes of many species scurry over the bottom, and many others. The only thing missing is a group of a hundred Cardinal Tetras to complete the picture. These will not be available for several months, when the fry which hatched during the rainy season put on a little growth.

Continued on Page 62

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Fig. 1. "BLACK JACKET"—*Moenkhausia takasei* sp. nov.: two of the types, largest about 22 mm. in sd. length. Photograph by Harold Schultz.

Two New Tetras from the Lower Amazon Basin

by Dr. J. Góty¹

The Tetragonopterinae described below were discovered by Mr. Takase, one of the fish-collecting pioneers in the Brazilian Amazon. The author is very pleased to name them in his honor. They were procured by Mr. Harold Schultz, whose help I am happy to acknowledge. Once more he has introduced two very valuable and interesting fishes to the tropical fish hobbyist.

Moenkhausia takasei sp. nov. (fig. 1)

Holotype: female (?) 33 mm. in standard length (41.8 mm. in total length), collected by Mr. Takase in a creek close to Belem do Para, Rio Guama basin, lower Amazon, June, 1963.

Paratypes: 4, 27.3-32.2 mm. in sd. length, collected with the type; pers. Nr. M. 349, 2 to 5.

¹ Contribution No. 35 to the Study of characid Fishes. Types deposited in the U.S.N.M.

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Tropical Fish Hobbyist

Diagnosis: Depth 3.23-3.64 and head 3.65-4.08 in sd. length; dorsal fin slightly in advance of the middle of the body; anal iii or iv, 18, i or 19, i; scales 5/33/3¹ or 4; 4 or 5 external premaxillary teeth; two small maxillary teeth; gill-rakers 6-9/12-13; a conspicuous longitudinal silvery band; upper half of the body, from head to end of peduncle above the band, almost black, as well as the lower part of the body above pattern, except some black at the beginning of the caudal rays; unpaired fins lemon-yellow, more intense on the first rays of dorsal and anal, on adipose fin and on upper caudal lobe, quickly vanishing in alcohol; tips of caudal rays somewhat dusky.

Description (See Table I for proportions and counts): dorsal and ventral profiles symmetrical, body compressed and rather elongate for a *Moenkhausia*; predorsal somewhat keeled, with a regular series of scales, precentral flat, the scales bent at right angle on sides; pectorals and ventrals short, not reaching next fin; origin of ventrals nearer snout than base of caudal, anal fin rays not armed with hooks (on supposed male specimens), the anterior ones forming an anterior lobe and very few scales, in only one row, on base of first rays; caudal lobes equal, sealed to not more than their basal half; lateral line complete, the scales of the ordinary Tetragonopterygine-type, with few striae, the apical border not crenulate; 3¹-4 scales between lateral line and front of anal. Head moderate; anterior fontanel almost reaching the front of the eye; eye greater than interorbital; circumorbital bones somewhat reduced, the great suborbital bordered, all around, by a naked zone whose width at the angle of the cheek does not exceed the third of the bone's width; jaws almost equal, the mouth terminal, the dentary very slightly in advance of the premaxillary; premaxillary with two rows of teeth, the outer row consisting of 4 or 5 tricuspid teeth, the inner one with 5 quincusp teeth; maxillary long and slender, almost equalling an orbital diameter, with 2 small, tricuspid teeth at angle; dentary armed with 4, rather large, quincusp teeth in front, which are followed by about 7-9 much smaller ones on the sides.

Discussion: *Moenkhausia takasei* belongs to the Eigenmann's (1917, p. 69) group of species with "depth usually more than 2.75 in the length." The ten or so known species in the group are usually identified by their color pattern. They can nevertheless be separated in two groups: those with more than 21 anal rays like *dichroica*, *intermedia*, the numerous spp. of *lepidura*, *colletti*, *mirangi*, etc. . . , and those with 21 or less than 21 anal rays like *copei*, *ceres* and *corinho*¹. The yellow upper caudal lobe of *Moenkhausia takasei* sp. nov. resembles the pattern of *M. lepidura* whereas, by its anal count and the form of its body, it is rather close to *M. corinho*, also from Para. The latter species, in addition to a different coloration, have the following dissimilarities with the new species:

| | <i>M. lepidura lepidura</i> | <i>M. corinho</i> | <i>M. takasei</i> sp. nov. |
|-----------------|-----------------------------|-----------------------------|----------------------------|
| Anal . . . | iii or iv, 20-25, i | iii, 16-18, i | iv, 18-19, i |
| Depth . . . | 3.0-3.5 | 2.8-3.3 | 3.25-3.65 |
| Eye . . . | about equal to interorbital | about equal to interorbital | greater than interorbital |
| Maxillary . . . | moderate | moderate | rather long and slender |

¹ "21 rays" means probably, counting as Eigenmann did, about iii or iv 19 (1) rays.

14

For several decades there have been millions of aquarium fishes caught and exported. From here they were shipped all over the world. Until a short time ago Belém do Pará was the center of the American-Brazilian fish trade. Big planes would arrive empty and return loaded with hundreds of fish containers to the U.S.A.

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March, 1964

| | <i>M. lepidura lepidura</i> | <i>M. corinho</i> | <i>M. takasei</i> sp. nov. |
|-----------------------------|----------------------------------|----------------------------------|---|
| External premaxillary teeth | 3-4 | 3-4 | 4-5 |
| Gill-rakers . . . | 8-9/13-15 | 7/9 | 8-9/12-13 |
| Great suborbital . . . | leaving a rather wide naked area | leaving a very narrow naked area | leaving a rather wide naked area |
| Dorsal fin . . . | nearer tip of snout | a little nearer base | a little nearer tip of middle caudal rays |

Hypheobrycon takasei sp. nov.¹ (fig. 2)

Holotype: female (?) 30.0 mm. in standard length (about 35.5 mm. in total length); collected by Mr. Takase in the Serra do Navio above Macapa, Amapá Território, lower Amazon basin, December, 1961.

Paratype: a male (?), 20.3 mm. in sd. length, collected with the type; pers. Nr. M. 278, 2.

Diagnosis: Depth 2.88-2.98 and head 3.5-4.0 in sd. length; dorsal fin in advance of the middle of the body; anal iv, 25 (1) or 26 (1); scales 5/(7-8)33-34/3; great suborbital almost covering cheek; 2 or 3 external premaxillary teeth, 5 or 6 internal ones; maxillary short, with 3 or 4 small teeth at angle; humeral and dorsal spots, which are characteristic of the "callistus-group," particularly large and conspicuous.

Description (See Table I for proportions and counts): compressed, rather elongate, but not as much as in *Hypheobrycon minor*, the nape only slightly depressed, the dorsal and ventral profiles almost symmetrical; predorsal keeled with a regular series of 8 scales, precentral flattened; pectorals and ventrals moderate, the former reaching the latter; ventrals not quite reaching to anal; anal fin originating under last rays of the dorsal fin; no hooks on either specimen; caudal lobes equal, not scaled; lateral line incomplete, 7 or 8 perforated scales; a pseudotympanum clearly visible by transparency, just in front of the humeral spot.

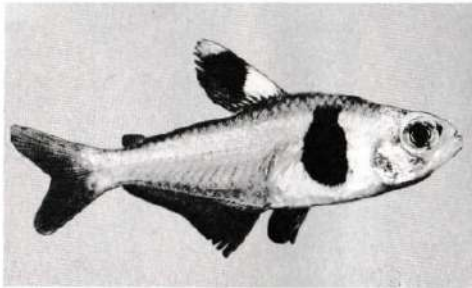
Head variable, rather short in the holotype (4 in sd. length), moderate in the paratype (3.5 in sd. length); anterior fontanel reaching to middle of eye or even front of pupil; eye rather large; circumorbital bones not reduced, the great suborbital almost reaching the preopercular canal below; mouth terminal, the dentary slightly longer than the premaxillary; upper jaw with 2 or 3 tricuspid teeth in front of the premaxillary, on each side, 5 or 6 quadricuspid or quincusp teeth behind; 3 or 4 small, tricuspid teeth at the angle of the maxillary, which is rather short, about 1.4 in ocular diameter; dentary armed in front by 5 rather large, quincusp teeth, followed on the sides by a smaller, tricuspid one and a series of conical ones.

The coloration was noted when the specimens (first in formalin) were unpacked: body somewhat translucent, of a rosy tint; base of dorsal fin orange-yellow, as well as the adipose fin; caudal orange; anal fin, chiefly on its base, vermilion; snout and eye somewhat yellow. Humeral spot the largest known among "tetras," rather far back and covering almost all the

Continued on Page 59

¹ The name "*Megalomphodus takasei*," which was inadvertently published in an advertisement of the firm Tropicarium Frankfurt/Main (D.A.T.Z. 15 (3), March, 1962), is a *nomen nudum*.

15



Hypphessobrycon takasei, the newly-named Coffee-Bean Tetra. Photo by Harold Schultz. (For a color photograph of this fish, refer to page 60.)

Hypphessobrycon takasei Gery, The Coffee-Bean Tetra

By HAROLD SCHULTZ, São Paulo, Brazil

A few months of every year are spent at home with my family. When the dry season gets underway once more, then it's off to the jungle again! At home one is overcome by the clutter of the city and the work involved in answering the countless letters from all over the world and writing scientific reports on previous journeys. But even with all this work to do my thoughts refuse to be confined to the narrow walls or to be lulled by the eternal city noises; they wander from the flat brown surface of my desk to the quiet lakes, the splashing brooks, and the gigantic rivers of this huge country of Brazil. They take pleasure in memories of the countless living jewels which are to be found far out there, the most imposing of which are the Cardinal Tetras, *Cheirodon axelrodi*, the sovereign ruler of all aquarium fishes, or the true Blue Discus, *Symphysodon aequifasciata haraldi*, which seems to be waiting for another of equal birth to push it aside in popularity. (But please don't let my boss know that while doing serious scientific work I am letting my imagination take wings and carry me out on far-off journeys!)

Continued on Page 55

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A beginner's guide to filters.

INSIDE AND OUTSIDE FILTERS

BY WILLIAM VORDERWINKLER

The advantages of aquarium filtration are many. Hobbyists frequently succumb to the temptation of putting in a few more fish than good sense tells them they should. Although overcrowding an aquarium is never excusable, the fact that a filtered aquarium will hold more fish than an unfiltered one is unquestioned.

Another advantage, and an important one, is that the aquarium is kept clear of suspended matter and that the use of a filter eliminates the need for frequently going over the bottom with a dipnet, spending a great deal of time at the tedious job of keeping the bottom clean. Like the bag in your vacuum cleaner at home, the filter catches and stores the dirt out of harm's way and makes disposal an easy chore.

There are two types of filters which trap and store unwanted dirt in the aquarium. Simpler of the two is the inside filter. The old ones, which we hardly ever see any more, were made of celluloid. They consisted of a box with a perforated bottom which hung in the water in a corner of the aquarium. A very effective filter which was fairly easy to clean and did a good job, its only drawback was that it robbed the aquarium of a corner of its space. In order not to take up too much of this space the filter had to be made rather small, and its efficiency was limited. Another inside filter was developed

later and is still used a great deal today; it is completely submersible. Instead of being open at the top this one is covered with a perforated lid. The inside is filled with the filter medium and the tube pumps out the clean water. The dirty water is drawn in through the perforations and the pumping action of the bubbles forces the dirty water through the filter medium. This sort of filter can be easily hidden behind a rock, and taking it out and cleaning it is an easy job. It fills up quickly, however.

In order to permit the use of a filter which was larger in size and did not crowd into the tank, the outside filter was devised. This is a box which is usually made of plastic. Some are even made like a little aquarium, with a metal frame and glass sides and bottom. The principle here is that the dirty water is siphoned in from the aquarium through a tube. After passing through the filter medium the clean water is pumped back.

There are two methods which have been devised to increase the flow of water through such a filter. One is to pass the clean, filtered water through a long plastic tube which hangs down below the bottom level of the aquarium and then comes up to the water's surface. By bringing the air intake down to a point where the tube begins to rise,

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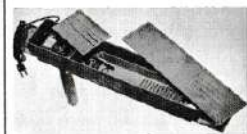
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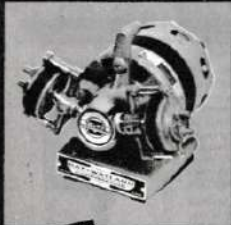
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the bubbles are made to pass through a lot of tubing. The farther the bubbles rise, the greater the pumping action, and the water comes out at a great rate. The other way is to use an electric pump to return the water, instead of the air bubbles. This type of filter is frequently used in marine aquaria, where the water must be constantly agitated as well as filtered.

So much for the way these filters work; the words "filter medium" have been used several times, and should be explained. Anything which will retain dirt and let through clean water without adding any undesirable ingredients can be called a filter medium. The cheapest but not necessarily the best is fairly coarse aquarium gravel, with a layer of glass wool on top. The gravel must be coarse enough to allow the water to pass through readily and at the same time fine enough to retain the dirt that gets by the glass wool. When this glass wool becomes loaded with dirt, which happens in a surprisingly short time, it must be replaced. After a time the gravel also becomes clogged with dirt, at which time it must be removed. One then has the choice of washing it or replacing with fresh gravel. Many hobbyists prefer to use all glass wool for a filtering medium. This does a better job, but of course means replacing a great deal more glass wool when it gets dirty. Another medium which is just as efficient and can be washed easily is made of nylon fibers.

The media described thus far are excellent for the removal of dirt particles, but do nothing for the water chemically. Dissolved wastes flow merrily through a filter without any

interference, and after a time they build up in volume to a point where, if no water is removed and exchanged for fresh water, things get pretty unhealthy. Passing the water through activated charcoal or carbon pellets will neutralize many of these unwelcome ingredients. As these media are quite porous the water should first pass through a layer of glass wool or nylon fibers to remove most of the dirt before it clogs the pores.

There are still some people who think that it is possible to duplicate in an aquarium the same conditions which are found in nature. They reason that if a tank is well planted the oxygen produced by the plants is enough to support the fishes, and that the plants will absorb the wastes given off by the fishes. If this is done in the open by nature, they reason, why can't a similar condition be created in the aquarium? The big reason why it can't is that in order to make our aquarium interesting we add to our small body of water many times the amount of fish that even a well-stocked pond would have in proportion. In order to get away with this crowding we must resort to artificial means to create healthy conditions. Aeration helps by promoting a healthy circulation and thereby increasing the content of oxygen, at the same time decreasing the carbon dioxide content. But one thing aeration does not do is to get rid of the wastes which are given off. Plants absorb a little, much less than most of us realize. A filter which is working properly promotes water circulation as well as purifying it. It is the aquarium hobbyist's most valuable tool for the achievement of a clean, healthy aquarium.

Meet the Hobbyist . . . Harold Montzka

BY DR. HERBERT R. AXELROD
Photos by the author

RAISING TROPICAL FISHES UNDERGROUND

In a beautiful home in Minneapolis almost 100,000 tank-raised fishes are swimming in 500 sparkling-clean 30-gallon aquaria. These tanks belong to one of America's leading fish breeders, Harold Montzka, who supplies most of the tank-raised egglayers bought by hobbyists in Minnesota.

Though Harold specializes in Sumatra Barbs, *Capoeta tetrazona*, raising about 75,000 a year, he also produces thousands of Glo-lights, Cherry Barbs, Bloodfins, Serpae Tetras, Black Neons, Angelfish, and Bettas. As a matter of fact, he probably has the only albino Cherry Barbs in existence.

Harold Montzka of Minneapolis has one of the largest underground hatcheries in the world. Harold has 500 30-gallon aquariums and about 1,200 jars of Bettas.



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To My Fellow Aquarists:

More and more, people who started out in the tropical fish hobby are reaching the point where they are interested, or actively engaged in breeding fishes, not only for pleasure, but for money.

If you are such a person, I have good news for you.

Just recently, T.F.H. Publications acquired ALL-PETS magazine, a monthly publication serving people whose principal interest is breeding livestock for commercial purposes. Unlike TROPICAL FISH HOBBYIST, whose chief aim is to enhance the pleasures to be derived from the science of tropical fish keeping, ALL-PETS is dedicated to helping its readers make a profit from what was once solely a hobby.

Thus, it treats of tropical fish from a dollars-and-cents point exclusively. And the men who write for it -- the pros -- talk shop to ALL-PETS readers in the kind of practical way identified with a business publication.

A subscription to ALL-PETS is only \$5.00 a year. This includes a copy of an annual LIVESTOCK DIRECTORY which has never before been made available.

I am extremely pleased to be associated with this magazine for professional breeders, and I hope all our readers with a sincere interest in the money-making opportunities in tropical fish will subscribe to it.

Sincerely,
Herbert R. Axelrod
 Herbert R. Axelrod
 President

TFH Publications, Inc.



Harold's setup consists of long rows of tanks, four high, on 2x4 racks which he made himself. Every tank has a bottom filter which is cleaned weekly.

Harold, who is married and has three children, has been breeding tropical fishes for 18 years; he even paid his way through college by breeding fishes. During the past three years his hobby has grown so large that he has stopped all other activities and is concentrating on raising fishes only. Though he sells only through wholesalers, he does ship to dealers all over the country. His breeding techniques are unique, and he doesn't seem to mind the 7 days a week, 52 weeks per year job that he has cut out for himself.

One of Harold's secrets of success is his insistence on brine shrimp for feeding his adult and baby fishes. By feeding brine shrimp he is able to grow his fishes faster and with fewer losses. Feeding frozen brine shrimp to his adult fishes is the fastest and safest way to maintain his large stock. For the baby fishes he has a battery of 18 brine shrimp hatcheries set up in large

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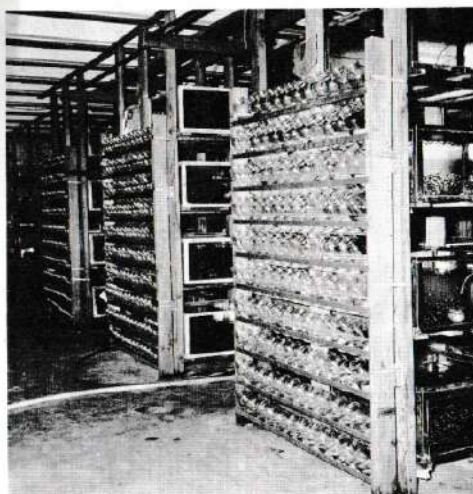
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Perhaps the most unique feature of Harold's setup is his Betta jar arrangement. The jars are tipped at a 30° angle to make feeding and cleaning easier and faster.

5-gallon jars with heavy aeration. Harold uses between 100 and 120 gallons of brine shrimp eggs per year; the more fishes he produces, the more eggs he uses.

Unable to do the job alone, Harold employs one man just to clean filters and tanks as he rotates his stock. The job of selecting the breeders and setting up the pairs or trios for spawning is Harold's personal task, one he trusts to no one else. Harold has few spawning problems, as 90% of the fishes he sets up spawn readily.

Harold's setup is "home-made." His racks are made from 2 x 4's and he has four tanks set one above the other with just enough room between each to enable him to clean them easily. All are in his basement below the ground,

hundreds of small scratches on the glass; however, they were small worm-like things which disappeared after a day or two. I have talked to every fish hobbyist or dealer I could find, but no remedy yet. Could you help?

T. T. Covington, Jr.,
Laurinsburg, N.C.

A. Food, temperature, and size of the tanks seem O.K. to me. You do not mention that you change part of the water periodically, and that might be one of the reasons you are having trouble. Do not

Planarian



blame your fish, because success depends mainly on the environment you provide: cleanliness, proper feeding, etc., is a must if you want to succeed. If small worms trouble you, that is a sign that your tank is not kept in proper condition. These small worms are called Planaria maculata. Very often the Guppies eat them.

African Mouthbreeders.

Q. I recently acquired a pair of African Mouthbreeders. They are about 2½ inches long. The man I bought them from said they were a pair. Right now they live in a 20-gallon tank. I am very much interested in breeding them and would appreciate any information you could give to me.

Don Deacon, Westfield, N.J.

A. I presume you refer to the Dwarf African Mouthbreeder, Hemihaplochromis multicolor. There is not much you need to do beyond keeping them well fed. Eventually the male will dig a hole



Hemihaplochromis multicolor

in a remote corner of the aquarium and try to get the female into it. If she is ready she will lay eggs there and will pick them up in her mouth after he has fertilized them. It is best to remove him at this time. The female should be disturbed as little as possible, and feeding her is a waste of time. She will carry the eggs in her mouth and throat pouch for from 10 to 14 days, after which time she can be coaxed into letting her youngsters out and eating once in a while. The young are hardy and soon outgrow the small space available in their mother's mouth. Once you can separate the mother from her young they can fend for themselves. Newly hatched brine shrimp are a very good first food for the young.

Another native fish booster.

Q. I also wish to back up Mr. Howard Baumgartner in his appreciation of native fishes (July '63). In more than 40 years as an aquarist, one of my most gratifying experiences was with Rainbow Darters, *Etheostoma caeruleum*, the most colorful of the natives, which I caught in central Illinois. College dormitory living and a depression budget made live food quite unavailable and as a result this was a short romance. The beauty of this fish is surpassed by few of its exotic cousins and it has a personality that puts it in a class by itself. This fish is no longer available commercially. Would anyone in the Midwest consider catching some for me?

Dr. J. H. Keil,
2014 Tulare St.,
Fresno, Calif. 93721

A. Happy to oblige, Dr. Keil. We are publishing your complete address so that

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anyone who wants to help you out by shipping you some can do so. A word of warning, though: Darters have a high oxygen requirement, and the container in which they are shipped should not be crowded. Young specimens ship better than old ones.

Q. In August '63 I picked up about a half-dozen fiddler crabs, which apparently alternate living in holes in the mud and salt water. I placed the crabs

in a fresh water community tank. They made themselves at home in a piece of coral and survived. Four months have gone by. The original crabs are no longer alive but I now have a number of their descendants. These differ in color, being a light brown. They do not have the large claw but instead have two small feeder claws. Has this been done before?

Charles A. Tammetta,
New Orleans, La.

A. Not to my knowledge. I have found fiddler crabs quite a easy upriver in brackish water, but never in completely fresh water. The fact that they became accustomed to fresh water is not as surprising as the fact that they spawned in this water. The males have the one large claw and it could be that the new generation has not matured yet and all look like females. They are highly interesting little creatures and should make good scavengers.

Mating or fighting?

Q. I have recently bought three Tiger Barbys and about two hours after I put them in my 15-gallon tank with my Angelfish, Catfish, and Guppies two of them started chasing each other. When

I put one of them in a fine mesh net, the other started bumping its nose against the side of the net. Could you tell me what is happening? Could it be that they are mating or are they fighting?

A. Kobayashi,
Pierrefonds, Que., Canada.

Barbs spawning (P. nigrofasciatus).



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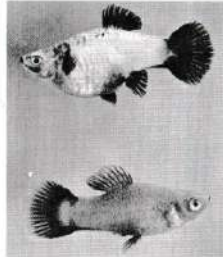
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Most attractive prices for both popular and rare Brazilian species.

A. A pair of Barbs that are mating is a far cry from a pair that is fighting. When they fight they keep trying to get at each other's fins and tearing at them, but when they are mating the male keeps trying to crowd the female into plant thickets, where you will see them stop for a moment, quiver, and then release a few eggs. The only time he will get rough is when the female is depleted and he still wants to spawn. My guess is that they were trying to spawn.

Strange Partners.
Q. I have a 5-gallon tank and when I

Gold Wag Platy (female, top) and Red Wag Platy (male, below).



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NOTES FROM ALL OVER

Following is a short article by Jerry Doolittle, staff reporter for *The Washington Post*, in which newspaper the article originally ran under the title "Bureau Gets off the Hook and Reels in Fish Tanks for Congressmen."

From the article it appears that no great storm is being made over the war of attrition waged against the tanks in Congressmen's offices, and perhaps this is as it should be, for receiving a fish tank as a gift from the taxpayers is not essential to the conscientious performance of Congressional duties. But the point is not whether an aquarium is a necessity, but whether fish fanciers are going to be deprived of the pitifully small lobby that they have going for them now.

The presence of aquaria in the offices of Congressmen is not going to pressure anyone into letting fish hobbyists list their tropicals as dependents for income tax purposes, but perhaps the aquaria will at least be instrumental in aiding the passage of legislation that will help both the hobby and the country as a whole. The \$10,000,000 appropriated for the establishment of the national aquarium mentioned in the article (see also *TFH for August, 1963*) is a case in point: it is not too fanciful to suppose that the 24 aquaria helped, at least in some small way, to have the money allocated for its present constructive purpose instead of having it earmarked to fill up some foreign (or domestic) pork barrel.

We agree that the costs involved in providing and maintaining an aquarium for every Congressman who wants one can be, as the article says, "... an unnecessary diversion of funds" and that there are reasons to believe that the money can be better spent elsewhere. But looking at the matter from the standpoint that the project is commendable, even if unnecessary, we believe that it is in every hobbyist's interest to let his Congressmen know that he favors the provision of funds for such a project. Please write your Congressmen and tell them you favor an aquarium in their offices.

While we're at it, what's wrong with the idea of having public aquaria modeled along the lines of the new national aquarium set up on state levels, too? Why can't each state support one as a small but valuable tool in its education and conservation program? We're not going to get active cooperation in conservation projects until we first educate the public to an appreciation of wildlife, and zoos and aquariums are the most useful tools to this end.

Here is the article:

Every two weeks, a man leaves the public aquarium in the Commerce Department's basement and heads for Capitol Hill.

There he spends the major part of a day looking in on 24 aquariums in the offices of as many Senators and Congressmen.



Gold Barbs.

A. I am willing to gamble that there are no other Red Wags in the tank. Single fish like that frequently pick the strangest partners, usually a very annoying thing to the one chosen for this questionable honor. Try to keep your fish in pairs or larger groups.

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Anmarie Donlin, a secretary in the office of Rep. Michael J. Kirwan (D-Ohio), poses with the aquarium the Congressman has had in his office for years. Photo by Dick Darcey.

He clears the trash and droppings from each tank. He sponges the algae from the inside of the glass. If the sand or gravel has turned dark and needs changing, he changes it. He keeps the seating equipment in repair, and replaces any dead fish with live ones.

Then he goes back to the basement of the Commerce Department, secure in the knowledge that Congress's fish are in fine fettle.

For generations, the Bureau of Sport Fisheries and Wildlife has provided as many Congressmen as possible with free aquariums for their offices.

The number was never very large, for the Bureau had no special funds for the purpose, and had to dig up spare aquariums wherever it could lay hands on them.

To fill the tanks, the Bureau's fish experts would buy brightly-colored tropical fish as babies, and raise them until they were big enough fish to go to Congress. But the salad days of Congressional fish culture are passing.

About five years ago it got to where it looked like every Congressman and his brother wanted a fish tank. "We saw we had something by the tail," says Raymond E. Johnson, the Bureau's assistant director for Sport Fisheries.

No more spare aquariums were to be had, and the Fisheries and Wildlife people were faced with the depressing possibility that each one of the 535 Senators and Representatives might want his own fish tank, once word got around.

So the Bureau stopped supplying new aquariums. The only way a Congressman could get an aquarium was for another Congressman to lose his hold on one by dying, retiring or getting defeated.

But Congressmen kept asking for aquariums anyway. It was embarrassing for the Bureau, which likes Congressmen.

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At appropriations hearings last year, Bureau spokesmen dumped the whole thing into a congressional subcommittee's lap. If we are to go into the aquarium business wholesale, we'll do it, they said—but we'll need more money.

"We got the idea that some members of the subcommittee felt this was an unnecessary diversion of funds," Johnson says. "It was a privilege they decided they could do without, and of course we were delighted."

Whichever members felt that way, none was named Rep. Michael J. Kirwan (D-Ohio), the best friend a fish ever had.

Kirwan was the moving force behind the \$10 million aquarium planned for Washington, and he is in favor of fish tanks in as many government offices as possible. He has had one in his own office since 1951.

But the Bureau of Sport Fisheries and Wildlife was so encouraged by the reaction of other subcommittee members that it has decided to phase out the existing 24 aquariums.

As the normal hazards of life and the special hazards of political life operate, the Bureau plans to reclaim its aquariums, little by little.

One day there will be none left, and the Bureau will be happy. Congressmen who love fish will not be so happy, perhaps, but they can always forget by going on a trip, or whatever you call those things Congressmen go on.



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Guppy Corner



By Paul Hahnel

Diet, insemination, etc.

Q. 1. You talk about a "balanced diet." Exactly what does it consist of?

2. You also mention the use of virgin females, but in your book *All About Guppies* you state that a female may be mated to one male and then, after the young are born, mated to a second male. The next brood will be by the second male. Wouldn't this be far more practical?

3. What do you suggest as a diet for the first month of a Guppy's life?

4. Where is the Guppy Club nearest to me?

5. What percentage of calories and fats per gram should be in a Guppy's diet?

6. Recently I had a large female die. First she turned dark (she was fairly dark to begin with) and then began to bleed at the anus. Could you tell me

what was wrong with her? Is it very common?

Gary Dunkleberger, Lock Haven, Penna.

A. 1. I am not a nutrition expert, but I give my fish a large variety of foods, which is my idea of a balanced diet. They get at least six different kinds of frozen foods which are available in New York City pet stores: rose, leaf heart, adult brine shrimp, Daphnia, red wigglers, baby brine shrimp, etc.

Live foods if available: Tubifex worms, baby brine shrimp, adult brine shrimp and, once a week, white worms.

Dry foods, none or ten different kinds of American or German origin, also home-cooked flounder, codfish, green peas and shrimp pellets. Guppies are guttons

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and will eat almost anything, including raw beef and cooked chicken. Everyone has his own idea on how to feed his Guppies.

3. When the female drops her babies which were fertilized by the first male, the second male should be substituted at that time and then it can be taken for granted that at least a part from the second litter will have been fertilized by the second male. When using a virgin female, all doubt as to the litter's paternity is eliminated because you know that all the babies have the father you meant for them.

4. Try to get some information from the Harrisburg Aquarium Society, State Museum Building, Harrisburg, Pa.

5. I could not tell you the amount of calories, but there should not be more than 3 to 4% of fat in their diet.

6. Almost every Guppy which is ready to die gets dark in color. The ailment you mentioned may be a bacterial infection.

Plants.

Q. What are the best plants to keep in a Guppy aquarium?

Gene Crane, Olathe, Kansas.

A. You can use any plants in a Guppy tank, provided that you also have some floating plants for the protection of the babies. In all my tanks I use Water-priest,

because this plant always provides baby plants floating on top.

Size of females, and Guppy Society. I read your column every month and enjoy it greatly.

Q. 1. I would like to know how large a female Guppy should be before she is bred.

2. Do you know of any Guppy or tropical fish societies that I could join?

I am 13 years old and hope you can help me.

Mary Rozy, Niles, Ill.

Glad you read and like my column. I always am glad to see youngsters started in this fine and interesting hobby.

A. 1. I think three months is the proper age.

2. Get in contact with Mr. Thomas Kelly, 4314 S. Archer Ave., Chicago, Ill.

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Salts From The Seven Seas



By Alfred A. Schultz

Q. I am about to start a marine aquarium and am wondering if you could answer these questions:

1. In a recent issue you gave a method to make coral safe to use in a marine aquarium. Would this hold true for shells, rocks, and driftwood?

2. I read in a book about marine fishes that it is safe to use cured sea fans in an aquarium. But when I went to an aquarium shop in my area to purchase a few sea fans, I was told that they would quickly decompose in sea water. Is this so?

3. I have seen in pictures how Seahorses were maintained in tanks

with anemones in them. Would it be all right if I did the same?

4. Would Clownfish thrive and be happy in a tank containing sea anemones?

5. Do the colors of a Clownfish persist even after being kept in an aquarium for a few months?

Wesley Mayeda, Oxnard, Calif.
A. 1. Yes.

2. Possibly. The usual method of keeping them safely is to attach them to the back of your tank, on the outside.

3. It can be done, but I would not. Seahorses are better kept by themselves.

4. Yes.

5. The colors of a Clownfish after being kept for a few months in a tank where it feels at home might be even brighter than they were when it was first introduced.

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Hyphessobrycon takasei Gery, The Coffee-Bean Tetra

Continued from Page 18

Still, it can happen that realities can drag one from the desk. One Sunday morning I made preparations for a holiday, one which never has failed to give my family the greatest of pleasure: driving our little car to the establishment of a Japanese fish breeder far away from the city. Not only are the many colorful fishes to be found there worth the trip, but there is another feature which can be found along the way. There are several steep stretches in the road which are a few hundred yards long. One can travel full speed safely down the decline, and the momentum gained in the descent is enough to send the car halfway up the next hill. There is a succession of these, and the sensation is almost the same as a sleighride, a sport which no Brazilian child ever gets to learn in the tropics.

"I have something new!" This statement greeted us, made with his proverbial amiability by young Mr. Takase. "My father sent them from Amapá, far up in Northern Brazil!"

Yes, in one of the numerous tanks there were two tiny fish in a swarm of young Tiger Barbs. They immediately caught my attention. At first glance they looked like young *Pristellas*, or were they a species of *Megalanchoras*? They were about three-quarters of an inch in length. The body was silvery gray in front. So transparent were they that it was not only possible to see the sac which contained the body organs, but also the spine with the rows of bones extending from it. The dorsal fin was large and held stiffly erect. The tip was lemon yellow. Below this was a jet-black spot, bordered with gleaming white. This was waved playfully back and forth.

Ventral, anal, and caudal fins are lightly reddish. What catches the eye above all is the extraordinarily large black shoulder-spot, which extends from almost the edge of the back to a point almost at the keel of the belly. It is bigger than any shoulder-spot I have ever seen on the known Tetras. And its shape, size, and color remind me of an every-day object which is characteristic of all Brazil: yes, a coffee-bean! The Coffee-Bean Tetra!

These attractive little fish come from a small stream to the north of the Amazon, one which does not connect with the main stream and can therefore boast a fauna all its own. The Japanese collector who is the father of my friend brought them back from a collecting trip. The journey to northernmost Brazil is a long one, and this one was not without an adventure.

In every state of Brazil there is a private railroad line owned by a large mineral-exporting company. The collector, who had no idea of what to do, boarded the waiting train. Nobody came to sell him a ticket and he got off at his destination without anyone interfering in any way, with all his cans and

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Two New Tetras from the Lower Amazon Basin

Continued from Page 15

"post-humeral" region (that is, the sides between and above pectoral and ventral fins) and roughly vertically ellipsoid; the proposed popular name "coffee-bean tetra," by Harald Schultz, is highly suggestive of the importance of the spot; dorsal fin conspicuously marked with black, as in the other species of the group, the distribution of the melanophores approaching those of *Hyphessobrycon serpa*.

Discussion: Gery (1961 pp. 42-46) has separated the "callistus-group" from the "benesi-group," and from *H. copelandi*, *Hyphessobrycon takasei* sp. nov. is to be distinguished from the species of the "callistus-group" by the prominent humeral spot and by other differences as indicated in the following key.

- Key to the species of the so-called "callistus-group."
- a. Anal iv, 15-17, i, no humeral spot (Surinam).
 - ... *georgettae* Gery, 1961
 - aa. Anal more than iv, 20, i (generally iv, 23-28); humeral spot present (except bbb).
 - b. Depth about 3.5-3.8 in sd. length; inner premaxillary teeth 5, quincuspoid; humeral spot small, vertically elongate (Guianas, Rio Araguaia, Upper Rio Meta).
 - ... *minor* Durbin (= *haraldschultzei*?)
 - bb. Depth about 2.4-3.0 in sd. length; inner pmx. teeth 5-7, with rarely more than 4 cusps except in *H. takasei* sp. nov.
 - c. Depth about 2.4; transversal scales 5½ or 6¼; a broad, marginal anal band (Paraguay).
 - ... *callistus* (Boulenger)
 - cc. Depth 2.8-3; transversal scales 5/3; no marginal caudal band or, if present, discontinuous (in *H. serpa*).
 - d. Longitudinal scales (3-6)29-31; maxillary almost equal to the diameter of the eye; humeral spot vertically elongate, more or less diamond shaped, narrow (Rio Guaporé, and Amazon at Serpa).
 - ... *serpa* Durbin
 - dd. Longitudinal scales (7-8)33-34; maxillary about 3/4 of the diameter of the eye; humeral spot very broad, vertically oval, almost covering the height of the sides (Amapá Territory).
 - ... *takasei* sp. nov.
 - bbb. Depth 3.25 in standard length; teeth small, conical; no maxillary teeth; no humeral spot (Rio Madeira; only the type known).
 - ... *hasemani* Fowler

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GERY, J., 1961: Three new South-American Characids, *Knodus savannensis*,

* Emendation of the erroneously given name *georgettae* (*georgettae* is for my wife, Georgette).

Hyphessobrycon herbertaxelrodi and *Megalampodus stuegleri*, with a review of some *Hyphessobrycon* groups of species (Study Nr. 16)—T.F.H. IX (9): 26-46.

TABLE I: Proportions and counts in 5 ex. of *Moenkhausia takasei* sp. nov. from Belem and 2 ex. of *Hyphessobrycon takasei* sp. nov. from Sierra de Navio.

| | No. | <i>Moenkhausia takasei</i> sp. nov. | | | | | <i>Hyphessobrycon takasei</i> sp. nov. | |
|----------------------------------|--|-------------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--|------------|
| | | USNM | 349.2 | 349.3 | 349.4 | 349.5 | Ranges | USNM |
| Tot. lgh. (mm.) | 41.8 | 40.7 | 39.7 | 34.5 | 33.8 | 33.8-41.8 | 35.5 | 29.0 |
| Sd. lgh. (mm.) | 33.0 | 32.2 | 30.2 | 27.8 | 27.3 | 27.3-33.0 | 30.0 | 20.3 |
| Depth hd. lgh. | 3.23 | 3.39 | 3.32 | 3.23 | 3.64 | 3.23-3.64 | 2.88 | 2.98 |
| Head hd. lgh. | 3.84 | 4.08 | 3.68 | 3.65 | 3.90 | 3.65-4.08 | 4.0 | 3.50 |
| Eye/head | 2.53 | 2.55 | 2.57 | 2.53 | 2.50 | 2.50-2.57 | 2.64 | 2.76 |
| I. orb./head | 3.19 | 2.93 | 3.28 | 3.17 | 3.19 | 2.93-3.28 | 3.36 | ? |
| Maxill./head | 2.69 | 2.63 | 2.93 | 2.93 | 2.80 | 2.63-2.93 | 3.70 | 3.87 |
| Snout/head | 3.91 | 3.76 | 4.10 | 4.22 | 4.38 | 3.76-4.38 | 4.93 | 5.0 |
| Snout-to-dorsal/dorsal-to-caudal | 1.09 | 1.07 | 1.09 | 1.05 | 1.04 | 1.04-1.09 | 1.17 | 1.21 |
| Depth peduncle/lgh. peduncle | 1.24 | 1.23 | 1.35 | 1.22 | 1.22 | 1.22-1.35 | 1.0 | 1.04 |
| Dorsal | ii, 9 | ii, 9 | ii, 9 | ii, 9 | ii, 9 | ii, 9 | ii, 9, i | ii, 8, i |
| Anal | iii, 10, i iv, 19, i iv, 18, i iv, 18, i | iii, 10, i iv, 18, i iv, 18, i | iii, 10, i iv, 18, i iv, 18, i | iii, 10, i iv, 18, i iv, 18, i | iii, 10, i iv, 18, i iv, 18, i | iii, 10, i iv, 18, i iv, 18, i | iii, 10, i iv, 18, i iv, 26 (i) | iv, 25 (i) |
| Pectoral | i, 12 | i, 11, 7 | i, 12 | i, 11 | i, 11 | i, 11-12 | i, 12 | i, 12 |
| Ventral | (i), 6, 7 | (i), 6, 7 | (i), 6, 7 | (i), 6, 7 | (i), 6, 7 | (i), 6, 7 | (i), 6, i | (i), 6, i |
| Sc. I. | 33 | 33 | 33 | 33 | 33 | 33 | (8) 34 | (7) 33 |
| Sc. tr. | 5/3 | 5/4 | 5/4 | 5/4 | 5/3 | 5/3-4 | 5/3 | 5/3 |
| Sc. predors. | 9 | 9 | 9 | 9 | 9 | 9-9 | 8 | ? |
| Sc. circumped. | 14 | 14 | 14 | 14 | 14 | 14 | 12 | 12 |
| Teeth | | | | | | | | |
| pmx. f. | 5 | 4 | 5 | 4 | 4-5 | 4-5 | 3 | 2 |
| pmx. l. | 5 | 5 | 5 | 5 | 5 | 5 | 6-5 | 5 |
| mx. | 2 | 2 | 2 | 2 | 2 | 2 | 4 | 3 |
| dn. | 4-9 | 4-8 | 4-7 | 4-6 | 4-7 | 4-7-9 | 5-1-1-1 | ? |
| gill-rakers | 9/13 | 9/13 | 8/12 | 8/12 | 8/12 | 8-9/12-13 | 7/14 | ? |

Fig. 2. COFFEE BEAN TET—*Hyphessobrycon takasei* sp. nov.; paratype about 20 mm. in sd. length. Photograph by Harald Schultz.



Black Jacket

Continued from Page 12

An aquarium is never an imitation of nature. It is always artificial. But the nearest to a natural manner of living is a very large tank, depending of course to a certain extent on the types of fish one wishes to keep. Here one can keep fishes which do best in the shade of a rock or piece of wood, those which prefer plant thickets or others which stay in the open water or under the long fluorescent tubes which look like daylight, as well as the daylight itself.

What is more, in natural waters the most widely varied species are found in the same places, even the fiercest predators. In nature, these predators are mostly found near schools of peaceful fishes. These approach them without the fear of being swallowed. To inspire such fear seems to call for special characteristics.

In my many travels I have never seen a body of water which contained only one species of fish. A situation like this would be so rare as to be out of the question. For this reason a community aquarium is the closest approach to nature, rather than an aquarium which contains only one species. Of course if one wants his fish to breed, the bridal couple should have their own apartment.

Five of my Black Jackets are going into my large aquarium. Here I want to watch them over a period of time. Five more are going into another large tank in my hothouse. Here I keep the fishes which I want to photograph. Then comes the unpleasant but unavoidable task: I have to kill at least 6 and preserve them in formalin. These will travel by air mail to Dr. Jacques Gery in France. He will examine and identify this probably new species. It is always an unpleasant thing to kill healthy fish, but it is the only way. We humans have to keep track of everything, and every plant and animal has to get its scientific name. This is the only way with which we can avoid chaos, but we have some mixups anyway.

The next day, the Black Jackets in my big tank no longer showed the intense black coloration of those which I brought into my hothouse, where they received direct sunlight, cut down with dense plant growth.

In the big tank the smaller ones were pale, as well as the larger ones. All were alert. I decided to bring up their colors with peat-moss filtration, and put a ball of peat-moss in their filter, which runs day and night and is powered by a highly efficient power filter. The peat extract flowed slowly into the water and the results were astonishing. Immediately the *Rasboras* stopped swimming about and began to gulp air at the surface. A school of young Veiled Angelfish followed suit. The *Balantiocheilus* stopped their merry chase and remained among the plants. And my "Black Jackets" lost their color completely. They became plain silvery, with only the white-edged patch at the caudal base. I took the peat-moss right out again. It was just a test, and was

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only a few hours in the outside filter. The next day, everything was normal once more in the big tank.

Here in Brazil the feeding of aquarium fishes is a real problem. Don't laugh, it's the truth! Naturally you think that in the tropics everything is easier. There are no *Daphnia*, *Cyclops* or any other crustaceans in any numbers. The Department of Health wages constant warfare on mosquito larvae. White worms thrive only in the short winter months because of the heat, and the same is true of Grindal worms. There remain only *Tubifex* worms, which in the case of the large Cities (São Paulo has a population of four million) modern hygiene has pushed always further out in the periphery, where there are no closed sewers as yet. Microworms grow very well and are used as food for young fishes; there are no brine shrimp eggs, however, because of the very high customs duty.

Once a week Herr Stegemann of the Tropical Aquarium presents me with a lump of *Tubifex* worms which I keep in a shallow cement trough made for the purpose, where they keep for quite a time with a small stream of water on them if the heat of the tropical sun is not too great. This is the main nourishment my fishes get. In addition I give them a mixture of prepared foods.

Have you ever stood by a quiet body of water and dropped food on the water? What happens? You can see something dart to the surface, snap at the food and disappear again, all in a flash. It happens so quickly that you have to watch closely to see anything. The reason for this fear of the surface is obvious: a wild fish must be always on the alert for the long-legged cranes and other fish-eating birds. They cannot afford to do as the aquarium-raised fishes do, come to the surface and deliberately pick out the best pieces, swimming away again when they please. My Black Jackets were caught only a few days before. They had the typical behavior of wild fish by the way they took their food. When I put some dried food in the feeding ring they came up, grabbed a crumb and dived back into the sheltering depths, all as fast as lightning. Soon they took anything I offered them.

After a couple of days even the Black Jackets in the community tank had back their full color. Some, however, still let their colors fade now and then. Not so the ones in the sunny, plant-shaded tank in the hothouse!

Maybe you will soon find a pair of Black Jackets at your dealer's. I cannot say to try these extraordinarily colored fish. They aren't Neons, but their markings are so unique that I have never observed anything like them among the freshwater species.

The day I finished this article, my wife handed me a letter from Dr. Jacques Gery which said: "Dear Mr. Schultz: Yes, this is a new and probably very pretty species. It belongs to the genus *Moenkhausia* and I will honor its discoverer."



Anostomus leucostictus, very similar in configuration to the more commonly seen *Anostomus anostomus*, but without red in the fins. Photo by Harold Schultz.

Hyphessobrycon takasei Gery, The Coffee-Bean Tetra

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Unfortunately I cannot report any breeding success. The way I live, breeding fishes is outside of the realm of possibility for me. I must limit myself strictly to the discovery of new species and description of the native waters in which our pets are found.

I can say something about the Coffee-Bean Tetra and its breeding, however: it is *not* a problem fish! One can see this by observing them. Their adaptability to water conditions, the way they lose their shyness and eat after a few days, all point to the probability that spawning them is no different than with the other members of the *callistus* group.

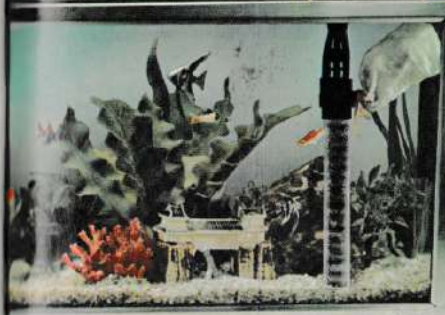
Both of my Coffee-Bean Tetras are no longer among the living. I had to sacrifice them in the name of science. The scientist cannot make his counts and measurements on anything but a dead fish. In spite of many promises there have been no further Coffee-Bean Tetras. Their native streams are flooded. The volume of water in rainy seasons is about a hundred times greater than in dry seasons. Therefore it would be extremely difficult to get to the deeper spots through the flooded jungles and savannahs. Not until July or August is there a possibility of this fish appearing on the international market.

It is my pleasure to introduce the newest member of the aquarium fish world, the Brazilian Coffee-Bean Tetra, *Hyphessobrycon takasei* Gery.

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SOCIETY NEWS

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

New Jersey . . . The United Aquarium Societies of New Jersey, composed of local New Jersey societies organized into a cohesive federation to help promote the tropical fish hobby in general and to assist member societies in obtaining speakers, films, and literature, as well as to assist in the organization of new groups and the reactivation of existing groups, holds its regular meetings four times a year at the Young Men's Christian Association, 654 Bergen Ave., Jersey City, N. J. Member societies alternate as hosts for the United meetings; the date of the regular United meeting coincides with the date of a regularly-scheduled meeting of the host society.

Below is a listing of member societies, their regular meeting dates and meeting places, and show dates.

NORTH JERSEY AQUARIUM SOCIETY: Meets the third Thursday of each month at 40 Brighton Ave., Clifton, New Jersey. Show: March 7 and 8 at the White Eagle Auditorium, 41 Broughton Ave., Bloomfield, N. J.

MID-UNION AQUARIUM SOCIETY: Meets the first Monday of each month at Clinton and 7th Street, Plainfield, N. J. Show: April 10, 11, and 12 at American Legion, Maple Ave., Rahway, New Jersey.

GREENVILLE AQUARIUM SOCIETY: Meets the second Thursday of each month at the YMCA, 664 Bergen Ave., Jersey City, N. J. Show: May 1, 2, and 3 at P.B.A. Hall, South Street, Jersey City, N. J.

SHORE AREA AQUARIUM SOCIETY: Meets third Tuesday of each month. Show: Manning Firehouse, Kingsburgh, N. J., some time in September.

HUDSON - BERGEN AQUARIUM SOCIETY: Meets the fourth Tuesday of each month at Kunich's Hall, 47th Street and Hudson Blvd., North Bergen, N. J. Show: Pallisade Masonic Temple, 34th Street and New York Ave., Union City, N. J. (some time in November).

MONMOUTH COUNTY AQUARIUM SOCIETY: Meets third Wednesday of each month at Free-

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hold Intermediate School, Route 35, Freehold, N. J.

The following societies (not affiliated with the United Aquarium Societies of New Jersey) have meetings and shows scheduled as follows:

EXOTIC AQUARIUM SOCIETY: Meets the second Wednesday of each month (8 P.M.) at American Legion Hall, Lodi, N. J. Show: some time in October.

TRI-COUNTY AQUARIUM SOCIETY: Meets the third Tuesday of each month at V.F.W. Hall, 220 River Road, No. Arlington, N. J. Show: some time in October.

Chicago, Ill. . . . Five Chicago-area aquarium societies, Green Water Aquarist Club, Midwest Aquarist, Midwest Guppy Club, Southwest Aquarist Club, and Suburban Aquarium Society, are combining their efforts to stage one of the best fish exhibits ever to be held in conjunction with the Chicago World Flower and Garden Show, at McCormick Place, on March 7 through 15. Hobbyists and dealers wishing to exhibit should contact Bruno Bywalec, Chairman, 6337 No. Normandy, Chicago 31, Illinois.

San Bernardino, Cal. . . . Aquarium societies, hobbyists, dealers,

and breeders are invited to participate in the annual aquarium display and competition to be held in conjunction with the National Orange Show in San Bernardino, March 12-22. There is no entry fee; the show will for the first time include Guppies, and Guppy tanks will be provided for the exhibit. Entry blanks must be received by March 2 by Robert Szevich, 254 29th Street, San Bernardino, Cal.

Washington, D.C. . . . The Potomac Valley Guppy Club will hold its annual spring show in conjunction with the National Flower and Garden Show at the National Guard Armory, Washington, D.C., March 5 through 11. National participation in the exhibition of Guppies is welcome. For additional details contact Dr. Eugene Mac Caslin, 8813 Victoria Road W., Springfield, Va.



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