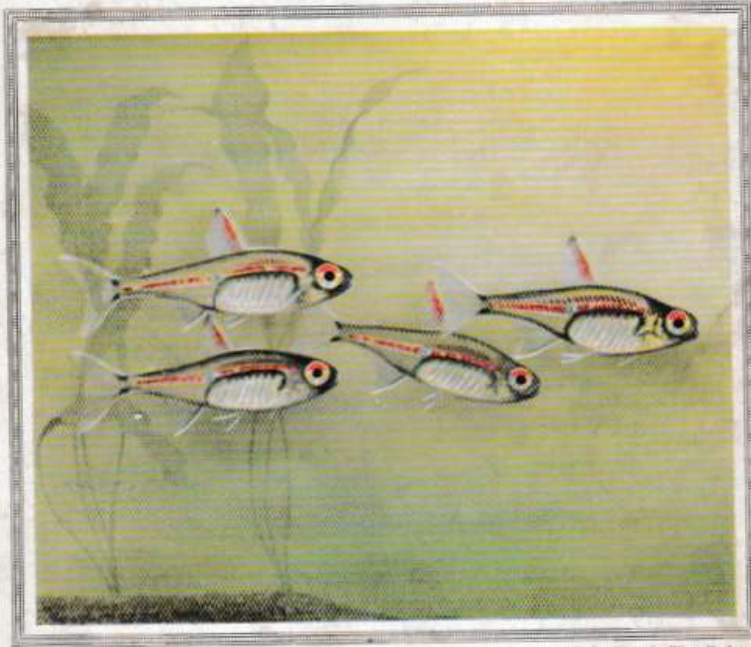


143

# The AQUARIUM



*Color Plate by Wm. T. Innes*

*HYPHESSOBRYCON GRACILIS* (?) Eigenmann  
Glow Light Tetra

September, 1939

Vol. VIII No. 5

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# THE AQUARIUM

. . . Editors . . .

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# THE AQUARIST'S CALENDAR



IN our prevailing climate of the middle and especially in our northern states, the important thing of the month to many aquarists is to avoid leaving the fishes outdoors too late. In some sections it is safe enough (with good luck) to keep them out until mid-October, but for the most part they should be brought indoors by the end of September.

The writer should, in all conscience, quote the adage, "Take a fool's advice," for many a year he has left the bringing in just a little late and the fishes have suffered. Guppies are among the first to die from chill. The fish trap described elsewhere in this issue was not thought of soon enough. In our outdoor pool some fishes (Gouramis, Scapares, etc.) will be found on the bottom, lying on their sides after a cold night in the fall, but will revive with the play of sun on the water. Not so the Guppies. Most fishes will stand more low temperature in a pool than in an aquarium. The change takes place more slowly in a large body of water, but mainly there is more oxygen present and the fishes are in better condition.

Although it is true that many a fish can stand a pool temperature of 60 degrees that would die in an aquarium at 65, we nevertheless reiterate the suggestion that the aquarist take no needless chances, but bring in his fish *before* the first cold snap.

There are many places where the tap water is warmer than outside pool water

during chilly nights in September and October. Many a fish has been saved by running tap water into such pools over night. Usually some sort of overflow is needed in that case.

\* \* \*

As fall weather sets in, Daphnia collecting is pleasanter, as well as more successful. The little crustaceans are not at their best in very warm water. It contains too little oxygen for them. Many aquarists make a point of giving their fishes plenty of Daphnia in September and October, having in mind that for most of us the supply is not available in the winter months.

\* \* \*

Some aquariums have become overgrown with plants during the summer. Now is the time to give them a substantial thinning, for with what still remains of good light they will soon get a start to carry them vigorously over the winter months. Aquarium plants, the by-product of thinning out, should never go begging. Dealers and friends are glad to get aquarium-grown stock.

\* \* \*

It is not too early to look over electrical heating units to see that they are in good condition for winter use. Among the most important details to check on are the contact points in thermostates. They should be bright and shiny. If the aquarist feels timid about handling these instruments, he could send them back to the manufacturer for a going-over.



## *HYPHESSOBRYCON GRACILIS* Eigenmann

### A Lucky Catch

BY *Herman Büttner*

MR. ALBERT S. PINKUS started collecting the birds, animals, and fishes of British Guiana in 1932. Except for short stays in New York while disposing of his collections, he has spent most of the intervening time in that region. He has permanent headquarters in Georgetown, where he stores his collections until they are ready for shipment.

Early in 1938 Mr. Pinkus discovered a fish which seems destined to become popular with fanciers. This fish is commonly known as the Glow Light Tetra and has been tentatively identified as *HypheSSobrycon gracilis*, Eigenmann. However, the identification has not yet been fully established.

The discovery came about quite accidentally. Mr. Pinkus went up the Mazaruni River to a place called Kurupung, which is the last outpost in the gold and diamond area. The intent of the trip was to get first-hand information on feasible routes for a projected trip to Mount Roraima, which has figured in the news recently as the "lost world." (Mr. Pinkus finished that expedition

this year, being eleven months in the field.) At any rate, while examining some abandoned diamond pits at Kurupung, he noticed some small fish which



Working from a boat? Small fish stay close to the banks and are easily caught there. Greatest part of each haul is mud from which the fish are hand-picked.

were trapped there. The Mazaruni River is subject to floods quite often, and a rise of 15 feet is not uncommon. Evidently the fishes had worked their way inland during one of these floods and were left behind when the water receded.

Having come without any intent to collect fishes on this trip, Mr. Pinkus had none of his fish-collecting paraphernalia. However, he managed to catch about 180 of these fish with a net improvised from mosquito netting. For containers he used empty kerosene tins. The hardiness of this species is attested by the fact that about 150 of these fish arrived safely in New York two months later.

The trip from Rockstone to Kurupung up the Mazaruni takes more than a week, due to the many portages which have to be made around rapids and



Fishing a shallow creek near Rockstone, British Guiana. The can is left floating half full of water while the collectors work close to the banks.

small falls. Going downstream, Mr. Pinkus and his native boys made the trip in three days, travelling from six in the morning till six at night. No



Keeping fish at Rockstone prior to removal to Georgetown. Screens are used to keep the fish in and the birds out. Mr. Pinkus is feeding.

portages were made, the rapids and even the low falls being "shot."

From a temporary camp at Rockstone, the fish were taken to Bartica, where they were put on a river boat for Georgetown. The fish were kept in concrete pools there until the collection of birds, animals, and fish was large enough for shipment to New York.

The accompanying illustrations have no direct connection with the capture of this new *Hyphessobrycon*. They show some of the phases of the work of collectors of exotic aquarium fishes. The photographs were supplied by Mr. Pinkus.

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### *Aquarium Show*

The Aquarium Society, oldest organization of its kind in the country, will hold its annual show at the American Museum of Natural History, 79th St. and Central Park, West, on September 2nd, 3rd and 4th.

As this Society always puts on a beautiful exhibition it will be well worth visiting.

### *Hatching Marble Snails*

The *Neritinas*, or Marble Snails, from Florida, are unique and very pretty. They appear in a number of patterns, mostly of a light shade. They come from waters bordering on the brackish and do not always do well in freshwater aquariums, although quite a few of our correspondents have been successful in keeping them, and report large, single eggs deposited on the glass. The usual purpose of our correspondents writing us is to inquire as to why these eggs failed to hatch. We went to headquarters and put it up to Mr. Greenberg, in Florida, who markets them. He says:

"Making the *Neritina* eggs hatch is quite a task, but we have found out just how this can be done. You see, they are a fresh water snail that lives in waters adjoining salt water and at times their water is a bit brackish, but this is really not why their eggs do not hatch in fresh water. It seems that the eggs must dry about six to ten hours per day, as in nature the streams wherein they live are controlled by the tide, their eggs are laid in water, but when the tide lowers the fresh water level (by going out), the eggs are completely out of water for a certain number of hours.

"We have duplicated this condition in one of our vats which was leaking, and once a day we raise the water level and then let the level go down because of seepage. We found that all the eggs on the sides of the vat hatched and we were successful in raising a number of these snails."

---

As the editor likes pictures of his correspondents, he believes these friends would enjoy seeing photographs of each other. We will print one a month with the letter, if writers will please send prints.

## RED RAMSHORN SNAILS

BY Wm. T. Innes



WE sometimes receive inquiries from correspondents asking for the names of specialists who breed and sell the different kinds of aquarium snails. Usually snail-breeding is a side issue with a fish-breeder, and is confined to two or three sorts. We have never heard of a real snail specialist with a comprehensive stock from which one might place an order. That might be an idea for somebody. Red Ramshorns are the principal snails of aquarium commerce, and the demand for them persists, partly because many fishes kill them.

It would not be fair, however, to blame the dealer in red snails for selling them. They must be used with judgment, and when this is done, they are a success. The milder mannered fishes, like the Platies, Barbs, Mollies and *Brachydanius*, as a rule will not molest them, or at least not to a greater extent than nipping off horns. This clipping at first distresses the snail to some extent, for the eyes are located at the ends of the horns. Their eyes do not seem to be so very important, for they soon adjust themselves to getting along without them. If given a chance the horns grow again. Fishes like the Cichlids, the Bettas and the larger Characins jerk the snail out of its shell, evidently regarding it as a choice morsel of food.

Indeed, as an article of food, young red snails make quite a fine tidbit on the fish menu. The French and Chinese by no means have an exclusive appreciation of snails as food, for nearly any aquarium fish will quickly devour a newly hatched red snail, for the shell

is soft and the flesh tender. Not a few aquarists cultivate snails for the very purpose of allowing the young to be eaten as they appear. Sometimes through the winter season they are the only available supply of live food. Some species, like the common pond-snail (*Physa*), have such hard shells when hatched that no ordinary soft-mouthed fish will take them. The young of the Japanese viviparous snail are nearly the size of a pea when they make an appearance, and are quite too large to be chewed and swallowed.

But our present purpose is to tell about the production of Red Ramshorn Snails. What becomes of them afterward is for their owners to decide.

The first specimens were imported into this country, probably from Germany, in about 1910. They were called "Copenhagen" Snails, without any particularly good reason. They are red albinos of a ramshorn snail common to Europe, and have been found in nature at several points, particularly in England. Although we have ramshorn snails which are native to America, none of them are the same species as the "Copenhagen" Snail.

There has long been and will continue to be a market for large, bright specimens, with smooth, translucent shells without white pock-marks or other blemishes. This type can only be produced by rapid growth in water that is nearly neutral. The flat, amber-colored egg masses hatch in warm weather in about two weeks. The best food for the young is algae, but if there is not sufficient of this they can be carried along on flour made of any granular

fish food. Soon they are able to take lettuce, spinach or tomato, which also are among the best foods for adult snails. At all ages they are naturally heavy eaters. When given all they can gorge upon, much of the food is only partly digested. When the droppings accumulate at the bottom they set up a condition of black bacteria which is not good for the water nor the snails. Therefore, when they are heavily fed and kept in large numbers, it is desirable to draw off this sediment about once a week. When this is done the snails are benefited by a change of about a quarter of their water.

It is rather difficult raising a quantity of these snails in winter. Spring is when they spawn freely, and spring spawn is more sure to hatch. Winter spawn often is infertile, but in cool water it may take several extra weeks for good eggs to hatch.

Red snails can stand temperatures down close to the freezing point. In fact, they stay alive when almost or quite surrounded by ice. Last spring the writer found a number that had survived in water only twelve inches deep, having passed through a terrific spell of sub-zero weather.

When raised rapidly the snails, started in April and May, should be quite large and salable by October, although they do not attain their full size for two years, when some of them get as large as a quarter dollar. From a commercial standpoint a problem arises at that time, for the general supply is then plentiful and the prices are low. Those with storage facilities had best hold them at least until mid-winter for a better market. It is not easy, however, holding them in good condition while crowded, and no matter how well they are cared for, they get darker with age, much the same as red Platies do.

These snails (*Planorbis*) are capable of self-fertilization, but ordinarily they breed in pairs. Their age is three years.

In cool or moderate weather they can be shipped packed in moist Sphagnum moss, such as seedsmen use, provided, of course, they are in air-tight tins. In warm weather they should travel in cans of water. A ten-gallon clean lard can, half filled with water, should hold about 150 to 200 medium and large snails to travel two days.

The erosion or chipping of shells so often seen, and which ruins them for market, is probably not caused by a disease nor any parasite. It occurs mostly in acid water, which, in turn, was produced by the decomposition referred to. A peculiar thing about this chipping is that while it sometimes eats all the way through the centre of the shell where the spiral forms, and threatens to go through other parts where it would be fatal, it never seems to do so. Nature comes to the rescue and builds up an extra lime deposit from the inside.

The bodies of Red Ramshorn Snails sometimes become infested with many small, white worms. These are harmless and will starve if the snails are kept in clear water for a few days. They are not parasitic on the snail, but feed on micro-organisms in the water. To them the snail is a convenient elephant on which to be carried about.

In closing it might be well to once more answer a question which seems foolish, but which persists. That is as to whether snails catch young fishes or injure fishes in any way. The answer is NO. They *do* consume dead fishes, which might in some instances lay them open to the suspicion of having done murder. This is one of their valuable activities as scavengers, as well as eating surplus fish food and in reducing the amount of algae on the glass.

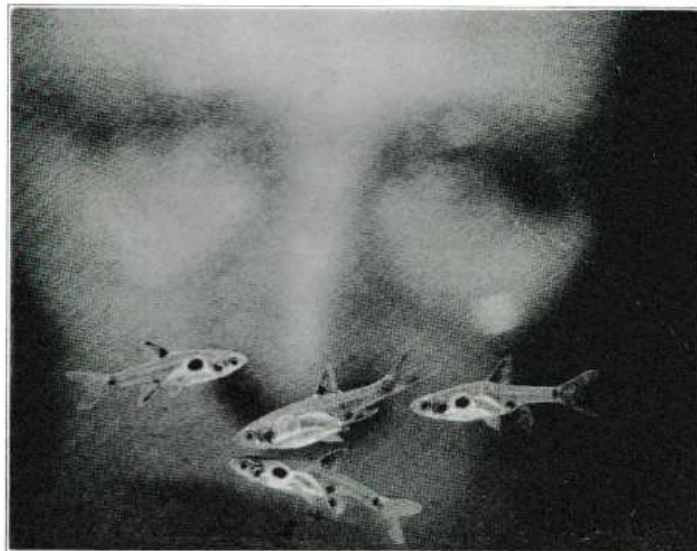
## RASBORA MACULATA

BY *F. H. Reuter*

• *One of the aquarist's choicest jewels*

IN April, 1934, I read a most interesting article on that little fish called *Rasbora maculata*, and which some people think looks like a Guppy. The only resemblance I can see is that it has several large spots on it, and it is about the size of a Guppy, or a little smaller. Unlike the Guppy, the spots always occur in the same locations.

I remember seeing any that went into detail. I was fortunate enough to witness the actual spawning. I had plenty of *Myriophyllum* in the aquarium and the male chased the female in and out of these plants, where she deposited her eggs. The water in my aquarium was 14 months old, and while that much age may not be absolutely neces-



*Rasbora maculata*

For a long time after reading that article I was unable to purchase any of these fish. I wonder why there are so few importations. Finally I came into possession of several pairs (only this Spring) and to date I have raised 5 young. That is to say, they are now 4 weeks old, a quarter-inch long, and look safe on the road to maturity.

While there have been short accounts of the breeding of this fish, I do not

sary, I am convinced that old water is important. Also it seems to be important to have no direct sun. In my aquarium there is plenty of dirt on the bottom. This may or may not be a factor.

The sexes are easily told, as the male has a golden spot at the base of the tail like the Tail-light Tetra. On the female the entire belly is white.

These fishes are hardy, lively and in



my opinion they are the most beautiful of all the exotic fishes. Contrary to some opinion, I find that they do better at 72 degrees than they do at 82 degrees. The young are pink all over, first having only 2 spots, but later they develop 4, and at the present time they are as lively as the old ones.

While I have only bred a few of these fishes, I am confident that a correct method can be worked out to produce them in quantity and then more fanciers will have the pleasure of keeping this delightful little fish. I feed them mostly on live Daphnia.

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### Some Egg-layers Can Be Hybridized

By BILLY NIEBUHR

At one of our meetings of the Bronx Tropical Fish Society a few months ago, the subject of hybridization was up for discussion, and I casually suggested some of the more highly-colored Barbs might be used as subjects for crossing. This suggestion aroused a storm of derision, but I was not deterred in the idea. Giving the matter further thought, it seemed to me that *Barbus conchoni* and *Barbus nigrofasciatus* might offer some prospect for this cross, as they are both good breeders and are fishes of about the same size. Taking two aquariums of 2½ gallons each, I placed one fish in each tank and fed them exclusively on live foods for 10 days. Following this I placed the fish together in a tank in which I had about a dozen fine *Sagittaria* and a good-sized proportion of *Nitella*. The aquarium was heated to 76 degrees.

As no results were forthcoming, I raised the temperature somewhat. The fish got into extremely bright breeding colors, and I was full of hope, but the excitement died down and I decided

after a day or two to separate the fish and try a fresh start. This was repeated a number of times without getting any eggs. I had about made up my mind to give it up for a bad job, but gave it just one more whirl. This time they were kept separate for almost 2½ weeks. Finding them in breeding color I put them into a 10-gallon tank which I had only drained and refilled with fresh water the day before, the water being only about 18 hours old. Within less than 20 minutes they began to spawn. Although I had spawned both of these Barbs previously, I have never witnessed such a mad scramble. At times both fish would actually partially leave the water in their mad dashes. Whether this was due to the fact that I had not anchored the *Nitella* to the bottom and they wished to spawn on top of it, I do not know. Certainly it was a sight to behold. There were plenty of eggs and it took a little over 72 hours to hatch the good ones. The temperature was 82 degrees. Fully four-fifths of the eggs were fungused. As far as I can see, these hybrids grow at about the same rate as the ordinary Barbs and at this writing they are 2½ months old, and are about 1¼" long. They resemble the *Conchoni* parent in shape, having a black tail spot of the *Conchoni* with the black vertical barring of the *Nigrofasciatus*. The dorsal fin has black markings as in *Nigrofasciatus*, and seems to be slightly flushed with red. The basic color is gray with a golden sheen, reminding one somewhat of the coloring of *Barbus gelius*. These hybrids have been exhibited at our Society.

Some aquarists and ichthyologists object to the confusion in identification caused by hybridization. It *does* make difficulty, but Nature has no doubt produced many species that way.

## BEGINNER'S PAGE

ONE of the principal concerns in the minds of many beginners is whether fishes will cross-breed or hybridize in an aquarium of mixed fishes, or "happy family" tank, as it is sometimes called.

Like many other aquarium questions, it cannot be answered "yes or no," but, as Andy says, it is "mostly no." If pairs are present of any species, they are not very likely to mate with other kinds.

It is only the live-bearers that are at all liable to cross-breed. Egg-layers rarely do it, as we shall point out in an issue of the near future, but only under circumstances especially planned for the purpose. It is a difficult feat for the aquarist to accomplish.

The thing which is quite as likely as not to happen is the crossing of colors of the same species. A red Platy male, for instance, has not the slightest preference for a red Platy female. He is just as likely to mate with a blue, or golden, or black female. On the other hand, he is not likely to pay serious court nor to be accepted by a female *Platypoecilus variatus*, because she is a different species. Different species of Platies will cross, but they are not likely to do so when they can associate with their own kind.

Then again Guppies and Swordtails will not cross, nor Swordtails and Mollies. In short, there is no promiscuous mating between fishes that are live-bearers.

\* \* \*

The most valuable of the common plants for aquariums are Vallisneria, *Sagittaria* (large and small), *Myriophyllum*, *Cabomba* and *Anacharis*. For an aquarium between three and fifteen gallon capacity (and this comprises the

vast majority of them all), the main standby should be small *Sagittaria*, *Sagittaria natans*. It does not grow too tall, the plants root firmly and the leaves are fairly tough. The plant is a fine oxygenator and in a suitable situation, either in strong diffused daylight, or where it gets an hour or two of sun, it multiplies rapidly from runners. In addition, a few of the newer decorative plants can be added to beautify the aquarium and to give it variety.

Plants always grow best when fishes are present. This has been observed repeatedly. In an aquarium without fishes the plants for months will make very little, if any, progress. Populate the aquarium comfortably with fishes and watch the plants take a new interest in life. They will put forth new leaves and runners for young plants.

As to "scavengers," Snails are often sold for the purpose and in some respects they do a good job. They tend to keep down the mossy growth of algae on the leaves and on the glass. They do not get it all. Nothing does except something in a human hand—a razor blade scraper, a ball of steel or copper wool, or a piece of coarse felt.

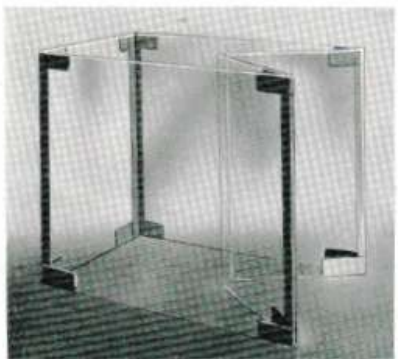
The great trouble about Snails is that many of our fishes kill them. That is where the superiority of the South American Catfish, the *Corydoras*, comes in. It is a great bottom-feeder, always looking for particles of food that may have been missed by the other fishes. This is a most important service, for decomposing food will sour the aquarium with surprising speed. The beauty about these little *Corydoras* is that, besides being quaint little things, no other fishes attack them. They go merrily about their business, day and night.

### *Trapping Fishes in the Aquarium or Pool*

Elsewhere in this issue we refer to having placed some fishes in an outdoor pool without having first examined them very carefully. As it later became important to get them out for close observation, a way of doing it had to be thought of, preferably without damaging a beautifully established water lily plant. The use of an ordinary net was impossible.

We have long known of an all-glass trap used mainly by fishermen for catching bait fishes. There are several objections to this. The main one is that if it is crowded and allowed to stand, the fishes suffocate from lack of sufficient water circulation and no air surface. It is easily breakable, hard to obtain and rather costly.

In order to overcome the various difficulties we devised the illustrated



Detailed view of a glass fish trap; for use in either pool or aquarium. The opening at the point of the V may be set at any size. Fishes seldom find their way out of the door in which they entered.

simple arrangement of five pieces of glass fastened together at the edges and set in the form shown in the illustration. The V-shaped entrance can be left open at any width to suit different sized fishes. Someone has said, "When

setting a bear trap, don't bait for squirrel." This trap can easily be set for newly born baby fish, or for giant Goldfish.

As our pool happens to be holding water at a depth of 9 inches, we made



Trap set among Water Lily pads, where it would be impossible to successfully use a net. Nearly all the fish in the pool were caught in a few minutes. As the trap has no bottom, the fishes were dipped out of it with a net.

all the glass 11 inches high. The length is 13 inches and the width 8 inches. The sides of the hinged opening are each  $6\frac{1}{2}$  inches. There is no bottom, but if a pool happens to be deep we would set the trap on a raised, solid platform of some kind.

As the weight of these five pieces of glass is considerable, it is important to have them well secured at the edges. Our method is to lay them out in a straight line and fasten them with  $\frac{3}{4}$ -inch adhesive tape, allowing enough space between each piece to compensate for bending into the final shape. Surgical tape will do, but a more per-

manent and water-resisting job can be made by using common tape saturated in Duco or any good spar varnish and allowed to half dry until tacky. After this is applied and dried, another coat of varnish should be used. Give all this plenty of time to set—say two days. Also first varnish the edge of the glass where the tape is to be used.

The trap was placed between the water lily pads and a bit of ground shrimp dropped at the outside and inside of the entrance. Within 10 minutes, 11 of the 12 adult fish in the pool were in the trap, plus about 30 young ones. They were then lifted out from the top with a net.

Besides its extreme simplicity this gadget is virtually proof against the suffocation of the fishes, should the trap be set over night.

Were we doing this job again we would make it of celluloid, perforating the edges and fastening them somewhat loosely together with a few bits of aluminum wire. The lightness would mean considerable, and the outfit could easily be folded up and put away flat.

A very good celluloid submerged trap is made commercially for use in pools or large aquaria. The agony of chasing fishes about in a well-planted tank is one of the aquarist's worst nightmares. It may be happily avoided by the use of a well-designed trap.

We hope this article will prove timely for many of our friends who would like to remove fishes from pools in early fall, but who are not yet ready to tear out nor mutilate the plants.



SUBMERGED FISH TRAP MADE OF CELLULOID

### *William Feather Makes a Discovery*

"Many are taking up the aquarium as a hobby," writes William Feather in *Santa Fe Magazine*.

"A rectangular arrangement two or three feet long costs little. A handy man may easily make one himself. If planted with a grass known as vallisneria, the water never needs to be changed, for this plant produces the oxygen required by the fish.

"Interesting specimens may be had nowadays. No longer is the fancier confined to goldfish. He quickly learns, for example, of the swordtail, a live bearing fish.

"The guppyi, the platy, and the danio are other tropical specimens well known to the amateur.

"A few years ago tropical fish were hard to get, but today every pet shop and many department stores keep them. So interesting is the hobby that every large city has its aquarium society, where physicians, business men, and professors gather to read papers on the habits of their interesting pets.

"It is an inexpensive hobby that offers possibilities to every person who has a few square feet of window space in which to place an aquarium."

The way cocoons develop in dry fish-food is almost enough to force one to believe in the foolish theory of spontaneous generation. In apparently airtight containers, food which has not been known to be exposed to moths, is likely to become wormy in time, especially when the food is ground fine. These worms eat the food, build soft cocoons and eventually complete their life cycles by becoming moths. The one precaution we can take is to tightly close the containers with cork or cap the moment a portion has been removed.

## TAKING THE VARIATION OUT OF *PLATY VARIATUS*

SEVERAL weeks ago Mr. Wm. A. Sternke of Florida sent us a dozen beautiful large fish, apparently *Platy variatus*. Without examining them very carefully they were dumped into our outdoor pool. (See elsewhere a description of the trap devised to re-capture these fishes.) Later we learned that the fish were hybrids, which could have

centage of the young come true to color, and that they are fertile.

We asked him for a description of the hybridizing steps, but were unable to understand them clearly. Roughly the result was secured by crossing a *Limia nigrofasciata* male with a virgin *X. belleri* of the green type. The female hybrids were bred back to straight



PLATY VARIATUS HYBRID

The dorsal fin is brilliant yellow, while the tail fin is deep red, and shows a short "spike." The photograph is taken at actual size, which is considerably larger than the largest known specimens of *P. variatus*.

been seen upon more careful examination, for all of the males have short, rudimentary spikes on their tails, suggesting a drop of Swordtail blood. Also the sides show a suggestion of the red chain line common to Swordtails but not to *P. variatus*. Furthermore, the size is much greater than any *P. variatus* we have seen. In most cases the sides show the pleasing blue sheen characteristic of one of the phases of *P. variatus*. What is more important, they all have deep red tail fins and brilliant yellow dorsals. The originator of this hybrid claims that a large per-

*Variatus* males, thus producing the results seen in the illustration.

If this fish breeds reasonably true, it ought to become popular, for it is plenty showy, and big enough so that he who runs may see. The colors on straight *Variatus* seldom show much before a year. It is claimed that this hybrid shows good color in a few months. That the fish is fertile we know from our own short experience with them, but we have not had time to check the color development of the young.

## ~ The EDITOR'S LETTER ~

*Dear Readers:*

An old idea that has taken deep root in the popular mind is that running water is better for all fishes than still water. In only a comparatively small number of instances is this true. Those to which it applies are native game fishes, which are seldom used in the aquarium or pool.

I have in mind the kind-hearted fellow starting off to "keep fish" who thoughtfully sets up a supply of running water for them. One thing which seems to place the stamp of approval on the idea is that many dealers use a constant fine jet or spray in greatly overcrowded tanks of Goldfish. Although the practice is not sound, and the water may be of unsuited quality, the dealer in many cases has no choice, for without some source of freshly oxygenated water his great stock of fishes would be suffocated in a few hours, at most. Strange as it may sound, a small spray of fresh water in an overcrowded tank is a better set-up than it is in the case with only a proper quantity of fishes. The large numbers are able to absorb that surplus oxygen which would do damage to fewer fishes. From this let no one reason that a crowded aquarium with running water is a good arrangement. At best it fits an emergency or the needs of a dealer who keeps his stock only a short time.

In most of our cities, raw tap water is pretty good, and may be used rather liberally. As cold weather comes on it holds an excess of oxygen; often of other gases. Then it should be used sparingly, or else only after ample seasoning. At no time, however, is it wise to subject the ordinary kinds of aquarium fishes to running water. Even though it be perfect in quality the fishes would be brought into a condition so that if changed to still water they would suffer the difficulties connected with being acclimated.

The principal running-water fiend is the beginner who builds himself an outdoor pool. Usually fishes in pools have such an abundance of water that the only advantage of a constant fresh supply is that clearness is obtained with more certainty. Sometimes the water comes overground from natural sources that have become polluted, or contain fish enemies. Correspondents have told me of thoroughly disinfecting such pools, only to have the trouble reappear.

Most outdoor aquatic plants, especially water lilies, do best in standing water that can be heated by the sun.

*Sincerely yours,*

*M. T. Innes*

## Gleanings

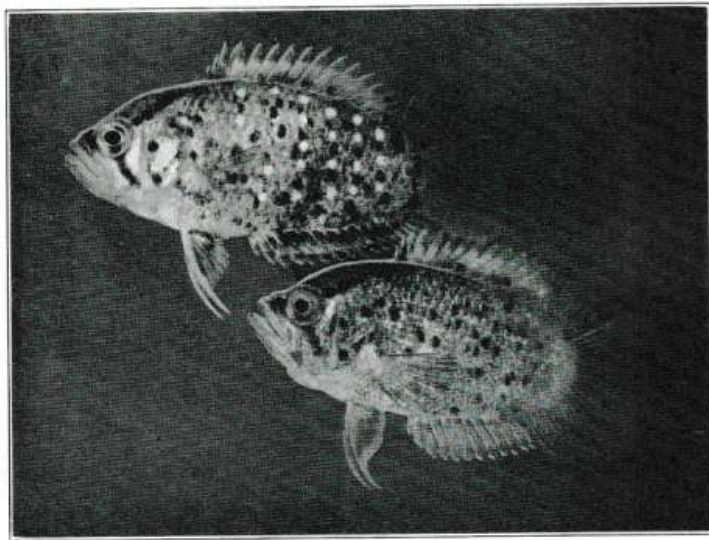
from the reports of the German Aquarium Societies in German magazines, with comments by the translator,

F. H. STOYE

Leipzig—"Azolla"—Wochenschrift

*Polycentrus schomburgkii* was first imported (to Germany) in 1907. Its home is Venezuela and the Amazon River district. *Schomburgkii* reaches a length of  $1\frac{3}{4}$ " to  $2\frac{1}{2}$ "; it is disc-shaped and strongly laterally compressed. The dorsal fin has from 12 to 18 spines and the anal about 14. The caudal fin is rounded; the first ray of the ventral fins is considerably elongated in the male. The coloration

dark line traverses the eye. Four to five ovate dark spots edged with light blue are along the bases of the dorsal and anal fins. The posterior lobe of these fins and the entire caudal fin are transparent. During the dark color phase and in poor light the fish appears to have no caudal fin; only during the breeding season is it black. The coloration of the female is lighter, brownish with faint bars and dots. The water temperature should not fall below  $68^{\circ}$ .



*Polycentrus schomburgkii*—MULLER AND TROSCHEL

changes greatly with temperature and emotion. The basic color of the male is grayish-black, along the sides of the body four black oblique bars frequently appear, which are edged by a series of bluish-white dots. Three black spots on a light field grace the gill covers. A

Broad-leaved or floating plants are more to its liking than fine-leaved ones. As a predator, this fish demands live food only, but it is peaceful and harmless toward other fishes of its own size. The mouth is large; when fully extended a male Guppy can swim into this "cav-

ern" with ease. After interesting courting plays during which the male assumes a jet black coloration, the pair spawns at temperatures from 75° to 80°. The spawn is affixed to a large stone or the inside of a flower pot. My pair spawned in a flower pot and the female swam upside down while attaching the eggs. The latter are pink in color and are fanned by the male. The female should be removed because the male assumes all parental care. After hatching, when the young hang like tiny commas in the flower pot or on the plants, the male should also be taken out. If plenty of small live food is available and proper temperatures are maintained, the young are not difficult to raise.

**Comment**—The "Bobtail," as this fish is commonly known in our country, is an interesting and beautiful aquarium fish. All fishes of this group, the Nandids, are purely carnivorous and gross feeders. Small fishes constitute their main diet in the natural state. Pieces of earthworms, enchytraeids, water insect larvae, pieces of raw clam and *Daphnia* are also taken in captivity. To put the breeders in proper condition live fishes must be fed. Bobtails are nocturnal in their habits and their aquarium should have a shady location. They are able to extend their mouth to tremendous proportions.

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*Berlin-Schoeneberg*—"Argus"—Wochenschrift.

Friend Peters made the following observations about the eggs of the *Panchax* from Madras. While removing thread algae from the aquarium, the eggs were immersed into cold water. After discovery of this error they were returned to the warm water tank and, in due time, hatched 100%. On

another occasion it happened that inadvertently the temperature rose to 104°. All adults as well as young fishes died. The eggs, however, survived this procedure and developed normally.

**Comment**—Similar observations with various species of fishes are not infrequently made. The spawn of fishes seems to be quite impervious to extreme temperature changes and other adverse conditions which seriously injure or kill fishes. A protective measure devised by Nature to insure the survival of the species.

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*Bremen*—"Rosswaessler"—Wochenschrift.

During our last meeting Mr. Wesing spoke about his results in breeding *Cichlasoma severum*. After the spawn fungused several times he finally succeeded in raising a fair number of young. The parents willingly spawned on a sheet of slate which stood vertically in the tank. A day after spawning, the slate with the spawn attached was removed to a small all-glass tank and the development of the spawn was assured with the aid of several air releases. According to the experience of the speaker, the young are not difficult to raise.

**Comment**—The species is one of the larger, fairly peaceful Cichlids that is somewhat difficult to breed. A large aquarium with a fair water depth containing a few hand-sized flat stones and a few pots of *Cryptocoryne griffithii* is best for their use. It should not be in a too light location and should be in a secluded spot where the rather timid fishes are least disturbed. Earthworms are best for conditioning the breeders.



## CORRESPONDENCE

LETTERS appearing here have already been answered personally. The ones selected for publication are those containing points of interest to readers.  
We answer all letters on day of receipt, provided a stamped, self-addressed envelope is furnished.

From W. H. Cassell, Baltimore, Md.

Thanks to the information contained in your special Scalare number of a year or so ago I have succeeded in raising several hundred Scalare, and the experience has been most interesting. However, in using *Daphnia* collected locally I have introduced Hydra into my tanks and they have gotten quite out of hand. They are consuming practically as much *Daphnia* as the fish. I have been told that placing a penny in the tank will kill Hydra, but this has not worked out; also that Gourami will eat the Hydra; again this seems not to have been successful. If you can give me some information on this I will appreciate it, and will promise to be more methodical with keeping my Aquarium magazine in order and also the Index, as no doubt this subject has been touched in your magazine.

*Ans.* We are quite sure that the two-spot Gouramis will eat Hydra if you go about it right. Use specimens about 3 inches long, and keep them plenty hungry. Do not give them anything else to eat; they will surely clear the place of the pests. We are also told that *Trichogaster leeri* will eat Hydra. We have not tried this, but have it on good authority.

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From Olive A. Sprouse, Long Beach, Calif.

I have the problem of re-decorating a room in which there are a number of aquaria that are very heavy, and for several reasons it is out of the question to empty them. For one thing, I would have no other place to put the fishes. The question is, how can I manage to

have this work done and not endanger the lives of the fishes by having the water absorb the turpentine or other fumes connected with the painting?

*Ans.* If it is possible to have the work done at a time of the year when the tops and bottoms of the windows can be opened wide for ventilation, we do not think it would be necessary to take any special precaution. If you cannot secure ample ventilation, we make two suggestions. The first one is to cover the aquaria with glass and hermetically seal it around the edges by the use of gummed paper. Allow considerable air space in the aquarium before sealing it. You could probably remove about half the water. Under these conditions your fish ought to be able to live for two or three days, after which the worst of your paint fumes would be dissipated.

Another scheme is to have a glass cover closely on the aquarium and have aeration supplied to it from a pump located in another room in which there are no fumes. The constant supply of air to this aquarium would keep forcing air out of the edges below the glass. This would be absolutely safe as long as the air supply is not contaminated.

\* \* \*

From T. S. Brown, Whitman, Mass.

I have a nice hatching of *Colisa lalia*, and although I am making considerable effort to supply them both with pond and home-grown Infusoria, they do not seem to make much progress. How can I tell whether the fish are getting enough food?

*Ans.* It is very seldom that the young of bubble-nest builders get an

ample supply of food. By examining a drop of water from the aquarium, taken from the surface of the light side of the aquarium, you will see that it seldom shows more than a few Infusoria organisms swimming about in it. The test really is to see whether there is a constant, reasonably large surplus of food for these babies. Unless one has some experience looking at micro-cultures, it is rather difficult making a rough survey of the effectiveness of the supply. The organisms to be of much use to the baby fishes should be perceptible under a low-power microscope, or even under a small single magnifier, such as the kind called the "thread counter." This is the little folding affair that can be carried in a vest pocket. When ready for use it is folded into the shape of a U laid on its side. Under a glass of this sort we would say that a single drop should contain at least 200 organisms, of a size that are not difficult to detect. When you have culture water of this character, small quantities of it should be fed frequently to the young fishes. Sometimes culture water smells offensive. In that case it is well to filter off the organisms through a fine cloth, throwing away the water and reversing the cloth into the aquarium.

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*From Lowell Turner, Plainfield, Indiana.*

I would like to have the following information relative to *Scalares*. Do they do best in fresh or aged water? I have been told by some that the water should be three months old, at least; others have said to use fresh water from the tap. What is your opinion on this subject?

*Ans.* *Scalares*, like most exotic fishes, should for the most part be in well-seasoned water. However, if your tap water is of a character well-suited to

fishes, there is no objection to giving them a reasonable amount of fresh water once in a while, especially in summer, or even in spring when you are trying to force breeding. Some breeders from June until August give them about 25% fresh water every day or two. In the winter, we think, if you give them fresh water (10%) every 3 or 4 days it would be sufficient. This is not absolutely necessary, but they seem to like it and it stimulates them.

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*From Mr. Willard Walberg, Pittsburgh, Pa.*

I have quite a number of Japanese snails, but they are dying rapidly, for the tropical fish torment them continually till they die. Should I try a different kind of snail, or is there another solution?

*Ans.* If your tropical fish kill the Japanese snails they will kill any other kind. About the only solution is to avoid using snails where you have the kind of fish that kill them. The Bettas, Cichlids, the Guppy and others, including Swordtails, either pick at the snails or actually shake them out of their shells.

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*From Mr. Andy Thomas, Akron, Ohio*

Will electric light, placed in a glass tube and submerged in the aquarium, have any effect on the fishes and plants?

*Ans.* Light and heat produced in this way will certainly have an effect on both plants and fishes. It heats the water and the light stimulates the plants to grow and to produce oxygen. Light produced on the side of plants is not as effective as that coming from overhead. However, it is much better than none at all.