

Aquatic Life Magazine November 1915

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Aquatic Life



The Feeding Habits of a Characin

JOHN TREADWELL NICHOLS

American Museum of Natural History

Over the northern continents the most abundant family of fresh water fishes in individuals and species is the CYPRINIDAE, to which the carp, the goldfish and the minnows belong. In tropical America the CYPRINIDAE are replaced by the catfishes, of which there are many and varied species, and by a tropical family, CHARACINIDAE, or characins, allied to the carps and catfishes, but resembling neither one in appearance, although they usually have forked tail-fins and large scales, like the former, and a small adipose fin on the hind part of the back, like the latter.

Characins are found in Africa, as well as in the tropical Americas, but most of those kept in aquaria come from the new world. They are spawning fishes, difficult to rear and sometimes to keep, and their breeding habits are not especially interesting, as are those of the live-bearing species of tooth-carps, nest-building labyrinth-fishes, or the cichlids, yet their rarity, and the beauty in some species of form, in others of color, in others of movement, make them very attractive for the aquarium.

The writer has recently kept one of these fishes, *Astyanax fasciatus* or a related species, in a tank on the back of his desk. It was two or three inches long, of a pearly sheen with a dark spot at the base of the tail, surrounded by a luminous area which gave flashes of color like a fire opal, when the fish was excited. Like most of the characins one sees in aquaria, and which commonly go under the name *Tetragopterus*, it was

rather trout-like in appearance, but deeper and flatter, with larger scales and a forked tail-fin.

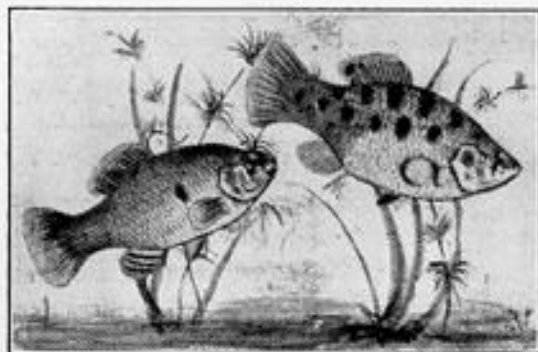
The fish spent a great deal of its time lying stationary in the water, near the bottom of the tank. At such times it would continually jerk its breast-fins forward and downward, accompanying each jerk with a sidewise movement of the tail and back-fin, and slight opening of the jaws. Often its body stood not quite erect in the water, but leaned slightly to one side. This peculiar habit was remarked at once when the fish was placed in the tank, and the fear entertained that it had been injured, which proved not to be the case, however, for it lived a number of months, apparently in the best of condition. Attempts to accustom it to artificial food did not prove successful, but bits of worm it took greedily, and small flies of all sorts it would take from the surface, striking at them with a savage splash. It would often not secure such a fly until the second or third attempt. When a bit of worm was dropped into the tank it rose for, seized and gulped it like a flash, returning to the lower levels in the same curve.

The ordinary characin mouth is different from that of native fresh-water fishes, and seems especially adapted for biting rather than grasping. It was for this reason very interesting to see how the *Astyanax* handled its food. Anything taken in the mouth, but too large to be swallowed at once, was not slowly choked down in ophidian fashion, as with a *Riculus* in a neighboring tank, but expelled, worried, and gulped again.

Jordanella Floridae

C. J. HEEDE

Jordanella floridae, a tooth-carp, is one of the newest tropical fishes acquired by the aquarist. It is described as wonderfully colored and marked, and particularly interesting on account of the care accorded the eggs and young. The male in breeding dress is a gorgeous red. The upper portion of the female is marked like a checker-board. The male measures about one and three-quarters, and the female two inches in length. *Jordanella* is a native of Central Florida.



Lower, Male *Jordanella Floridae* Upper, Female

The eggs are spawned among *Riccia* or similar plants, and are immediately fertilized by the male. He then assumes sole charge, and keeps his erstwhile mate at a distance. So interested is he in the welfare of the eggs that he not even looks for food. Should any of the eggs fall he will immediately replace them. After five or six days of vigilance the young appear, and sink to the bottom. If any try to swim away they are at once returned to their brothers and sisters by the father. Parental care continues until the young are able to shift for themselves.

The fry will thrive best in a tank well covered with *Algae*. They require fine food, such as powdered meat, fish flesh, worms and so forth, but as they are to a great extent vegetarian, care should

be exercised not to overfeed with the meat and other animal substances. They should have *Algae*, *Daphnia*, and will take the artificial foods. The temperature of the water should be about 77 degrees Fahrenheit.

Biological Experiments

From occasional newspaper and magazine articles the lay reader is aware of the efforts and experiments of biologists to fathom the mystery of the origin of life and its kindred problem, evolution. Dr. Hans Driesch, at the laboratory in Naples, has been investigating the eggs of fishes. An egg is a single cell that after fertilization, divides into two cells, and so on as the embryo develops, and the cells differentiate, forming the various organs and tissues. Taking an egg that had divided into two cells, or even more, Dr. Driesch succeeded in separating the several cells, each one of which eventually developed into a normal fish of the species, differing in no way except that they were smaller than the average.

Human twins having temperaments alike, and almost identical physically, are believed to be the result of the development of a single ovum. Thus without assistance we find in nature a counterpart of Dr. Driesch's experiment. Not all twins are derived from a single cell or ovum, but may be the result of the simultaneous development of two ova. This results in twins of great physical similarity, but of divergent temperaments.

In further experiments, two distinct eggs or embryos of a fish have been blended together. The result was a much larger individual than the normal. The human race occasionally produces giants which, however, are usually mentally and physically deficient. This is probably due to the blending of ova having characteristics too divergent to result in harmony in the offspring.



Breeding Pterophyllum

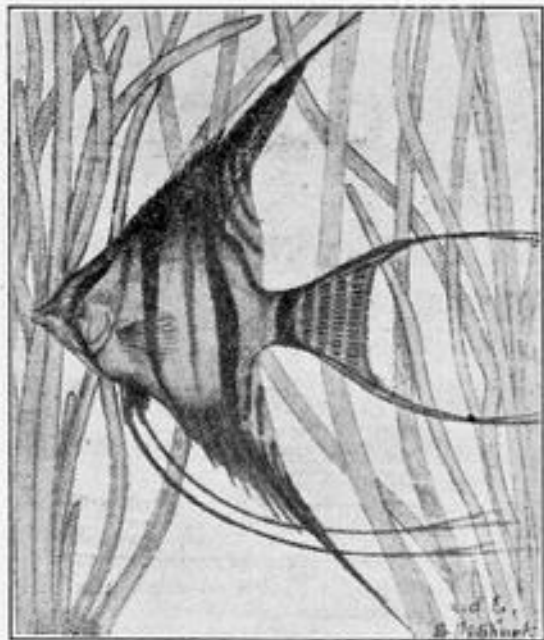
WM. L. PAULLIN

After losing several lots of spawn, I have at last succeeded in rearing the scalare—the first time it has been bred in America. I obtained my pair when quite young, and have since kept them in large aquaria, holding 100 gallons or so. Contrary to other writers, I have found them very docile, and at times, though I do not recommend the practice, have kept goldfish in the same tank. While generally slow and stately, they are graceful swimmers, and can dash across the tank about as fast as any fish I have seen. In color the scalare is warm brown, the body and fins traversed by dark stripes, as shown in the illustration. The long, slender rays of the pectoral fins are clear yellow. These extensions and those of the tail are easily broken, but soon grow again. Pterophyllum comes to us from the Amazon River, Brazil.

Scalare seems to be able to stand quite a variation in temperature. I have had it as low as 65 degrees Fahrenheit, and as high as 95 degrees, but 82 degrees seems best, and is the temperature at which it has bred. While it will eat *Daphnia* and the dry prepared foods, it seems to prefer mosquito larvae, dragonfly larvae, water tigers, water boatmen, and all the larvae that we fish breeders consider pests when found among *Daphnia*. It will take earthworms, but demands that the pieces wriggle, and be not more than half an inch in length.

On the day previous to spawning a leaf of sagittaria is selected, and both fish make every effort, but without success, to make it stand upright. The next

day the female protrudes an ovipositor half an inch long, just in front of the sweeping anal fin. The organ of the male measures about an eighth of an inch. Both are retracted when spawning has been completed. Turning almost upon



Pterophyllum Scalare

her side, the female deposits the first egg at the base of the leaf. The male with a similar movement fertilizes it. Egg after egg follows, until the leaf is well covered with a single layer. In the operation, the female after each egg descends to the base of the leaf, then arises and deposits the next egg immediately above the last, the male following in like manner. Thus a trip was made by each fish up and down the leaf for each egg deposited. Why the female thus proceeded is not clear, but this action by the male would have been to make doubly

sure the fertilization of each egg. If, while the eggs were being deposited, one dropped to the bottom of the tank, it was greedily eaten by the first parent to reach it.

The eggs hatch in about two and a half days. The fry seem to merely protrude head and tail, and to retain connection with the egg. The young are now removed by the parents from the leaf and attached to another by means, apparently, of a tiny filament—a growth from the head. This operation is repeated daily. The young, while attached, keep up a constant wriggling. Should one fall it is replaced at once. While during this period the fry are carefully tended during the day, I found that at night the parents had a tendency to make an occasional meal of them. I prevented this by burning a 40-watt electric light just above the tank. After seven days the young having reached the free-swimming stage, I removed them to a smaller tank that had been standing for two months without fishes. This aquarium was teeming with infusoria. As they grew I fed *Daphnia* and mosquito larvae. At the present time the surviving young are about the size of a silver dollar, not including the fins.

Doctor Tench, Physician

"The pike, fell tyrant of the liquid plain,
With ravenous haste devours his fellow train,
Yet howso'er by raging famine pined,
The tench he spares—a medicinal kind;
For when by wounds distress or sore diseased,
He courts the salutary fish for ease,
Close to his scales the kind physician glides,
And sweats a healing balsam from his sides."

Camden, writing long before "our time," says: "Here have I seen the bellies of pikes which have been rent open have their gaping wounds presently closed by the touch of tenches, and by their glutinous slime perfectly healed up." Bateman, a recent writer, rightly relegates the fable to the realms of mythology. "The Tench has often been

called the 'physician fish,' from the idea that it has the power, by means of the sliminess of its skin, of curing the diseases of all other fish. And it has been said that the pike, out of gratitude to the Tench for his skill in healing, will refrain from devouring him. Gratitude is so rare that one would be glad to discover it, even in a fish; but we do not really find it there, at least so far as the pike is concerned, for that 'fresh-water shark,' notwithstanding his reputation of being possessed of the 'grace of courtesy,' will not hesitate, if pressed by hunger, to make a dinner of his 'kind physician.' The other day, in an aquarium of mine, a pike took, not his medicine, but his 'doctor.' In the Tench's power of healing himself and other fish I do not for a moment believe. It was only the other day that a Gibel Carp was sent to me, and was placed in the same tank with three Tench. Now, had these fish their reputed power of healing, I do not understand how it was that they did not prevent their new companion from showing signs of fungus, which it did shortly after its arrival."

The Green Tench (*Tinca vulgaris*) and Golden Tench (*Tinca auratus*) are exceedingly handsome fish, and among the hardiest for the household aquarium. Both are minutely scaled. The former iridescent green, the latter lemon yellow, with a golden sheen, sparsely marked with spots of brown. In England they are extensively bred in ponds, and are esteemed as a food fish. Some years ago the U. S. Fish Commission bred and distributed the fry and mature fish. Since, it has not received the attention it deserves from fanciers. As a mature fish may weigh six pounds, it can only be kept in the aquarium while young. It is entirely harmless, and can be kept in the tank with fine goldfish, to which it forms a pleasing contrast.



The Calico Telescope

GEORGE W. PRICE



Owned by J. E. Van Stavern

Photo by Schaefer

Some writers speak of the Mottled Telescope, a term not nearly so appropriate as "Calico," which, though as a name may be old-fashioned, yet it aptly describes the goldfish that at present is the height of fashion and bids fair to hold that pinnacle—among aquarists. The high prices brought by fine specimens attest this assertion.

The most sought for color is blue—every one breeds for it, but not all succeed. In competition, to receive a high

score, it should predominate, with here and there a blotch of red, orange and purplish-white. Spots of black should be evenly distributed over body and fins. The greater the contrasts between the colors, the more desirable is the fish. The fins should be clear and free from congestion and twists. The dorsal should be high and carried erect; tail broad and but slightly indented. Such is the Calico Veiltail, or Square-tail, or Broadtail—call it what you will. If any distinctions

exist they are merely based upon the indentation of the tail. You will find all among a single spawn with Ribbontails, Japs and single-tails thrown in for good measure.

The present-day Calico is the result of a cross between the long-bodied, short-tailed Calico Telescope of China and the deep-bodied, long-tailed Fringe-tail or Ryukin, of Japan. American breeders have raised this fish to a far greater degree of perfection than the Japanese, if one may judge from imported specimens. It is probable, however, that the best Japanese examples are not exported due to home demands. Incidentally, the goldfish with telescope eyes was brought to the United States long before it was taken to Japan (1894-95).

Aquarium Fishes From Our Own Country

W. L. BRIND, F. Z. S.

(Concluded)

In the Sunfish and Bass group (a family peculiar to North America), we find some very desirable aquarium fishes, including the Black-banded Sunfish, *Mesogonistius chaetodon*. This species ranges from New Jersey to North Carolina. The Diamond Bass, *Enneacanthus gloriosus*, is represented in my collection by beautiful specimens from North Carolina. The Orange-spotted Sunfish, *Lepomis humulis*, a native of the Mississippi Valley, is particularly attractive and desirable. Medium-sized Peacock-eye Bass, *Contrarchus macropterus*, from Virginia and Florida, and the Calico Bass, are hardy in domesticity. The Pygmy Sunfish, *Elassoma zonatum*, from North Carolina, is one of the smallest, if not the smallest of all sunfishes, and has only recently been studied in aquaria. The males are from one-half to three-

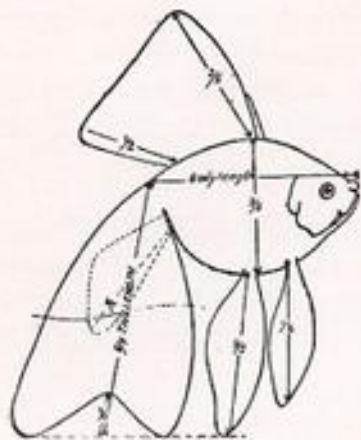
quarters of an inch long, blackish with vertical rows of silver scales. The spotted dorsal fin suggests *Mollienisia*. The females are smaller and pinkish-brown in color. All the Sunfishes and Basses make nests in the sand and guard the eggs and young.

A desirable and beautiful genus of aquarium fishes occurring in North America (also in Europe, Africa and Asia) is *Fundulus* (the killifishes). In this country we have the gold and red-spotted *F. chrysotus*, *F. dispar*, *F. Diaphanus*, *F. menona*, *F. nottii* (the Star-head), *F. heteroclitus* and a few others. These are mostly quiet fishes that prefer to lie still near the surface. They spawn on semi-floating clumps of plants.

Worthy of the aquarist's attention is the Dace family, which includes the Red-bellied Dace, Black-nosed Dace, Crimson-striped Dace, L. osy-sided Dace, the Golden Dace and the Copper-striped Dace. The Darters are very interesting, and some of them exceedingly beautiful, such as the Rainbow Darter, *Etheostoma coeruleum*, the Green-sided Darter, *Diplesion blennioides*, the Fan-tailed Darter, *Etheostoma flabellare*, and some others.

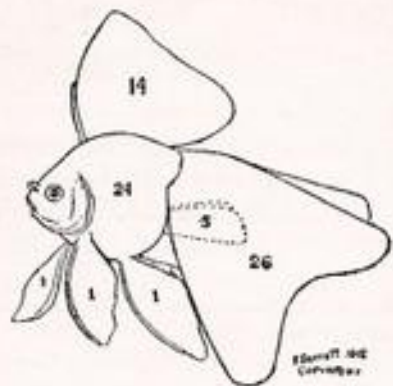
Many of the fishes mentioned have not yet been introduced into Germany, where there are plenty of fanciers who will pay good prices for them. Importers, before the war, would not pay enough to justify any special effort being made to catch and export them, so there is little danger of our streams becoming depleted.

It can be readily seen that if we Americans were to confine ourselves to the study and culture of native fishes, we would have available enough material to entitle us to the rank of first-class aquarists, were we to pursue our investigations into their life-histories as deeply as we do into those of the Asiatic, African and South American species.



Brooklyn Aquarium Society, Inc.
Standard

Jap Goldfish Standards



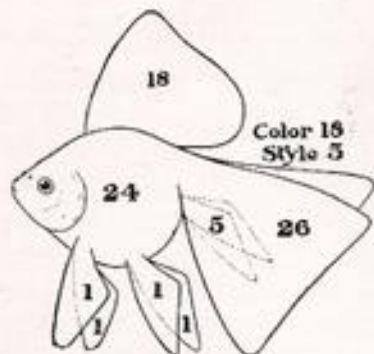
Philadelphia Aquarium Society
Standard



Photograph of a Fine Jap



American Federation of Goldfish Fanciers
Standard



Philadelphia Goldfish Fanciers
Proposed Standard

Aquatic Life

A monthly magazine devoted to the study, care and breeding of native, tropical, gold and fancy fishes, other animals and plants in the household aquarium.

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The Care of Goldfish

C. G. B. SCHENK

I have no doubt but that the dealer in goldfishes is constantly being asked by customers how to keep them alive. Now, the most expert aquarist cannot keep his fishes alive forever. Sooner or later, "that which has life must die." There is no reason, however, why goldfishes cannot be kept for a reasonable length of time, for a number of years anyway. All that is required is an understanding of the fundamental principles, and care along those lines. The closer we come to natural conditions the more success we will have. The three fundamentals are *pure water, proper feeding and a continuous supply of oxygen.*

We will take the subject of water first. Pure water doesn't necessarily mean fresh water. In fact, for goldfishes, "old" or "ripe" water is better than fresh, provided it is pure. By "pure water" I mean water that is not foul. Foul water smells of decay, and is caused by decomposing food, dead snails, dead fishes or other like causes. Water that smells "weedy" from the plants is not foul. Therefore we must be able to distinguish

the difference between water that smells of the plants—as most old waters do—and water which smells of decay. To use plain language, decayed water "stinks." *If in doubt change the water but be sure that the new water is of the same temperature as the old.* To ascertain this use a floating thermometer, which can be obtained from most dealers for about twenty-five cents. Or, allow the new water to remain in the room with the aquarium over night and then change—this assures an equal temperature.

More fishes are killed by over-feeding than from any other one cause. A fish requires very little food, especially after it has reached maturity. A goldfish will eat almost anything a human being will eat, except possibly vegetables and greasy foods. They may be given scraped lean meat, boiled potatoes, oat meal, boiled or baked fish, but only in tiny quantities. All are good if used with a knowledge gained only by long experience. It isn't so much a question "what to feed," as it is "how to feed." Always *feed sparingly* and only as much as will be consumed within *ten minutes.* Particles not eaten within that time should at once be removed with a dip-tube or mud-lever. If permitted to remain it may foul the water. The one exception to this rule is natural live food, which can be put into the tank in any reasonable quantity. This natural food—*Daphnia, Cyclops,* and so forth—can usually be purchased from fish breeders in the larger cities. The novice, however, had better depend upon the prepared fish foods. All I have tried are good—many are advertised in *AQUATIC LIFE.* These foods are composed of a great variety of nutritious substances, and are far superior to the white rice wafer, which is best avoided, as it is low in nutritive value. The exact quantity to feed had better be ascertained by experiment—don't forget the ten-minute

time limit. Some breeders say five or six grains to each small fish daily in summer, every other day during the winter.

We now come to the last of the three fundamentals of aquarium management—abundant oxygen. Fishes require oxygen the same as a human being, and if there is not sufficient in the water, they will lack vigor and sooner or later die. Oxygen can be supplied by running water, by air forced into the water by means of a pump, or by a vigorous growth of plants. For the beginner, the plants are best. The aquarium should be well stocked with them. It is scarcely possible to have too many plants if the fishes still have room to swim about. The plants absorb the carbon dioxide given off by the fishes, and liberate the oxygen needed. The most desirable plants are *Sagittaria*, *Vallisneria*, *Ludwigia* and *Anacharis*. These grow freely and are the species most generally used by the expert. The so-called Washington grass (*Cabomba*), while a beautiful plant, usually drops its leaves, becomes unsightly and requires frequent renewal, hence had better be avoided if the others are obtainable. If you can't secure them from local stores, they can easily be obtained from out of town by mail.

If the fishes stay at the top of the water, sucking outside air, it is a sure sign of a lack of oxygen. The only remedy is to reduce the number of fishes and add more plants. Merely changing the water only affords temporary relief. To insure a healthy growth of plants place the aquarium where it will get sunlight part of the day—the morning sun is best. Too much sun will unduly raise the temperature of the small tank.

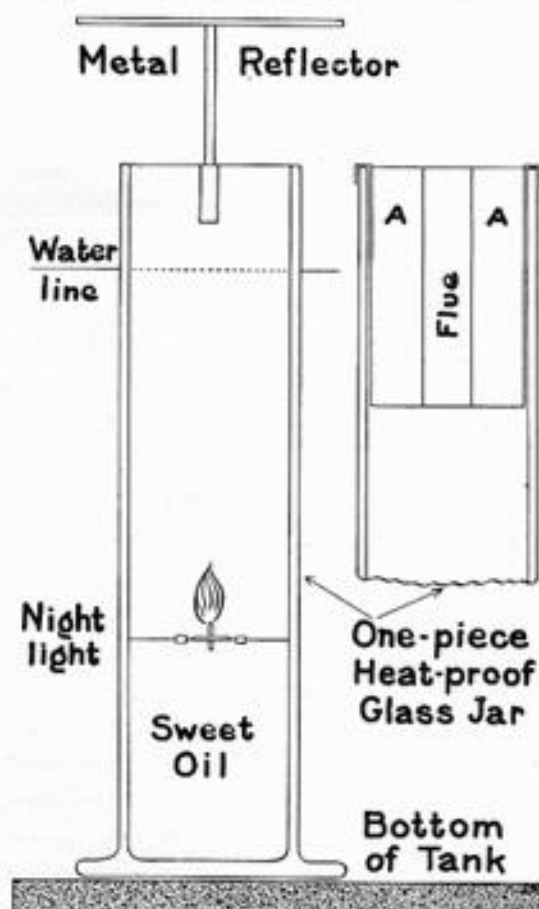
"What animal is satisfied with the least nourishment?" asked Wailing.

"The moth," replied Ayling. "It eats nothing but holes."

Aquarists' Devices

The Taubles Tropical Heater

The problem of heat is the first that confronts the aquarist who desires to have tropical fishes in his living rooms. During the day the necessary temperature is not difficult to maintain, but at night it is very apt to drop below the



danger-line. The Taubles Tropical Heater seems to solve this difficult feature. The appliance consists of a heat-proof glass jar (by heat-proof is meant that the jar will not be cracked by the enclosed light), a metal reflector, and a night-light. The cylinder "A," hereafter described, may be added if desired.

A marked advantage of this device is its adaptability to any size or shape of tank. It is odorless, and the fuel, sweet

Continued on Page 36

NOTES & QUERIES

Whether or not to cover aquaria with pieces of glass is a disputed question. With single-tail goldfish and native and tropical species, it is a wise precaution, as it prevents the fishes leaping out of the tank. Double-tailed fishes cannot leave the water. Those who have experimented with heated tanks say that covers conserve the heat, the temperature being several degrees higher when the cover is used.

You can ascertain the capacity of a rectangular aquarium, in gallons, by multiplying the length, width and depth in inches, and dividing the result by 231—the number of cubic inches in a gallon.

Japan boasts of a singing fish. Fred Orsinger says he supposes it has musical scales.

How often do you change the water in the aquarium? The Japanese snail will tell you better than anything else. When the water gets foul this snail comes to the top. It is then advisable to syphon off about half of the water, drawing it from the bottom, and replace with fresh of the same temperature.—*Charles Paxson.*

The caudal peduncle is the fleshy, usually tapering end of the body of a fish between the anal and the caudal fins.

Knowledge is not given us to keep, but to impart; its worth is lost in concealment.

Taubles Heater, *Concluded*

oil, is cheap and can be bought at any Italian or German grocery store. One filling and night-light will burn about fourteen hours. The heater may be placed in the centre of the aquarium, in which case the glass cover should be in two pieces, with half-circle cut-outs to allow it to project above. In general, however, it is better to place the heater in a corner, merely cutting off a corner of the aquarium cover. If the tank should become too warm the fishes will naturally seek the other end, and vice versa, if too cold.

Those who have used this heater have found that with one night-light the temperature of a five-gallon aquarium will be raised 8 degrees, with two night-lights in same jar, 12 degrees, and with three lights, 20 degrees. Much greater efficiency is attained by using the cylinder "A." This is filled with *Sodium Acetate*, and hangs inside the jar as shown. This addition, with one night-light, will effect a raise of twenty degrees. It seems almost unnecessary to mention that for a large aquarium one can use two or more heaters.

The Taubles Heater is manufactured by the Aquarium Specialty Company in three sizes, costing \$1.50, \$1.75 and \$2.00. The *Sodium* cylinder adds 75 cents, \$1, and \$1.25 respectively.

The best kind of sympathy is that which lends a hand.

Paradise fish were first introduced into France in 1869.

Green water is caused by too much light. It is only undesirable because it prevents a view of the inhabitants of the aquarium. A few drops of permanganate of potash, or additional snails and tadpoles, will clarify the water temporarily. The tank should be placed in a position where it will receive less direct sunlight.

can be safely shipped anywhere by freight or express, the Pioneer firm is willing to supply this tank without glass, and with or without the feet or floor-stand. Other and larger styles are shown in their catalog.

It is advisable to sterilize all plants before putting them into the tank. Place for ten or fifteen minutes in a solution



The Water Queen Aquarium

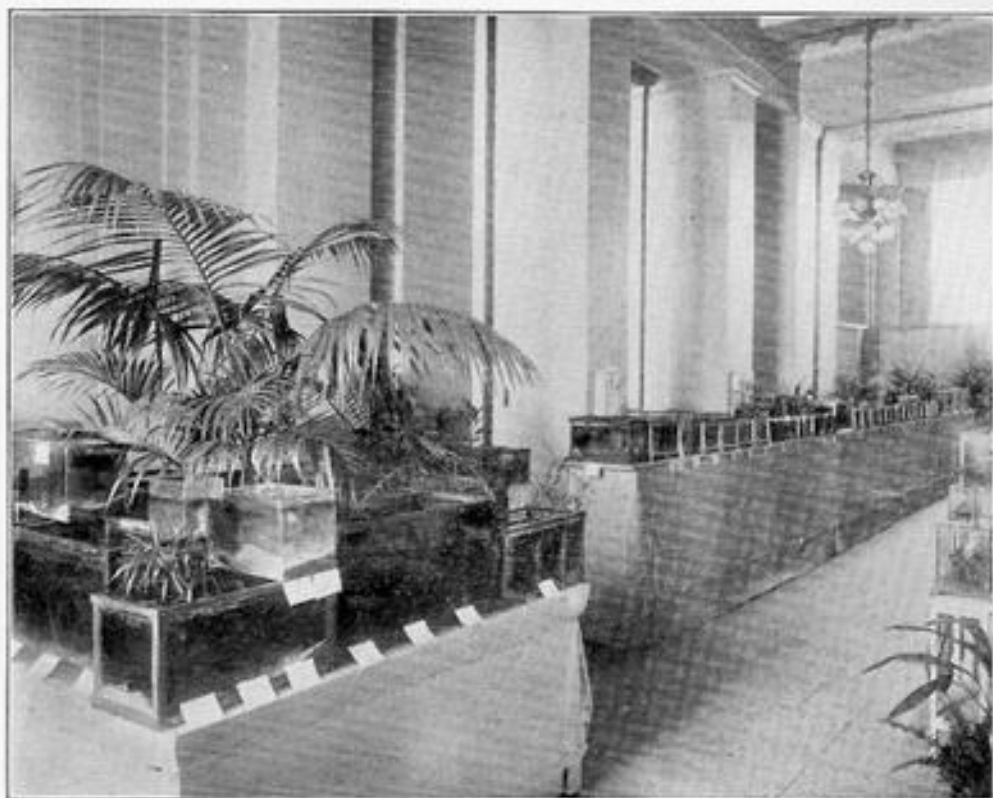
The "Water Queen" is the name of an artistic Aquarium manufactured by the Pioneer Aquarium Company, one of a number of unusual designs. The illustration shows it mounted on short, detachable "eagle-head" feet. If desired, an appropriate floor-stand may be substituted. This style well illustrates what *can* be done to make an aquarium ornate, yet unobtrusive, and still retain all the essential features of a practical tank. The "Water Queen" is made in four sizes, holding respectively, four, eight, eleven and twenty gallons. While aquaria

of creolin—two teaspoonfuls to a gallon of water. Phenol Sodique is also efficacious—a tablespoonful to a quart of water. In this solution the plants may remain for several hours. After either bath the plants should be thoroughly rinsed.

"Johnny, here you are at breakfast, and your face unwashed," said his mother.

"I know it, ma. I saw the little things that live in water through pa's microscope last evening, and I ain't a-goin' to have them crawling over my face with their funny little legs."

SOCIETY NEWS



Brooklyn Exhibition

E. J. WILCOX

The Fourth Annual Exhibit is now a matter of history. Fourteen thousand people viewed the display. Competition was keen and embraced the largest collection of aquarium fishes ever shown together. There were 355 separate exhibits. The entries including all classes of fishes from the tiny tropical species to regal goldfish.

The exhibit of Charles E. Visel was awarded the diploma for the largest and best display. Mr. A. A. Phillips, Jr., showing a 60-gallon aquarium, was the winner of the diploma for the largest balanced tank. The entry of Mrs. Marie Maier consisted of tanks, many of which

had been set up for years. To Mrs. Maier was given the diploma for the finest small balanced aquarium. The diploma for the four best fish shown by an out-of-town exhibitor went to Mr. W. H. Heimbach on his Calico Telescopes. The remarkable beauty of the young goldfish entered by Fred G. Schaefer, together with the fine tank in which they were displayed—owned by Mr. Johannot—attracted much attention. The exhibit of Mr. Herman Rabenau included many native fishes collected in Virginia just prior to the show. Mr. Franklin Barrett was awarded ribbons on his entries of Lion-heads, Celestial Telescopes and Orandas. Many of the exhibits were shown in the Peerless aquarium loaned

by J. J. Halterbeck, which was described in *Aquatic Life* for October.

The lilies, poppies, hyacinths and other flowering aquatics entered by William Tricker were greatly admired. The aquatic plants in the majority of the tanks were from the New York Botanic Garden. Seven truck-loads of palms were loaned by the Park Department of Brooklyn. The Museum authorities provided ample facilities for a supply of water and the disposal of waste.

The exhibit was in charge of the committee, consisting of Messrs. Froehlich, Johannot, Visel, Donovan and Wilcox. Mr. William T. Innes, Jr., judged the goldfish, Dr. F. Bade the native and tropical species, and Mr. W. G. Lamprecht the balanced aquaria.

The October meeting of the Philadelphia Gold Fish Fanciers' Society, held at Saul's Hall on the 20th, was exceptionally well attended. This was cup night for "best fish owned by a member." There were 111 entries. Messrs. George W. Price, William L. Paullin and James A. Kerr acted as judges.

The first cup was awarded to the Calico Telescope shown by Joseph E. Bausman; second cup to Fred Schaefer's Lion-head. Blue ribbons in the various classes to George B. Smith (two), James Fleming (two), Thomas Ayling, William H. Horton, Joseph J. End, Claude Ramsbacher, Joseph Ahtes, John MacInnes, John T. Clark, William J. Christy and Fred Schaefer.

Entries were received for the "Household Aquarium Contest." Messrs. George E. Wilt, William Peck, and Francis X. Garcia will act as judges. The winning aquarium receives a silver cup. This is an annual contest.

New members elected: Edward Singleton, M. Marblestone, Dr. J. J. Fralinger, James H. McBride, Charles Harris,

William Hartman, Charles Hentschel and H. C. Deering.

The next meeting will be held at Saul's Hall, 802 Girard avenue, on November 17th (Wednesday). The competition will be for "best fish bred by a member." To be eligible, fish shown must have been bred, raised and owned by the exhibitor. He must have owned and spawned the parents. Fish raised from purchased spawn cannot be entered. Judges will be appointed at the meeting.—*Fred Richardson, Secretary.*

The semi-annual auction of the Brooklyn Aquarium Society was held October 12th. Several hundred dollars' worth of fine goldfishes were sold, together with the plants used at the Annual Exhibition. The following were elected to membership: Mrs. William H. Fox, Messrs. W. H. Fox, Townsend Scudder, 3d, A. Parobok, F. R. Meeks, H. L. F. Naber, F. G. Schaefer, P. H. Schissel and R. H. Thompson.

The meeting of October 26th was devoted to a display of tropical fishes—the last of the season. Fifteen ribbons were awarded. Mr. E. W. Kiernan gave a talk on the species shown.

November 9, 1915—Business meeting, including election of members of the Nominating Committee in connection with the annual election.

November 23, 1915—First monthly display of goldfishes.

The society has published a "Standard" for judging goldfishes, a copy of which will be sent gratis to any aquarist, if stamp is enclosed.—*E. J. Wilcox, Secretary.*

The October soiree of the Chicago Aquarium Society was "put over" at Dr. Prousker's domicile on the 28th. The members turned out *en masse* to view his fine collection of fishes. Fred Orsinger

writes that the boys "drank like fishes." This leads us to believe that the genial doctor must have entertained them in the aquaria. Knowing him, however, we doubt if the tanks contained aqua pura. There is lots of water about Chicago, but the people long since became saturated, and now let it rest where it belongs—in Lake Michigan.

The November meetings—more big times—will happen at the Keedy Studio, on the 11th and 25th.

The Second Annual Fish Show of the American Federation of Goldfish Fanciers (Brooklyn) was held October 12th. Gold and other fishes in great numbers were exhibited.

Mr. W. H. Heimbach was awarded the Gold Medal for "largest exhibit of goldfishes;" Silver Cup for "best goldfish shown;" Baby Silver Cup for "largest and best entry of young veil-tail goldfish."

Silver Cup for "best entry of tropical fishes," and Gold Medal for "largest exhibit of balanced aquaria" went to Mr. A. E. Maloney.

The Gold Medal for "best goldfish exhibit by a novice" was won by R. D. Becker.

Ribbons and special prizes on goldfishes and native and tropical species were awarded to Miss Emma Bright, Messrs. A. A. Phillips, Jr., W. H. Heimbach, R. D. Bright, J. J. Hoare, Gustav Bjorkman, O. H. Klemmer, R. D. Becker, Thomas Myers, H. G. Sutton and S. C. Lloyd.

Mr. J. J. Halterbeck was awarded a special prize on his exhibit of aluminum frame aquaria.

Two brass-frame aquaria, donated by Mr. C. J. Heede, were awarded, one to Mr. S. C. Lloyd for "most artistic balanced aquarium," and one to Mr. Matthew Boman, official clerk, for signal services rendered.

The joint Annual Exhibition of the Philadelphia societies was held at Horticultural Hall, Fairmount Park, on Saturday, Sunday and Monday, October 30th, 31st and November 1st. Full details will be published in our next issue.

Ladies are welcome at the meetings of all the societies. Why not ask Mrs. X. to attend the coming meeting. We are addressing Mr. X., of course.

George B. Smith's Scaled Broadtail Jap was awarded a blue ribbon at the last meeting of the Philadelphia Goldfish Fanciers' Society. This makes its total winning five blues.

Mr. Sackheim, of the Chicago Club, has returned to his home from the Naperville Sanitarium. His friends are congratulating him on his return to good health.

Mr. I. J. Ackerman has forsaken (temporarily) the denizens of the aquarium, and is cruising southward in quest of the gamy tarpon.

Elsewhere are shown the American standards for judging Jap goldfish. For permission to publish, and loan of cut of drawing of Mr. Franklin Barrett, we are indebted to him and to the Aquarium Society of Philadelphia. The chart of the Brooklyn Aquarium Society is taken from their recently published booklet. The standard of The American Federation of Goldfish Fanciers, drawn by Mr. S. C. Lloyd, is taken from the Year Book of that organization. The chart of the Philadelphia Gold Fish Fanciers Society is still under consideration. The centre photograph, by George E. Seip, is that of an exceptionally fine Jap, about which Mr. George B. Smith wrote in the September issue of AQUATIC LIFE.

Aquarium Societies

Brooklyn Society

Incorporated

Meets second and fourth Tuesday, Prospect Branch, Brooklyn Public Library, Sixth avenue and Ninth street.

President—DR. FREDERICK SCHNEIDER 64 Grove Street
Vice-President—JOSEPH FROELICH 11 St. Francis Place
Recording Secretary—GEORGE S. KIESS 365 Ocean Avenue
Corresponding Secretary—E. J. WILCOX 356 Lincoln Avenue
Treasurer—THEO. P. FRITZ 805 Halsey Street
Librarian—FRANK B. JOHONNOT 1333 Carroll Street

American Federation of Goldfish fanciers

Meets second and fourth Monday, in Johnston Building, Nevins and Fulton streets, Brooklyn.

President—S. T. SMITH 345 Pacific Street
Vice-President—MATTHEW BOMAN 427 Forty-fourth Street
Secretary—R. D. BRIGHT 156 Henry Street
Treasurer—JOHN DEBUS 313 S. Fourth Street

Phila., Aquarium Society

Meets fourth Wednesday, 1414 Arch street.

President—C. A. PROVOST 3926 Brown Street
Vice-President—J. P. HEILMAN 2029 K. Stella Avenue
Secretary—WALTER LEE ROSENBERGER P. O. Box 96, Philadelphia
Treasurer—R. L. HARDING 1945 South Sixtieth Street

Philadelphia Goldfish Fanciers

Meets third Wednesday, Saul's Hall, 804 Girard avenue.

President—GEORGE B. SMITH 2013 E. Cumberland Street
Vice-President—HARRY P. PETERS 1210 N. Warnock Street
Secretary—FRED. RICHARDSON 3841 N. Marshall Street
Treasurer—GEORGE W. PRICE 2145 S. Lee Street

The Aquarium Society

Meets second Thursday, German-American School, Sherman avenue, Jersey City; fourth Friday, American Museum of Natural History, Seventy-seventh and Central Park West, New York City.

President—RICHARD DORN Upper Mont Clair, N. J.
Vice-President—DR. E. BADK Glenhead, L. I., N. Y.
Secretary—JOHN TREADWELL NICHOLS Am. Mus. Nat. History, N. Y.
Assistant Secretary—H. TRULL Am. Mus. Nat. History, N. Y.
Treasurer—J. LAWELL 146 Grace Street, Jersey City, N. J.

The Chicago Society Incorporated

Meets second and fourth Thursday in Keedy Studio, 19 E. Cedar street.

President—JOHN W. GAGE 4030 Clarendon Avenue
Vice-President—WILLIAM HITCHCOCK 1101 East Sixty-fifth Street
Secretary—S. H. LINDAHL 7732 Chauncey Avenue
Treasurer—G. J. BORGSTROM, JR. 1408 N. Kedzie Avenue

Wilmuaker Society

Meets first Tuesday at 8 P. M. in Trustees' room of the Public Museum.

President—REV. G. K. RUBRECHT 999 Island Avenue
Vice-President—GEORGE HEMING 2811 State Street
Corresponding Secretary—FRANCIS H. GOODLY 1558 Twenty-third Street
Recording Secretary—REV. PAUL ROTH 2662 Prairie Street
Treasurer—GEORGE J. C. STEFFENS 399 First Street

Reading Society

Meets first and third Tuesday, 104 N. Ninth street, Reading.

President—J. R. MELCHER 123 Chestnut Street
Vice-President—GEORGE LEABER 1111 Locust Street
Secretary and Treasurer—S. O. MELLERT 129 W. Windsor Street

Lancaster Society

Meets at Wheatland Hotel, Lancaster, Pa., first Wednesday.

President—HIRAM PEOPLES New Providence, Pa.
Vice-President—H. H. MYERS 431 W. Orange Street
Secretary and Treasurer—W. M. HAWMAN 250 E. Ross Street

Minneapolis Society

President—F. L. TAPPAN 92 S. Seventh Street
Treasurer—J. W. FRANZEN Museum, Public Library
Secretary—MRS. ANNA ESBENE 3421 S. Longfellow Avenue

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