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FISHES

# Aquarium Notes and News

APRIL, 1914



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PHILADELPHIA**



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The Aquarium Society of Philadelphia meets on the fourth Wednesday of each month, except July and August.

Initiation fee, \$1.00; dues, \$1.80 per year.

Corresponding membership, \$1.00; no initiation.

"Notes and News" is sent to all members.

We have no subscription list and no paid advertisements, but members may use these columns, subject to editorial approval, to tell what they want to buy or sell.

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### APRIL MEETING

Will be held Wednesday evening, April 22, at Fraternity Hall, 1414 Arch street, at 8.30 P. M.

Mr. Jos. F. Heilman will address the meeting on "The Practical Side of Goldfish Breeding."

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### EXHIBITION AND COMPETITION

Competition: Japanese Fringetails Under One Year Old.

Special competition: Peters' cup for best fish (any class) owned by a member.

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# AQUARIUM NOTES & NEWS

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Awards in Competition for Telescopes under One Year, March 25, 1914.

## CALICO VEILTAILS

Blue Ribbon.....Mr. Wilt  
Red Ribbon.....Mr. Flemming  
White Ribbon.....Mr. Klippen

## CALICO RIBBONTAILS

Blue Ribbon.....Mr. Kerr  
Red Ribbon.....Mr. Kaiser

## SCALELESS VEILTAILS

(Not Calico)

Blue Ribbon.....Mr. Kerr  
Red Ribbon.....Mr. Klippen  
White Ribbon.....Mr. Audsley

## MOOR VEILTAILS

Blue Ribbon.....Mr. W. L. Paullin  
Red Ribbon.....Mr. Klippen  
White Ribbon.....Mr. Wilt

## SCALED VEILTAILS

(Not Moors)

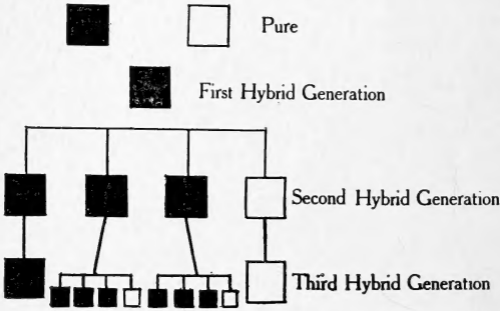
Blue Ribbon.....Mr. Bausman

## SCALED RIBBONTAILS

Blue Ribbon.....Mr. Wilt  
Red Ribbon.....Mr. Kerr

In awarding the ribbons at the March meeting, we used the new schedule of points and a chart that had been submitted for judging telescopes. The judges appointed, Mr. Wm. Innes, Jr., William Peck and William Paullin, found that none of the fishes exhibited could be awarded more than 82 points, and accordingly no blue ribbon would have been awarded, but it was decided by the Society, that, inasmuch as this was the original attempt to use the chart, and the point valuations being still in the experimental state, that ribbons for the evening should be awarded as previously, and that the clause in the constitution applying to awards should be set aside for the evening.

At the March meeting, Dr. Herman Burgin, of Germantown, gave one of the most interesting talks ever given before our society. His subject was: "Advantages to be derived by careful selection and mating of breeders." In a few words he outlined, in a very convincing way, Gregor Mendel's theory of heredity, who after eight years of experimenting, published the results of his work in 1865; but, curious as it may seem, it was not until 1900 that the value and truth of his idea was recognized by some of our most distinguished scientists. Dr. Burgin illustrated his talk with a diagram similar to the drawing.



In brief he said: "Supposing two differently colored fish that were known to breed true to color were crossed—for convenience we will say a black one and a white one—the result would probably be offspring all of one color: again for convenience we will say they are all black, thus making black the dominant color and white the recessive. These offspring are in turn bred, with the result that 75 per cent. of the second hybrid generation are black and 25 per cent. are white, or of the recessive strain, any one of which will in the future always breed true to color, generation after generation. Of the other 75 per cent., or those of the dominant type, one-third will be of the pure strain and breed true to color, while the remaining two-thirds will breed a mixture of

dominants and recessives in the ratio of 3:1, as in its parent generation. Thus Mendel has established these facts: First, that in every case where contrasting individuals are crossed, the resulting dominants and recessives will be in ratio as 3:1, and also in every case where the inheritance of characters are concerned, the effect of the cross in succeeding generations is to produce three different types of individuals, those of the recessive that breed true, those of the dominant that breed true, and those of the dominant that give both dominant and recessive offspring, in the ratio of 3:1." Dr. Burgin pointed out the good results to be gained by discontinuing the old hit-or-miss methods of breeding, and adopting a systematic course of procedure that will enable one to breed pure strains of fish, and to know how to control the same, and thereby raise the standard in breeding. Now that the breeding season is at hand, why not experiment along this line?

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### DON'T MISS THIS

The beautiful cup donated by Mr. Harry Peters will be up for competition at the coming meeting. It will become the permanent property of the member exhibiting the best single fish, regardless of class. This competition will be judged separately from the regular competition of the evening, although all fishes shown will be eligible for the cup. Neither age nor previous awards can bar a fish.

Now let everybody try for this splendid trophy. Bring along your best, whether you think it can win or not. Maybe you undervalue your own stock. Nothing truer than "Nothing ventured, nothing gained."

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Mr. G. Bertram Regar, 1000 Chestnut street, would like to purchase a nicely finished second-hand aquarium of from 25 to 30 gallons' capacity.

## MORE ABOUT THE CHAETODON

Mr. Walter Lee Rosenberger,

Dear Sir:—Your letter of February 19, in regard to the Five Banded Sunfish, has been referred to me for reply. This Sunfish is recorded only from New Jersey and Maryland in sluggish streams.

I have found it very abundant near Somers Point, New Jersey. Descriptions of the Five Banded Sunfish are also to be found in Bulletin U. S. National Museum.

*I have never been able to observe the habits of this little fish even in captivity.* The Five Banded Sunfish does not exceed four inches in length when adult. I have no doubt that it is a nest builder, and spawns in the Spring like other Sunfishes.

Very truly yours,

TARLETON H. BEAN, Fish Culturist,  
Conservative Commission, State of New York.

Mr. Walter Lee Rosenberger,

Dear Sir:—In reply to your letter of February 19, you are advised that the recorded geographical distribution of the Banded Sunfish (*Mesogonistius chaetodon*) is New Jersey to Southern North Carolina, where it is usually abundant in suitable ponds and streams. It is not restricted to the cedar swamps, but is particularly abundant in the streams from such places, always amongst water plants, but in circumscribed areas. *No definite information can be furnished you regarding the spawning habits of this fish, excepting that in North Carolina it spawns in March.* Doubtless its breeding habits are similar to those of other Sunfishes which, in the Spring or early Summer, hollow out nests in the sand or fine gravel, where the eggs are deposited and guarded by the parent fish until hatched. Probably from observation and comparison of examples of both sexes, you can learn to distinguish them at sight. In the breeding season, the male is usually more brilliantly colored than the female, and there may be some noticeable difference of form.



Judging by its behavior in captivity, this dainty little fish eats only living, moving food. Insect larvae and small crustacea are always eaten readily, and such animals are doubtless the usual natural food.

Very truly yours,  
H. W. SMITH, Commissioner,  
Bureau of Fisheries, Washington, D. C.

Mr. Walter Lee Rosenberger,

Dear Sir:—The genus of chaetodons is a group of some seventy species of small tropical fishes, found in the West Indies and in the Indo Pacific, and under the English name of containing the angel fish and the rock beauties and the rook hinds.

The Mesogonistius, commonly called chaetodon, is also known by the name of Black Banded Sunfish. It belongs to the order of Percosoces, and the family centrarchidae, or, in English, Sunfishes. Its generic name is Mesogonistius and specific name is Chaetodon.

It is a fresh water fish found in the tributary streams of the Delaware and other places, and while a different genus from lepomis—our common and Long-eared Sunfish, is still a true Sunfish; as it belongs to the same family, its spawning habits are the same.

It is a nest builder—that is to say, it clears a circular place in the sand spot selected, and deposits the eggs in the center, and takes care of them. The spawning period is doubtless the same as our common Sunfish, or from the middle of June to the middle of August, depending somewhat on the condition of the water temperature. *I have qualified this statement, because I have not myself come across the fish upon the nest, but am depending on the say-so of others.*

Probably the eggs and the young are cared for, according to the general rule, by the male alone, although both the male and the female perform this duty, as is sometimes the case with the common Sunfish.

It is, like its relations, a carnivorous fish, living probably on both vertebrate and invertebrate life, small enough for it to eat.

Why it is given the specific name of chaetodon I do not know, but imagine it is because the family may be considered as being not very far separated from the real chaetodons or Butterfly Fish. The latter belongs to a family called squanipinnes, and the chaetodons are among the leading genera. It is also banded and shaped a little like the famous Butterfly Fishes.

This is, I am sorry to say, all that I know of the fish.

Sincerely yours,

W. E. MEEHAN,

Supt. of Fairmount Park Aquarium,  
Philadelphia.

Mr. Walter Lee Rosenberger,

Dear Sir:—The Chaetodons, of course, are marine tropical fishes, and the specific name of these little Sunfishes merely expresses their similarity in general appearance to the real Chaetodons.

We have had these fishes at the Aquarium on a few occasions, and have had no difficulty in keeping them in balanced aquaria. They were fed on the same food as other Sunfishes, namely, meal worms, chopped beef, and some prepared fish food.

If the fish fanciers are accustomed to call these Sunfishes "Chaetodons," it is an error which should be corrected, since it is altogether confusing, as the name should be applied only to the marine Butterfly Fishes, which have bristle-like teeth in the front of the jaws, as the name "Chaetodon" signifies. Perhaps if you were to call attention to this point, in your article, it might help to clear up this misunderstanding. These fish should be called *Mesogonistius Chaetodon*.

Very sincerely yours,

RAYMOND C. OSBURN,

Assistant Director, New York Aquarium.

Through Mr. Richard Rathbun, Assistant Secretary Smithsonian Institution, Washington, D. C., we have received the data filed in the Institution pertaining to the *Mesogonistius*

Chaetodon, but there is no information given in regard to the breeding habits or any method in telling the male from the female.

Mr. W. P. Seal, Delair, N. J., who no doubt is more familiar with the *Mesogonistius Chaetodon* than any other fish culturist in this country, informs us that he knows no way of telling the male from the female, and has never been fortunate enough to have them breed in captivity. He further says this is where Aquarium Societies should step in and give to the world, by their experiments, the missing data in regard to this fish.

We reprint the following letter from our February issue:

Mr. Walter Lee Rosenberger,

Dear Sir:—"Concerning your questions about the Banded Sunfish or 'Chaetodon,' I am sorry not to be able to help you much. As an aquarium fish, it is, as you likely know, among the first of our native fishes. *Their breeding habits are unknown to me, though similar in all probability* to those of our other Sunfishes. That is to say, they likely make a nest, which is also likely guarded by the male.

"The fish prefer quiet or still waters, especially where lots of submerged aquatic vegetation occurs in variety.

"The sexual characters are not often distinct, except when the female is heavy with eggs, when she is more plump in appearance."

(Signed) HENRY W. FOWLER.

The following is an extract from an article written by Mr. F. Schubert, appearing March 3, 1914, in the "Blaetter," a magazine issued in Germany:

"The cultivation of the *Chaetodon* is very simple. They do not need much heat, ten to fifteen degrees centigrade in winter being quite sufficient. They breed in the spring, and do best in a breeding temperature of eighteen to twenty degrees centigrade. The sexes are difficult to tell, but as breeding time approaches, the male assumes a more yellowish hue and is

somewhat paler. The female, besides being slightly distended with eggs, is colored more darkly, the bands standing out strongly.

"The best plant with which to surround the fish is *Vallisneria*. The male digs a hole in the sand about two inches in diameter. He then picks out a female and drives her so severely that she sometimes dies of exhaustion. The female follows the male to the nest, and, with a trembling motion, deposits a few eggs which are immediately fertilized by the male. This is repeated from six to ten times, the total number of eggs being at least one hundred, and frequently more. The female then retreats to a corner of the aquarium, and the male guards the nest, fanning the eggs with his pectoral fins. Any fish approaching is savagely attacked.

"At twenty degrees centigrade, the eggs hatch in a little less than three days, remaining in the nest for two days. After this they scatter and lie around on plants. At this stage, all other fish should be removed from the aquarium, as the breeders and others are likely to eat the young.

"All small *Chaetodon* needs plenty of infusoria. Under the usual aquarium conditions, a large proportion of the young fish die at the age of two weeks, but with a plentiful supply of infusoria at first, and after a few weeks, small daphnia and cyclops, it is possible to raise a fair proportion. In five weeks, they are about one centimeter long, and have developed their black bands. In small aquaria, it is desirable to use an aerating device to keep the young in good condition."

### LIPPINCOTT CUP

It is evident from the material gathered, that there is no positive data pertaining to the breeding habits of the *Mesogonistius Chaetodon* in the United States. This being the case, we as a society should furnish the missing part of the record of this fish. To further interest in this matter, Mr. H. R. Lippincott, President of our Society, will pre-

sent a cup to the first member of our Society who breeds, writes an article on the breeding habit, and makes an exhibition of the small fish and the breeders. The article written is to be sent to the Smithsonian Institution, United States National Museum, Washington, D. C., in the name of the writer and the Aquarium Society of Philadelphia.

## FISHES OF THE POQUESSING CREEK

HENRY W. FOWLER

This little tributary of the Delaware is one of the most interesting of our smaller streams. It forms the upper boundary of Philadelphia, draining the country between the Pennypack and Neshaminy basins, though of greatly smaller area. But a very short portion of its lower course is tidal and, therefore, but few tidal or lowland species occur. The upper waters are characteristic of the Piedmont fauna. As many of these species are of interest to aquarium students, I give the following list, with the localities at which they have been observed.

**ALEWIFE** (*Pomolobus pseudoharengus*). Occurs at Torresdale, in tidal waters, sometimes during the spring runs.

**EEL** (*Anguilla chrisypa*). Torresdale. A large one was taken many years ago above Red Lion.

**FALL-FISH** (*Semotilus bullaris*). Common, especially the young, near Red Lion, Andalusia, Knight's Mill; also in Byberry Creek and Walton Run.

**ROACH** (*Abramis crysoleucas*). Torresdale.

**BRIDLED MINNOW** (*Notropis bifrenatus*). Andalusia and Torresdale.

**SILVER-FIN** (*Notropis whipplii analostanus*). Common at Red Lion, Andalusia, Knight's Mill, and in Byberry Creek and Walton Run.

RED-FIN (*Notropis cornutus*). Common and in same localities as preceding.

BLACK-NOSED DACE (*Rhinichthys atron-  
asus*). Very abundant, with the preceding.

CARP (*Cyprinus carpio*). Torresdale.

SUCKER (*Catostomus commersonnii*). Abundant, in same localities as the Red-Fin.

MULLET (*Erimyzon sucetta oblongus*). Torresdale.

KILLIFISH (*Fundulus diaphanus*). Torresdale and Red Lion.

LONG-EARED SUNFISH (*Lepomis auri-  
tus*). Byberry Creek and Torresdale.

COMMON SUNFISH (*Pomotis gibbosus*). Torresdale, Red Lion, Andalusia.

DARTER (*Boleosoma nigrum olmstedii*). Common at Torresdale, Red Lion, Andalusia, Knight's Mill, and in Byberry Creek and Walton Run.

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## FERTILIZER FOR THE AQUARIUM

There have been a number of articles written about the advantage of using sheep manure in the aquarium as a fertilizer. It is well known that sheep manure is of a fermentative, heat producing nature, and has to be used with extreme care. Cow manure is non-fermenting, therefore the risk of burning is eliminated, and for this reason it is especially recommended by all nurserymen as a fertilizer for aquatics of all kinds. Why not give it a trial?

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## COLOR OF GOLDFISH

In our next pamphlet, we will give the opinion of a number of authorities on the coloring of goldfish. If you have a thought on the subject that you think would be interesting to the Society, send it to the editor and we shall be pleased to give it space in our next issue.



