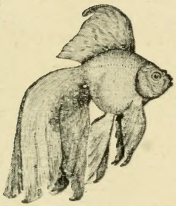
Aquarium Notes and News

JUNE 1915



Issued by the
AQUARIUM SOCIETY OF
PHILADELPHIA

Vol. II No. 6

THE Aquarium Society of Philadelphia meets on the fourth Wednesday of each month, except July and August, at 1414 Arch Street. 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.

June Meeting

The June meeting will be held on Wednesday, June 23rd at 8.30 P. M., at 1414 Arch Street.

This is the final meeting before the summer recess. The changes and amendments to the By-Laws and Constitution as mentioned below will be brought before the Society.

The exhibition for the evening will be fish other than Goldfish.

MAY MEETING

The competition was for Lion's Heads, Celestials, and Orandas, and we desire especially to commend the participants for the excellent quality shown. It will be seen from the points given by the judges that our standards have not been set too high and undoubtedly it will not be long before we find one hundred per-cent. fish in these classes.

The judges for the evening were Mr. Jos. Heilman, Wm. Paullin, and R. L. Harding, who made the following awards:

Lion's Head

Blue Ribbon	Mr. Franklin Barrett	91 points
Red Ribbon	Mr. Fred Shaeffer	88 points
White Ribbon	Mr. Fred Shaeffer	81 points

Oranda

Blue Ribbon	Mr. Franklin Barrett	85 points
Red Ribbon	Mr. Franklin Barrett	84 points
White Ribbon	Mr. Fred Shaeffer	76 points

Celestial

Blue Ribbon	Mr. Franklin Barrett	90 points
Red Ribbon	Mr. Franklin Barrett	88 points
White Ribbon	Mr. Franklin Barrett	87 points

THE FOLLOWING AMENDMENTS WERE OFFERED BEFORE THE MEETING AND WILL BE VOTED UPON AT THE JUNE MEETING.

..Amendments to the constitution, the first to be known as article II and entitled "Object", reading as follows:

The object of this Society shall be the promotion of the Scientific and popular study of the Aquarium, its Flora and Fauna and all subjects related thereto.

The second Amendment offered shall qualify the present Article II, changing it to Article III and reading as follows:

All persons interested in the objects of this Society shall be eligible to membership. The names of all applicants shall be referred to the

Board of Governors when, upon a favorable report at a following meeting, the applicants may become members upon receiving two-thirds of the ballots cast by the members present, at any stated meeting and upon payment of the entrance fee and one quarters dues in advance. Entrance fee and dues must accompany application.

The third resolution would be to change the numbers of articles 3, 4, 5, and 6 to 4, 5, 6, and 7 respectively.

The fourth resolution would be to change the present Article V, entitled Entrance Fee and Dues to read as follows:

The entrance fee shall be $1.00 and all such fees shall be set aside as a nucleus for a reserve fund, the interest of which only may be used and which fund shall only be drawn upon by the sanction of the Board of Governors, in addition to a majority vote of those present at any regular or special meeting. The Annual dues shall be five Dollars payable quarterly in advance.

Members in arrears for dues for a period of three consecutive quarters shall be suspended, and, after notice from the Secretary his name shall be dropped from the roll, unless extenuating circumstances are given or known.

The above Article shall be known as No. 6.

AMENDMENTS TO THE BY-LAWS

Resolved that Article III, Section I, of the By-Laws be amended by striking out the words, under the heading of Duties of Secretary, "For his services he is to receive a salary of one dollar per meeting" and under the heading of the Duties of Treasurer, "His compensation shall be one dollar per meeting" and insert a separate paragraph reading "For their services to the Society the dues of the Secretary and Treasurer shall be remitted."

FISHES OF THE NESHAMINY CREEK TIDAL REGION

This interesting stream, usually clear and not polluted, drains the greater and lower portions of Bucks County. As I am more familiar with its lower waters, this note treats exclusively of the fishes found in them. Doubtless a number of others also occur, though until specimens have been collected, or observed, they cannot be admitted.

Proceeding from the mouth of this creek, the first tributary, apparently without a name, enters from the north bank and less than a mile from the main estuary. This small marshy stream has not been examined.

The second tributary is known as Tottam Creek. It is formed as two litle brooks, which join at Eddington, flow directly east and enter the Neshaminy about half a mile above the first tributary. The stream in its upper reaches supports a small and characteristic Piedmont Fish-fauna.

The third tributary is without other designation. It rises a little more than a mile west of Bristol, and flows down toward Croydon, finally entering the Neshaminy Creek a short distance above the mouth of Tottam Creek. Above the railroad it has been dammed, and enlarged into a pond of small size.

Ascending the Neshaminy, various small brooks are found tributary along both banks to Hulmeville, though few appear to contain much fish life. At Flushing, about one and one-half miles above the bridge at Bridgewater, Mill Creek enters the Neshaminy. It is the most important of the tributaries in this section, and is fed with several spring-brooks. At Hulmeville is a large dam, this preventing fishes from below ascending.

As the portion of the Neshaminy here under discussion contains such a rich assortment of fresh water fishes, this note was prepared with the hope that it may interest the aquarium student.

LAMPREY (Petromyzon marinus). Blind young have been found in the Neshaminy es-

tuary.

STURGEON (Acipenser sturio). Several small ones in the lower waters of the Neshaminy

MUD-SHAD (Dorosoma cepedianum). Occasionally a few taken in the lower waters, near the mouth of the creek.

ALEWIFE (Pomolobus pseudoharengus). Frequently ascends in the spring, Bridgewater, Newportville and Hulmville.

SHAD (Alosa sapidissima). Known to occur occasionally in the spring runs. Bridgewater and Newportville. In June of 1905, they ascended to the dam at Hulmeville, where a number were taken.

EEL (Anguilla chrisypa). Tottam Creek, third tributary, Flushing and Mill Creek, Newportville and Hulmeville.

SILVERY MINNOW (Hybognathus nuchalis regius). Abundant, and found at Bridgewater, Newportville and Hulmeville.

FALL FISH (Semotilus bullaris). Common, especially the small or young examples. Mill Creek and tributary at Brookfield and in the Neshaminy at Hulmeville.

CREEK CHUB (Semotilus atromaculatus). Found in Mill Creek at Flushing, in Neshaminy at Hulmeville, also the Headwaters of Tottom Creek, and at Newportville.

ROACH (Abramis crysoleucas). Common in the lower waters, Bridgewater, third tributary, Flushing, Newportville and Hulmeville.

BRIDLED MINNOW (Notropis bifrenatus). Though I have only met with it at Hulmeville, it doubtless occurs below

SWALLOW MINNOW (Notropis procne). Hulmeville.

SPAWN-EATER (Notropis hudsonius amarus). Common at Hulmeville and Newportville.

SILVER-FIN (Notropis whipplii analostanus). Common at Hulmeville, Newportville and Bridgewater.

RED-FIN (Notropis cornutus). Abundant at Hulmeville and Flushing. Also in Mill Creek.

ATTRACTIVE MINNOW (Notropis photogenis amoenus). Abundant at Hulmeville.

BLACK NOSE DACE (Rhinichthys atronasus). Common at Hulmeville, and in Mill Creek, and its tributaries at Brookfield. Also in Tottam Creek, and at Newportville.

CARP (Cyprinus carpio). Common in the lower waters of the Neshaminy, Bridgewater, Newportville, and Hulmeville.

SUCKER (Catostomus commersonnii). Common, and ascending the third tributary and Mill Creek, during spring, Bridgewater and Hulmeville.

MULLETT (Erimyzon sucetta oblongus). Hulmeville, and in the third tributary.

WHITE CAT-FISH (Ameiurus catus). Taken sometimes in the lower waters, and at Bridgewater.

PIKE (Esox americanus). Found in the third tributary, and near Bridgewater.

MUD MINNOW (Umbra pygmæa). Near Bridgewater.

MUMMICHOG (Fundulus heteroclitus macrolepidotus). Very abundant. Bridgwater and lower waters of the Neshaminy.

BARRED KILLIFISH (Fundulus diaphanus). Common. Newportville and Hulmeville.

GAR (Tylosurus marinus). Lower waters of the Neshaminy.

LONG-EARED SUNFISH (Lepomis auritus). Common in some sections in the upper waters, as about Hulmeville and Newportville.

COMMON SUNFISH (Pomotis gibbosus). Found in the third tributary, Bridgewater, Newportville, and Hulmeville.

Black Bass (Micropterus dolomieu). Occasionally taken at Hulmeville and Newportville.

YELLOW PERCH (Perca flavescens). Hulmeville, Bridgewater, and in the third tributary.

DARTER (Boleosoma nigrum olmstedi). Common in Mill Creek, Flushing, Tottam Creek, Newportville, Bridgewater, and Hulmeville.

WHITE PERCH (Morone americana). Common in the lower waters. Hulmeville and Bridgewater.

HENRY W. FOWLER,
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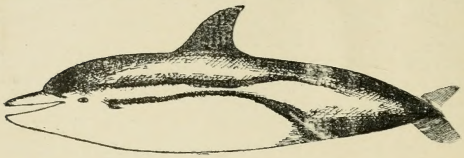
DOLPHIN IN THE DELAWARE.



On Jaunary 21st, 1915, an adult Dolphin, (Delphinus delphis) was located in the Delaware at Riverton, New Jersey. It was fully adult, and about six feet in length. This specimen was dead when I examined it, though to all appearances it had only died a few days previously, doubtless, due to lack of food. I may also note that subsequently two other dolphins, of the same species have come to my notice.

The first was reported to me by Mr. William J. Fox, who noted it at Sea Isle City in April. The other was observed by Mr. H. W. Hand, off Cape May, during the same month. I mention these facts as the dolphin is apparently not common on our Atlantic Coast, and according to Dr. Witmer Stone, only one New Jersey record had come to his notice, and that a female obtained at Ocean City in 1894, the skeleton of which is still in the academy.

HENRY W. FOWLER,
The Academy of Natural Sciences of Philadelphia.

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THE ORIGIN OF THE "COMET" GOLDFISH

Inasmuch as the origin and history of the type of goldfish known to us as the "Comet" is inextricably interwoven with that of all the other varieties, the straight-tail being the form from which they were all derived—it was inevitable that this article should be a sort of reminiscent hodge-podge, so to speak, concerning the genesis and development of both the amateur and commercial breeding of fine goldfish.

In the summer of 1880, I noticed some goldfish spawning in a ditch in the "Neck". I

succeeded in catching a male which had very prominent horny protuberances on the opercles and pectoral fins. I at once recognized the significance of these characters, as I was familiar with them on the chubs and suckers, but had not noticed them on the gold-fish, as I took no interest in the common form. Up to that time in Philadelphia there was probably no one who could tell a male from a female goldfish, except by seeing them spawn in ponds or ditches. One dealer in goldfish insisted that the male was distinguished by having a shorter dorsal fin which deformity was quite common among them. I immediately began to experiment with small specimens in tubs and found that they would spawn readily. I also tried stripping them, but found that the eggs would adhere together in masses and were soon killed by fungus, and also that it was liable to injure the fish.

In a letter dated June 26th, 1881, from the late Prof. John A. Ryder, then Embryologist of the U. S. Fish Commission, I find the following in relation thereto: "I am much interested in your account of the breeding of the gold and pearl fishes. Why don't you write it up and send an account of your experience to the fish cultural department of Forrest and Stream, edited by Fred Mather?" As the names are no longer used, it might be well to explain that the all-white variety was termed "Pearl fish" and the white and red, "Pearl and Gold".

And on August 16th, 1882, he says: "The goldfish eggs (shipped to Washington, D. C.,) were alive and have also afforded me some new points for investigation." Apropos of this I will say here that I have successfully sent fine goldfish eggs by mail as far as Dahlonega, Ga.

There is hardly the remotest possibility that any goldfish of the type called "Comet" by us, was ever introduced into the United States from China or Japan, or even from Europe. If so it never became a matter of public knowledge.

The first fine goldfish introduced were seven fantails called "Kin-gi-yo's". These were brought from Japan by Mr. M. Gillet Gill of the tea importing house of Martin Gillet and Co., of

Baltimore. One of these was presented to the New York Aquarium established by W. C. Coup and Reiche and Bro. The "Guide to the Aquarium" which is profusely illustrated, contains a cut of this fish which appeared later in Mulertt's book and "The Aquarium" a small monthly paper published by him as "The Fringe-Tail." This cut I have also seen used to describe the "Schleierschwanze" or "Veil-Tail", the German name for that type of fish. The "Guide" is not dated but some letter heads illustrated with a picture of the interior of the Aquarium, which was located at 35th St. and Broadway, are dated 1876 and 1877.

Mr. M. Gillet Gill had many years before told me his experiences in bringing these fish over but the details had escaped my memory, so in 1909 I asked his nephew, Mr. Ernest A. Gill, what he knew concerning the matter and I insert his answer: "It is rather hard for me to give you any positive dates or description of the bringing of the Japanese fish to this city as it was a little before my time, but my older cousin, who has a good memory, tells me that my uncle, Mr. M. Gillet Gill, brought the fish I think you have reference to, in himself on his last trip from Japan about 1875. They came to San Francisco and he used to tell some very interesting stories about the numerous troubles he had in bringing the fish across the continent. At one place in Nebraska my cousin tells me that the train was stalled in the snow for several days and my uncle had the fish packed in snow to keep them to show the people at home, but to his surprise they survived this hard treatment and lived to breed in ponds he had in his yard in the city. He afterward stocked the fountain that was at the Centennial Exhibition and was bought by the City of Baltimore, through him. This is all I can find out about them except that Henry Bishop got what fish were left in the fountain. The others died for want of proper care and interest".

In "The Aquarium" for January 1880, Mulertt says: "In one of the tanks at the Cincinnati Aquarium the visitor will observe some odd

shaped and beautifully marked goldfish. They are Japanese goldfish and belong to the "Kin-gi-yo" tribe. Their parents were brought to this country two years ago by a gentleman of high rank who now keeps them for his pleasure."

This refers to Rear Admiral Daniel Ammen, U. S. N., who made the second importation of these fish. I have somewhere among my papers a written description of them and an account of their transportation from Japan made for me by the late Captain Z. L. Tanner, who commanded the Pacific Mail Line Steamer that brought them over, I think "The City of Pekin" or "The City of Tokio", and who afterwards for many years commanded the U. S. Fish Commission steamer Albatross.

From the stock of Admiral Ammen, which was bred on his estate at Ammendale, Md., came that of the U. S. Fish Commission which was bred and distributed in large numbers by them for a number of years until discontinued several years ago. A few of the Ammen stock were brought to Philadelphia from Ammendale and were bred in ponds for several years, the output being sold in that city for fine prices.

The first of the long straight-tails to appear in the market were bred from Fish Commission stock in the early eighties by William McCarty, of Loudoun Co., Va., who graded them as well as the fantails, giving them distinctive names which I have forgotten but which distinguished the various grades which were based on the sizes of the fins. I remember that those with the biggest fins were called "Gorgeous-Tails". They were in fact very superior to those of the scale variety imported today. McCarty had begun to make sale exhibits in northern cities, when unfortunately having made the mistake so common in undertaking fish culture, of locating his ponds wrongly, a freshet of unusual dimensions swept away all the results of his enterprise.

The next to appear on the market were from Mt. Airy, near Cincinnatti. Hugo Mulertt undoubtedly started fine goldfish breeding there but his experience was very short as his partner,

the man who owned the ponds, soon found means to dispossess him after getting an insight into his methods and control of the stock. So far as I could ever see or find out this brief experience of Mulertt's in pond breeding, and his book, were his sole contribution to fine goldfish culture. In that, however, he deserves credit, and the sympathy that should go to all such as are balked in their endeavors to advance any form of human endeavor.

At all events the first long straight-tails to be sold in considerable numbers came from Mulertt's ex-partner and another man who took up the industry in the same vicinity.

The most extensive and profitable hatchery for fine goldfish in the United States was established upon the advent of the new importations about 1889, by the late Wm. Shoup of Shelby Co., Indiana. The ponds cover about fifteen acres and produce yearly about one hundred thousand fish of various qualities, among which are many thousands of so called "Comets" which are the progeny of fantails.

In 1882 I asked Prof. Spencer F. Baird, then Commissioner of Fisheries, for a fine pair, but I did not receive them until 1884, the custodian and breeder of them being very loath to let fine specimens go out of his hands, preferring to hold them for senators and representatives and other people of consequence. Only a final peremptory order from the Commissioner brought them. Though the custodian apparently did not know anything about selective breeding and did nothing to keep the stock up to a high standard he was evidently averse to allowing fine ones to get into the hands of anyone who could. The male was a fantail, but the female was a straight-tail. They would have been considered very fine fish today, much finer than such scale-fish as are imported. The female had a very broad spread of tail which was at least as long as her head and body, and I think longer. This pair of fish became the progenitors of quite as beautiful a stock of scale fantails and straight tails as we have today from the newer stock. The late Dr. Wm. H. Wahl, Secretary of the

Franklin Institute, becoming interested in my "tub-culture" as he called it, much of which was carried on on the back roof of my house, himself became an enthusiastic fancier and bred each year, until he died, a great many very beautiful fish. At the size, say of three-quarters of an inch, he would select a lot of the finer ones for rearing, giving the others away. When they were of that size they were fed on earth worms chopped very fine and they developed very rapidly. I have photographs of some of his fish which show fins longer than any I have seen in late years. Several other fanciers were producing very fine fish from this stock when the introduction of the new stock from Japan about 1889 gave the fancy a greater impetus.

This was also the beginning of the daphnia industry.

As a collector of material for biological research, I was familiar with the lower forms of life, and all of the possible sources of supply within a radius of many miles of Philadelphia, the ditches of the "Neck" being an especially rich field, and easily accessible.

I had for some years been using daphnia and cyclops as well as mosquito larvæ as food for stickelbacks and other small fishes, and as it was abundant near my home, I found the rearing of young goldfish any easy task. I used a grade of bolting cloth that would allow the very young daphnia to pass through as food for the very young fish, and also had tubs in which infusoria were rapidly developed by means of infusions of various kinds, such as of hay, which seemed to me the best of all.

Dr. Wahl secured the services of a Mr. Dannenhower, who for many years kept a Florist and Aquarium Store on Columbia Avenue, above 10th Street, to get the daphnia for him, and so he became the first to supply it to the fanciers, and maintained a monoply of it for many years, until he went out of the aquarium business.

In those days the streets below Snyder Avenue had not been built out to the river bank, and there were no places except ditches in which to find daphnia. Nevertheless, there were stag-

nant places in these, and here and there a small pool where they could be found in abundance.

On one occasion, I got what I thought were small colorless daphnia, but on a close examination I found they were something else and took some to the late Dr. Joseph Leidy, who found them to be a giant rotifer, identical with one that had been found only once before, and that in a duck pond in England. I have since seen it among daphnia from the "Neck", but it can be noticed only by very close observation, as it is colorless. All other of the rotifera are of microscopic size.

In the beginning the transportation of the new stock in 1889 by express from San Francisco was attended by total losses. Unsuccessful attempts had also been made to ship them to New Orleans, but by enlisting the interest of the managers of the Wells Fargo and Adams Express Companies, and devising a can which allowed a view of the fish, but prevented them from being stolen, and also providing for a change of water if necessary, and making this obligatory on the messengers, they soon came through without serious loss until finally the losses were not greater than attends shipments a short distance.

It is certain that there were no straight tails among the fish brought over by Mr. Gill and Admiral Ammen, and although (in connection with Mr. Ed. S. Schmid of Washington, D. C.,) we brought over several thousands each winter for a number of years until they became so common that it was no longer profitable to handle them in large numbers, I never saw a straight tail among them.

Commercially the name "Comet" has no meaning as it covers every length of tail over the ordinary or normal. As celestial comets have small as well as large tails, and even no tails at all, the name need be no guarantee of quality.

Among the progeny of any fantail fish of any variety, whether imported or bred here, there will be a percentage of straight tails. The natural tendency with finely bred stock of any

kind is to revert to the original form or type. Nowhere in Nature is there a vertebrate with more than two pairs of limbs yet these with paired anal and caudal have four pairs, two of them the result of selective breeding from deformities which have been produced originally no doubt, as has often been pointed out, by addling the eggs. They are anatomically eight-limbed vertebrates.

These extra and extra large fins are a great impediment to locomotion. They handicap the fish both in catching its food and in escaping its enemies. Consequently the straight tails possess great advantages in the struggle for existance, and nature always works to perpetuate whatever is of advantage. There is, therefore, where a proper course of selective breeding is not pursued a constant deterioration, and an increasing number of straight tails. In ponds, unless very small and so contructed that every fish can be taken out, this is certain to be the result. For this reason the stock of the then U. S. Fish Commission deteriorated until finally it was no better than the common goldfish sold in the stores at ten cents each.

In all the United States today notwithstanding the thousands imported every year many of which go into the hands of the breeders there are no pond-bred goldfish of really good quality, the only fine fish being produced by the amateur breeders. I have reason to believe that this is also the case in China, Japan and India.

It is a question, with me at least, whether any attempt has ever been made to breed straight tailed fish in those countries, as there does not seem to be any evidence in their printed descriptions and illustrations of their types of goldfish, or in their decorative figures, that this type is held in esteem there. It is not the most graceful and beautiful that seems to attract them so much as the grotesque and abnormal. At all events, as with us, there would be plenty of straight tails cropping out among the fantails to supply any probable demand.

If there has been any attempt to breed "Comets" distinctively as such by pursuing a

systematic course of selective breeding in the United States it has not come to my knowledge. It is certainly desirable that it should be undertaken as they are more graceful than the fantails and quite as beautiful. There is no reason why we should not, having the wonderful Asiatic developments of hundreds of years to start from, produce other new and beautiful varieties both of form and color.

It is quite certain also that none of the finer specimens are exported from Japan or China as they command higher prices there than could be secured for them here. It is with long tailed fish as with the long tailed fowls. The Japanese have chickens with tails as much as eighteen feet long, but such as go out of the country are "culls" or inferior stock. The number of them that are produced is small and are eagerly sought for at home. At the Columbian Exposition there were stuffed specimens with tails thirteen or fourteen feet long.

It is for this reason that some of the fish cropping out among the progeny of those imported are so much superior to their immediate progenitors. They are reversions to ancestral stock such as occur with all animal forms in accordance with "Mendels Law" of heredtiy.

In 1905 a Japanese Fish culturist, a graduate of the Imperial School of Fish Culture came to New York bringing with him a lot of sample specimens of a proposed breeding stock consisting, so far as I can remember, only of scale and scaleless fantails and lion-heads. Of course there was a great variety of color and form, but there were none that were superior to those we had been importing for many years, and they were inferior to those being bred here by amateurs. His object was to find an opportunity to take up goldfish breeding in this country. He was referred to me by the U. S. Fish Commission, and I went to New York to meet him: As is was necessary to talk through an interpretor I was unable to get much information from him. But I endeavored to induce certain goldfish breeders to associate with him and thus improve our methods, but all were afraid of giving him a foothold.