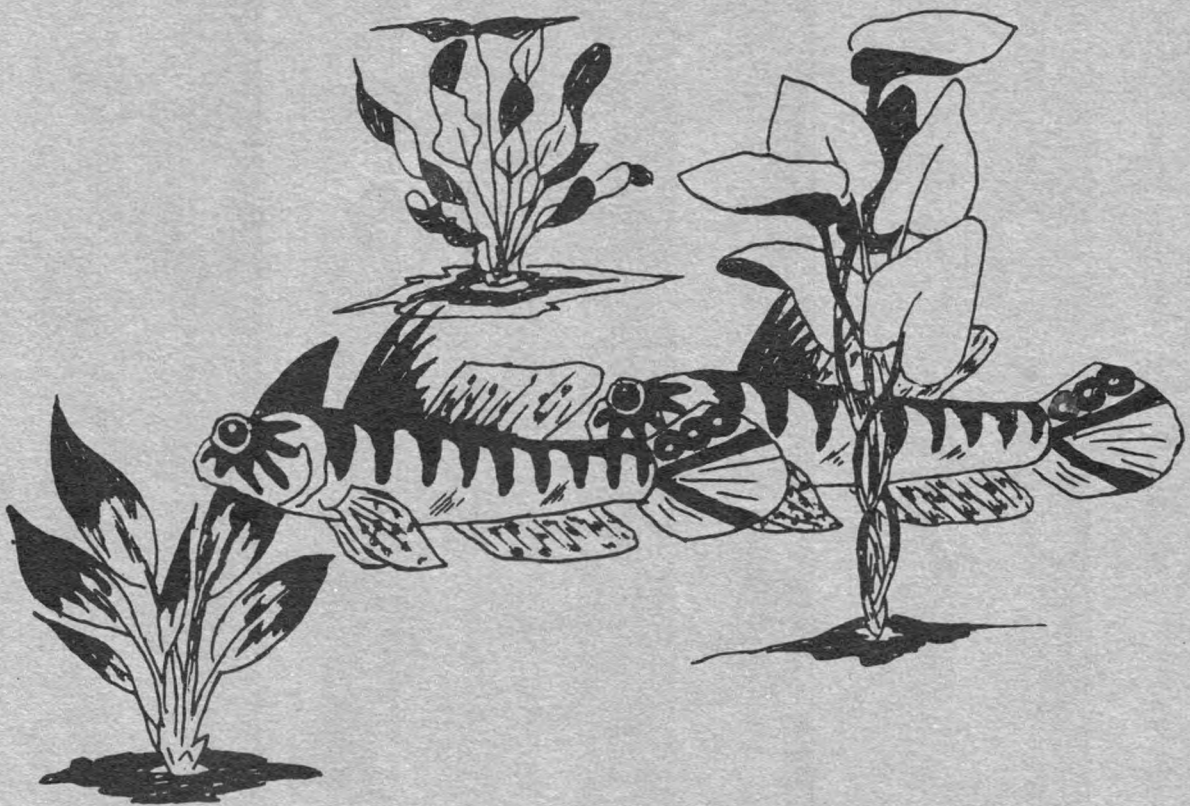


AUGUST, 1977

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Monthly issues of The Darter are part of membership consideration.

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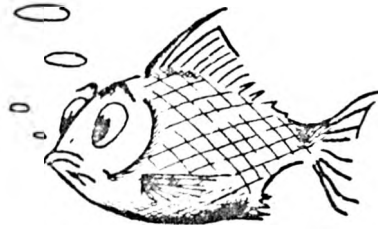
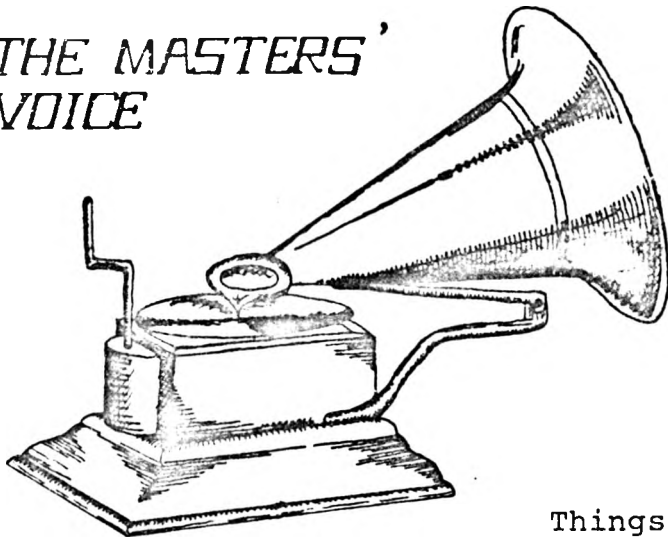
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Opinions expressed by the contributors are their own and do not necessarily reflect the opinions of the Missouri Aquarium Society, Inc.

## THE MASTERS' VOICE



## PRESIDENT'S MESSAGE

Things are beginning to pick up for the new administration. We had our first General Meeting and the first meeting of the Executive Council. We have embarked on some interesting projects which I hope will benefit the members of the Missouri Aquarium Society.

We wish good luck to all the members who picked up fish from our current fish raising contest. It is my hope that we can start another one of these contests soon, so we can get more of our members involved in the club activities.

The Executive Council has decided to present a bid to the American Cichlid Association for the 1978 Convention. Our bid will be submitted by Bill Macrum to the ACA Board of Directors in Cincinnati, Ohio, at the 1977 ACA Convention. It remains to be seen if the ACA will accept Missouri Aquarium Society's bid or not. If we are lucky enough to receive the ACA approval, I hope the membership of Missouri Aquarium Society will support the Executive Council and myself in setting up the mechanics of this project. I believe this convention will afford a great opportunity to our membership to participate in a National Convention which will bring the best of the Cichlid world to our front door. I also believe it is a good opportunity for MASI to obtain some National recognition. A great amount of work will be required of our membership in this project.

The Executive Council has also approved the Super Bowl Rules for this year. The rules will be published in this issue of the Darter. I hope new and old members will bring their fish and enter the Super Bowl. If you are a new member, or have never participated in a show before, the Super Bowl is a great way to get started.

Work has also begun on our Annual Show and Workshop. If you have any ideas for speakers or ways to improve the Annual Show and Workshop, please contact Paul Powell or myself as soon as possible.

I am looking forward to seeing all of you at the August meeting.

Sincerely yours,

David E. Masters, President

AUGUST MEETING NOTICE

Time and Date: 8:15 P.M. Wednesday, August 10th

Place: Prudential Savings & Loan Community Room,  
6th Floor, 8020 Forsyth, Clayton, Missouri.  
Park in garage - lower level.

Bowl Show: Bettas - female only  
Cichlids - dwarf; (4 inches or less  
at maturity)  
Open

Program: MYSTERIES OF THE DEEP; Walt Disney Productions,  
courtesy of St. Louis County Library. This  
is a color film, with sound, which explores  
many varieties of marine life.

COMING EVENTS

August 10th - M.A.S.I. General Meeting - Prudential - 8:15 P.M.  
20th - Executive Council Meeting - Cope's - 8:00 P.M.

September 2, 3, 4 - GCCA Workshop - Rosemont, Illinois  
14th - M.A.S.I. General Meeting - Prudential - 8:15 P.M.  
13-18 - Blackhawk Aquarium Soc. Show - Moline, Illinois  
17 & 18 - H.A.A.S. Show and Workshop - Kansas City, MO  
23-25 - A.L.A. Convention, Show, Workshop - DesMoines, IA  
24th - Executive Council Meeting - Willemin's - 8:00 P.M.

October 14th - M.A.S.I. SUPER BOWL '77 - General Meeting  
Prudential - 8:15 P.M.  
22nd - Executive Council Meeting - Keim's - 8:00 P.M.

MONTHLY GENERAL MEETING

July 13, 1977

The monthly regular meeting of the Missouri Aquarium Society, Inc. was called to order by President Dave Masters at 8:18 P.M.

There was thanks given from Dave to all of last years members and board for the good year we had.

Approval of the minutes from last months meeting given.

Ken Keim gave a treasurer's report which was approved.

Dave announced that Ralph Wilhelm has accepted the job of membership chairman and that Rick Smith had taken on the job of room set-up chairman.

No old business as this is the first meeting of the year.

New Business - Visitors were called upon to introduce themselves.

Frank Simmons said that we have a new book in the library donated by Ken Sommerhauser.

Dave announced that there were 21 bags of Breeder Award fish, and that we would take care of them after the meeting since there were so many this month.

It was announced that Bill and Ginny Macrum (Beldt's owners) are interested to know if MASI would be willing to host the ACA convention next July. It will be taken up at the council meeting.

Paul Powell announced that there will be a Show Committee meeting at his home on the 20th of July

The bags of fish for the Fish Raising Contest were handed out.

The Executive Council Meeting will be held on the 23rd of July at the home of Dave & Sharon Masters.

The meeting was adjourned at 8:50 P.M.

Respectfully submitted,

*Sharon Masters*  
Secretary



EXECUTIVE COUNCIL MEETING

July 23, 1977

President Dave Masters called the Council Meeting to order at 8:38 P.M.

Members present were Carol Willemin - Tom Hopfinger - Paul Powell - Carl berry - Kenny Cope - Ralph Wilhelm - Dave and Sharon Masters - Ken Keim. Vistors included Laura Keim-Charlotte Hopfinger - Thelma Cope - Joe Willemin - Bill and Ginny Macrum - John and Isbella Griffitts - Barb Powell.

Ken gave a treasurer's report.

Old Business - Tom said that he and Ralph had gone out to look at staplers for the Darter. The one like we are looking for will run too much new and the electric stapler that we can afford will not handle the capicity of sheets we have. He is still looking.

Dave said the Rich Crabtree had accepted the position of Breeder's Award Chariman.

; New Business - The council talked about the famous "Racks" for the annual show use. It was decided that \$50.00 would be used in the making of a sample rack by Kenny Cope.

The Super Bowl classes and rules were read by Paul Powell. They were discussed and approved. Classes and rules will be put in the August and September bulletin and entry forms will be in the September bulletin only. Extra forms will be availble at the October meeting. The next show committee meeting will be held at the Masters on the 23th of september. Classes for the 1978 Annual Show will be the topic of discssion. Dave asked that everyone be thinking of whom we might want as our top speaker this year.

Sharon brought up that we were in need of more business cards and was wondering if we could buy business card holders for the shops that would hold their cards as well as ours. The council approved the buying of both items.

John Griffitts auction chairman asked the council as a whole to make the rules for the auction and that he would see that they were carried out.

Carl Berry asked that we should think about the part in our Articles of Incorporation about Public Service

(Educational, etc.) It was stated that we were about to help out one group that had written to us for assistance in setting up a tank, and that we had also received another inquiry.

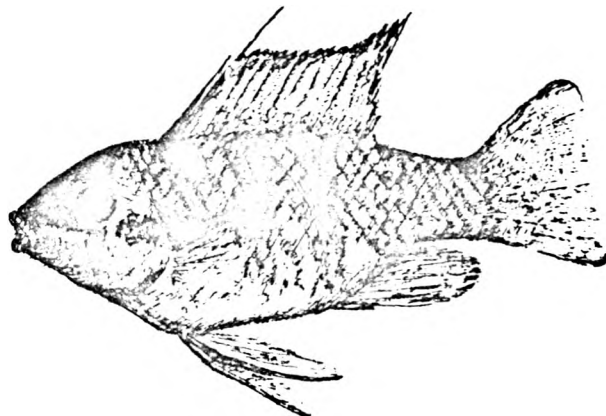
Bill Macrum reported to the council about what the ACA convention would involve. After much discussion the council told Bill that we would like him to put our name in for the bid of having the 1978 ACA convention here next July.

Dave announced that since it was so late that we would decide on the rules for the Auction at the next council meeting.

The meeting was adjourned at 10:48 P.M.

Respectfully submitted,

Sharon Masters - Secretary





## EDITOR'S MESSAGE



The Summer of '77 will soon be drawing to an end, and we'll have more time to spend indoors with our finny friends. Some of that time can be well invested in the little extras that will help get our fish into top condition for Super Bowl. Now is a good time to take care of some of those "oldie-mouldy" fishroom chores that are easier to do outdoors.

There is some important information in this month's issue of The Darter...Super Bowl Rules have been revised somewhat, so be sure to look them over. Our Librarian, Frank Simmons, has provided us with a complete, up-to-date listing of the contents of our library, including rules. There's some good reading there, so let's send Frank home this month with more checkout cards, and fewer books! Remember, the dollar is only a refundable deposit, and the use of the books is free to all members. Let's use our library!

Two of our three staff writers have taken this month off. My apologies to Ken Keim, who couldn't syphon the exchanges this time because I gave him the wrong stack of magazines last month. Thanks to Marilyn Waterston for getting her book reviews in on time, even though she had just been out of town on vacation. Larry Marshall has again contributed to our publication, with a cartoon strip and the fish illustrations for the Bowl Show page. Thanks, again, for the beautiful work, Larry.

Marcia Repanes of the Brooklyn Aquarium Society sent me a cheerful note, wishing me luck as Editor. You know, our magazine is read by members of other aquarium societies throughout the U.S.A. and Canada, and the image others have of our society is based in great measure upon its contents.

You can show that you care about M.A.S.I.'s image by writing an article now, for next month's issue.

*Carol*



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INFORMATION WANTED

Frank Fuqua, of Canoga Park, California, has requested information regarding a magazine he is researching, titled The Aquarium Bulletin, published in St. Louis in 1926.

The editor was a gentleman named D. Miller.

Mr. Fuqua advises us that his ultimate goal is to locate a full set of the magazine, and if he can't acquire it, make arrangements to put it on microfilm.

Mr. Fuqua would sincerely appreciate any information you may have on the subject. His address is 24039 Kittridge Street, Canoga Park, CA, 91307.

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## IT'S SHOW TIME

Once again it is time to start planning for our Annual Super Bowl Show comming in October. All members are urged to enter, for the novices this show is a good time to get your feet wet on showing your fish.

This year your show committee has added two classes to help generate some spirited competition. The catfish 3 1/2" and under class should be of interest to our many catfish breeders. The novice class has been added this year to encourage our newer members who may be a little skeptical of competing against some of our more experienced members to join in the competition.

The next show committee meeting will be held the 28th of September at the home of the Masters. Topic to be classes and rules for our annual show in April. All members who wish to make recommendations on classes or rules are urged to attend or submit your request to me so that it may be discussed.

Remember two months until Super Bowl so start getting your entries ready. An entry form and the rules are published in this month's bulletin and will be published again in September's bulletin.

Paul Powell, Show Chairman



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### HELPFUL HINT:

It is a great bother and an even greater expense to try to keep new flourescent tubes in the aquarium hood. When they will not start, don't throw them out. Try running your hand the length of the tube while the electricity is on. The static charge in your body will change the gases within the tube and it will start. When it will no longer start this way, you know the tube is finished. I have been doing this with one tube for 6 months and it still works.

By Rick Haeffner - Denver, CO

Reprinted from the October, 1976 issue  
of THE VALLEY STREAM, Edgewood  
Valley Aquarium Society, Melrose Park, IL



## SUPER BOWL

---

The Missouri Aquarium Society will hold its Annual Super Bowl at the general meeting on October 12, 1977. This show is second in importance only to our annual public show. All members are invited and urged to show their fish and compete for trophies. Experienced judges will be on hand to judge your fish. And remember, you must enter the Super Bowl to be eligible for Hobbyist and Novice of the Year awards.

### CLASSES:

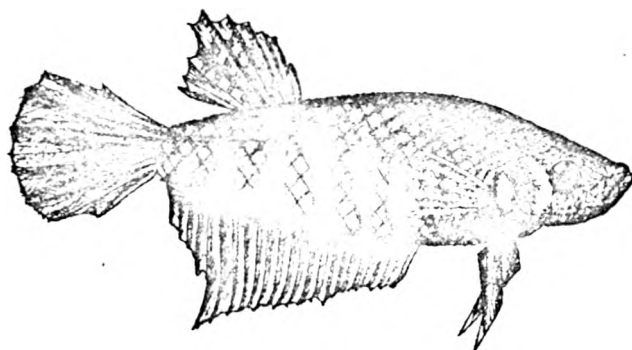
1. Guppies, Single Male - 1 gallon bowl or smaller. One female may be shown with male however, male only will be judged.
2. Guppies, Two Matched Males - 1 gallon bowl or smaller. One or two females may be shown with male however, males only will be judged.
3. Bettas - 1 gallon bowl or smaller.
4. Catfish Adult size 3 1/2" and under - General rules apply.
5. Catfish (not included in class 4), Sharks & Loaches - General rules apply.
6. Angelfish - General rules apply.
7. Egglayers, all species (excluding those in classes 3, 4, 5 & 6) - General rules apply.
8. Livebearers, all species (excluding those in classes 1 & 2) - General rules apply.
9. Cichlids - General rules apply.
10. Bowl Beautiful - Only one rule here. Fish must be in a flat sided drum bowl! Lighting permitted; electricity will be provided to within 4 feet of bowls.
11. Novice - Open - General rules apply. This Class is limited to members who have been M.A.S.I. Members for less than two years, and who have not previously won a major show award. Novices may also enter Classes 1 through 10.

Continued.....

Super Bowl classes and rules continued...

GENERAL RULES:

- A. Entry fee is 50¢ per bowl, paid up members only. No limit on number of entries.
- B. All fish must be shown in flat sided, bare drum bowls. No backgrounds, lights, rocks, gravel, plants, or any other decorations will be permitted, except in Bowl Beautiful class 10.
- C. One fish only per bowl, except in Classes 1, 2, and 10.
- D. Males or females may be shown; see special rule for classes 1 & 2.
- E. Fresh water fish in Classes 1 through 11. Salt water fish may be shown in classes 10 & 11 only.
- F. Set up time will be from 7:30 PM to 8:30 PM. Judging will begin at 8:30 PM.
- G. First place winners will receive trophies; second and third place winners will receive ribbons. Also given will be Best of Show and Judges Award.



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## A FISH "JUST SO"

By Carol Willemin

If I could fashion some fish "just so",  
I'd endow them with fins that amply flow  
like lacy wings in a midsummer's breeze,  
and shimmering scales, my eyes to please.

They'd come in multiple forms and hues,  
so I'd have many from which to choose;  
and to suit my mood, these fish could be  
all spangles and glitter, or soft harmony.

They'd greet my visits morn' and night,  
and never swim away in fright.  
By fish that hide, I'm not beguiled;  
let them keep their homes out in the wild!

No picky eaters, these fish I'd choose;  
each tidbit's an offer they can't refuse;  
and my 'ideal fish' would not decline  
in temperatures that suit me fine.

No faulty heaters to stir my wrath,  
and no fish room that feels like a sauna bath!  
On water chemistry, they'd draw no fine line.  
If it's clean and cool, with them it's just fine.

Though it's anthropomorphic, and purists may doubt it,  
there really could be no two ways about it.  
Each fish would be endowed, you see,  
with it's own piscene personality!

Among them, there'd be a jolly clown,  
with antics that cheer me when I'm down,  
and one that brings a smile to my face,  
'cause she's clumsy and bumbles all over the place.

There'd be one that is graceful, aloof and serene,  
and another that seems to have senses more keen.  
Can fish really think? Well, probably not...  
but these fish might make you wonder a lot.

If I found such fish, that could pass every test,  
I'd name them "GOLDFISH", (but I'll bet you guessed!)

## FISH FOOD -- ANOTHER PERSPECTIVE

By David Buck

As hobbyists, we all tend to think of fish food as Tetramin, Brine Shrimp, and Beef Heart---indeed most fish commonly kept in aquaria will do quite well on one or more of these ubiquitous foods. But did you ever stop to think what your fish ate in nature before they (or their great-great-grandfathers!) were first netted and flown to the United States? This article deals with the things fish eat in their natural habitat, and how one can often get a clue about these things from a fish's anatomy.

The food gathering system of the fish may be divided into six areas: 1) the sensory organs to detect food, 2) the muscular system to get to the food, 3) the mouth and teeth to secure food, 4) the pharyngeal bones and teeth to grind the food, 5) the stomach and intestines to digest the food, and 6) the gill rakers, a special organ used by some kinds of fish, which will be explained later.

The eyes of the fish are, of course, the most obvious, and to some fish the most important, sensory organs. Fish eyes are placed on either side of the head, to afford an excellent view not only ahead but also to both sides, the rear, above, and below in most fish. This is just as important in avoiding becoming food as in finding food. But many fish hardly use their eyes at all --- in fact the cave tetra and the cave barb have no eyes. In these cases other organs are important: 1) the lateral line, which detects sounds and vibrations in the water, 2) the barbels of the barbs and catfish, which detect odors of foods, 3) the modified ventral fins of the gouramis are probably both tactile (touch) and olfactory (smell) organs and 4) some fish, notably the knives, use electrical navigation systems which no doubt also serve for location of food.

The musculature plays an important part in gathering food, and in many fish is specialized to some extent varying from the long torpedo shape of the predaceous fish, which rely on speed to catch their prey, to the flat, deep bodice of the discus and angel, which afford great maneuverability in browsing for food on the bottom. Another specialization is the sharp keel of the hatchetfish, seen to a lesser degree in many characins which jump into the air for insects. Another facet of the body important to the predators is camouflage, such as the marble cat which looks so much like a log it is not noticed until too late!

## Fish Food - Another Perspective - Continued

The mouth of the fish is built to gather food, and more than any other factor is indicative of food type, or at least source. The large trap doors of the arrowana and the oscar are obviously for large pieces of food, such as tankmates. The position of the mouth is even more revealing; for example, the upturned mouth of the gouramis for surface foods such as floating insects or the downward mouths of the loaches, catfish and Geophagus cichlids for finding food on the bottom. The distorted "sucker" mouth of the plecostomus and the algae-eater are further developed for scraping algae from rocks, as are many of the African cichlids such as Pseudotropheus, Labeotropheus, and Petrotilapia.

Another peculiar mouth type is the tube-like system of the "Utaka" group of Lake Malawi cichlids that suck large amounts of water through their mouths, extracting microscopic plankton as their only food. The type of teeth present in a fish's mouth tell one whether it is geared to capturing other fish (backward slanting sharp teeth that trap prey) or for eating vegetation (flattened razor-sharp teeth for cutting).

Although the jaws of mammals do the chewing as well as the biting, this is not generally true of the fishes, which have a set of modified skull bones in the throat called the pharyngeal mill. The upper bones are static, while the lower ones are moved by a set of powerful muscles, and bones are armed with teeth for the pulverization of plant material to the large flat thick teeth and muscles for the crushing of snails, with many varieties in between.

The necessary nutrients for the support of life are all absorbed in the fish's stomach and intestines with the aid of the secretions of the mouth (mucus), the stomach (acid), the liver (bile), and the pancreas and intestines (enzymes). When pisciform (fish) foods are taken they are easily digested because of their similarity to the eating fish, but vegetable material is more difficult to digest, so plant eating species have longer intestines as a rule than fish eating fish, with the omnivorous (literally everything eaters!) fish's intestines intermediate in length.

Because fish, unlike sharks, must use their mouths both for food gathering and for respiration (the process of passing water over the gills so that oxygen may be absorbed), a sophisticated system of sieves has developed to filter out particles that might damage the delicate gills: this is a gill-raker. This structure is especially useful in the catfishes and Geophagus which take mouthfuls of sand and filter out their food--- this all without exposing the gill to sharp sand grains. The gill-rakers are also the structures that make it possible for many fish such as the "Utaka" cichlids to subsist on plankton of microscopic size, though adult fish may reach sizes of greater than 40 cm! (as much as 10,000 to 100,000 times the size of plankton!) This is done with the aid of

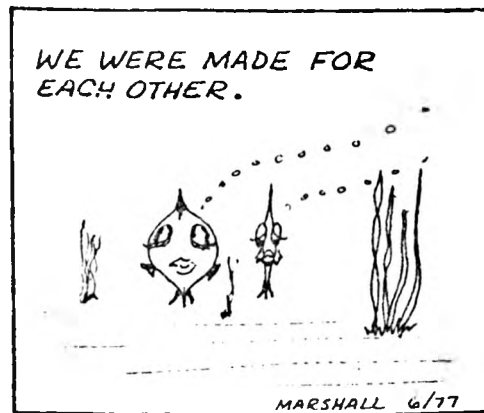
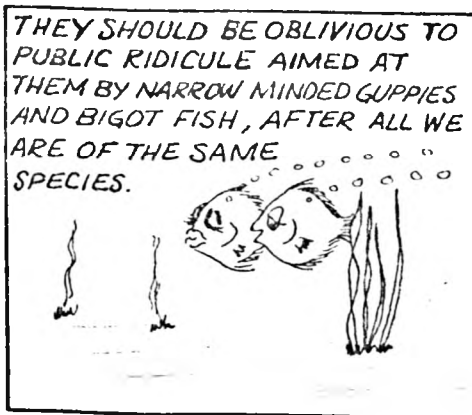
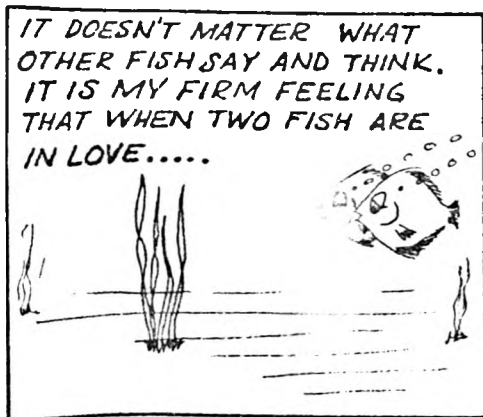
Fish Food --- Another Perspective - Continued

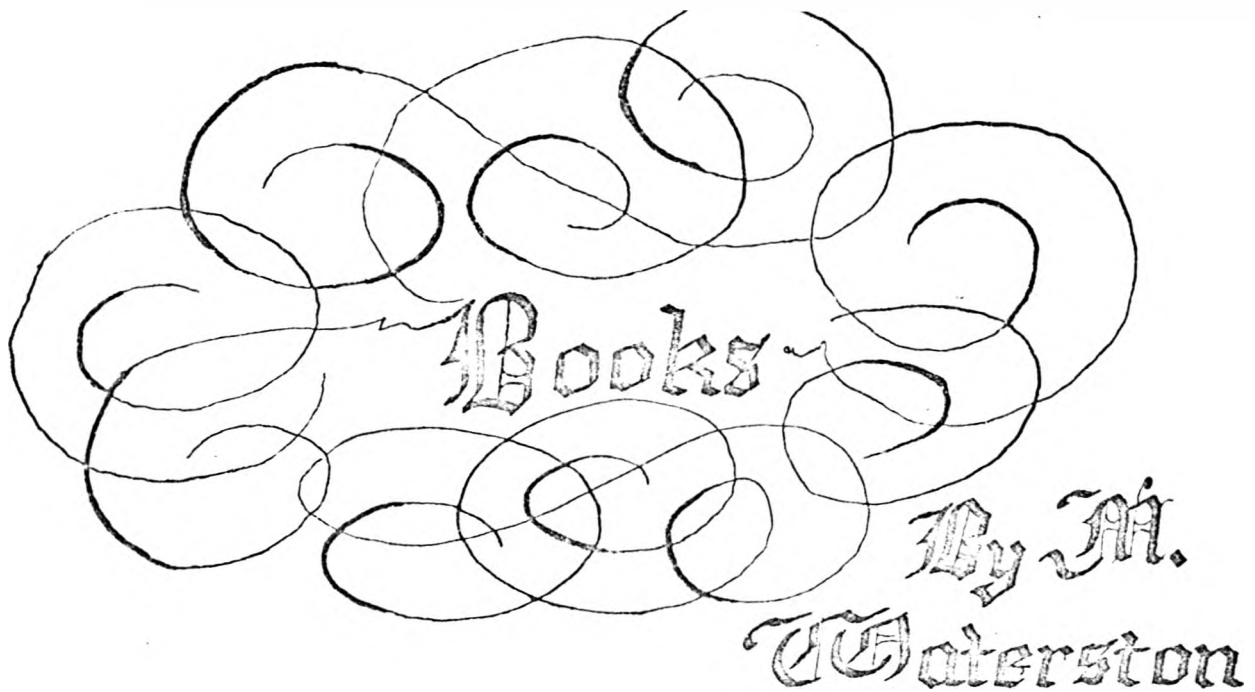
sheets of mucus which flow over the gill-rakers and entrap the food particles and carry them back to the esophagus for swallowing.

The evolution of fish has produced species that live on virtually every possible foodstuff, from diatoms and plankton to algae on plants or rocks, plants themselves, worms in the sand, small crustacea, insects, snails and smaller fish. Some fish have dedicated themselves to eating wastes, such as dead fishes or animals, others have become completely parasitic, attaching themselves to other larger fishes and living on their body juices. There are many other fascinating ecologic niches of fish which could be researched by the interested hobbyists--as a starter I recommend the excellent book by Fryer and Iles on the cichlids of Africa. It is limited in its scope to those fishes, but goes into great depth and could serve as a jumping off place for further reading. As a bonus of these fish which are interesting to all hobbyists, regardless of their favorite family of fish or their budget.

Reprinted from THE HOBBYIST, published the The Tropical Fish Hobbyist of Dallas, Dallas, Texas.

\*\*\* \*\*





Books  
By M.  
Waterston

Tropical Fishes for a Private Aquarium is a little out-dated, having been published in 1950; but it has all of the general information that a beginner should familiarize himself with, and therefore is a fair beginner's book. (Tropical Fishes for a Private Aquarium. Christopher Coates, Liveright Pub. Co. 1950)

The book does introduce some interesting terms. Livebearers are classified as "viviparous" fishes, and in that section the reader is introduced to anableps and limias. One of the fish in the limias category is said to have a "...very outré shape..." which sent me running to my French dictionary (which always annoys me to no end!). I feel that references to the shape of a fish in French are totally unnecessary.

Other than the few things I have mentioned, this book is much the same as so many other beginner's books.

Guppies is a so-so book on the specialized topic of keeping and breeding guppies. (Guppies, Axelrod and Whitern, TFH Pub. 1957)

This book contains little on the exact techniques of breeding guppies. There are lengthy passages on the PH of the water, and on what great fish guppies are, but there was very little meat. This whole book sounded like a lengthy introductory paragraph to a book on guppies, but the "book" part was missing. If you keep fish now or have ever kept fish, and want to know more about guppies, I suggest that you look elsewhere for information.

Both of these books are available from the County Library. Guppies is available at most pet shops, and the Coates book is available at some book stores in paperback.

KEEP READING !!!





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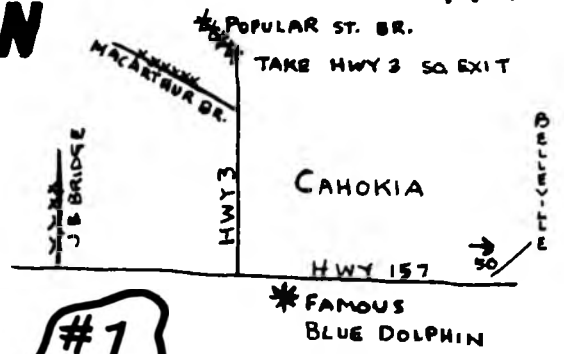
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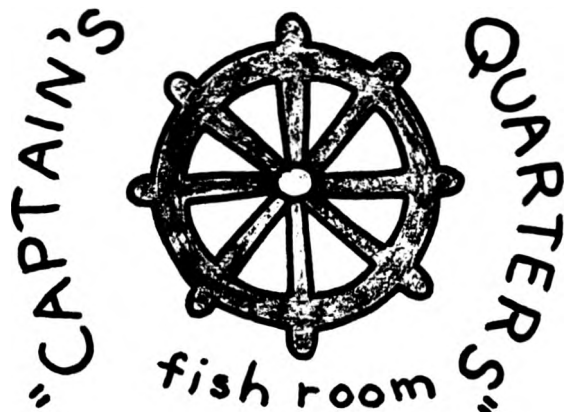
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"Advanced Aquarist Guide",  
Feroze N. Ghadially.

"Aquarium Guide",  
Jim Kelly.

"Breeding Aquarium Fishes",  
Herbert R. Axelrod and Susan Shaw.

"Carribean Reef Fishes",  
John E. Randall.

"Cichlid Fishes of the Great Lakes of Africa", (The)  
Geoffrey Fryer and T. D. Iles

"Color Guide to Tropical Fishes",  
Herbert R. Axelrod and William Vorderwinkler.

"Encyclopedia of Tropical Fishes",  
Herbert R. Axelrod and William Vorderwinkler.

"Exotic Aquarium Fishes",  
Dr. William T. Innes.

"Freshwater Fishes of the World",  
Gunther Sterba.

"Goldfish Pools, Water Lilies and Tropical Fish",  
Dr. G. L. Thomas, Jr.

"How to Keep and Breed Tropical Fish",  
Dr. C. W. Emmens.

"Illustrated Dictionary of Tropical Fishes",  
Hans Frey.

"Introduction to the Cichlids",  
Robert J. Goldstein, Ph. D.

"Pacific Marine Fishes",  
Fujio Yasuda and Yoshio Hiyama.

"Parasitology of Fishes",  
V. A. Dogiel, G. K. Pertoshevski, and Yu. I. Polyanski.

- "Salt-Water Aquarium Fish",  
Herbert R. Axelrod and William Vorderwinkler.
- "Tropical Fish in Your Home",  
Herbert R. Axelrod and William Vorderwinkler.
- "Mbuna"  
P. B. N. Jackson and Tony Ribbinck
- "Cichlids"  
Robert J. Goldstein, Ph. D.
- "Africa Cichlids of Lakes Malawi and Tanganyika",  
Dr. Herbert R. Axelrod and Warren E. Burgess (4th Edition).
- "Encyclopedia Of Water Plants",  
Dr. Jiri Stodola.
- "Pacific Marine Fishes", (Book 1)  
Warren E. Burgess and Dr. Herbert R. Axelrod.
- "Pacific Marine Fishes", (Book 2)  
Warren E. Burgess and Dr. Herbert R. Axelrod.
- "Pacific Marine Fishes", (Book 3)  
Warren E. Burgess and Dr. Herbert R. Axelrod.
- "Pacific Marine Fishes", (Book 4)  
Warren E. Burgess and Dr. Herbert R. Axelrod.
- "Pacific Marine Fishes", (Book 5)  
Warren E. Burgess and Dr. Herbert R. Axelrod.
- "Angelfish",  
Braz Walker.
- "Marine Tropicals",  
William P. Braker and Ed I. Fisher.
- "The Piranha Book",  
Dr. George S. Myers.
- "Starting a Marine Aquarium",  
Craig S. Barker.
- "Spawning Problem Fish", (Book 1)  
Willy Jocher.
- "Spawning Problem Fish", (Book 2)  
Willy Jocher.
- "Cure and Recognize Aquarium Fish Diseases",  
Dr. Gottfried Schubert.

"Water Chemistry for Advanced Aquarists",  
Guido Huckstedt.

"Diseases of Marine Fishes",  
Carl J. Sindermann.

"Tropical Fish Hobbyist",  
(Nov. 1975, Dec. 1975, Jan. 1976, and Feb. 1976)

"Killifish: Their Care and Breeding",  
A. C. Terciera.

"Goldfish Guide",  
Pet Library.

"T. F. H. 4 copies Axlerod", (Jan., Feb., Mar., and April, 1977)

A. C. A. "Bunt Barshe Trading Post Roster", (Jan. and Feb., 1977)

"African Cichlids Lake Tanganyika and Malawi", (2nd Edition)  
Dr. Herbert R. Axelrod.

"Show Guppies",  
Wasserman.

"All About Bettas",  
Mauros.

"Exotic Marine Fishes", (Looseleaf)  
Axlerod and Emmens.

"The Salt-Water Aquarium in the Home",  
Robert Straughan H.B.-p. 225.

"Marine Tropicals",  
Braker p.144.

"Encyclopedia of Sea Horses",  
Bellomy H.B. p. 192.

"Sea Horses in Your Home",  
Bellomy p. 63.

"Sea Horses",  
T. F. H. Publications p. 25.

"Keeping Sea Horses",  
Straughan p. 32.

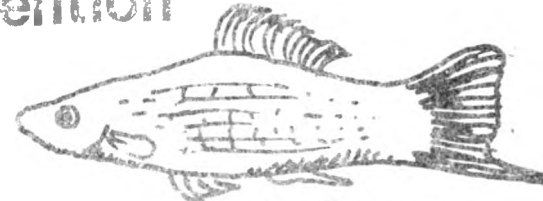
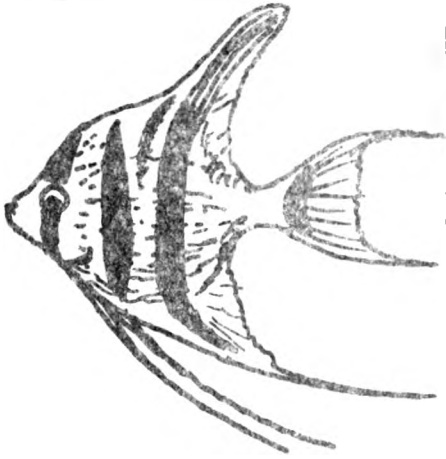
"Know How to Keep Salt-Water Fishes",  
Braker p. 64.

"Enjoy a Salt-Water Aquarium",  
Braker p. 32.

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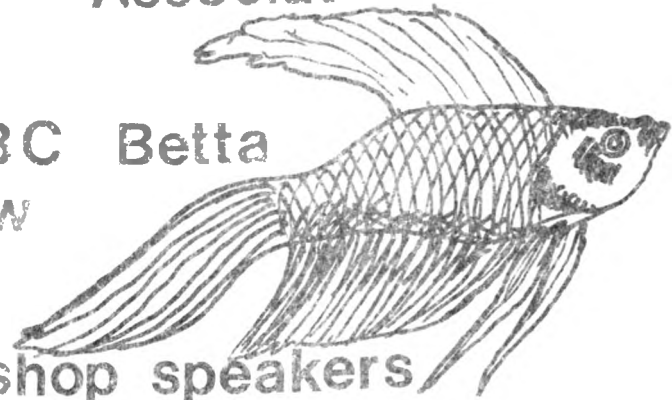
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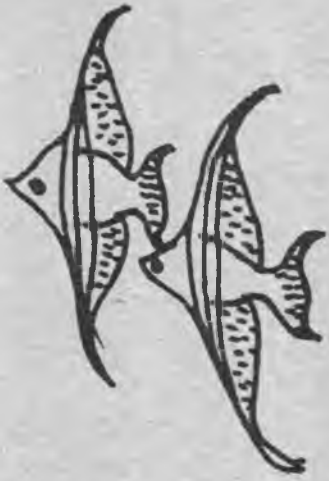
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