DELTA TALE

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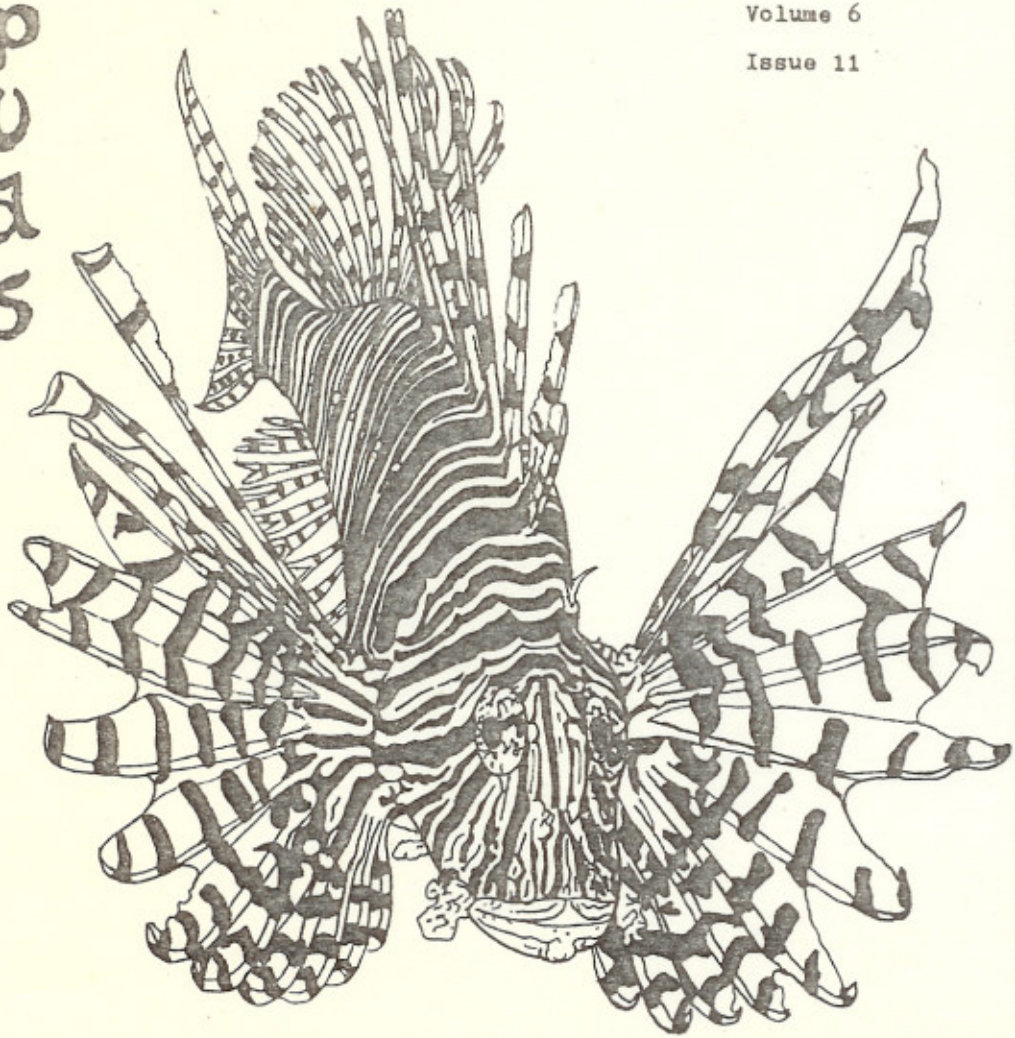

DELTA TALE is published for the benefit of the Potomac Valley Aquarium Society (formerly the Potomac Valley Guppy Club), a non-profit organization, established in 1960 for the purpose of furthering the aquarium hobby by disseminating information, encouraging friendly competition, soliciting participation in its show, and promoting good fellowship. Correspondence should be addressed to Secretary, P.V.A.S., P.O. Box 6219, Shirlington Station, Arlington, Virginia, 22206. Original articles and drawings may be reprinted if credit is given the author and DELTA TALE. Two copies of the publication in which the reprint appears should be sent to DELTA TALE which will forward one copy to the author. All materials for inclusion in the DELTA TALE must reach the editor no later than the Saturday after the monthly Monday meeting.

Susan Sprague
Craig Tingen
Bob Smith
Ted Walsh
Warren Garnar
Dave Jessup, Mike Surtz
Pete Tietjen

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This month's cover is of a Lionfish traced by Mike Sprague from a slide by Tony Rizzuto.

MINUTES OF THE BOARD OF GOVERNORS' MEETING

The Board of Governors met October 7 at the Story residence with nine members present. The Treasurer reported a balance of $415.22 with all bills paid to date except for the items for the show's air system. This will probably run a few dollars over the $200 approved. Gene Sergent will be here for the show and will set up the air system.

Since Gene Sergent's term as Treasurer expires in December, the President appointed Gene Aldridge Treasurer Pro Tem to begin working with Gene Sergent as of the fall show.

The Corresponding Secretary reported that more than 200 mailouts had gone as promotion for the fall show and that a sufficient supply of Delta Tales and membership applications were on hand for the show. He reported a good response to requests from manufacturers and others for donations, but not much local support. Chuck also said that IPGA wants the names of representative and alternate from us. Gene Sergent suggested that, since John Wolcott still maintains membership in PVA he be representative and Gene Sergent alternate. This was approved by the Board.

Gene Aldridge reported no problems on judges for the fall show. Final plans for the fall show were firmed up. There was no report from the marine group. Warren Garnar will be on hand early for any marine entrants. It was agreed that the annual second place award would be a ribbon, rather than a trophy.

The Board took notice that the November membership meeting would be the third Monday, November 17, rather than the usual first Monday.

The meeting adjourned at 9:50 p.m.

Respectfully submitted,
Ruth Brewer, Rcdg. Secretary

------ FLASH ---------- TAKE NOTE -----

The MEETING DATE for November

is the third Monday
NOVEMBER 17, 1975

---------- VERY IMPORTANT ----------

Also---This is voting night for the Board of Directors and DOUBLE POINTS for the Bowl Show.

BOWL SHOW RESULTS AND STANDINGS
October 13, 1975

	1st	2nd	3rd
GUPPY			
a. Multi	Walsh	---	---
b. 2 Matched Males	Walsh	Walsh	---
c. AOC	Walsh	---	---
CICHLID			
a. C.& SA Med.	---	---	---
b. African Dwarf	Tingen	---	---
c. Other	Nixon	---	---
EGGLAYER/LIVEBEARER			
a. Tetra	B. Hardy	Nixon	B. Hardy
b. Characin	B. Hardy	B. Hardy	Nixon
c. Other	McInturff	McInturff	B. Hardy

POINT STATUS

Guppy	Oct.	Ann'l
Walsh	15	56
Sergent	-	13
Cichlid		
Jessup	-	87
R. Gaines	-	32
D. McInturff	-	13
Nixon	4	4
Tingen	4	4

Egglayer/Livebearer	Oct.	Ann'l
B. Hardy	15	91
J. Gaines	-	53
D. McInturff	9	24
Nixon	6	13
Dawson	1	1

BOWL SHOW NOVEMBER 17, 1975
* * * DOUBLE POINTS * * *

Guppy: Green, H/B Red, AOC
Cichlid: Angelfish, Riftlake all, Other African all
Other: Bettas, Corydoras catfish, Open

MEETING DATES

Board of Governors
Nov. 4 8:00p.m.
John Jessup
1065 N. Manchester St.
Arlington, Va.
534-1704

Cichlid Group
Nov. 19 8:00p.m.
Story's
482 N. Owen St.
Alexandria, Va.
370-3593

Saltwater Group
Nov. 21 8:00p.m.
Russel Wittman
848 S. Highland St.
Arlington, Va.
979-2493

DONATIONS TO THE FALL FISH SHOW

Trophy Donations

Gene Aldridge
Ruth Brewer
Steve Siska
Mike Young

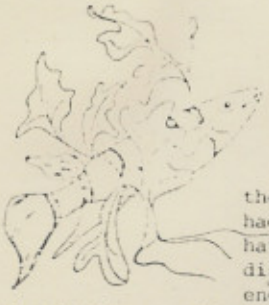
Donations by Area Shops

Annandale Pet - 4 in 1 can of tetramin
Aquarium Supply - diatom; 8 oz. can of tetramin
Aquatic World,-Loehman's - 10 gal. tank
Ben's Tropical Fish - Warren air pump
Fish Limited - 2-3D background; Breedmore saltwater starter set
Korvettes, Baileys Xroads - 10 gal. tank and stand
Lord & Lady K9 Pet Boutique - 15 gal. Greek ruins backgrounds; 8 x 11 bags with handles
Mary's Tropical Fish - 10 gal. tank
National Petland,-Willston Shop Center - gift certificate
P J's Pet - 10 gal. tank
Mike & Susan Sprague - 20 gal. tank
Springfield Aquarium Service - 10 gal. bag gravel; box of shale; filter fluff, charcoal, airline tubing; assorted foods and medications
Wally's Aquarium - 6 oz. can large flake tetramin
Ye Olde Pet Shoppe - tank top
Holly's Fish & Pet Supplies - gift certificate

Donations by Manufacturers

Aquatrol Inc - variety of foods and medications
Daleco Master Breeder Products - 2 catalogs
Eugene Danner Manufacturing - 2 switch masters
Kordon Corp - digital thermometers; ecologs; flake foods
Mardel - spawning strips; medications
Marine World - variety of marine products
National Aquarium Club - Walt Maurus - 20 books on Bettas
National Pet Products - 1 catalog
O'Dell - 1 hydra heater
Penn Plax Plastics - aquarium background; tank divider; gang valve; assorted decorating items
Pisces Publishing Corp - book "Killifish: Their Care & Breeding"
Pride of Suffolk - foods
Ramco - 2 hyd-it's; aquarium backgrounds
Rilla Products - water hardness test kit
Robarb Ecological Research Systems - 4 Entracure medications
Tetra Sales - variety foods, medications, and books
TFH Publications - 2 1-yr. subscriptions
Wardley Products - variety of foods and booklets

Thank you all for your kindness. I hope no one has been inadvertently forgotten. Please accept our apologies if so.



KILLIES AU NATUREL

By: Ruth Brewer, FVAS

According to the BAP rules, you should be able to show the inspector at least 10 fry on the first inspection. I had been removing my killie fry with an eye dropper as they hatched and dropping them into a small plastic refrigerator dish where I could keep an eye on them to see that they got enough food to start growing on. But I had read somewhere that killies would grow quite nicely and, in fact, develop very good color if they were allowed to begin life in the midst of plants and green water, so I decided to give it a try with a batch of Epiplatys dageti. For the inspection, I used a mop which had about 20 eggs on it. These were removed to a dish with clean water prepared with one drop of acriflavin and one teaspoon of Kosher salt per gallon. Five of the eggs fungused in the first couple of days, but the rest soon showed embryos and had all hatched by about ten days later. As the fry hatched, I dropped them into a one gallon bowl which was filled with some excess water sprite, a banana plant and a lot of duck weed. This had been sitting where it got a lot of sun and all the plants were growing nicely in water only -- no gravel. Of course, as soon as each fry hit the water, it made a bee line for shelter under a leaf and it was several weeks before I saw one again. I added a few adult daphnia and as time passed I could see baby daphnia and other small crustacea swimming around in the bowl. There was plenty of algae in the water and on the sides of the bowl and after a week or so, I began adding a few newly hatched brine shrimp as insurance.

The pH and DH remained fairly constant at 7.2 and 4 respectively -- the temperature fluctuated between 69° and 76° except for one unusually cool night when it had dropped to 66° by morning. The bottom of the bowl was "siphoned" every couple of days by taking out a couple of ounces of water with an oven baster. (This miniature "life support" system has its advantages!) After about a month, the contents of the bowl -- plants, fish and a daphnia or two -- were transferred to a plastic shoe box where I could almost double the amount of water. I added a few more plants and gave up trying to see how many fry I had, however I could see some and a couple of weeks later, I noticed that a few at least were a half inch long and were beginning to show the typical dageti color and markings. When the fry were about six to seven weeks old, they were moved into a small two gallon tank with a sponge filter. At the 60-day mark, I was able to count 14 fry, but was unable to sex them. Yes, five fungused eggs and 14 fry only add up to 19, not the original 20 eggs. Somewhere along the line, I lost one. The fry are now three months old and the males are showing up. In the article I had read about this method, it was reported that the adult fish were usually a bit smaller, but more colorful than those raised in the conventional manner. My one experience to date would tend to confirm this. The males that have shown up so far have a lovely glowing color and are a bit smaller than a batch started a couple of weeks earlier using my old method. As I remove a few plants from their tank, they also seem to be a bit less shy. I want to try this method again, but next time I think I'll begin adding supplemental food earlier and in slightly greater quantities. Maybe I can hit on a balance which will give me both color and size.

WAVES FROM THE CORAL REEFS

FROM ANOTHER WORLD

EVERYONE KNOWS THAT, . . .

By: Ken Fickle
Reprinted from Lafayette
Marine Aquarist Society

Everyone knows that you cannot use a small aquarium like a ten for saltwater. Everyone knows that. But all three marine aquariums at our last show were ten gallon ones! What is going on?

It is simple. The things everyone knows are sometimes not true. In fact, a ten gallon tank has a definite advantage as a first marine aquarium. It is small. Yes, that is the reason usually given for not using it. The argument against the small aquarium is twofold. Beginners often buy too many fish and an ammonia explosion may wipe out the entire community. So, the argument goes, a beginner should get a twenty long, or even better, a thirty, which will take longer to overload. Also, a twenty gallon aquarium costs less per gallon. A ten gallon saltwater setup can cost as much as $60 or $70, while a twenty setup can be as little as $90. Twice the volume for only one-half to one-third more money.

These are powerful arguments, but they are often not true. The cost estimate assumes that you buy everything new. For a twenty or thirty gallon aquarium that may be true, but many of us have ten gallon setups in freshwater or in the attic. The conversion costs about $5 for salt! Even if you do not have a complete setup free for conversion, a lot can often be saved. A place can often be found which eliminates a $15 or $20 stand. You may need only a fluorescent light, around $17, or a power filter, $15 - $20, to complete a ten gallon setup. Moreover, if you opt for a mixed invertebrate-fish aquarium, you do not need a power filter. So a ten gallon marine aquarium can cost as little extra as $5 and will usually cost well under $50. So the economic argument against small aquariums is often not valid.

Overcrowding? The sad fact is that many of us as beginners soon overstock a twenty or even a thirty gallon tank. It boils down to the fact that beginners who are subject to impulse buying (and who of us are not from time to time?) may be better off starting with an aquarium which obviously must be protected from overcrowding. It is more likely to be clear that a small aquarium can hold only a very few, hardy, small fish and animals with safety. For those who cannot see this point even then, the cost of the blindness will be much less than for a twenty or thirty gallon tank filled with expensive butterflys and angels.

I should warn you that many experienced aquarists and dealers will disagree with this point of view. But a well known and respected source such as The Marine Aquarist in its February 1975 issue makes the same suggestion. Let's look at some of the possibilities of thinking small.

You might choose a primarily invertebrate aquarium because of its lower cost and greater hardiness and variety. A small banded coral shrimp, arrow crab, camel back shrimp or blood shrimp would make a fine showpiece animal. Any of a number of small colorful crabs would complete your crustacean community. A small blue starfish or a little serpent star would emphasize the sea. An inexpensive Atlantic anemone is a must and two or three tankraised percula clowns or domino or a couple of white tailed damsels would complete the beginning aquarium very nicely (after it is conditioned, of course). Later, after the filter is completely stable and algae is growing, a small sea urchin, a flaming red scallop and a featherduster would add class and color.

If you prefer a predominantly fish aquarium five or six fish (three or four at first) under one and one-half inches in length will make your eyes gleam. A small dynaflow will turn over 75 gallons an hour and give your fish that needed extra margin of safety. Once again clowns or damsels are a good choice. Stay away from angels and butterflies during the first few months. A royal gramma might be your show fish (under one and one-half inches, remember). A heniocus, an inexpensive trigger or even a dwarf lion would add variety. A small blenny is almost a must. So is a neon goby or a cleaner wrasse.

As the aquarium and you mature, small hardy tangs, angels and even butterflies can be carefully considered. Really small fish often stay in dealers' tanks longer than the larger show variety and this is a major plus for you. A butterfly which is eating flake food and has been with the dealer a couple of weeks or even a month is the only kind you should consider. That is tough on the dealer, who has to eat too, but it is best for you.

Small aquariums must be limited to a handful of fish but they can hold a surprisingly large number of animals. Mine has two perculas and three white tailed damsels, but it also contains 25 small animals. This includes four anemones, three different shrimp, a crab, two featherdusters, five sea stars, a couple of beautiful nudibranchs and a host of others. I do not recommend such a crowded aquarium but all the animals have done quite well for several months. This shows what can be done once an aquarium is well conditioned. It is just as colorful and interesting as my forty gallon aquarium with its large lobster, shrimps, crabs, sea stars and carpet anemones.

One last point, if you want several invertebrates, do not put in many pieces of coral or large shells or the shrimps and crabs will be out of sight most of the time.

If you have been intrigued by marine fish and animals but have already spent your tax rebate to pay the bills, why not try a small cube of seawater, a ten gallon aquarium.

CHEMOTHERAPY OF BACTERIAL INFECTIONS IN FISH AND AQUARIA WITH ANTIMICROBIALS

By: William Pawluk
Edmonton, Alberta, Canada

(Reprinted from Valley Stream,
Edgewater Valley Aquarist Society)

Recently, sulfas and antibiotics are becoming more common in pet shops for the treatment of bacterial infections in fish and aquaria and it was, therefore, felt that an article on the use of sulfas and antibiotics would be timely. The reason for the title, "Antimicrobials", is that this includes the sulfas as well as the antibiotics. These agents should be used only in bacterial infections and not as a panacea for all ills of aquarium fishes. The action of these medications is either bacteriocidal (actually kills bacteria), or bacteriostatic (stops the reproduction of bacteria so that normal body defenses can destroy them).

SULFAS

The sulfas have been known since they were developed by the German scientist prior to World War II. They are bacteriostatic and are quite numerous with the common ones being Sulfathaladine, Sulfamerazine, Sulfathiozole, and Sulfamethezine. Most of these sulfas are absorbed through the intestine after being eaten by the fish, both as particles and as water. However, some are not absorbed through the gastrointestinal tract and act only to destroy bacteria in the bowel of the fish and in the water itself. They may be used as a single type of sulfa or in combination with other sulfas to form a commonly used medication in humans called Triple Sulfa, which is a combination of three separate sulfas.

Sulfas in compressed tablet form, crushed, are best. This crushed powder is then mixed with a small amount of aquaria water to make a solution which is then placed into the aquarium itself where it diffuses throughout the water. Dose - 150 mgm. of total weight of sulfas per 10 gallons of water.

ANTIBIOTICS

The era of antibiotics began with Sir Alexander Fleming, who discovered Penicillin by accidentally inoculating a culture of bacteria with Penicillium mold. As with Penicillin most of the antibiotics come from molds or other fungi found in the soils throughout the world. These antibiotics have now been synthesized so that we no longer depend upon the molds for their production. They have also been changed chemically so that new antibiotics, slightly different by chemical formulae and often with markedly different properties, can be produced. In this way new and better antibiotics, able to kill a wider spectra (range) of bacteria, are produced.

In my discussion of antibiotics, I will be using generic names rather than brand names.

METHODS OF USE

Antibiotics may be used in several ways: the easiest is to dissolve the antibiotic and place it into the water of the aquarium. I would suggest that one use capsules of antibiotics which are pure antibiotics mixed with a filler such as starch, or else use a compressed tablet without any sugar or other type of hard coating around it. In this way less foreign matter which could possibly harm the fish, will be introduced into the water. I would also suggest that the fish be treated in a small isolation tank for reasons which I will discuss later. This also saves a considerable amount of money by treating one fish in a small amount of water and, thus, using much less antibiotic rather than trying to treat the whole aquarium itself.

A method which has been used to some degree by researchers is that of mixing antibiotics with food. Work has been done in treating fish, both in sport fish hatcheries and fish farms which are becoming more prevalent in the U.S.A. The dosage in such situations may be calculated quite easily by knowing the number of fish and the weight of each fish.

This, however, is not very practical for the average fish hobbyist who has one small sick fish. I would, therefore, say that this is not a very suitable method to administer antibiotics which can be used by the average aquarist. Another method of treatment of fish is by injection of the actual antibiotic into the fish. This is carried out in two ways, the most commonly used is injection into the peritoneal cavity. That is, injection into the abdominal cavity between the bowel and other organs and the outside abdominal wall. This type of antibiotic has to be sterile and the type to be used is the same type as veterinarians or medical doctors use in injecting the veins of animals or patients. This technique is difficult as it requires a hypodermic syringe and needle and also it is difficult to calculate the dosage. One could also damage internal organs, including liver, spleen, and bowel, and in this way injure the fish to such an extent as to cause death. I would not advise this method for use by the average aquarist but would reserve it for those who are skilled in this method. A third method is by intramuscular injection which means injecting with a hypodermic needle into the muscle portion of the fish. Again, it is difficult as the dosage has to be calculated accurately. The antibiotic should be of the same type as veterinarians or medical doctors use in injecting animals or patients. Some of the antibiotics are not meant to be injected and therefore cannot be used in this way.

The most difficult problem here is trying to get the actual dose to be used for injection. I have not been able to find any data in any of the text books or periodicals which provide this information.

In the following discussion of antibiotics the dosages which will be given will be those which should be used in dissolving the medication in aquarium water, then allowing the fish to swim freely in this solution.

PENICILLIN G

This antibiotic is the oldest and still the most common. It is probably the safest antibiotic that there is, with a very large variation in dose level without causing any danger. It is bacteriocidal. Penicillin, Ampicillin, Cloxacillin, Dichloxacillin and Metacillin are antagonized by the Tetracycline and Chloramphenicol and should not be used together. The dosage is often quoted in both units and mgms. Dose - 500 mgm. per 5 gallons and in severe infections the dose may be as high as 250 mgm. per gallon.

AMPICILLIN

This is a newer type of Penicillin which is effective on more different types of bacteria. It is also bacteriocidal and has the same advantages as Penicillin. Dose - 250 to 500 mgm. per 5 gallons.

CLOXACILLIN & DICHLOXACILLIN, METACILLIN

These are derived from Penicillin and also have a different bacterial spectrum from Penicillin. They are primarily used in medicine against the "golden staph". They have the same advantages as Penicillin, being bacteriocidal and having quite a wide range of safe dosage levels. Dose - 250 mgm. per 5 gallons.

CEPHALORIDINE

This antibiotic is very similar to Penicillin. Its mode of action is also the same as Penicillin, that is, it is bacteriocidal. It is relatively a new antibiotic. It can be used both in an intramuscular injection and another form of it can be used by dissolving and adding to aquarium water. However, at the present time it is not readily available for use by the average aquarist. Since it is very similar to Penicillin, I would suggest that for the present time Penicillin be used rather than Cephaloridine. Dose - 250 mgm. per 5 gallons.

ERYTHROMYCIN & OTHER MACROLIDI ANTIBIOTICS (Spiramycin, Oleandomycin, Triacetyloleandomycin, Carbomycin)

These antibiotics are bacteriostatic and have a bacterial spectrum very similar to Penicillin. They are antagonistic against Lincomycin, which will be discussed later. Erythromycin is available both in a compressed tablet form and in a capsule and recently is also available to aquarists and may be purchased as such in pet shops. Dose - 250 mgm. per 5 gallons of aquarium water.

LINCOMYCIN & CLINDAMYCIN

These antibiotics are closely related and are bacteriostatic. They are somewhat similar to Penicillin in their use; however, they should not be used with Erythromycin since they are antagonistic towards it.

NOVOBIOCIN

This antibiotic is bacteriostatic and has a similar bacterial spectrum to Penicillin. It is not used as much as Penicillin since Penicillin is cheaper and more readily available.

STREPTOMYCIN

This is one of the earlier antibiotics. It is bacteriocidal and is an excellent antibiotic, however, most bacteria become rapidly resistant to it. It is, therefore, used in medicine almost exclusively for the treatment of T.B. in humans and I would not advise its use in the aquarium at the present time.

TETRACYCLINES

These include Terramycin, Aureomycin, and Tetracycline hydrochloride. Aureomycin and Terramycin were some of the earliest broad spectrum antibiotics discovered and have been altered chemically and produced chemically as Tetracycline hydrochloride which basically has the same spectrum as Terramycin and Aureomycin but is now chemically produced in large quantities. It is bacteriostatic, effective against a broad range of bacteria, and very useful. Dose - 250 mgm. per 5 gallons of water.

NEOMYCIN, KANAMYCIN, GENTAMYCIN

These antibiotics are not absorbed well by the gastrointestinal tract (bowel) and therefore are suitable in the aquarium for any infections arising on the outer surface of the fish, such as fin rot. Neomycin has now been marketed for aquarists and is available at pet shops. Kanamycin and Gentamycin can be also used for intramuscular injection. Dose of Neomycin - 25 mgm. per 10 gallons of water.

POLYMYXIN B & POLYMYXIN E

Both of these antibiotics are bacteriocidal, however, they are not ingested by mouth. In human disease they are both used by injection into the muscle or applied on an infected area as an ointment. They appear to have very limited use in the fish hobby.

VANCOMYCIN & RISTOCETIN

These two antibiotics are bacteriocidal, however, they can be used only intravenously (injecting into a vein), and are not applicable to aquarium use.

I have included most of the antibiotics available and as you will see, not all can be used by the aquarist. However, for the sake of completeness, I have listed them as you may hear of them being used in the future.

CONDITIONS IN WHICH ANTIBIOTICS & SULFAS MAY BE USEFUL

These chemotherapeutic drugs should be used only in infections or in bacterial conditions where a bacterial infection is part of another disease process brought on by the poor resistance of the fish because of poor health. This may occur in fish which have been traveling over long distances, which are in a state of starvation, and where the natural defenses have been decreased. Fin rot is an example of a disease where they may be used. Traumatic ulcers caused by bites from other fish, by sharp rocks, etc., and which have become infected, or are in danger of becoming infected, is another area where antibiotics may be useful. There may be an overgrowth of fungus on such areas. Fungi normally grow on dead tissue which has been produced by some type of infection, usually on an ulcer.

One may also use antibiotics prophylactically, i.e., preventatively. When new fish are acquired, especially if they do not appear to be in the best condition, they may be given a treatment of sulfa or antibiotics to combat bacterial infection present in the fish or in the water. The chemotherapeutic agent will fight these organisms until the fish have recovered their natural health sufficiently to fight these infections themselves.

Unfortunately, very little is known about bacterial diseases in fish and even less has been written about them. We have a good armamentarium to fight infection in our wide variety of antibiotics but we know so little about bacterial infections in fish. This is a wide open field and hopefully biologists, bacteriologists, and other interested learned men and women will tackle this huge problem in the near future to provide us with knowledgeable information regarding bacterial fish diseases, both from the standpoint of causative organisms and their treatment.

DANGERS

Unfortunately, antibiotics do not discriminate between "good" and "bad" bacteria. It may surprise you to know that there are good bacteria. These are the bacteria present in the gravel of your aquaria which break down the excreta of your fish as well as uneaten pieces of food, dead plant matter, etc., and add this to the natural fertilizer which enhances the growth of the plants.

Also bacteria which help digest food for the fish and provide important vitamins as well, are present in the stomach and bowel of the fish. These good bacteria that live in the constant state of balance (eco-system) may be destroyed by antibiotics so that there is an overgrowth of harmful bacteria or fungi. Therefore, it is best to treat fish in a separate "hospital tank". However, even this does not prevent an upset in the bacterial flora of the gastrointestinal tract of the fish being treated. Consequently, do not treat too long. Seven to ten days should be the maximum length of treatment with antibiotics.

AVAILABILITY

Although some of the medications mentioned previously are available only in hospitals, most can be obtained in pharmacies as prescription drugs. One would, therefore, require a M.D.'s, dentist's or veterinarian's prescription. The drugs used by humans have to go through rigorous standards and, therefore, their prices are high. Those prescriptions by veterinarians are usually considerably cheaper.

Recently some of these drugs are finding their way into the pet shops and may be obtained off the shelf of your favorite pet shop. As soon as the drug companies find out what a great market they have yet untouched, I am certain many more will be available, both in brands and varieties. When buying such medications, read the small print, as it is there that you will find what the active ingredient is and not in the trade names as the trade name is made to sound good so the product will sell. Recently, I toured the local pet shops and found the following medications available which I will list giving the antimicrobial present and the dosage stated:

FUNGUS CURE

The active ingredient is Sulfathiozole. There is some added acriflavin and the dosage is one tablet per 5 gallons.

SULFA-FOUR

This is a combination of four sulfas: Sulfathiazole, Sulfamerazine, Sulfamethezine and Sulfaquinaxaline. This is a liquid and the dose is 65 mgm. per 5 gallons.

T-C CAPS

The active ingredient here is Tetracycline hydrochloride. This medication is in capsule form and the dose is 250 mgm. per 10 gallons of water.

MARACYN

Erythromycin is the active antibiotic here and the dosage prescribed is a 200 mgm. capsule in 10 gallons of water.

GENERAL CURE

Neomycin is the active antibiotic here which is combined in a dosage of 10 mgm. together with Copper sulfate so that one tablet can be used in 5 gallons of water.

This paper is far from a complete work on the antimicrobials, but as I mentioned before, very little has been written on the subject of bacterial infections in the aquarium. I hope this short resume will be of some help to those who read this in treating their infected fish and I further hope that somebody much more knowledgeable than I will take up this challenge and provide us with some truly good research and eventually information so that there may be some light shed on this greatly neglected aspect of tropical fish diseases and take us out of the Dark Ages where we are at the present.

REFERENCE:

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2. Diseases of Fish and Their Control - Chas. Pfizer & Co. - Technical Information Service - October 1970
   (1) Terramycin For the Control of Fish Diseases - Patterson, E.B.

   (11) Terramycin Therapy for Fish Diseases During the Past Two Decades - Turk, J.L.

3. Uses of Antibiotics and Other Microbials in Therapy of Diseases of Fishes - Wolf, K. & Snieszky, S.F. - Antimicrobial Agents & Chemotherapy: 597 - 603

A WET WEEKEND

By: Pete Tietjen, PVAS

The week of September 22, 1975 will be long remembered in the Washington, D.C. area for many reasons, for it was the week of the rains. But for me, the weekend of September 26, 27 and 28 will be remembered for my trip to Norfolk and Virginia Beach with Gene Aldridge to visit the Tidewater Aquarists Society annual show and to see Ed Taylor's fish rooms.

Gene was a judge at the Tidewater show and I went along to observe and learn. We left on Friday just as the rain was ending and had an uneventful drive to Norfolk. We checked into our motel and had dinner. Then we traveled to Virginia Beach, to Ed Taylor's and to fish heaven. There, packed into a two car garage and an equally large room behind it, were more fish than I have ever seen in one place. Ed is a breeder and distributor of fish; mostly African cichlids but some South American cichlids and larger tetras and barbs. He is also working on an M.A. in ichthyology, using his fish as specimens. Ed is involved with ACA and travels extensively judging shows. In his two rooms, he and his lovely wife Kathy (who does much of the work), have approximately 500 tanks ranging from 125 gallons down to 10 gallons, a good portion of which are homemade. In these tanks the fish seem to thrive and breed prolifically. He has numerous spawns of L. brichardi, H. moori, J. marlieri, G. braziliensis, etc., etc. In addition to fish, he is an avid and excellent photographer. Between fish and

photos it was almost midnight before Gene and I returned to our motel.

At 6 a.m. on Saturday, we arose, a bit groggy but ready for more fish. Judging commenced at 7 a.m. and Gene had to be there. We arrived at the Botanical Gardens (site of the show) even before the Show Committee, but once inside, the layout of the show made the wait worthwhile.

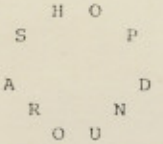
The Tidewater show is run differently from our shows. For instance, all fish are displayed in decorated tanks. By this I mean that a fish is entered in a class but instead of being displayed in a bare tank, the tank is landscaped with plants and gravel. It makes for an aesthetically pleasing show. There were approximately 85 entries, ranging from some small guppies to six beautiful home-spawned and raised Orandas that won the Best-in-Show trophy. These six fish were simply gorgeous, easily the best entered. They were raised by a doctor living in Richmond who specializes in koi and gold fish. Giving them a good fisht for Best-in-Show were a pair of Haplochromis livingstoni, both over 7" long. The male was especially beautiful. Another interesting class was the novelty class. While some of the entries were very gimmicky, i.e., a table set for breakfast except for knives which were knife fishes', the class winner was a wooden light house about 4 ft. tall with an 18" hexagonal tank where the light would be. Inside the tank was a school of neon tetras illuminated by a vertical bulb. On the whole, the aesthetics of the entries as well as the thought that went into planning the entries made the show more than just netting out a fish and dunking him/her in a bowl. Our club could well consider a set tank show.

After the judging was over we returned to the Taylor's and took pictures of his fish. My slides may be shown at the next cichlid group meeting if anyone is interested in either the show or Taylor's fish. Taking the photos took up the balance of the morning.

We then went off to visit Ed's wholesaler friend in the Norfolk area. Never having been to a wholesaler's, I was fascinated. This is a small operation, but the warehouse was still packed with equipment, food and other supplies while the front of the building contained holding tanks full of goldfish, corydoras, various livebearers, and tetras. After spending some time here, we returned to the Taylor's for a cookout and fish talk. Later we drove back to the motel.

Sunday morning we once more went to the Taylor's to bag up some fish we were bringing back to this area for various people. This accomplished, we left for home.

The trip south was a real learning experience. It gave me an insight into fishkeeping and showing the I hope I can use both for my own enjoyment of the hobby, as well as to benefit the club. It was a most enjoyable trip.



By: Ann Garnar, PVAS

Two to three hours away from us (Alexandria), on the outskirts of Lancaster, Pennsylvania, is a fish store that is the hobbyists' dream because they have so much to offer. We have made two trips in less than a month and both times have come away with very good "vibes".

To reach it from Alexandria, take Route 495 to Route 95 North (Maryland side) to Route 695 (Baltimore Beltway) to 83 North. In York, Pennsylvania, take Route 30 East to the Centerville Road exit. Make a right onto Centerville Road and approximately one block to your left, you will see That Fish Place.

All supplies are on the right side of the store -- in plain view, clearly marked and with ample browsing room. The left side of the store is devoted to fish. For us salt folk -- approximately 200 tanks of not only the usual but the unusual and prices never before seen by us on the fish. The invertebrate prices, as a rule, are comparable to local prices. However, as with every rule, there are exceptions. Our exception was a mated pair of Harlequin shrimp for $25. Local prices on these animals have been $75 and up.

So as not to slight you cichlid buffs -- there is one side devoted to your psuedo - whatever (I can't spell them, pronounce them or know what they are) but the specimens I looked at were good looking, healthy fish.

And, for you killie people, they have a section for you. Unfortunately, on our last trip these tanks were low on fish but from the signs on the tanks, they have or will have all species.

On our last trip, their animal inventory was low, but several shipments were to come in the following week. Their dry goods inventory includes everything ever to be needed by the hobbyist from the "lost diatom screw" to a 125 gallon tank. A sampling of prices on drygoods almost pays for the trip - Silent Giant - $15.95; Tetramin (8 oz) - $6.89.

Last, but certainly not least, there are the employees, all of whom are experienced and/or trained. Everyone is extremely helpful, friendly and very willing to share the knowledge they have. If they don't know, they will try to find an answer from someone who does know. Their salt expert has 18 years of experience and after talking with him, I personally felt he knew his business.

They are proud of their place of business and feel they have a right to be. They made us out-of-towners very welcome and we came away feeling we had some new friends. That Fish Place is a lovely place to visit.

BREEDING THE ALBINO CORYDORAS CATFISH

By: Ted Walsh, PVAS

About 22 albino catfish at least six months old were put in a 29 gal. high aquarium with aged fresh tap water and fed chopped earthworms and tetramin growth food. The temperature of the water was dropped to 70°. The aquarium was clear except for a sponge filter in the center of the aquarium bubbling fiercely while resting on the bottom.

The female catfish pushes her mouth against the side of the male almost bending him in half then eggs varying in numbers appear between the ventral fins of the female which she clasps together like two hands. She then swims wildly around the tank and finally pushes the eggs against the side of the glass aquarium sometimes as many as twenty, usually close to the waterline. Only about 3 females laid at this time and there were close to 200 eggs about 1/32" in diameter.

The old fish were removed and 29 drops of Protocure (1 drop per gallon) were added gradually to the bubbles from the sponge filter. The temperature of the water was raised to 80° (not important) and the baby catfish burst out of their shells in about 2 days; sometimes taking as long as 5 days. The Protocure was added to prevent the eggs from fungusing but they will hatch anyway. Use the Protocure only once and never with methaline blue as a combination of the two will poison the babies.

When the babies start hatching use liquifry for food also add a few live daphnia to the tank as they will prosper on the liquifry and feed the baby catfish. Also use powdered tetramin as they get larger after about 2 weeks; tetramin growth food can be used. In about 2 months they are ready to make some other fish fancier happy.

BREEDING THE PINK CONVICTS

By: Ted Walsh, PVAS

Mama and Papa were put into a 20 gal. long bare tank with a six inch stone resting on the bottom. Mama could be distinguished by an orange color on her sides. Tap water was used after aging and aerating for 24 hours.

About three days after heavy feeding of earthworms, they cleaned the rock and laid about 500 eggs on it. Both fish guarded the eggs for 2 days before they hatched at a temperature of 80°. Both parents took good care of their young. All the young lived and were removed at about 1" in length because the parents were ready to spawn again. This is truly a fine fish for a beginner.

BROWSIN' THRU

By: Pete & Pat Tietjen, PVAS

The Pisces Press - Greater Portland Aquarium Society - Sept. 1975

"The Diatom Filter" by Bill Malay T.A.S. (Reprinted from The Aquarium, Dec. 1974, Tacoma Aquarium Society) Advice on the preventative care and feeding of the diatom filter. A common sense article worth the time it takes to read.

The Youngstown Aquarist - Youngstown Area Tropical Fish Society - July 1975

"Let's Talk Cichlids" by Edwin (Bud) Welty, Pittsburgh Aquarium Society (YATFS), staff writer. This is #26 in a series of articles. While summer is definitely over, a lot of these suggestions are important regardless of when you take a vacation. How long can you stay away and leave your fish alone? This article is a discussion of preparation of the fish before you leave for vacation. Who is going to feed the little monsters? Leave the lights on or off? This is a well thought out set of procedures by someone who has taken time and effort to make sure nothing short of nature's whims does his fish in while he is away on vacation. It's a terrible feeling to come back from a fantastic vacation to find your tanks foul and your fish dead because a filter broke down or the ammonia level went up because the water wasn't changed before you went away. Remember everyone has his own methods of tending fish and unless you've premeasured the food, someone might overfeed.

The Bluegrass Aquarama - The Central Kentucky Aquarium Society - Aug. 1975

"N. Aquatica (Banana Plant)" by Eugene Kling, Calgary Aquarium Society (Reprinted from the Calquarium) This is a simple straightforward article on the care and conditions under which banana plants are maintained in the home aquarium. Keep it up, Eugene. There are lots of us who want to know about plants for the aquarium. All kinds of plants for all kinds of conditions.

Tank Topics - Greater Akron Aquarium Society - Oct. 1975

"Haplochromis Euchilus-Gentle Giant of the Rift Lakes" a BAP report by Jim and Nancy White. This item is about a different mouthbrooder than we are used to hearing about. It would be interesting to observe an entire courtship ritual of these fish. Maybe the next time Jim and Nancy will have more information.

"Through the filter - Filtration for Freshwater Aquaria" by Rick Johnson GAAS. A fairly thorough item on the different filtration systems a hobbyist can use, how they work, and the best way to maintain them.

Marine Hobbyist News - August 1975

"Photography in a Fish Tank" by Merritt S. Keassy III. Advice on types of cameras and lenses and close-up attachments best suited to capture rapidly moving aquatic specimens. He writes on lighting, reflections, distortion, types of film, uncooperative specimens and larger photography tanks. Practice makes perfect. This is a terrific article for anyone interested in fish photography.

The Oklahoma O'Quarist - Oklahoma City Aquarium Society - July 1975

"Keeping Seahorses" by James & Josette Crabtree. Are you interested in keeping seahorses? They're amusing little creatures but a real challenge to keep for any length of time.

Read this article and gain some helpful knowledge that has worked for the Crabtrees.

TRADING POST

Mike & Susan Sprague 534-7487

Breeding pair Silver Veil Angels
J. marlieri 1"
P. socolofi males 3-4"
L. fuelleborni 3-4" mottled females.
L. tetracanthus 2-4" and fry
H. compressiceps 3"
Buffalohead 2½"