

FISH WORLD



Magazine®



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**SUPREME FESTIVAL
OF FISHKEEPING,**
4th - 6th Nov, Pontins,
Weston-Super-Mare.

aquarian

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1. Who has run the **AQUARIAN ADVISORY SERVICE** for the last 20 years?
2. Name two other consultants who have worked for the **"ADVISORY SERVICE"**?
3. What is the average number of queries handled by the **"AQUARIAN ADVISORY SERVICE"** per year?

I wish all entrants the best of luck.

Regards

Peter Furze, Editor

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Material for the next issue of this magazine should be in by the 1st October 1994, and sent to either myself at 9 Upton Road, Hounslow Middlesex TW3 3HP Tel or Fax 081-570 0934 or The Features Editor, Dick Mills 10 Rossen Grove, Farnham Royal, Buckinghamshire SL2 3DZ.

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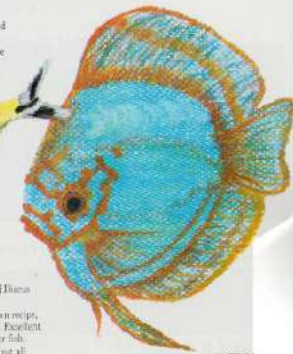
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WESTON WARNING

(continued)

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Competition details
on page 3
Editor's letter

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A HOST of Angels

by Bruce Ossman
(courtesy of Fin Fox, Delaware County A.S.)

My first aquarium was a ten gallon, metal-framed tank which was received as a Christmas gift back in the early 1950's. The hobby was in a much more primitive state then (at least in my rural Pennsylvania hometown), but I had many hours of fun trying to achieve a "balanced" aquarium, using only water, gravel, plants, fish and natural sunlight. Such niceties as filters, heaters and aquarium lights were not then available to me. The pet department in the local department store had a very limited selection of tropical fish (carried home in water-filled cardboard boxes after purchase) but, one day, I managed to obtain a few wild-type (silver) angels. Since then, perhaps because of early imprinting, angels have continued to be my favourite fish.

Over the years, I've kept aquariums as situations permitted. Once, during army service in Okinawa, I even kept a bowl of blackmoor "goldfish" on my footlocker in the barracks (they had to be hidden during inspections).

Today there is incredible variety in equipment and fish species available to the hobbyist but the angelfish, *Pterophyllum scalare*, is still probably one of the most sought-after species. They have such splendid body and fin shapes and are now available in so many interesting varieties that if they didn't exist Disney would have invented them.

About 4 years ago, I spotted a tankful of young, silver angels in a local aquarium store, which were of exceptionally fine quality. I had recently set up an aquarium and I decided that these fish were to be the inhabitants. I had read somewhere that purchasing 6 young fish would guarantee at least one pair. I "hedged the bet" and randomly selected ten. These ten were to be responsible for a

mini population explosion.

The angelfish is now considered to be easy to raise and spawn and, probably every facet of its keeping has already been described. However, a few of the observations I've made I've not seen "written up". Hopefully, some of my discoveries may help someone who is just starting out with angels or who has not had success in breeding them.

Angelish in their native South America are found in very soft, slightly acid water. This presented an immediate problem because the water in my house comes from a deep well and is very hard and alkaline (it would probably be perfect for African cichlids). I had to add a considerable amount of sodium biphosphate to the water to bring it down close to the neutral pH of the water in the transport bag. Equalizing the temperatures of the waters was no problem but I had no means of reducing the water hardness. The hard water did not seem to cause any difficulties for the angels.

The aquarium I'd prepared held 55 gallons of water with about 3 inches of gravel and was equipped with both undergravel and outside filters. Layers of shale at the back of the tank supported a good growth of java ferns. A heater kept the temperature at 80°F. Every 2 or 3 days I changed a bucketful (3 gallons) of water.

In this environment, the angels quickly adapted and thrived. I fed them mostly with commercially produced, bite-sized cichlid pellets supplemented by occasional treats of frozen blood worms and brine shrimp. In due time, the fish matured and "paired-off". I was hoping to get 2 or 3 mated pairs but, by some incredible bit of luck, I ended up with 5 pairs from the ten fish I'd selected. Because these mature fish were now becoming quarrelsome and I had limited tank space, I ended up getting rid of three pairs through sales at the club auction or by giving some to friends. The two remaining pairs continued to fight so I

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A Host of Angels

(continued)

removed one pair to another tank I had set up in my public school, sixth grade classroom.

I'd read descriptions and had seen photos of the angelfish spawning procedure but it was, and still is, fascinating to watch this instinctive process — knowing that it probably evolved long before we humans appeared as a species. The pair in my home aquarium selected a java fern leaf and proceeded to clean it vigorously with their mouths. A few hours later, the female (easily identified by the prominent spawning tube that had emerged) started laying eggs which adhered to the leaf. She started each "run" at the bottom of the leaf and moved slowly upwards with the male following behind to fertilize them. This process was repeated for about 2 hours of the end of which time over 100, closely-spaced, amber coloured eggs had been deposited. The pair then took turns fanning the eggs with their pectoral fins. A few of the non-fertile eggs turned white and were eventually removed by the parents — apparently by mouth. After about 3 days of this attention, the eggs began to hatch and tiny wriggly tails could be seen. The angels seemed to be very good parents and stayed on constant alert to protect the babies. Then, a few days later, I was dismayed to find that the babies had disappeared from the spawning leaf. I first thought that the parents had decided to eat them all, which for some reason sometimes happens. But then I discovered that the parents had simply moved all of the babies to another site where they were clustered in a mass on the side of the aquarium. The parents accomplished this periodic transfer by taking mouthfuls of the babies and then spitting them out on the new surface (I've read that this is a method of foiling predators that may have discovered the nesting site, and prevents them from returning to wipe out the entire spawn).

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A Host of Angels

(continued)

coincidence, the second pair of mature angels that I had taken to my school aquarium had spawned one day later than the pair in my house (this happened during class time and was witnessed by about 30 interested sixth graders). I could not bear the thought of losing a nice batch of fry in the home tank so I decided to try an experiment. I removed the leaf with the mass of wriggling babies (enduring an attack by their enraged parents), put the leaf in a water-filled plastic bag, and took them to the school aquarium. There I fastened the leaf near the slate where the second pair had spawned (these parents also tried to fight the intrusion). Then, I watched to see if they would accept these additional fry. Apparently, angelfish can't count for they began to take mouthfuls of the new babies, spat them onto their own spawn and cared for them as if they were their own offspring. I don't know whether this acceptance of another pair's young has ever been observed before, but this might be a good way to salvage a spawn if, for some good reason, the original parents are not good caretakers.

The extended family of angelfish in the classroom turned out to be a good teaching tool. The students were amazed to see how tiny the eggs and babies were and even more surprised at the size of the almost invisible brine shrimp that were fed to them. Each day, when the students entered the room, they checked to see how the babies were developing. The adults turned out to be very good parents, even though they were continually stressed by the sight of the faces pressed against the glass. On weekends I had to make extra trips to the school to feed the young fish. I eventually tired of this and gave most of the babies to students who had home aquariums.

The original wild-type (silver) angelfish is, in my opinion, still one of the most beautiful tropical fish — but

eventually I succumbed to the appeal of some of the varieties that have been developed from selected mutations. From a student I received a gift of an attractive female koi angel. I was not able to find a koi male but I did purchase a beautiful, long-finned marble angel that "turned out" to be a male. These two fish proved to be compatible and a spawning followed. Not having any knowledge of angelfish genetics, I expected that the offspring would have a blending of koi and marble traits. However, I was surprised to discover that about half of the babies developed the koi pattern and half developed into marble angels. There was no apparent mixing of the traits. I eventually disposed of most of these offspring, but as I was especially fond of the koi variety I kept eight of them. From those 8, 3 breeding pairs were formed. At present, I have over 100, month old fry from one of these koi-koi pairings. Again, I was surprised at the result. Most of the babies are developing the familiar koi markings but a few are uniformly golden-brown with a reddish tinge to the fins. These may develop into the variety known as golden angels. Others have transparent fins and translucent bodies and might be described as glass angels. A few resemble those I've seen marketed as "blushing angels". Obviously, the genetic background of my fish was more complex than I had realized. I'll need to do some research into the inheritance patterns in angelfish varieties.

Following are some additional observations I've made of angelfish behaviour problems that have developed, and solutions that have worked for me.

Normally, there are well over a hundred eggs in a spawn. However, I was not always able to get a high percentage of survival when the eggs were left with the parents. As mentioned before, the parents would

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A Host of Angels

often take a mouthful of babies and spit them out at a new location. When the numbers of fry sometimes decreased, I assumed that the parents "accidentally" swallowed a few in the process of moving them (and sometimes this does happen). But, when I examined the tank closely, I discovered that large numbers of the babies had moved down into the spaces between the gravel particles where they became trapped and died. I turned off the underground gravel filter thinking that would solve the problem, but many of the tiny fry still managed to entrap themselves. So I discovered the hard way why it is usually recommended that spawning tanks have no gravel.

If the spawning tank has an outside filter, it is likely that the babies will be drawn into it. This can be prevented by lying a filter bag over the intake tube. An even better solution is to use a sponge filter. These are safe for the fry and also give good biological filtration.

If you have angels of spawning size but you are not certain of their sex, feed them heavily so that their stomachs are distended. Then, withhold food for a few days. The males will slim down but the females will probably remain moulded in the abdomen area.

A spawning pair of angels should be given a tank of their own (at least a 10 gallon size) so that they don't waste too much energy fighting off other fish. If they are good parents and don't consume the eggs, they may be left with the spawn until the babies are almost free swimming. At that point, the young can easily and more conveniently be raised without the help of the parents.

Keep water temperature at least 80°F. At temperatures below that, angels seem lethargic and are prone to illnesses.

Newly-hatched brine shrimp seem to be the ideal starting food but when

(continued)

the angels are about a month old they will accept any of the high-protein flake foods. Healthy young angels are always hungry and cannot seem to get enough to eat. A school of them will slash at surface food in a very noisy "feeding frenzy", be careful though to feed small amounts each time so that no uneaten food reaches the bottom — especially in a gravel-bottomed tank. Food particles will find their way into the inter-gravel spaces and quickly foul the water. Although I try to keep the water close to neutral pH, this is very difficult with alkaline well water. A handful of peat moss in the filter helps to reduce alkalinity without adding too much algae-inducing phosphorus.

I raise the baby angels in a 55 gallon, gravel-free tank and change one bucketful (3 gallons) of water every day — always siphoning the debris from the bottom of the tank with each change. The water changes and the biological action of the sponge filter prevents any build up of dangerous ammonia.

If you are new to the hobby or have not yet managed to spawn angelfish, some of these observations may help you (and the fish) to succeed. I keep adding more aquariums and I now have seven spawning pairs of angels. If the Amazon river tributaries need to be restocked, these could make a good start.

Angels are still my favourite aquarium fish. They are easy to keep and breed and with each new spawn there is always the chance of finding a mutation that could lead to the development of a new variety of *Pterophyllum scalare*.

Captive Breeding Survey

by Peter Burgess
(extract from *Marinews*, of the International Marine Aquarists Association)

We are all aware that the vast majority of tropical marine fishes and invertebrates which supply our hobby have been collected from the wild. For how long these wild, caught stocks will be available to us is far from certain. Scientific evidence points to a serious decline in coral reef habitats throughout the world, resulting in increasing pressures to conserve those few reefs which remain. Thanks to the banning of cyanide collecting methods, the ornamental hobby no longer plays a significant part in coral reef destruction: we can thank governments and the multinational industries for their continued decline. We can, however, play an important role in conserving species of tropical marine fishes and invertebrates, even if we are powerless to halt the destruction of their natural habitats. This can be achieved through captive breeding programmes, as is currently being done for certain endangered freshwater fishes (e.g. Hoplochromine cichlids of Lake Victoria).

The ability to captive breed marine fishes would mean that we could support our hobby as well as preserve species which would otherwise face extinction in the wild. There is, of course, one major limitation to this approach for marine fishes — we know so little about how to spawn them and how to rear the fry. Information regarding captive reproductions of fishes and invertebrates is, therefore, urgently required in order that we can build up expertise in this challenging field. I am aware of some IMAA members who have had great success with spawning certain marine fishes, notably Clownfishes. Others may have observed courtship, spawnings, or have just simply noted sexual

differences. All this information needs to be compiled and made available to other marine aquarists. For these reasons, I have created a questionnaire which you should find enclosed with this issue of the Bulletin.

The survey, although specifically linked with the IMAA, is not exclusive to members only. So, if you know of anyone who has had any kind of experience in spawning and/or rearing marine fishes or invertebrates — even if attempts have failed, please photocopy the questionnaire for them to fill in and have them returned to me.

I can assure you that any information, however small, will be useful, so please spend a little time in completing the form. The future of our hobby may well depend on your contributions.

If sufficient replies are received, I will produce a summary of comments and observations for publication in *MAJ* or *Marinews*.

Please contact Dr. Burgess direct for your questionnaire.

Dr. Peter Burgess, Fish Research Unit, Davy 609, University of Plymouth, Devon PL4 8AA



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and let the Panel of Experts
solve your fishkeeping problems

AQUARIAN and The Federation of British Aquatic Societies

A feature of every **FISHWORLD** magazine for nearly two years now has been the discreet blue **AQUARIAN** logo on the front cover. Whilst this proclaims support for the magazine by the world famous fish food manufacturer, readers may be surprised to learn that the Aquarian/Federation connection goes back many more years than that.

Aquarists (now well over a certain age) will recall the days when there weren't Aquarian fish foods at all, and will also remember the stir this new flake food caused when it challenged for its own spot in the market place. Soon, it seemed, everyone wanted to know all about it so they sent that nice young man, David Ford, out into the wide world to spread the word.

Dr. David Ford, as we soon learned, was the mastermind behind the necessary research into fishes' nutritional needs and the subsequent development programme to get Aquarian onto the shelves. In no time at all, he took advantage of the Federation's contact with Societies and, to help cut down the number of personal appearances but at the same time to reach even more people, he recorded an audio-visual title for the FBAS AQUATALK series covering the Birth of Aquarian. This was shortly followed by a second title showing many of the International Aquaria visited by David in his researches. The Federation's Aquatalk series now contains videos and yes, there on the list is Aquarian's David Ford with Tomorrow's World's Peter McCann presenting **Beautiful Underwater Worlds**.

In recent years, in association with Practical Fishkeeping, the Company has sponsored the now famous AQUACHAMP Competition — fishkeeping equivalent of MASTERMIND, the Final of which is a feature of the Supreme Festival of Fishkeeping at Weston-super-Mare. A further development of this theme is

the AQUACLUB version, in which the contestants are not individuals but teams from qualifying Societies. The Final of this contest is held at Brockleman on the Isle of Wight, a further sponsorship opportunity for the Company.

THE AQUARIAN ADVISORY SERVICE regularly attends the major aquatic events each year, as well as a number of Society-organised seminars and Conventions. On a wider front, the Federation has been happy to co-operate with the Company in events such as the PET SHOW at Earl's Court and the TOWN & COUNTRY FESTIVAL at Stoneleigh.

At Show levels, Aquarian-sponsored Awards are well to the fore but 'behind the scenes' (well, 'the other side of the show benches' would be more accurate) many Judges are using Aquarian-supported equipment, the Refraction Rule and Measuring Callipers; both of these vital Judging aids were developed by the Federation and distributed to the Judges by courtesy of Aquarian.

But back to the beginning; through the Company's generous support we are able to bring every Society a free copy of **FISHWORLD**, and it is also sent free to every Judge and Speaker in the U.K. Aquarists writing to the ADVISORY SERVICE will unfailingly receive a copy of **FISHWORLD**, together with an expert reply from that nice young man, who steadfastly continues to carry the flag forward for **AQUARIAN** in every direction he can find.

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The Green Guide to Tank Collecting

by Nora Green, Tameside A.S.

When we first started to keep tropical fish a few years ago, we were told that you start off with one tank, then another and another. But not us, the reason why we started to keep fish was to help calm hubby, they had the reverse effect! We also didn't have room for more tanks so we were quite safe.

That was until we decided to breed Angels. We borrowed a tank which we had to put on the work surface in the kitchen. The kitchen isn't very big to start with and a two foot tank takes up too much room — but it's only until we have bred the Angels!

We like breeding fish so we keep the tank! We won't be getting any more though. The Secretary of our local fish club smiles when I tell him we won't be getting any more tanks ...

A few weeks later we have an Auction at our fish club and someone is selling a tank cheap. Our club Secretary has a smug look on his face when we buy this tank. The tank was a bargain, so hubby says and should he think it's a bargain he buys it. Why I've never worked out, because that tank is now in the attic ...

Many months later while in a fish shop we see an eighteen inch tank, guess what? It's a bargain! "That would be better for you to breed in", says hubby. "I suppose when you get to my age you are grateful to breed anywhere", I say. But it's wasted because I never understand poles ... I'm not expected to make any ...

But we agree this little tank should be plenty big enough for breeding, fish that is, plus it will take up less room on my work surface. So we buy it. At the next club meeting I tell our Secretary about our bargain, the smug look on his face whenever we mention tanks is beginning to annoy me.

Before we get rid of the two foot tank, hubby says he will move all the fish from the community tank into it while he landscapes it. Being a feature in the living room he thinks it doesn't look very nice. We were very proud when we first set it up, but the more tanks we saw the more ours looked like

we had just thrown everything in. The other reason for landscaping it was so we could get rid of the horrible black gravel we were sold when we first set it up. So hubby sets the living room tank up again, replants all the plants as well as adding new ones. I don't say anything but, apart from the new gravel, it doesn't look any different than it did before he redid it!

As with any new tank you have to leave it a while before you reintroduce the fish, this we do, only to discover the plants are dying ... then I remember.... "That's because you haven't been putting the light on", I say, remembering that when we first started to keep fish we left the light on for them for eighteen hours a day until we were told it was only the plants that needed the light. Hubby isn't very pleased that I should forget something like that, but out he goes to buy new plants.

That only adds to our problem, while he is out he sees a big Pink Kisser that is about six inches long, head to tail. Now hubby has a thing about big Pink Kissers. We already have two but they are much smaller, and this one is for sale. They only want £5 for it.

The shop says they will keep it while we set up another tank. We will use the little one until we get the fish out of the two foot and back into the living room. I try not to let our club Secretary know about our new fish, but a few weeks later we are having problems and I have to telephone him for advice. "You'll soon have a houseful of tanks!", he says sounding smug.

Come November, and it is time for one of the big local Fish Shows. We have a reputation for coming back from

The Green Guide to Tank Collecting

(continued)

these Shows with something we don't want. But not this time, we tell each other, we are going to buy some plants for the community tank, and that's all. We can't afford to buy anything this time because later in the month we are off to Australia so we need every penny we have.

We have had problems with our new Pink Kisser so while we are at the Show we will take advantage of yet another expert for advice. We talk to David Sands, who says the fish will be happier with other kissers in a large tank. We were going to put him into a two foot tank with just a few little friends. Mr. Sands says we need a four foot at least!

We don't have room for a four foot, we don't have any money to buy a four foot, but we walk round to get an idea of the price. We want some plants; hubby says if we get a new tank, he wants one with a plastic lid! We miss the plants, but while we are looking at the tanks we are joined by our club Secretary's wife.

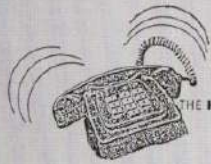
"Are you buying one of these tanks?" I say we may consider it after the holiday but we don't have anywhere to put it. "Oh you'll soon find somewhere," she says. "now's the time to buy. You'll get a bargain you know". Hubby hears the word "bargain" so he's interested. "They are cheap. Do you want one?" "Well" (we're weakening) "No, we really haven't got anywhere to put it", we

say. "It's a bargain, you know. I'll see if I can get something knocked off it for you. Hey Fred, over here a minute please". Half an hour later, minus plants but with a four foot tank, we set off home. The following week at the fish club the Secretary couldn't wait for us to get through the door before he said, "The wife tells me you bought another tank on Sunday. How many have you got now?" We didn't answer him.

Three months later (after having to rebuild the living room) we unpack the new tank only to find a small crack in the corner. I can't spell the words that hubby said! The tank has been safely stored in a corner of the back bedroom, but what can we do about it after so long! We tell our Secretary about the problem and he gets in touch with a nice man at Hagen's who arranges for us to exchange it.

That still isn't the end of our troubles, because I've told so many people that the only way you know the other tanks have been landscaped is because hubby tells you he has, so he says. "There's the tank, if you can do better ...". I'm not doing at all well, also we now have four tanks. Two in the living room and two still on my work surfaces in the kitchen. I nearly forgot, we still have the one in the attic, if anyone is interested ...

it's a bargain, but don't tell hubby




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TRADE WINDS Keep Your (fish) COOL!!

As temperatures rise, spare a thought for those fishes that might not appreciate quite so warm waters — native marines, for instance (just think of those shallow rockpools approaching boiling point as the sun blezes down), plus goldfish sweltering in small, pre-formed pools, with not much respite at night either.

Appropriately enough, during this hottest part of the year (so far) comes news of cool relief in the shape of a new range of ENVIRON Aquarium Chillers from CORAL REEF TECHNOLOGY. Apart from simply cooling the water, another effect is to allow more oxygen to dissolve into the water.

These feature new design modifications especially pertinent to their use in aquariums — the totally inert heat exchangers avoid the kind of electrolytic reaction often found when using titanium systems, for a start; stressing fish is what we all try not to do wherever possible so, to this end,

the cooler is designed to engage progressively to prevent sudden thermal shocks occurring — the equivalent of our sudden cold shower!

Chillers are often associated, in the mind, with industrial size but the Environ units are small in several departments — size, noise output and in electrical consumption — but, where it actually matters, big in performance.

The Company also announces that they have been appointed distributors for the renowned MINI-REEF range of aquaria. These superb aquariums are equally suitable for all types of aquarium collections — straightforward freshwater community, cichlid species

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Little Giant Pumps



TRADE WINDS

(continued)

tanks, luxuriantly-planted Dutch-style, native and tropical marines and, of course, reef systems from which their name originates. They can be used at whatever complexity level you desire — from the simplest aquarium to complete cabinet-style fully-fitted total systems with spray bar filtration, denitrification stages and protein-skimming (if necessary) all built-in. The lighting systems are fully waterproofed and the use of solid oak is a feature of

the top-of-the-range models. The foregoing features, when coupled with the 'just plug in and add the water' facility are expected to create a great demand for these aquariums. It is quite likely that you will be able to examine these aquariums at close quarters at this year's Supreme Festival of Fishkeeping (remember that Coral Reef Technology are winners of the Best Trade Stand at Weston too).

If you can't get to Weston, then you can obtain details from:
CORAL REEF TECHNOLOGY LTD.
 62 High Road, Byfleet, Surrey KT14 7QL
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FBAS Scoops
SILVER-GILT at Hampton Court

The Federation's stand at the Hampton Court Flower Show took on a very different appearance for 1994. In previous years, the Federation's advisory services were housed in a marquee surrounded by pertinent decorations of our own making and, in truth, was never really able to compete for any 'medals' against the professional water-gardeners of our neighbours' stands. This year, we were able to play host to three very different Cameo Water Garden designs which enhanced our chances dramatically, gaining no less than a Silver-Gilt Award (second in merit only to the Gold, and ahead of the Silver).

The back-drop to the display area was a **Japanese Water Garden** created by Egmont Water Gardens; the design was authentic in detail right

down to the real thing, with the water flow following the traditional good luck direction from East to West. The serenity of the Tea Ceremony site at one end was counteracted by a vertical face of rock and attendant waterfall at the other; this peaceful scene was punctuated at regular intervals by the Shishi-odashi Deer-Scarer and the Company's own designed Heron Scarer — a trip-wire device which actuated a loud percussion-cap explosion, coupled with the equally sudden visual exposure of a pair of big, glaring eyes!

Flanking the border of display was a **Lakeland Stream** created by Town & Country Gardens, featuring about 6 tons of genuine Cumberland grey slate rock and a 3,000 gallons per hour connecting stream and pools. This

SILVER-GILT at Hampton Court

(continued)

particular display was cleverly landscaped to merge in with that of our neighbours, Dorking Aquatics and, like Ernie Wise's hair, you couldn't see the joint!

Showing what could be achieved in a very small space, the **Oriental Patio Water Feature** by Cheries Aquatics combined a small kidney shaped pool (complete with scatted-down footbridge and equally miniature fish — Sarassa Comets — and Pygmy Lilies, *N. pygmaea helvola*). Wooden decking supported oriental tub-pots with diverse designs of ornaments through which waters constantly cascaded: the whole scene was brought alive by the brilliant azure blue of visiting Dansefilies (*Coenagrion* sp.).

The **Long Water** front of the display featured Clematis-dod Agriframes archways, through which the tranquil scenes of the **Cameo Water Gardens** could be initially viewed.

Once the above had attracted the attention of the thousands of visitors, it became obvious that the FBAS Stand was not just a pretty exhibition, as

there was much more fundamental information to be had, or water-gardening problems to be answered, from subjects as different as filtration systems and water-plants. Fortunately, we had the continuing services of Alan Benson **Aquavita Services** on hand to give advice and information on filtration whilst FBAS President Bill Rundle provided a wealth of information on water-plants for three days of the show (we no longer bother to count the number of queries on those two perennial subjects, green water and blanketweed!). Additionally, the main FBAS *raison d'être* was also in evidence, with comprehensive information about Society localities anywhere in the U.K., services to those Societies and, of course, **FISHWORLD** magazine.

With the Aquatics Village being the high spot of the show for visiting water-gardeners, we feel highly honoured to have gained such a prestigious award and our sincerest thanks are extended to those Companies who made our display such a success.

TRADE NEWS

2 1/2 Tennis Courts crammed into 800g of NEW BIO FILTER New Bio-Media Doubles Previous Best Surface Area

Interpet Limited, the UK' leading pond and aquatic products manufacturer, has doubled the amount of space available in a biological filter medium with the launch of new Bio-Media.

Bio-Media is an inert sintered glass pellet with a surface area of 800m² per 800 grammes (approximately 1 litre). This is the surface area of 2 1/2 tennis courts, and double the surface area of comparable hoop shaped media. As a result of its huge surface area, Bio-Media is an ideal home for the bacteria which break down fish waste in a pond.

The new product is included in the Pond Workers' in-pond filter, successfully launched by Interpet

earlier this year. It is now being made available as a separate product so users of all types of filters can benefit from its advantages. In addition, existing Pond Workers' users will now have the option of increasing their biological filtration capacity.

As a result of its large surface area, Bio-Media is able to support approximately 360" (815cm) of fish for every 800 grammes. This is approximately double the amount of fish that can be safely supported by comparable hoop shaped media.

New Bio-Media is available from good pet stores and garden centres in two sizes for ponds: 800grammes (MRRP £11.49) and 2.5 kilos (MRRP £32.99). Contact: Adrian Exell Tel: 0306 881033.

See us at the **SUPREME FESTIVAL OF FISHKEEPING**, 4th - 6th Nov, Pontins, Weston-Super-Mare.

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With its ingenious design, BioLife provides unique 5-stage mechanical and biological purification and an advanced heater and water pump integrated into one complete, compact, internally mounted unit. Make no mistake — behind this sleek, black exterior is a vital powerhouse of filtration activity that puts other systems into the history books.

And its available to you, today, fully proven for superb efficiency, reliability and ease of use.

Here's how BioLife performs, stage by stage:

Stages 1, 2 and 3

MECHANICAL FILTRATION

BioLife filters out all solid waste without need of cleaning. **1** A screen for large particles is followed by **2** a foam block to remove nibble sticks. Minute particles are trapped in **3** the Duo Density polymer layer of the cartridge. Lipidated wastes such as proteins, medications and dyes are also screened by **3** an integrate and carbon fibre pad to free a trap contaminants molecule by molecule.

Stage 4

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large scale systems (1000+ litres). The huge surface area ensures efficient elimination of the organic wastes ammonia and nitrite.

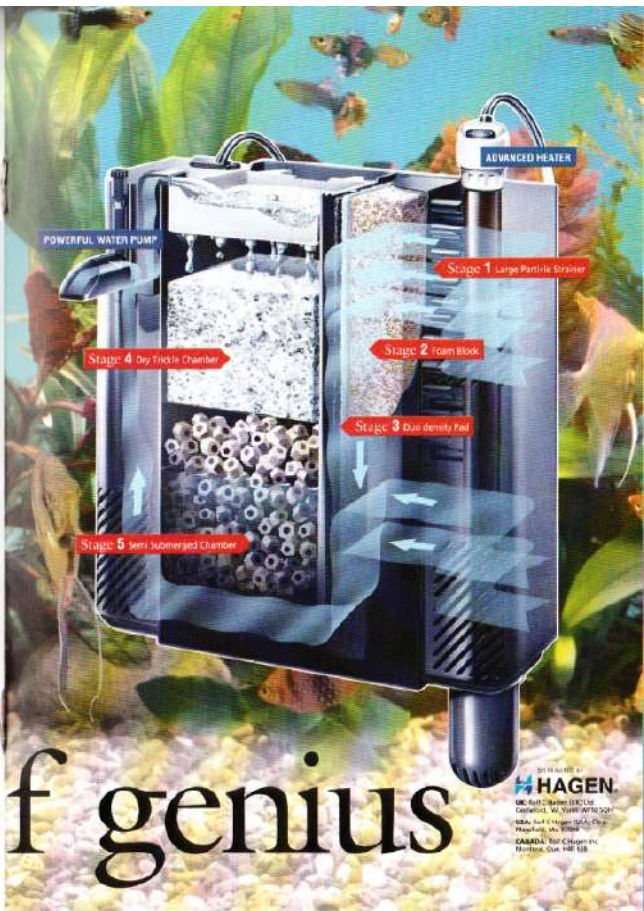
Stage 5
THE FINAL POLISH
 In this semi submerged chamber, **5** fine Nylon **5** fine the water a final 'polish' before return to the aquarium — heated, oxygenated and pure.

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 With BioLife you don't need a sump! It's incorporated into the filter intake, safe from children damage, and a perfectly sealed to provide the dry chamber with heated water for maximum biological filter efficiency. Simply fill the temperature you want, BioLife then returns you the heated water, making it throughout the aquarium for a perfect, even temperature.

EASE Its ingenious advance in your aquarium using a simple suction bracket. It's just as quickly adapted for adjustment and cleaning and needs only occasional removal of filter media plus a weekly rinse to prevent clogging.



Before, your filtration options were limited to 'fix or fix' method. Now, you BioLife gives you the COMPLETE FILTRATION SYSTEM that advances water purification deep into the future of aquarium technology.



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The FBAS Stand at Hampton Court which won the Silver-Gilt Medal (above) and Anglo Aquarium Plant Co. (Waterways) next to the FBAS Stand (below)



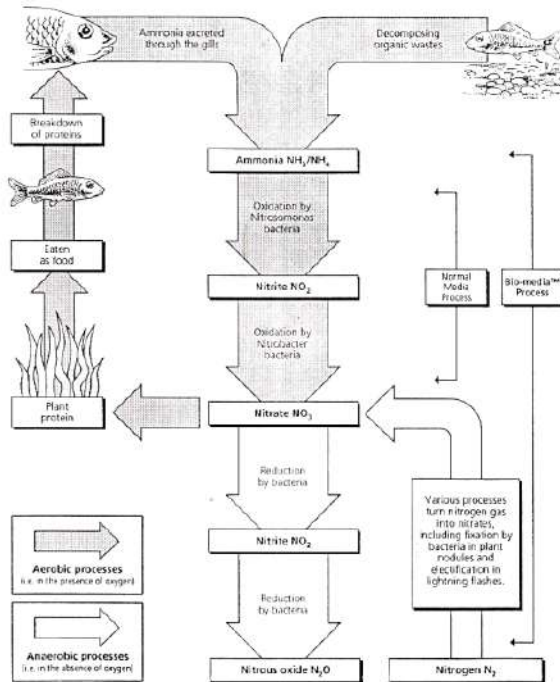
Dr. Neville Carrington, Chairman of Interpet Limited (centre), with graduating Sparsholt College students Emma Everett (right) and Jennifer Young (left) at Sparsholt's Awards presentation held on 6th July 1994 in Winchester Cathedral.



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Trade News

Two New Protein Skimmers
The efficiency of any bubble-using protein skimmer is directly proportional to the time that the aquarium water is in contact with the stream of air bubbles in the reaction chamber. Usually this is achieved by counterflow systems but now the **Berlin Protein Skimmer** from RED SEA FISH pHARM has taken this process much further. The reaction chamber is a three-stage affair, the water working its way up, down and up again before (without any bubbles) being released back into the aquarium. This action makes for super efficient skimming, removing even the smallest amounts of waste and, in the event of ozone being used (as is quite common), ensures none of this potentially harmful gas returns to the main tank. The unit is 21" (53cms) tall and includes a carbon air filter on top of the collection cup; air is drawn into the system by means of a venturi and a water pump impeller such as the **Eheim Hobby 1060** is recommended. Because of its advanced design, it is able to outperform units of twice its size, extracting lower concentrations of protein at the same time.

The practice of protein skimming in freshwater applications has not yet caught on, but a range of double venturi **FOAM FRACTIONATORS** (the posh words for protein skimming) able to handle 3,000 to 75,000 litres bodes well (particularly for Koi Keepers), and are said to prevent ponds free from 'yellowing'. Details of both protein skimmers from:

Coral Reef Technology, 62 High Road, Blythe, Surrey KT14 7QL.
(Tel: 0932 355121 Fax: 0932 349718)

Was Your New Aquarium a New Year's disappointment?

A new aquarium for Christmas and New Tank Syndrome in the New Year might well put people off the hobby for good. INTERPET has accordingly launched their '**New Aquarium Care Kit**' to help such disasters occurring both with new tanks and problems associated with major water changes.

Similar to their New Pond Care Kit, the **Aquarium Care Kit** contains Fresh Start (removes Chlorine and coats fishes' skin and gill membranes with a protective colloid), Trizyme (quick start bacterial culture to mature filtration systems), long-life pH and Nitrite Test Kits (to monitor water quality) and a simple-to-follow guide on how to set-up, establish and maintain an aquarium over the first two critical weeks. Although available separately, the components when bought as a 'package' represent a saving of £11.27 — a convenient kit of all you need in one purchase. Details from:

Interpet Ltd., Interpet House, Vincent Lane, Dorking, Surrey RH4 3YX
Tel: 0306 881033 Fax: 0306 885009

New Stylish High-Tech Pump Range

In April, Interpet Ltd., the UK's leading aquarium and pond product manufacturer, launched an entirely new range of purpose designed, stylish high-tech aquarium pumps, called **Aqua-Air**.

The Aqua-Air range has been designed specifically for quiet, unobtrusive operation and includes precision-engineered components, like **Diolife** diaphragms, to improve pump life. Aqua-Air pumps also use carbon-impregnated air filters to guarantee first rate air quality.

The Interpet Aqua-Air range is the result of over 20 years' manufacturing

Trade News

(continued)

experience. Consequently they have been able to ensure they are both quiet and exceptionally reliable.

The 4 pumps in the range have been designed to cater for all aquarium air needs, and will help deliver high quality air to aerate the aquarium, to power filtration or for ornamental effect. Using Aqua-Air pumps result in happier, healthier fish. The range has a common discreet design, together with a patented labyrinth valve chamber and a solid base, which help absorb excess noise. Special anti-vibration rubber feet have also been included to eliminate irritating rattles and any movement, such as 'pump-walk'.

Each pump comes with clear instructions, indicating the tank size for which the pump is relevant. The range is designed to meet air requirements in all tank sizes.

The Aqua-Air range is part of Interpet's comprehensive range of aquatics products. It is complemented by the Aqua-Gardens plastic plant range and the Beauty Light range.

The pumps are supported by a developing and expanding range of associated products which already includes air valves, check valves and a kink and vibration-free silicone rubber airline. All these products will be clearly identifiable as part of the Aqua-Air brand.

The Aqua-Air range is also competitively priced, starting at £10.95 MRRP for the smallest unit, the AP1 giving it an excellent price to performance ratio.

AQUA-GARDENS™

The Serious Plant Alternative

The Aqua-Garden range is available in both starting neon and lifelike colouring and has 16 variations of leaf shape and colour and four sizes. As a result, it allows aquarists to either

mimic life in their planting or create a dramatic and stylish setting for their fish.

The Aqua-Garden range is the culmination of over 15 years' experience in bringing to market the permanent plastic plants that the public wants. One of the biggest attractions of permanent plants is that, unlike live plants, they do not require 'gardening'. In addition, some types of fish, notably goldfish, catfish and cichlids, destroy plants either by eating them or by digging them up.

The Aqua-Garden range is also ideal for those people who have found that the water conditions needed by their fish are not suitable for sustaining all types of plant.

In the past there has been a problem with permanent plants becoming displaced in the aquarium. To solve this all Aqua-Gardens plants have a specially designed scooped base, allowing them to be planted in the gravel in life-like clumps without the danger of drifting.

To overcome the problem of cleaning permanent plants, Interpet has also developed a special Aqua-Garden Plant Cleaner. This is a specially formulated cleaning solution which removes algae, chemical and mineral staining (a common problem for aquarists).

Aqua-Gardens is part of Interpet's comprehensive aquatics range, which includes the Aqua-Air aquarium pumps and Advanced Formula Aquarium Treatments. It also includes the Beauty Light fluorescent tube range which is specifically designed to bring out the blues and reds in fish and green shades in real and artificial plants.

The Aqua-Gardens and Aqua-Gardens Neon ranges are available from pet stores and good aquatic shops. They come in 16 leaf and colour patterns, and prices start at £1.25 MRRP.

Further information from:
Tracey Masters, Interpet Limited
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Think about MARINES ... again!

by ©Colin Grist (Editor of International Marine Aquarist Association publications)

It's a funny thing with the marine aquarium hobby in that it has become increasingly popular over the past 25 years or so, although in many ways it can still be regarded as being in its infancy.

Certainly there appears to have been enormous advances in water treatment technology over recent years which have helped to achieve the successful maintenance of some of the less hardy marine species. I say 'appears' because much of this technology has been adopted from techniques used for many decades by public aquaria, in both marine and freshwater applications, and in industry and science. I'm talking particularly about wet/dry trickle filtration but, even the principles of foam fractionation (commonly known as protein skimming) are not as new as many would think. What has really happened is, all this technology has been re-packaged using hi-tech materials and up-to-the-minute design, and combined with modern electronics we now have an array of apparatus available to us which is positively space-age, if not futuristic.

There has also been enormous developments in water additives for the marine aquarium, and we are currently witnessing fierce rivalry between numerous manufacturers and their distributors to gain the main market share for their products.

There is no doubt all these developments work, some better than others depending on their application, but, is this fishkeeping? It could be argued that many marine hobbyists are simply water keepers, not fishkeepers. This was born true when an almost disillusioned marine aquarist informed me he had realized his fishes and invertebrates had become incidental, whilst his equipment enjoyed a greater level of importance. Luckily he has changed his attitudes and he is now an even more successful fishkeeper than he was before. It is a fact that when you hear a group of marine hobbyists

talking together, they will often not be talking about their fascinating coral reef animals, but about their equipment. Some definitely suffer from the "mine's bigger, better and more expensive than yours" syndrome. I'm not saying there is anything particularly wrong with any of this as the way our egos work is just part of human nature, and there is always room for all types of hobbyist, whether they simply view their aquarium as a living picture which needs to look after itself, or, they are interested in studying the animal life they keep, or, they are fascinated by the technical aspects of water management.

The interesting thing is, there are many of the challenges still available to us which inspired early freshwater hobbyists to get involved. Established freshwater fishkeepers rarely ventured into marines for several reasons, of the very least because they were often regarded as being a bit of a pose for the trendy (almost like a fashion accessory) due mainly to their bright colours and flamboyant characters. More importantly because there appeared to be few challenges such as, the possibilities of creating natural looking miniature habitats — it was regarded impossible to maintain the various plant-like marine algae, living corals and other polyps, so early marine aquarists relied on bleached dead coral for decoration, which created a totally unnatural scene. Breeding marine fishes and invertebrates was also an option not taken up as it was regarded by most as being eternally impossible. These stigmas still exist today to a certain degree. On the practical side, many hobbyists felt they could not afford to get involved, it being a hobby for the rich only.

Think About Marines ... again!

(continued)

The truth was actually somewhat different as some of the earliest marine aquarists were just as successful in keeping, and propagating, corals and other poly animals as modern hobbyists, and more so in some cases. There were also reports of breeding successes in the 1950's and earlier. The problem was, these experts were far and few between and the information they recorded was not readily available to other aquarists.

For many years there seemed to be no need to change the situation. Live animals and corals were collected from easily accessible reefs which were often close to population centres with an airport. Things couldn't have been more different for the early freshwater aquarist where intrepid enthusiasts, often risking their lives, collected fishes from some of the most inhospitable places on earth, miles away from civilization. It became an obvious necessity to breed these fishes in captivity. As we all know, virtually all the popular freshwater aquarium fishes are now bred on commercial farms which have been established in warm climates, with only a very small percentage being collected from the wild. It is the exact opposite where marines are concerned with the majority being wild caught and a small percentage involving only a few species being bred in a couple of commercial facilities.

Freshwater hobbyists have also had the challenge of breeding rare species because their natural habitats are under threat. The information the hobbyists record being invaluable to science. Already there are species which only exist in captivity because the wild populations have become extinct due to some disaster — usually caused by man.

Marine environments are not under the same level of threat and it is now well documented that the aquarium trade is not causing any detrimental impact in most collecting areas. Fortunately coral collecting for

bleaching has declined and the trade in dead coral is illegal in many parts of the world. This has helped to create new interest in keeping living corals in recent years. Unsavory methods of collecting marine aquarium fishes such as dynamiting and using cyanide have largely been outlawed, although not wiped out as yet, and there are now training schemes in operation to teach fishermen how to collect using nets. Marine organisms tend to be extremely prolific with only a tiny percentage ever surviving as most simply serve as food for other organisms. It does mean, though, there is always a huge recruitment potential to replace those that have died, or have been removed. However, there is always room for further improvement in fisheries management.

Despite all this, we must never be complacent. De-forestation which causes flooding and silts to be washed down to the coast, resulting in corals being smothered and killed, dynamiting and digging coral to be processed into cement, chemical pollution from industry and intensive collecting for the tourist souvenir trade are all causing severely harmful effects on coral reef habitats. There is, therefore, a real need to research the possibilities of breeding as many species as possible otherwise we may end up with some disappearing for ever.

The time has come to take the challenge as it is now possible to maintain and propagate many species of algae, corals and other poly animals which allow opportunities to create natural looking miniature habitats. Also, there are now over 100 species of marine fishes and invertebrates which have been bred in captivity, thanks to a relatively small number of enthusiasts who have bothered to go beyond the technology, and perhaps because of it are now more knowledgeable about ecology and biology and, like their freshwater hobbyist counterparts, are interested

Think About Marines ... again!

(continued)

in the natural history of the fishes and invertebrates in their own right.

It seems that some enthusiasts have returned to basics and taken on the greatest challenge of them all, the breeding and rearing of more marine species to try and ensure they have a future. It is still a sad fact that only a few are interested in going any further than keeping marine aquaria purely for their aesthetic value and there are only a handful of aquarium society members who have taken an interest in the subject. Aquarium societies worldwide are predominantly concerned with freshwater fishkeeping only.

I believe it is time for change and, although there is much work still to be done involving freshwater species and habitats, marine fishkeeping must do a lot of catching up.

I hope, by means of forthcoming articles to help dispel some myths

about keeping marine aquaria and show it is a hobby which can be as easy or complicated and as cheap or expensive as you want, depending on what you want to put into it and get out of it. There is definitely something of greater value to them than just an object that looks pretty. Hopefully I will do my little bit to help de-stigmatize peoples view and generate more interest in the living animals and their life-styles, inter-relationships between species and their characters. Eventually I want to show it is not impossible to breed reef fishes and invertebrates and that such projects can be as rewarding as breeding freshwater species, if not more so judged by the fact reef species are not as adaptable as those from freshwater habitats.

If you have ever thought about starting a marine aquarium, but got no further, then now is the time to think again.

You can obtain information and advice about marine aquaria from the INTERNATIONAL MARINE AQUARIST ASSOCIATION

The Association is affiliated to the F.B.A.S. and has a worldwide following. It publishes the MARINE AQUARIUM JOURNAL and the bulletin MARINE NEWS and amongst its ranks there are numerous well reputed authorities on marine aquaria, conservation and related subjects.

For further details please write to:

IMAA
PO Box 7
Ilminster, Somerset, TA19 9BY

In December Fishworld

The various techniques for setting-up different types of marine aquaria

On the trail of Guppy's guppy: The 1995 Aquarian Expedition to Trinidad

by Peter Burgess and Stan McMahon, Plymouth & District Aquarists & Pondkeepers Society

The Caribbean island of Trinidad is renowned for its vibrant carnivals, swinging calypsos and even the occasional international test match. As far as the aquarist is concerned, Trinidad is the home of something far more exciting — wild guppies!

WILD GUPPIES ■

The opportunity to observe guppies in their natural surroundings provided the incentive to plan our Trinidad expedition. We intend to survey the island's freshwater habitats and bring back live guppies. Readers may be questioning the need to travel several thousand miles in order to catch guppies, when they are readily available in almost every aquarium shop in the U.K. The reason is conservation. As we know, many thousands of guppies are kept in aquaria throughout Britain. Furthermore, the guppy has been introduced into the wild in over 22 countries for the control of aquatic mosquito larvae. On the face of it, the species appears completely safe from extinction. However, our aquarium guppies have been selectively bred over many generations for their finnage and coloration and in doing so, have been genetically altered. Ornamental guppies will lack the genetic variability found in their wild ancestors; extensive inbreeding may result in weakened stocks. This could explain recent reports of health problems and high mortalities in imported guppies. It is therefore vitally important not to lose the original wild fish which may be ultimately required to add "new blood" and "new vigour" to cultivated strains.

VULNERABLE ■

The true natural habitats of the wild guppy are restricted to South American regions of Venezuela, Guyana and Surinam and some neighbouring lesser Antilles islands, including Trinidad. The

guppies of Trinidad are fascinating in that several distinct populations exist in various river drainage systems, these populations differing from each other in both appearance and courtship behaviour. Amazingly, the genetic variability between Trinidad guppy populations is greater than that between different species of lake Victoria cichlids. Each guppy population is therefore unique, and since it inhabits a confined area, it is also vulnerable to localised habitat changes, which may be caused, for example, by pollution or urbanization. It is important, therefore, that breeding groups of the different populations are maintained in captivity — just in case something unforeseen should happen to the wild fish.

We intend to visit Trinidad sometime between February and early May, to coincide with the dry season when the rivers are clear and the fishes less dispersed. An important part of our trip will be to monitor for potential threats to the future survival of Trinidad's guppies, such as river pollution or competition from introduced fishes. We propose to bring back a few "founder stock" from selected populations. These fish will be offered to specialist aquarists for captive breeding programmes.

TRINIDAD'S FRESHWATER FISHES ■

Whilst in Trinidad, we will take the opportunity to collect and photograph some of the island's other freshwater fishes. These include cichlids, cichlids and *Hypostomus* catfishes, rivulids, eels and leaf-fishes. The island is also home

On the trail of Guppy's guppy:

(continued)

to two unusual characins. *Hoplias* is a large and robust carnivorous characin which preys on other fishes including guppies. Like its cousin the piranha, *Hoplias* possesses an impressive set of sharp teeth — any caught in our nets will be handled with great respect! The swordtail characin, *Corynopoma* (= *Stevardia*) *risei*, is even more unusual in that the females are fertilized internally, the males having an extended organ on the gill covers which plays a role in mating. (Incidentally, this species has recently appeared in the aquarium shops and has been successfully bred by our club chairman, Mr. John Rundle.)

How did freshwater fishes invade an island which is surrounded by sea? It is likely that many species probably entered the waters of Trinidad when a land mass connected the island to South America, some 1,000 to 10,000 years ago (which is very recent, geologically). Other species, such as *Corydoras* catfishes, may have been introduced onto the island by man. The release of "exotic" (i.e. non-indigenous) fishes presents a worrying threat to the future survival of Trinidad's guppies.

HOW THE GUPPY GOT ITS NAME ■

Trinidad is famous for one other event in the history of the guppy. It

was on the St. Anne's River, close to Trinidad's bustling capital, the Port of Spain, that the Reverend Ichmerna Guppy caught some attractively coloured fishes over a century ago. A few pairs of fish were donated to Dr. Gunther at the Natural History Museum in London. Gunther thought these were a new species and described them as *Girardinus guppii* in honour of the Reverend's fishing efforts, unaware that the same species had already been described from Venezuela as *Girardinus reticulatus* by Dr. Peters. Following further name changes, the species is currently classified as *Poecilia reticulata*, but as we know, the term "guppy" lives on as the common name for these remarkable little fish.

EXHIBITION OF TRINIDAD GUPPIES ■

We intend to exhibit some of our wild caught guppies at next year's (1995) Plymouth Aquarist Society Open Show (usually held around September). We also plan to give illustrated talks about the trip to aquarist societies — keep an eye out next summer for details. In the meantime, we'll be busy finalising arrangements and, of course, developing our skills at Limbo dancing! Calypsos, carnivals ... and guppies ... here we come!

We are extremely grateful to Aquarian for generously sponsoring our 1995 Trinidad expedition.



David Ford opening Paul Corbett's shop on the Isle of Wight during Grocklemania Weekend 22nd to 24th April 1994

A BAD Business

by Jim

A few weeks ago I read in one of our local papers about the closing down of an Aquatic retailers. It was a bankruptcy notice and it set me to thinking about the reasons why.

The shop in question is not in our area and I had never heard of it before anyway. Being much travelled, I usually dive into a Tropical fish shop in a strange town before I enquire about the nearest tea shop, toilet or pub.

Why...??

So, was the reason for the failure a lack of advertising or insufficient publicity? Could be a one time aquarist who thought he could quit the rat race and work for himself? Not realising that he was going to enter a bigger rat race of Premier Division or Formula One status!

Could he be one of the intrepid band who thought that all the members of his local fish club would troop in daily and purchase his wares?

He could quite well be a genuine bloke who tried to keep his prices down in order to keep Aquarists happy, only to find that the Aquarists equated cheap prices with cheap rubbishy fish.

Or was he one whose prices were so ridiculously high that no-one ever bought them? I mean to say, £19.50 is a bit steep for a *Corydoras*. "They are gregarious, little chaps and do best in groups of four or five", we are told. At that price you do not get enough change out of £100 to buy the smallest

tin of Aquarian flake to feed the beggars on!

Then again he could have been one of the dingy back street traders who are only going through the motions. You all have been in these shops have you not? The floors are awash with slippy water and rotten strands of *Cobomba*. The old angle iron tanks are falling apart with rust. Some of them even have algae growing on the outside of the glass.

Downhill all the way

He could have been someone who had bought some space in a garden centre. You all have seen them too. Coupled with a lack of understanding and little, if any, knowledge, the once pristine tanks with one species in each gradually go downhill. Soon there are four or five species in each tank. Eventually it gets to the stage where the part-time help, and there is always a part-timer in these shops, has to ask you to point out what fish you want.

You have all been witness to the crime of wrongly labelled tanks. The tank may have held Gold Saltins last month but today there are Gouramies in it, some are Gold. This is confusing for the new Aquarist who does not want to show his lack of knowledge. He asks for "two of those please". He goes away thinking that he has a pair

A BAD Business

(continued)

of Mollies because that is the legend on the tank.

A Rogue?

You may think that I am an unprincipled rogue for doing what I am about to tell you. The outlet concerned is now no longer in business for lots of the above reasons. I paid a visit one morning mid-week last year and had a quiet potter around the tanks.

The man did not seem unduly worried when I pointed out a fifty quid *Balistas* lying dead on the coral! I could not believe my eyes when I saw some of the labels. Here was a label stating that the occupants were Blue Acaras. The fish were blue right enough but they were two inch long Malawi cichlids of a *Pseudotropheus* species. Another said Platys when they were Swardtails.

Wrongly labelled!

The *piece-de-resistance* for me was the label proclaiming to one and all the fact that the fish in the tank were Penguins (*Thayeria obliqua*) 60p each! "Excuse me," I said to the man, "what are these?" He looked at me for the nuisance I was, disturbing his enjoyment of Radio One coming from the Walkman hanging from his neck.

Slippery slope to ruin

He inclined his head, looked at the label and after stabbing it with his finger said, "Look, Penguins". I looked again and said, "There are ten in there, can I have them all please?" He caught them, I paid, I left.

I was now the proud possessor of ten lovely Pencilfishes, *Nannobrycon eques*. They were the best I had seen for ages. Now ... did I help him on the road to ruin? Or was he already on the slippery slope due to his indifference, attitude or ignorance?

***** PRESS RELEASE *****

Aquarian confirm their support for 5th Grocklemania event to be held during the Spring Bank Holiday 1995.

Venue: BELGRAVE HOTEL, SANDOWN, ISLE OF WIGHT
Date: FRIDAY 26th MAY to SUNDAY 28th MAY 1995

The Isle of Wight A.S. will again be organising next year's AQUARIAN AQUACLUB QUIZ, the final will be held during the Grocklemania weekend.

All clubs or societies who wish to enter this quiz please apply to:

AQUARIAN AQUACLUB QUIZ
The Orchard, Gatcombe, Isle of Wight PO30 3BF
* * by 31st December 1994 * *

Aquarian will provide 6 FREE tickets for the weekend to each Society who reaches the final.

To help celebrate the 25th Anniversary of the AQUARIAN ADVISORY SERVICE, the Company will be fully represented at Grocklemania.

***** Please watch this space for more details *****
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LILY'S Everyone's Favourite

The renowned Sparsholt College in Hampshire recently played host to people from countries as far apart as Texas, Germany, Czechoslovakia and New Zealand, in addition to home-grown enthusiasts, to attend the 10th Annual Symposium of the International Water Lily Society. Under the guiding hand of Harry Hooper, Secretary of the British Section, they were all in for an intensive week of Lily admiration/adulation.

The three days pre-Symposium activities included visits to many of Britain's best-known Water-lily growers, as well as taking in as many tourist sights en route. Back at Sparsholt, there were more formal things to become involved in — Annual General Meetings, lectures and presentations all leading up to the Hall of Fame Banquet on the final evening. For most attendees, perhaps the best, or most useful, part of the whole event was the opportunity to meet other Lily-growers and to exchange experiences and pick up any valuable tips along the way. There was also the opportunity to meet Traders each evening during the less formal (more alcoholic!) section of each day following the evening dinner. On hand to give assistance on all pond-related aspects were American Pharmaceuticals, Anglo Aquarium Plant, Aquavita Advisory Services, Beaver Plant Farm, the Federation of British Aquatic Societies and Tetra, who sponsored the event at the College.

Two of the Lecture titles, from the packed programme, covered aquatic plants from two quite contrasting viewpoints: one took a look at species

in ... Siberia, whilst the other considered aquatic plants as dietary and medicinal essents. Much of the information in all things was almost simultaneously translated into German — a tongue which, regrettably, most of the trade exhibitors didn't have, but the sign language was most inventivel.

One slight surprise, from a fishkeeper's approach to things was to find just how far to the horticultural side of life the art of water-lily interest was located: with all the 'tricks of the trade' growing additives used, it seems that pond water conditions are so doctored as to make simultaneous fishkeeping almost impracticable, or certainly of slightly less significance.

By coupling the specialist interest with travelling around, both the most fanatical Water Lily fanciers and their perhaps not quite so obsessively-interested partners found the week's activities a total success; it is unlikely that so much varied sightseeing will be fitted in next year when the event is to be staged in the Windy City of Chicago, on the shores of Lake Michigan, around which the distance between cities will be so much greater.

HAPPY FOOTNOTE:

During the post-Symposium period, Harry Hooper lined up one very special event, not on the official programme, for himself — **HE GOT MARRIED!** The event took place in London with a Blessing occurring in, guess where — Stapleley Water Gardens. Federation members join all **FISHWORLD** readers in wishing Harry and Lesley every happiness for the future.



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For advice on any fishkeeping topic, write to: Dr David Ford, AQUARIAN ADVISORY SERVICE, PO Box 67, Elford, West Yorkshire HX5 0JQ.

aquarian

ADVISORY SERVICE

by Dr. David Ford

aquarian

ADVISORY SERVICE

Q. Having recently set up a tropical freshwater fish tank, I would be grateful for any advice you could give me on keeping flounders, e.g. food, temperature, water conditions etc. M.S.H. of Salisbury

A. The Flounder is a member of the *Pleuronectiformes* Order of fishes and can be *Bothidae* Family (the Lefteye Flounder) or *Pleuronectidae* Family (the Righteye Flounder). The Lefteyes are totally marine, but Righteyes are found in brackish and occasionally in freshwater.

The young fish are bilaterally symmetrical and swim midwater, but one eye migrates as the fish flattens into non-bilateral symmetry. Not only the eye moves, but dentition and finnage are modified and the swimbladder collapses in a complex metamorphosis.

The fish are totally carnivorous and once flattened become benthic and sedentary and so are not really considered pothigh. For this reason they are not included in books on ornamental fishes. To study the particular species you want to keep (and there are over 300 species in our local waters) one is

Platichthys flesus you will need to read books on ichthyology or marine biology.

Platichthys flesus will need a coldwater marine aquarium which is a difficult system to maintain and requires specialised equipment and knowledge. If you have found one of the rare Tropical Freshwater species for sale such as *Achirus lineatus* (also sold as the Lined Sole) it will accept all water conditions but does thrive best in brackish water. Tropical temperatures are required (its natural Brazilian waters are about 25°C) and they prefer a sandy base (to hide in all day long). Feeding is difficult but they will lunge and swallow chunks of Mussel or fake frozen fish. The fish stay quite small (4 or 5 inches) but rarely survive long except in the hands of skilled aquarists.

Q. We are thinking of buying an Aquarium with some tropical fish. The only problem is that due to our religion, we would not be able to feed them

anything that has animal protein or gelatine in it. Please could you tell me about any alternative fish food which is totally vegetarian and where I could get hold of it. I would also be most grateful if you could send me information about fish food and looking after them, especially in our circumstances where they are not fed any animal protein. J.L. of Loughborough

A. Thank you for your interesting letter. One of the problems with recommending a diet free of animal protein is that many fish are carnivorous and so must have animal protein to survive.

I suggest you choose herbivorous species and feed them a vegetable diet. Most manufacturers make a vegetable flake food, such as *Aquarian Herbivore Food*. This can be supplemented with human grade foods such as peas, lettuce, spinach and even fruit.

Note that raw vegetables are not well digested by fish (in the wild they eat aquatic plants which are lower in cellulose than land plants) so breakdown the cellulose first. Boiling water is the best way (care!) for example, lay a leaf of lettuce on a saucer and add a few drops of boiled water and pour away immediately. The lettuce will soften and can be eaten and digested by most fish then. Peas and Spinach should be cooked (frozen forms are OK because the food manufacturers precook before freezing).

Goldfish are omnivorous but will thrive on vegetable diet. There are many commercial varieties that rival most tropicals for their beauty. If you prefer a tropical aquarium keep the Livebearers such as Mollies, Guppies, Swordtails and Platies, all will do well on a vegetable diet.

You could also keep specialist vegetarian fishes such as Pouch and Tinfoil Bars, but these require large aquaria.

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