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Dear Reader

Welcome to a new season of **FISHWORLD** which, through circumstances, will see a slight change in Staff.

As Peter Furze is now Chairman of the F.B.A.S., he felt that it was time to put down the snake and concentrate more on the overall picture of the Federation's affairs rather than devote most of his time to editing this magazine — at least for the next few months. He has therefore suggested that I consider myself 'promoted' from Features Editor and take over full Editorial responsibility for **FISHWORLD** as far as what's between the covers is concerned, although he will still be involved in the actual printing end of things.

The result of this 're-shuffle' means that there is now only one address to which your valuable contributions should be sent (mine) making things that much easier for you.

We are getting 1995 off to a good start with plenty of fish subjects — judging by the content in this issue the accent appears to be on breeding, but there's other things to interest you too and, perhaps, make you smile. Not everyone is confident enough to breed, or exhibit, but we appreciate that we have to cope with every level of 'expertise' of our readers. Write to us with your problems (and successes) and we will do our best to solve them and congratulate you accordingly. Our main aim is to keep you involved in fishkeeping, wherever your individual interests lie.

Dick Mills, Editor, FishWorld

Contributions for the next issue could be in hand by April 10th 1995 and sent to: Fishworld Magazine, 10 Rosken Grove, Farnham Royal, Buckinghamshire SL2 3DZ. (Tel/Fax: 01753 643675).

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FROM YOUR CHAIRMAN

Dear Friends,

I write in this Edition of *FishWorld* no longer as Editor, but as Chairman of The Federation of British Aquatic Societies, the post I was elected for at the Annual General Meeting of the Federation.

I have enjoyed my period as Editor and would like to thank all our Advertisers for their valued support. I would particularly like to thank "Aquarian" whose generous support to this magazine enables it to be sent to all known Judges & Societies FREE.

It is with great pleasure that under the leadership of our Past Chairman Weston-Super-Mare is an aim this year under new sponsorship. Full details from Joe Netherell and an update for you all in the June issue of *FishWorld*.

Dick Mills has now taken on full responsibility for *FishWorld* as Editor and Bob Lemmon has taken over the advertising. I hope you will support them in the same way as you have supported me.

As Chairman I hope to attend as many Society shows as possible during the year.

Major Exhibitions this year will be **Malvern Garden Show, Hampton Court** and possibly **BBC Gardener's World**.

Happy and successful fishkeeping to you all,

Yours faithfully,

Peter A. Furze
Chairman F.B.A.S.

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F.B.A.S. NEWS

For 1995, there are several important changes which will affect exhibitors at Open Shows.

Championship Class Trophies

Everyone wants a Championship Class Trophy for their Society's Open Show but some, understandably, are more desirable than others. In an attempt to introduce a more equitable Trophy distribution, the allocation of Championship Class Trophies has been modified for a trial period beginning this year.

Societies applying for a Championship Class Trophy will be allocated a **single fish** Championship Class Trophy. The 'A', 'B' and 'C' Trophies (see the FBAS Yearbook) will still be maintained, although some rebalancing of Classes within these Trophies has been necessary.

Furnished Aquaria, Aquascapes, Pairs and Breeders are not generally agreed to be popular Trophy Classes; additionally winners do not qualify for the Supreme Championship, a fact which is compensated for by them earning **double points** in the FBAS Brooch Scheme.

These Classes, along with **Marines (Y)** and **Plants (Z)**, now form a new **Supplementary Tariff D**, not part of the rotational basis for single fish Championship Class Trophy Allocation, but AVAILABLE FOR ISSUE ON A 'first come, first served' basis. Societies can apply for any one of them as an **extra** Championship Class Trophy, providing that both the Trophy Officer and the applying Society are confident that there will be reasonable support for that Class. This means that some Societies will apply for, and receive, two Championship Class Trophies for their Open Shows.

Societies not normally featuring single fish Classes at their Open shows, but who would normally apply for a **Furnished Aquaria, Aquascapes, Pairs or Breeders** Championship Class Trophy, are also at liberty to apply for an extra Trophy.

Some single fish Championship Class Trophies will be doubled up during the Show season, however, these will be spread far apart to make them available to as many exhibitors as possible.

Single Fish Championship Trophies only duplicated when all Trophies in that group have been allocated.

Exhibitors! Please read, and understand, the Federation's Trophy Rules, especially Rule 14, as this deals with the restrictions of the awarding of duplicated Championship Class Trophies. **Ensure you have the current (1994) copy of the Constitution!**

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30	36	89.46	1 1/4	32	360
40	42	104.70	1 1/4	32	620
40	48	119.94	1 1/4	32	620



F.B.A.S. NEWS

(continued)

Eligibility for the Supreme Championship

Only winning fishes from each single-fish Championship Class (the first four places) are eligible for the 1995 FBAS SUPREME CHAMPIONSHIP.

Best in Show Winners (from any Society Open Show, not just FBAS Shows) are eligible for the BRITISH OPEN FISH CHAMPIONSHIP (held at Corby Open Show, 14th May 1995).

Brooch Scheme

In addition to receiving the relevant Brooch depending on the number of 'wins' at FBAS-supported Open Shows, each Brooch winner will also receive a Commemorative Shirt of the appropriate Bronze, Silver or Gold colour.

FBAS Show Stand

The Federation's main Show Stand is now back on the road and bookable for Societies' Open Shows. Again the Yearbook gives full details about booking the Stand (plus alternative Area Stands availabilities too).

CONTACT ADDRESSES

Trophy, Brooch and general Show information :-

FBAS Trophy Officer, 5 The Nook, Corby Village, Corby, Northants NN17 1XA

Main Show Stand:-

FBAS Stand Officer, 28 The Mall, Binstead, Isle of Wight PO33 3SF

Society Personality of the Year Award

There's always someone in every Society who puts in more effort than the others. They don't have to be a Committee member nor a successful exhibitor at Shows.

Make them feel really appreciated by rewarding their efforts with a Rolf C. Hagen-sponsored Personality of the Year Commemorative Shirt at your Society's Presentation Evening.

All you have to do is to write, on Society-headed paper, to the Trophy Officer (see above) stating why they deserve such an award and he'll do the rest.

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Thanks, Joe!

As most readers will know, Joe Nethersell retired from the Chairmanship of the Federation of British Aquatic Societies in December after a period of eight continuous years in Office. Here are a few extracts from many messages received from Societies appreciating his work.

'The most hard working and most travelled Chairman the FBAS has ever had' Hounslow & D.A.S.

'Thanks for your services given to the Hobby' Oldham & D.A.S.

'All we hope is that Joe will not leave the hobby entirely and that the Societies which form the FBAS continue to benefit from his wealth of experience' Bracknell A.S.

'The Federation and the Hobby advanced in leaps and bounds under his Chairmanship' Strood A.S.

'Thank you for all the time and effort you put into the FBAS' Merthyr A.S.

'One could not fail to recognise the work being done by him for our Hobby' Solway A.S.

'We have appreciated his work in bringing the Federation's numerous services to the notice of ours, as well as other Yorkshire-based Societies' Burley-in-Wharfedale A.S.

'Outstanding achievements during the past eight years' Tyne-Tees Area Association

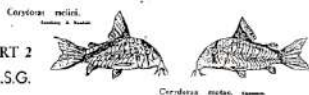
'Unstinting, apparently indefatigable efforts on the Federation's behalf' Antony Evans (Editor A & P 1948-66, Editor Petfish Monthly/Practical Fishkeeping Monthly 1966-78)

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A Look at Corydoras

PART 2

by John Edwards, East Kent A.S.G.



HAVING HAD a look at your Corydoras in your community tank, I hope you did not see the symptoms of bad health in any of them — worn-down mental and nictal barbels, poor colour, poor deportment, a hollow belly or, worse still, not even being able to find your fish at all! You did? Well, you have probably been asking yourself how do I start to put things right? ... to bring back those long barbels and those subtle colours.

Firstly, remove all those other bottom-dwelling fish that will compete with Corydoras, such as Dwarf Cichlids, larger Catfish etc. Start a feeding regime that is geared towards Corydoras, Aspidoras and Brochis species. You probably feed your fish at the same time of day and at the same place; your fish will become accustomed to this, so find a place at the other end of the tank to feed your Corydoras. It may take several days before they find this new food allocation zone so do not feed too much to start with. Another useful tip you can use is that Corydoras will feed in half-light (just after 'lights out' perhaps).

The next pointer to look at is what kind of food should be offering our fish; should it be in the form of dried food or live food? We should also look at what type of Corydoras we have — are they round-nosed such as Corydoras aeneus (GILL 1858) found in many South American countries — or are they more the long-nosed types such as Corydoras delphax (NUSSEN & ISSBRUCKER 1983) from Colombia? [We will be looking more closely at both these species in later articles].

The shape of the fish's snout will indicate what kind of food it will be scavenging for, and to what success it has in obtaining it. A long-nosed species will be able to drive down into the substrate to retrieve such food as Tubifex worms whilst a round-nosed

species may only be able to collect Tubifex while it is on the substrate surface, finding tablet food more accommodating to its food collection method. Having mentioned Tubifex, a few words of caution; these small red worms are collected from river mud close by sewage outlets, for some time after they have been collected they will contain this contaminated river mud which they will secrete after they have been brought home, so keep them under running water. If you find part of your Tubifex has a grey area in it, do not feed this to your fish as it will infect them with a fungal infection and your fish will be in trouble. One last point with Tubifex — the feeding spot must be checked regularly to make sure that you are not building up a colony of unclean worms.

A similar live food is Bloodworm, this tends not to get into the substrate and may be caught by other fish, which may be a good thing as it prevents their hatching out into mosquitoes, the last thing the family wants to fight off whilst watching TV! Whilst still on live food, we must mention Cyclops and Daphnia, both are ideal foods for the round-nosed species and which will be an added change to tablet food or moistened flake food allowed to fall into the feeding area.

One method I used to use was to deliberately overfeed my other fish so that there was enough left over to get to the bottom of the tank for the Corydoras; however, this leads to pollution not simply from uneaten food but also from food being passed out unprocessed from the fish as excess droppings, which again will contain polluting material.

Although pollution should bring in water conditions as a connected subject, because it is such a big subject I will leave it until next time and bring in spawning Corydoras too.

F.B.A.S. PUBLICATIONS

From FBAS Show Stands, by Mail Order, or at General Assemblies.

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Booklet No 2	THE SUNFISHES	£1.00
Booklet No 3	SHOW FISH GUIDE Vol.1 (inc Binder)	£6.00
Booklet No 3	SHOW FISH GUIDE Supplements	£1.00
Booklet No 4	GOLDFISH STANDARDS	£1.00
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Something Really Different for the POND

by Dave Page, Corby & D.A.S.

DR. JOHNSON once said "Example is always more efficacious than precept" and that's what I've been doing. I had been altering my ponds last year and have nearly finished the third (and largest) one — about 17' x 8' and around 3' deep at its deepest point. The middle-sized one (7' x 7') has already got some good plant growth going, whilst the top pond, a small 3' x 2' irregular-shaped plastic type has a miniature Water-lily and vigorously growing Hornwort and *Elodea crista*, the introduced *Daphnia* and *Gammarus* were also doing so well in June I decided to introduce some fish — White Cloud Mountain Minnows and half a dozen Golden Medaka. Within days, the fish had settled in, gorging themselves on the live food and beginning to spawn, well, the Medakas were but I still don't know whether the white Clouds have but they were equally as active.

Since I did so well with these little fishes during the summer (remember the two species are generally regarded as "tropical") I'd like to tell you about them.

"What are those little fish in there?" is the first question everybody asks me when they see them. "Golden Medakas", says I, "Oh", is the usual reply, with a tone that insinuates "OK if you say so, but what are they?"

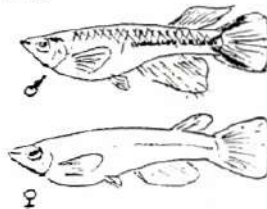
Golden Medaka (Japanese Ricefish, *Gambusia holbrooki*)

These fish are a golden morph of *Oryzias latipes* (*Oryza* is the scientific name for rice so it should not be surprising therefore to learn that these fishes inhabit paddy-fields where rice is grown). They are also known by other synonyms such as *Aplocheilichthys latipes* and *Haplocheilichthys latipes*. They have also been recently reclassified since, for some time, it had been thought they are more closely related not to the

Killifish but to the Halibuts and are now considered part of the Family Adrianchthyodae. They come from Eastern Asia, Japan, China and South Korea, however, the exact area of distribution is not really known for certain.

They prefer a temperature range of 20°-25°C (maximum 30°C) and are fairly easy to keep, liking a relatively large water surface area which is brightly lit by sunshine. Water conditions are not so critical as for Killifish, although soft, neutral water suits them better than hard and alkaline, especially if you are going to try and get them to breed. Feeding is also easy, they prefer live foods with a definite relish for black mosquito larvae (they have been used for malaria-carrying mosquito control) but they will take flake, frozen and freeze-dried foods too.

They are best kept as a small group. I have six and these turned out to be three true pairs even though they are not always easy to sex when young.



Males are generally a bit slimmer and, as they mature, their dorsal fin becomes more pointed and the anal fin larger with some individual fin rays producing extensions or fringes.

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The Green Guide to Breeding Angels

by Nora Green

THE MOST important thing to remember is that fish can't read, so don't buy any book until you have got your little babies swimming about

The first thing to do is to visit your local fish shop and ask for 'a pair'. You will be told that unless they are in breeding condition you can't tell male from female. The book (had you bought one) would tell you you must buy six or seven. From those, if you are lucky, you may get a pair that fall in love. I bought two fish, told them they were an ideal couple just like that.

Both fish spend a few days cleaning a leaf or flat surface. The female (she's the one with the rounded thing sticking from her tummy) lays the eggs on the cleaned surface. After which the male (the thing sticking from his tummy is more pointed) swims over to fertilize them.

Shortly after they will eat them. Ten to fourteen days later the same thing happens again! I've discovered that by just switching on the light, or if someone sneezes in the room it will upset them and they eat them.

Should you keep your breeding pair in a community tank once they have laid you can build a dividing fence in the tank without upsetting them.

To do this you make a wooden frame that fits inside the tank from side to side. This new bit is most important. From the SIDE of your net curtains cut a piece that will fit over the frame. It is important that you cut it from the side, this way you can always use the curtain at a smaller window.

You can move rocks, filters, do whatever is needed to put up the fence, but remember to leave the light alone and do not sneeze or they will eat them.

If that doesn't work then set up a tank in your kitchen, it may help if the kitchen is constantly full of smoke from burning food. All you need is a heater and an air stone. Once the eggs have been fertilized, hopefully on a leaf, cut out the leaf, run like hell to the other tank. You must get it back into water quickly, then put some Methylene Blue into the water. I don't know how much but until the water is a pretty blue colour!!

The eggs must have air fanning them otherwise they go all furry and sticky. The expert will tell you that at this point you should throw them away, however with a lot of spare time, and even more patience, all is not lost.

Get a small container, a pair of tweezers and a pair of scissors. Put the sticky mess into the container just covered by water. Carefully separate the bad ones (white furry) from the good ones. It's a very delicate operation taking two to three hours, but it can be done. The furry ones you throw away while the good ones go back into the tank.

Once the babies (fry) are free swimming the next problem is feeding them. You should breed your own Brine Shrimp. All you need is a coffee jar (empty out the coffee), an air stone plus the eggs. Put them altogether with

Something really different for the Pond

(continued)

In the breeding setup, use fine-leaved plants and some floating plants such as *Riccia* and *Salvinia*. *Oryzias* species all tend to spawn in the early morning and the spawning procedure is quite unique. The males drive the females vigorously performing a little circular dance in front of their chosen female before lining up directly below her to fertilise the eggs as she releases them. The eggs remain for some time hanging in a mucus-sheathed cluster from the female in front of her anal fin until they are brushed off as she swims through the plants. The eggs are fairly hard, similar to those of Killifish, and can be gathered and hatched in separate containers, or left with the parents providing there are plenty of surface plants in which the young fry can hide.

Spawning continues over quite a long period (in August some females were still carrying egg clusters) given the right conditions, the youngsters hatch in around 10-14 days and should

be fed immediately on Rotifers or newly-hatched Brine Shrimp nauplii. The fry are tiny and the best way to move them is by lifting them from the water surface using a spoon, make sure water temperatures are equal when transferring.

I have collected both eggs and young from the pond rearing them in a separate aquarium in the greenhouse, but there is still a lot in the pond swimming about just under the surface looking for food. They are all sizes, with new times appearing each day. However, they need to be watched carefully as water temperatures fall as they may not be able to overwinter in an open pond. I intend to leave one or two youngsters in the pond just to find out.

Editor's Note:

Being an outdoor "tropical" pond fish, in even our climate, is only one remarkable feature of this fish, there'll be an even more out of this world experience for it in the next issue.

STOP PRESS — News from the Weston Front!

No, not a WWI war communique held up by the recent postal problems, but advance news of a likely change to this year's **Supreme Fishkeeping Event at Weston-super-Mare** (public days 4th-5th November 1995).

Literally, as we went to Press, we received information that discussions are taking place in respect of this year's event, with the likelihood that it will be supported by **Rolf C. Hagen**. At this stage it is far too early for any definite details, but it is thought that existing main attractions, such as the Interpet-supported **Supreme Championship** and Aquarian's **AquaChamp Competition** are unlikely to be affected.

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The GREEN Guide to Breeding Angels

(continued)

salted water and Hey Presto, twenty four hours later you have food. When the young Brine Shrimp hatch the egg shells will sink to the bottom, allowing you to syphon the Brine Shrimp into a hankie (clean one). To do this you must suck the end of the tube very carefully, as I'm not sure if Brine Shrimp are harmful to humans should you swallow some. The live Brine Shrimp will look like brown dust in the hankie. Just rinse it in the tank and watch them feed. You can buy them already hatched but it is a lot cheaper to hatch your own.

My first babies cost me £5 a week to feed because I was buying ready hatched food. It took me almost three months to get them to a saleable size and I sold them all for nine pounds, as you can see I didn't make much profit from them

The tank must be kept clean. To do this you can buy a little gadget that connects into your air line and works on the same principle as your household vacuum cleaner, however while the babies are so tiny I prefer to syphon the dirt up from the bottom. The problem with that is you are likely to suck up a few babies, in fact you'll suck up a lot of babies. It is also hard to distinguish the babies from the dirt, therefore you must syphon the water into a bowl.

Let the water settle for a while and you'll find that the dirt will sink while the babies will swim. This is where once again you need lots of patience. You should begin this task about ten or eleven o'clock in the morning. The best way to get the babies back into the tank is to spoon them from the bowl. The problem is they will keep jumping of the spoon, but you should be finished by six or seven in the evening!

Don't worry about harming the babies by sucking them up the pipe. The Secretary of my local fish Club

says he's almost certain that it will not cause any brain damage. I must admit I was a bit worried that banging their heads as they travelled through the pipe would affect them in later life

But he did have some of my babies and he says they are as normal as any babies would expect that come from a tank of mine! My other question was how could we be sure that these babies had been through the pipe.

Once you have your babies growing and swimming you can go out and buy the book to find out how you should have done it!

However, to end on a serious note, I think the most important thing is to get to know your fish. They should not be something stuck behind glass in the corner of your living room, that you throw food at twice a day. They should be pets, like your cat or dog. Teach them to eat from your hand. All animals, be they cats, dogs, humans or fish benefit from some sort of training. Teach them to jump into the net, once you have done this you will be surprised how easy it is to catch them, instead of having to chase them all around the tank.

The best way to teach them is to feed them from a net, this way they will associate the net with food and every time you put the net into the water they will all jump into it.

That is apart from the one you have just spent the last half hour trying to catch. That one will have been sat behind a rock laughing at you because you have uprooted all the plants and splashed water all over your living room wall. You're also hampered by all your other well-trained fish swimming about saying

"Oh look, there's a net lets jump into it!"

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Breeding Fishes PART 1 - An Introduction

by T.W. Waller

THIS HOBBY of ours encompasses many different aspects, ideas and pet theories. It is not a hobby of a single interest but rather it explores many devotions, behavioural patterns, photography, competitions, diseases and treatments, discussions and, at times, heated arguments. Whoever made the statement that fishkeeping was relaxing should seriously think again!

My own special interest is in the breeding and rearing of tropical fishes, an interest that has taken me to the heights of satisfaction and depths of despair. I have been following the reproductive habits of tropical fish for more than 30 years during which time I have bred and raised Barbs, Characins, Killifish, Gouramis, Fighters, Danios, Cichlids and many types of Livebearers (both wild and cultivated forms).

So many, in fact, it is difficult to recall individual species but it wasn't always so easy (and at times it isn't now, either). Over the next few issues of *Fishworld* I hope to reveal many of the secrets and intricacies and perhaps indulge in how it was done in the 'golden era' when you couldn't just walk in a fish shop and buy it — most of the time either it wasn't there and if it was you couldn't afford it! You had to breed what you had and swap (or wheel and deal) to get what else you wanted. To give you an idea of what this hobby was all about, in 1945 Neon Tetras were £3.50 each, Glowlights and Harlequin were £2.00; compare that with the average wage of the time!

This series of articles is directed at YOU; it is in plain language and relates equally to the aquarist who has a couple of tanks in the living room and to the more fortunate (?) having a whole fish house or fish-room to tend to.

Fishkeeping started properly for us on becoming the proud owner of a 36" x 15" x 12" aquarium in the living room and a son, who over the coming years, felt it was his duty to attend every Open Show in the land — chauffeur-driven of course, by yours truly! We joined our first Society.

The East London Aquarist & Pondkeepers Association is probably the oldest Society within the Federation and has always put breeding of fishes at the top of its priorities; each year it stages the only all-breeders Open Show in the country. On that first night little did we realise where it was going to lead; ELAPA has a lot to answer for — ask my wife! These were wonderful days mixing with people such as Percy Complin, Bill Corby, the Boss's, Mike Pearson, Frank Vicker, Ron Daddin and so on; people who between them had bred 50 species of Characin (yes, 50), Discus had already been bred and discarded — this was in 1960.

Associating with, and listening to, these great aquarists began to have its effect on us; words like 'fish house, micro-worm, brine shrimp, pH and D.H., metabolism' soon became common language on Club nights, but what I remember most though was the weekly pleasurable visits on Sunday mornings to members' fish houses, playing swapsies with plants and baby fishes. We learnt more on these trips to AF Field or Kenny Wrightson than all the books and lectures could ever tell you.

Our first attempts to breed anything were disastrous; poor specimens, badly planned and prepared — I think they were Tiger Barbs. All they did was look at each other; after three days one killed the other, not a very distinguished start. The good thing about belonging to a quality Society is that it's a good place to take your problems to. A guy called Fred Simmons came to the rescue and

Breeding Fishes

(continued)

told us, in no uncertain terms, where we had gone wrong and what we should have done! However, he inspired us to have another go.

So we set out to the local shop again and, on Fred's advice, we invested in a pair of nicely-coloured Rosy Barbs. These, he assured us, were easy to sex (there had been some doubt with the Tigers), tough as old boots, easy to condition and, if the correct procedure was followed, almost certain to deposit eggs.

"MAGIC!!" These were our first success and did we let everyone know! Not too much enthusiasm was shown at the next meeting, no organised coach trips came to view the eggs, no demand for proof or witness of breeding — in fact, a big nil on the 'well done, Terry' front. We left deflated — they had done them 25 years earlier! Still, we had cracked it and were as pleased as punch.

Never have fish had so much attention lavished on them; they were eating better than us, regular temperature checks and water changes, culling out and all the other chores were all conducted with feverish enthusiasm. We were like demented aquarists, nothing else mattered except the 100 or so Rosy Barbs housed in a 3' tank. First week in October and our great moment had come — our

Society's annual Breeders Open Show — guess what went into the Barb Class? Got it in one, no less than 5 teams of Rosy Barbs. Although we had won a 4th place with a Molly at another Society's show (only 4 in the Class, it has been pointed out!) this was our first venture into showing in the Breeders' Class. Every thing was in order — Class 8, *Barbus conchonus*, date of birth correct, entry numbers 1 to 5. The result was there for all to see on the Judging Sheet — Entries 1-5 **Disqualified - NO ANAL FINS.**

Yes, we had made the cardinal error of all in fish breeding, crossed brother to sister. Every so often when you attempt this it all goes wrong — bent backs, eyes missing, fins missing — all a result of 'in-breeding'.

This setback only made us more determined than ever to succeed rather than to give it all up and, of course, we eventually cracked it and became quite successful at breeding fishes. Most important of all, as well as not giving up, we took notice of what people told us and we were never too afraid (or ashamed) to ask. Be patient, and don't be too adventurous at first — it all comes in time.

Next time
Breeding small
South-east Asian Barbs.

Q. What have Dialysis Machines and Aquariums got in common?

A. They both require water fed into them to be free from chloramines. In the dialysis process (used to treat patients with kidney problems) toxic chloramines in the machine water come into contact with blood across a permeable membrane and could get back into the patient's bloodstream. Similarly chloramines in aquarium water would also enter the fish's bloodstream.

Removing chloramines in dialysis systems involves either using ascorbic acid or granular-activated carbon (GAC) for water intended for aquarium use; again the GAC treatment will work, as will dechlorinators sold by pet shops.

(from information supplied by the *Severn Trent Water Ltd.*)

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Supreme Festival of Fishkeeping 1994

by Linda Lewis

I made my first visit to the Festival in 1993 and had a really great time, so it was with a slight feeling of reservation that I arrived for the 1994 event; after all, sequels are rarely as good as the original. Fortunately, I can wholeheartedly say that this year's Festival was even better.

I arrived on the Friday afternoon, giving myself plenty of time to have a look at the displays before the public arrived. It was not long before I bumped into some old friends, members of Hounslow, who were busy erecting their tableau.

One of the first events was the judging of the Society tableaux. Each competing society also formed part of the judging team, supplemented by various other people including David Palmer of Interpet who sponsor the weekend's events.

Hounslow's display comprised several small aquaria illustrating different kinds of set-ups, i.e. a species tank, a family tank, one for coldwater, another for livebearers, and so on. Bracknell had recreated a small back garden, complete with fish house, while Portsmouth had built a miniature shopping arcade in which the shops (named after Council Members and featuring their 'trades') were attractively furnished tanks. The Isle of Wight's, hard to describe without going into pages of description, comprised a beautifully made and painted rectangular fish house, complete with door at one end; on two sides bare, show-style and furnished tanks were displayed for viewing from the outside of the house. The range and quality of fish was very good indeed.

One space was taken up by a chess board and pieces, each piece taking its name from a species of fish (e.g. KNIGHT Goby etc.). The IOW also demonstrated that they have a sense of humour. The front of the tableau was dedicated to Jungle Book II, a political satire complete with rotating display and 'flashing' John Major head — simply brilliant!

I dragged myself away to tour the

Trade Stands. Taking pride of place was Anglo Aquarium Plant Co.'s Water garden, recently seen at Hampton Court complete with Kai. This did not, however, win the award for Best Trade Stand. This went instead for the second year running, to Coral Reef Technology, helped no doubt by an amazing display of tank-bred Clown (Anemone) Fish. There were almost two hundred of these tiny red and white gems, making a wonderful advert for the Company's products. The award for Best Trade Furnished Aquarium went to Watermarque; they must be really pleased with their achievement as there were many lovely aquaria to choose from.

Later on saw the first round of the Aquachamp Final. This year the general questions were selected at random, on the day, from the FBAS Quizbook (Number Two) by Dr. David Ford. It seemed to me that they were harder than last year's and I soon gave up trying to answer them! As in Mastermind, the next day saw the contestants tackle questions on their own specialist subject. The eventual winner of the Trophy was Dave Campbell from Aberdeen. I understand it's the first time the Champion has hailed from Scotland, and I hope he returns next year to defend his title.

Saturday afternoon featured the first lecture from Dieter Vogt, a past editor of the German fishkeeping magazine DATZ and an important figure in our hobby for many years. His topic was to be Adventure and his travels in the Far East. Unfortunately, although Dieter's English is very good, his pronunciation was often difficult to understand. That, combined with a too-warm lecture room made his first two hour lecture rather heavy going. Luckily for me I decided not to let this

Supreme Festival of 1994

(continued)

put me off and duly attended his second presentation on the Sunday morning. I am very glad that I did. He talked of modern day fishkeeping and the often too heavy emphasis that is placed on the equipment, rather than the fish. He talked of fish farms, and breeding, of his friends in foreign lands, of weird and wonderful

aquarium designs that no fish would choose to live in. Throughout, his warmth and love of his subject came shining through. That, coupled with his gentle often self-effacing humour, made the second two hours fly by.

Saturday evening brought the traditional Dinner and Presentations. Somehow it didn't seem strange to be eating a five course Christmas Meal in November as the atmosphere was very much of a happy family Party. Joe Nethersell presented several awards for services rendered to the FBAS and I was delighted to see Colin Richards being rewarded, as he certainly does a great job dealing with all the residential bookings, and manages, at all times to remain friendly and cheerful.

After the food came the fun. Music and a Star Cabaret. I had decided to sneak off early to bed but was persuaded to stay for the cabaret. The act was a very slick, very well presented mimed magic/stunt act, synchronised with music. We all know that when fire-eaters rub lighted torches over their bodies they use fuel that burns at a very low temperature. However, when this man let forth a great ball of fire from his mouth, you could feel the intense heat hit you from several feet away. I must admit I was impressed! He ended his performance by climbing up a ladder of razor sharp sabres!

Sunday saw the steady arrival of hundreds of fish — mainly for the European Open Show, with forty-one for the Supreme Championship. This is

the bit I love, getting the chance to see such a variety of good, healthy fish. Everything from the Common Goldfish, to a rather unusual (for me) Bichir which had markings like a snake. Best Fish in Show went to Mr. T. Roberts with an unusual characin — *Pseudochanna kribia* and I look forward to seeing that fish again in next year's Supreme Championship.

Back in the main halls the 'set up a furnished tank in 20 minutes' contest was being decided. Great fun until you realise that they were using ICY COLD water in the tanks! Congratulations to Silkown A.S., the winners.

The announcement of the Supreme Championship is left until the very end of the festival with not even the winner being notified beforehand. (It was such a surprise to him that when his name was called he was actually working on fixing his car!). As the result was announced I frantically consulted my list of pictures taken and was relieved to find that I had managed to include the right fish. The Supreme Champion of 1994 is a beautiful *Synodontis macrops* owned by Mr. Mark Irvine, which I believe scored 93 out of 100! I particularly like the *Synodontis* group, so was delighted with this result.

There were many other events going on that I haven't mentioned — more lectures, an impromptu Question and Answer session, Fancy Dress on the Friday evening and to be honest, the only way to really get a feel of this great Festival is to be there.

My grateful thanks go to everyone involved in making the Festival happen — see you next year!

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SUPREME FESTIVAL OF FISHKEEPING, Weston-super-Mare



The expert advisory panel at the Interpet sponsored FBAS Supreme Festival



A selection of Prizes.

Ms. Emma Jayman accepting a token donation from Dr Neville Carrington, Interpet Chairman, to star her fundraising appeal.



Interpet Chairman Dr. Neville Carrington above (right) with Herr Dieter Vogt.

Further details from Philip Jarman, Garnett Keeler Public Relations Tel: 0181 399 1111

Interpet Sales and Marketing Director, David Palmer (centre) presents Ian Rowbottom (left) and Ken Laws (right) with their prizes for the best dressed tank competition.



Mr. Mark Irvine (above) from Milton Keynes winner of the Supreme Championship of Fishkeeping with his award.

Masters and pupils from Kawstoke County Primary School, Weston-super-Mare who won first and second prizes in the senior age group section of Interpet's National School Colouring Competition.



Interpet Sales & Marketing Director, David Palmer (centre, right) during the manufacturer's tank dressing competition.

What's the Point in Showing and How's it Done?

by Ponderus

This question is one that arises frequently amongst newcomers to the hobby and especially to those who may have recently joined a local aquatic Society.

To answer the first question — basically, everyone likes to be proud of their fishkeeping achievements and what better way is there than to take along your fishes and let the rest of the fish world see just how good you are (or not, as the case may be).

You will always come across the person who maintains that he (or she) has better fish at home but, short of battering their door down and confirming the fact, you'll just have to wait until they feel confident enough to bring them out for you to judge for yourself.

However, in addition to the self-gratification aspect, the exhibiting of fishes does have a much greater value which works to the benefit of all — even to those disbelievers described above.

Under most show Rules, a certain percentage of the total points are awarded for 'size'. This means that there is a distinct advantage putting adult fishes on display (their other 'pointable' attributes we will go into later), following on, this opportunity to see what your newly-bought young fish could turn into has a definite constructive use when planning a fish collection whether it be community or species-based — do you always know what size your latest acquisition will reach?

Once the Show, be it a Table Show, full Open Show or National event, is over the lessons learnt (?) on the Show Bench are not wasted. Learning what makes a 'good fish' can be put to excellent use when looking for new fish, whether buying from a dealer, at your own Society's internal

auction or merely choosing from a friend's tank. You will soon come to know what to discard and what to grab with both hands.

So much for qualitative reasons for Showing. Another good reason to keep tabs on exhibited fish, even if you don't actually show fish yourself, is that here is the ideal shop-window for new species to make their appearance. One ploy by exhibitors is to slip a new, maybe unknown, species on to the Show Bench to see if the Judges are up to date with their information, or maybe just to get the fish identified positively. Setting aside this healthy (?) rivalry between exhibitors and Judges, you should appreciate that this quest for new knowledge also brings new fishes to the attention of others; this creates a growing demand with the result that dealers are urged to import these fishes in greater numbers too. Similarly, encouraged by the number of Breeders' Teams shown at exhibitions, the newcomer can be reassured, and encouraged, that the fishes can be bred without too much trouble, again opening up yet another dimension to the hobby.

Fish Shows may be small events (a Table Show held during a Society's regular meeting) or a full scale Open Show lasting all day. The process is the same — selected fishes are entered in separate Classes (in individual tanks either on Benches or contained with Tableaux displays) and trained, impartial Judges examine them and award points. Usually, the Pointing Sheets, showing the Judges' marks, are publicly displayed.

FRENCH Bettas take over Scarborough

by Steve Jones, Scarborough & D.A.S.

WHILST ON holiday last September in Germany, we were invited to spend the weekend in St. Avoird France, by our friend and fellow member of the E.A.C. Laurent Chenot, who incidentally has won many awards in America with his splendens.

We looked forward to this very much as he is the Chairman of the *Betta splendens* Club in St. Avoird.

The tour of his fish house, which was a disused water pumping station set in very picturesque countryside just outside of town, was all it was promised to be.

He has over 1,000 tanks, all containing *Betta splendens* of every colour imaginable, beautiful blues, greens, blacks, marbled, yellow and cambodian. After admiring all the fish we were asked if we would like some to take home.

On being told we had chosen some of his best fish, he then proceeded to net us a beautiful pair of Cambodian fighters, so with everyone clutching bags of fish we left to visit the aquarium at Nancy, before returning to Germany.

The Aquarium at Nancy is well worth a visit, reasonable entry fee, very well set out tanks and interesting exhibits. One tank which had a clock on the top, contained a large electric catfish which ran the clock by the electric impulses it was giving out, also a similar thing with electric eels but with flashing lights.

After meeting Professor Conde, who is the Curator, who spoke very

good English and a personal tour of the aquarium and gardens it was time to return to our base in Russelsheim.

After the holiday was ended we arrived home with our fighters and immediately decided to condition them prior to spawning. We housed them in an 18" tank, floating plants and normal Scarborough water which is about 7.5pH, the temperature being 80°. We placed the female in a jar floating within the tank, until she was ready to spawn, so that the male did not damage or injure her which he is liable to do if either he or she is not ready. We fed copious amounts of live bloodworm and *Artemia* to both fish and soon the male was building a large bubbler in the floating plant and showing off, fanning his gills and fins to the female, who quickly fattened up with eggs. We cautiously let out the female from her jar and the male proceeded to chase her round the tank, but we had provided plenty of hiding places and she quickly made herself at home. After a few trial runs and false embraces the pair really meant business, with the male wrapping himself around the female who proceeded to produce eggs, the eggs fell to the bottom of the tank which the male gathered up and spat them into the bubbler. The female remained stunned after the embrace lying head down in the water for a few seconds. Time and again this happened until the bubbler was full of white eggs, then the female went to hide away from the male — obviously, the spawning was ended.

The female was a little roughed up with slight fin damage, as male fighters can get wife beating tendencies at spawning time, but we carefully removed her to a separate tank to recover which she did very quickly.

We left the male to proudly look after his bubble nest and replace any eggs that fell out. We began to add some *infusoria* to the tank so that the fry would have food when they hatched and were ready to eat.

The eggs hatched after 48 hours and the male seemed to enjoy moving the fry from one part of the nest to another. After about three days, when the fry were free swimming we removed the male before he decided to make a meal of them. After about a week of feeding *infusoria* we started to feed the fry on micro-worm then newly hatched brine shrimp.

We lost one or two fry after two weeks as the labyrinth organ was forming but we had no more problems after this time. We changed one third of the water and syphoned off any excess food every three days. The fry grew at an alarming rate and it was

soon clear they needed a bigger tank quickly, so into a 4' tank they went, all 250-300 of them.

Now, at five months old they are becoming beautiful fish, with 25% of them being split-tailed fish, which means the caudal fin is separated into 2 parts and the dorsal has as many rays as the anal fin.

We had to separate most of the males from each other as they were becoming very aggressive and fin damage was occurring. We have passed some of these fish out to friends who we hope will continue to raise this strain of *Betta splendens* successfully.

Just a little footnote — one of our friends who has bred a young pair of these fish has spent a lot of time watching them spawning and he notes that there was 4 false embraces and 37 actual spawning embraces in which there was between 8 and 15 eggs passed between the two fish every time.

That is an awful lot of eggs for such a small female!

Size isn't everything!

Not in the fish world it isn't! In fact in Show circles 'Size' is exactly 20%, and in some Classes, for instance Goldfish, it isn't applicable at all.

20% of the total marks (100) available to be awarded for a perfect specimen in most Single Fish Classes on the Show bench are allocated for Size. Not the size the fish might achieve in nature but that expected of it in captivity. Interestingly, under FBAS Rules, these 20 points aren't awarded proportionately: anyone should be able to grow fish to half size, the next 'half' is more difficult with only experienced fishkeepers being able to get their fish 'all the way'. For this reason, half size only gets you 7 points, three-quarter size gets you 13 points. To find out how your specimen measures up (physically and points wise) get the **Reflection Rule, the Points-for-Size Disc and the 1995 National Show Fish Sizes Booklet (No. 6)** from the FBAS Show Stands, to be seen around the Open Shows.

"Jurassic Carp"

by Phil Adamson

THERE HAS been a lot of noise made with regard to a certain film that goes by the name of 'Jurassic Park', in which a dinosaur game park is created, and just as predictably things get just a little out of hand. Unfortunately, for the idea of utilising genetics is not new, it is all fiction in this case.

However at a certain laboratory in this country for the last few years the subject of cloning has been big business; from grain to dairy produce, mutations or genetically engineered subjects have been cloned on a commercial basis to increase the stock levels of the subjects.

Now we come to the interesting part, cloning was done on a major basis and with great success by utilising what used to be a favourite for pregnancy testing *Xenopus laevis*, also known as the Clawed Toad or the Xenopus Toad, and also a very small species of mammal — mice.

This is done by taking a cell from a donor and removing its nucleus, destroying the nucleus in an egg of the same species and inserting the donor nucleus. This can then come to term producing an identical copy of the donor. Taking this a stage further, cellular mitosis is interrupted when the fertilised egg or ovum forms a morula and the morula is split up and each cell that makes up the morula replaces the cell in the centre of an unfertilised egg or ovum. Whilst this may appear that this can continue indefinitely it cannot, as a point is reached at which the morulas become exhausted and die. As each cell divides approximately every twelve hours and as morula can only be split three times, proving that the process of cellular mitosis is not allowed to continue beyond five divisions, we can come up with a time/number formula.

Starting with ZERO hour we have 1 cell.

At 60 hours we have a morula consisting of 32 cells which is divided up (division No. 1)

At 120 hours we have 32 morula of 32 cells (32x32=1024) which is divided up (No. 2)

At 180 hours we have 1,024 morula which are divided up to make 32,768 cloned eggs or ovum, ALL FROM

ONE SINGLE DONOR CELL. But there is usually more than one cell from the donor.

Now for anyone who thinks I am talking about Toads or Mice still, I am not! This article has a direct bearing on our hobby as there has been for the last 3 years cells taken from all the Grand Champions at the Major Japanese Shows — to date over 14 donors, with over 500,000 clones of each donor, the first of which is to go on sale in 1996. The growing-on of these clones has been done in secret locations around the world with no more than 50,000 of each clone type at one location. The big money behind this is rumoured to be Chinese. The provisional sale price of these Koi being about £1,500 each.

Going back to the number side, 1,500 x 250,000 (assuming 50% mortality in growing-on) — £375,000,000 return on each donor cell cost before 'overheads'.

Bring in the other donors and you get 375,000,000 x 14 =

Spawning of the "BROAD BAND" *Corydoras adolfoi* type

by Adrian Payne

I FIRST SAW this *Corydoras adolfoi* look alike in February of this year when a few turned up in a tank at a wholesalers, unfortunately they were all sold. It was not until Wholesale Tropicals imported several boxes approximately six months ago that I was able to obtain several specimens.

At first glance you could be mistaken for thinking that the two fish are the same, but when the fish are seen side by side that the difference becomes obvious. In *Corydoras adolfoi* the black band runs down the spine from the dorsal fin to the caudal fin, starts wide and runs to a point. In this new species the black band, apart from being wider at the dorsal fin runs roughly parallel with the spine to the caudal fin. This broad black band can vary in width from fish to fish, in my specimens it varies from approximately 4mm to 6mm, in fact in one female the band is so wide that it reaches almost to the lateral line of the fish.

The fish are housed in a 24 x 15 x 12 tank with swimming pool sand for a substrate and decorated with bogwood and Java Moss. The tank like most of the tanks in my fish house is filtered by an internal box filter containing gravel and filter wool.

One evening in September whilst checking the tanks prior to feeding, I noticed an odd egg stuck in the far corner of the tank about 2/3rds of the way up the glass. As I watched, one of the females swam straight up to the egg and ate it! Instant panic! Was I too late, had the rest of the eggs already been eaten? Fortunately not, on lifting up the clump of Java Moss I found forty eggs spread right across

the bottom of the plant. Every egg in the Java Moss was as close to the substrate as possible and certainly not more than a couple of millimetres above the sand.

Corydoras adolfoi normally lay their eggs all over the tank, in the corners, on the sides and all over plants. This new broad banded species it seems, only lays its eggs during low "level runs" over the substrate. Apart from the one egg seen to be eaten by a female no other eggs were found other than those spread over the bottom of the Java Moss.

Each egg was 2mm in size and was removed from the tank and placed into a container of filtered rainwater to which a drop of myxazin was added. At a temperature of 75-76 the first eggs started to hatch after four days with the rest hatching on the fifth day. The hatch rate was approximately 80%. On hatching the fry are large enough once the egg sac is consumed to take newly hatched Brine Shrimp.

The growth rate of the fry compared to normal *Corydoras adolfoi* is far quicker. After four weeks these fry have reached between 12-16mm each, far larger than *Corydoras adolfoi* at the same age. The body markings at four weeks appear similar to *Corydoras adolfoi* at the same age, the black eye patch is well developed and there are four dark spots spaced between the dorsal and caudal fins. These later develop into the black band.

I have not been able to find out too much about this new species except that I am told that it is collected

"Jurassic Carp"

(continued)

£5,250,000,000 which in anybody's language is a lot of money.

Now each Koi has been treated in the egg stage with hormones to render it sterile, thus creating a bigger market because everything dies, and what better than to replace a Koi with an exact copy, just as if it had not died at all.

For the ordinary hobbyist this is not a problem as we all want Grand Champions but what about those that show their Koi, can you imagine ten identical Koi the same size at the same

show! Which one would you say was the best? What is more important is how could you say it was better than an identical clone? End result — a Rule would have to be made that cloned fish could not be entered in shows, but how would you tell it was cloned, it might be the donor! Could you hold that against the donor?

The information that has been given here was given to me by a very reliable Japanese source:

..... Mr. Takei Meeki

K.A.A.S. Convention

You'll have to act rapidly if you want to join in the entertainment at this year's K.A.A.S. Convention. It will be held on the

19th March 1995
at
Beulah Court Hotel
10-12 Athelstan Road,
Margate, Kent
Tel: 01843 223408

Speakers will be Brian Walsh (Audio-visuals par excellence plus expert fish knowledge) and Willy Heinz from Holland. Again there will be the Final of the K.A.A.S. Quiz against the 'away team' from Holland, the Fish Auction together with some great 'socialising' during the Saturday evening. Tickets are £8.00 and include buffet refreshments. An Aquarium & Cabinet have been donated by Sidcup A.S. as a major Raffle Prize. Overnight accommodation (including breakfast) can be arranged direct with the Hotel.

For last minute bookings contact:-

John Edwards on 01843 291750

TRADE NEWS

The 'Blue' and 'Green' books aren't, as might be supposed, confidential trade journals but are two very good works on our favourite subject — aquatic life, in this case MARINE INVERTEBRATES.

Written by Peter Wilkens (in association with Johannes Birkholz) the blue book covers Organ-pipe and Leather Corals and Gorgonians aptly described as 'flower animals' and includes mainly on those species most likely to be found in retailers outlets and also includes details of aquarium culture. The Green book turns its attention to Stony Corals, Mushroom and Colonial anemones. Here can be found a vast amount of information gathered from both natural habitats and reef aquaria. Both works have been re-published as revised, updated editions and are also available in German.

THE REEF AQUARIUM. Volume One, by Charles Delbeek and Julian Sprung is an encyclopedic work described by Martin Moe Jr. as the 'Reef Tank Bible'. It is designed to help you not only to create a reef aquarium at minimum effort and expense but also to maintain it. It also includes tours of natural coral reefs of all dimensions, and equally spectacular private aquariums. Live corals you've heard of, but live sands? How about spawning clams and how narrow shouldn't a protein skimmer have? Volume Two will cover identification and care of soft corals and anemones. All these books are available from: **Coral Reef Technology, 62 High Road, Byfleet, Surrey KT14 7QL (Tel: 01932 355121 Fax: 01932 349718)**

Purity on Tap have relaunched a cartridge filter system under their old CBR name but which uses a medium tested alongside the original, but reject at the time because supplies could not be guaranteed. Now, this new medium is both readily available and at

unbeatable prices. The CBR reputation for lowering Chlorine and Chloramine levels to those safe for fish remains unaltered; pesticides, herbicides, PAHs, PCBs and removed and common levels of Iron, Lead and even dissolved Aluminium will be reduced by up to 95%; fluoride levels can also be controlled; two models are available:

CBR 1250: Two 10" bowls and heads, mounting bracket, 12mm hoses and full instructions.

Performance: Up to 5,500 litres or 1 year whichever is sooner.
Flow: 2.27 litres/minute
Replacement: 1 micron pre-filter and 'CBR' cartridge available.

CBR 5500: Three 10" bowls and heads, mounting bracket, 12mm hoses and full instructions.
Performance: Up to 25,000 litres or 1 year whichever is sooner.
Flow: 4.5 litres/minute
Replacement: 1 micron pre-filter, 'short-travel' carbon and a 'CBR' cartridge available.

All systems carry a 5 year guarantee of housings and WRC 'Approved Product' status. Details from:

Purity on Tap Limited, Wickfield Farmhouse, Shefford Woodlands, Newbury, Berkshire RG16 7AL (Tel: 01488 648319 Fax: 01488 648997)

Even a modest-sized 10 gallon (45 litres) can now boast a 25-80 gallon/hour flow through its undergravel filter thanks to the new Minipro Powerhead from Rolf C. Hagen. Advanced pump technology provides powerful, but silent, waterflow; its floating Impeller Insert ceramic shaft provides perfect alignment for reduced wear over its extended life.

THE PUMP, depending on model size, is ideal for the single undergravel filter or a large, multi-tank retail organisation. Long-term durability is due to several design factors: quality cast metal casing with long-lasting rubber components; consistent air

Trade News

(continued)

pressure and uniform supply, no friction creating contacting sliding parts; no necessary lubrication and the air is always clean; facing electromagnets are perfectly balanced to act on permanent magnets without vibration.

The **AQUARIUM HYDROMETER PLUS** combines both Specific Gravity and Temperature measurement requirements in one facility. Available in two sizes (20cms and 30cms). If you have an electronic thermostat which incorporates its own temperature read-out then you will only need the **AQUARIUM HYDROMETER** which is also available in the two previously mentioned sizes but, yes, you've guessed it, lacks the thermometer part.

Aquarists admiring the new **BAENSCH ATLAS** — even though they were in German — on the Hagen Stand at Weston can now get the **MARINE ATLAS** in English.

Approximately 1,000 species of marine fish and invertebrates are covered together with all the important aspects of caring for them, all put together in the renowned Baensch Atlas style. It all goes to show that feeding back needs and information to suppliers does pay dividends. Details from: **Rolf C. Hagen, California Drive, Whitwood Industrial Estate, Castleford, West Yorkshire WF10 5QH (Tel: 01977 556622 Fax: 01977 513465)**

Spot the difference between



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Trade News

(continued)

The old standby of Barley Straw for combatting green water has been around for years but the only drawback seems that nobody quite knew just how much to use! Now comes news of an enterprising Company, Green Ways, who have produced **POND PADS**, small 7" square, half-inch thick cotton pads between which is sandwiched the barley straw. Each Pad is sufficient to treat 700 gallons and regular use throughout the season is

recommended (the standard three pack represents a year's protection). Fully bio-degradable, the Pads are harmless to fish and will even attract microscopic live food for the further benefit of the fish. Further details from: **Green Ways Environment Care, South End Farm, Long Reach, Ockham, Woking, Surrey GU23 5PP (Tel: 01483 291391 Fax: 01483 281392).**

They're Both in their 90s already!

Don't worry, we're not about to reveal people's ages without their permission, nor any other personal secret you'd rather not be shared with the readers of **FishWorld**.

The **FBAS Approved Dealers' Scheme (FADS)** has a set top limit of 100 premises from all parts of the country. Societies are welcome to recommend reputable, and 'good service giving' retail outlets in their area for inclusion in the Scheme. Positive feedback from customers will encourage such premises but, conversely, bad reports will result in removal. All members of FADS give discounts on presentation of FBAS Society Membership cards. Write to: **FBAS Advertising Officer, R. Lemmon, 17 Fernbank Close, Walderslade, Kent ME5 9NH** with details of new recommended shops.

Each year, Societies affiliate to the FBAS in order to enjoy its comprehensive services for their members. An extra 'perk' of doing so is the gift of a Power Head to those Societies affiliating early (it can be raffled off at a meeting and the

income from ticket sales no doubt more than paying for the Affiliation Fee!).

Oh yes, both FADS and FBAS memberships recently passed the 90 mark and counting.

Turn Your Marine Aquarium Bald!

Or, to put it another way, keep it clear of Hair Algae.

There are several factors affecting (or encouraging) the growth of algae and these include aeration, lighting and water management. Increasing aeration will reduce the amount of Carbon Dioxide in the tank, often a vital aid for algal growth. Similarly, investing in a lamp with less of the algal growth-promoting light spectrum will also help. Feeding algae is often done inadvertently by aquarists pouring in 'additives' more than is necessary. The addition of trace elements should be limited to those needed to keep water parameters (such as pH/KH buffers) within required limits. Finally, using accurate denitrification filtration should also help maintain that Kojak look.

(from information supplied by **Lahaina Aquarium Systems**)

Southend Leigh & District Aquarist Society

60th Year Show

For further details of the **52 Classes** in this year's **Southend Show**, in our **Diamond Year**, please contact **Chris Chaswright** on 01268 472095. Or write to: **2 Cedar Avenue, Wickford**

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1995 OPEN SHOW DATES

(Provisional Championship Class Trophies allocated in bold St = FBAS Show Stand)

19.3.95	Birtley A.S.	
26.3.95	Eastleigh & D.A.S.	(E)
	Kings Lynn A.S.	
2.4.95	Northampton & D.A.S.	
	Oldham A.S.	
23.4.95	Strood & D.A.S.	
29.4.95	Southend, Leigh & D.A.S.	(St)
30.4.95	Swindon	(St)
7.5.95	Bracknell A.S.	
	Aberdare A.S.	(G)
	Gateshead A.S.	
14.5.95	Corby & D.A.S.	(Ma, St)
	(British Open)	
	CAST BB	
	Cardiff A.S.	(Ba, St)
21.5.95	Four Lanes End A.S.	
	Cannock A.S.	
26/28.5.95	Robin Hood Aquarists	
	Isle of Wight A.S.	(X b-m, St)
	(Crocklemania)	
4.6.95	Erith & D.A.S.	
	Stockton A.S.	(Ca)
11.6.95	Llantwit Major A.S.	(St)
18.6.95	Walthamstow A.S.	
2.7.95	S.E. London A.S.	(Ea)
8.7.95	Port Talbot A.S.	(F, St)
6.8.95	Whitby A.S.	
13.8.95	Salisbury A.S.	
20.8.95	K.A.A.S.	
27.8.95	Bournemouth A.S.	(St)
	T.T.A.A.	(Tynemouth, St)
9.9.95	Hounslow A.S.	
16.9.95	Plymouth A.S.	
17.9.95	Mid-Sussex A.S.	
24.9.95	Cramlington A.S.	
1.10.95	Fair City A.S.	
15.10.95	Solway A.S.	
	West Cornwall F.C.	
3-5.11.95	Supreme Festival of Fishkeeping	(St)

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by **Dr. David Ford**
Senior Consultant

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Q.

A few weeks ago I did a nitrite test and it read 0ppm which is O.K.

I then changed the CLEAR FREE Filter and got a FLUVAL 3 filter. A week later I did another nitrite test and it read 0.25ppm. Please could you tell me why it went up. Is 0.25ppm safe for fish? Is it because of the change of the filter? A day before I did the test I had found at least 3 dead fish, if not more; is this connected to the raised level of nitrite? I would be very grateful if you could answer all my questions.

G.D. aged 12

A.

Nitrite is indeed a killer, certainly at 1ppm or more, but even your 0.25ppm can cause stress. However, note that the original test may have been zero, but that was only when you tested it. Nitrite can develop anytime and fade away as the nitrifying bacteria remove it; it forms from soluble excreta of the fish (ammonium) so this must be instantly diluted (low stocking levels) or removed continuously via filtration. Your Fluval (or any other system) will not create the nitrite, but the medium in that filter (when matured) will remove it.

Even experienced hobbyists often misunderstand the principles of filtration, assuming clear water means good filtration and equating mechanical filtration with effective

filtration. In fact, fish can live happily in murky waters, even recycling their own faeces just like a rabbit. Some species, such as Siamese Fighters, can airbreathe to survive foul waters.

The killer is ammonia and associated nitrite, excreted as soluble material exactly equivalent to our urine. Being soluble it is invisible, so apparently clear water can be deadly. In the wild the huge water ratio to fish dilutes this ammonia so pollution is not a problem but, in the confines of the aquarium and ponds, ammonia can build up, the chemical irritates the gills causing extra mucus to form for protection; this reduces oxygen uptake and the fish are seen mouthing at the surface (nothing at all to do with lack of oxygen levels). It also irritates the eyes and they swell (so-called popeye). Marine fishes have to swallow the ammonia along with water because of the osmosis effect in seawater and they self-poison, dying within hours. The ammonium and ammonia will be converted to nitrite via waterborne bacteria (*Nitrosomonas spp*) but this compound is nearly as toxic as the ammonia/ammonium.

Power filters are very good mechanical filters, whether ulg or internal, but poor biological filters because of the low surface area of the filter medium. Yet it is biological filtration that is needed to remove the ammonia because *Nitrobacter* are required to do the job, these live on solid surfaces (rather than being waterborne like *Nitrosomonas*) and

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convert the fishes' soluble excreta to relatively safe nitrate. To do this, the bacteria need oxygenated water and a slow flow rate so that the ammonia (and nitrite) can be absorbed.

Hence the best filter is the trickle (because it has atmospheric oxygen) and slowly percolates over the bacteria; next is the external flow filter, then the ulg system (air-powered for a gentle flow). Less effective is the external power filter (but a better mechanical filter, of course, which hobbyist wants but the fish doesn't need.

Experience shows one tank volume turnover per hour removes ammonia/nitrite in freshwater and twice per hour in seawater. (Greater rates look good in advertising but may reduce ammonia removal (but increase mechanical cleaning).

Filtration categories are chemical, mechanical and biological but only the latter is the life-saver for fish. Remember too that no filtration method replaces water changes (whereas water changes can replace filtration) - **the solution to pollution is dilution!**

Q.

I am writing to you about my two Goldfish and this might sound a bit rude. They seem to have 'poo' coming

out of them but it never comes off until 1-3 days later. Is there something wrong with them or is it nature?

T.P.

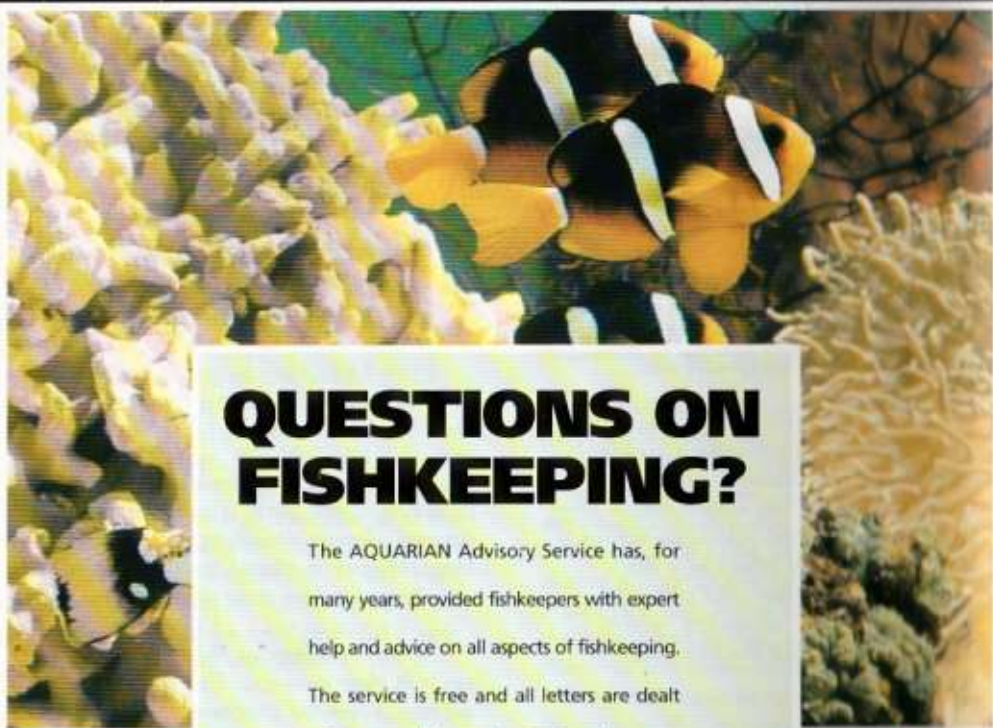
A.

Sorry to read of the Goldfish problem... the 'poo' is called faeces, normal excreta. However, if this forms long strings it is a classic case of stress—usually caused by poor water quality.

Always remember fish have to swim in their own loo. This solid excreta is not the problem, it is the invisible solubles (like our own urine) that stress the fish.

If the aquarium does not contain sufficient levels of nitrifying bacteria, the excreta from the fish self-poisons them. These bacteria will only develop with time, if the tank is new, whilst waiting for that maturity to happen, improve water quality by means of lots of partial water changes, but never more than 50% at a time, or many bacterial will be lost. Dilution should be immediate too, achieved by having a low stocking level. This means, say, five goldfish would need at least a 36" x 15" x 12" aquarium, preferably a 48" if the Goldfish are large. The traditional Goldfish 'bowl' is quite unsuitable—even one Goldfish needs an 18" tank.

You need a good filtration system to remove ammonia too. Use a powered filter, internal or external, and do lots of partial water changes to flush that loo!



QUESTIONS ON FISHKEEPING?

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