

# FISH WORLD



*Magazine*®



**aquarian**

ISSN 0966-0445



# WIN A FABULOUS WEEKEND

Win this year's Supreme Fishkeeping Festival taking on a new look, with many exciting new attractions, you'd be silly not to enter a competition that would get you and your family FREE tickets!

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Question 1 ..... Question 2 .....

Question 3 .....

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### Aquarian Competition

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Answers will be given in the September issue of Fishworld and the winner notified accordingly.

See you at Weston!

## Dear Reader

Well, here's this quarter's issue of this magazine, so get on and read it!

If only, it was as easy as that. Why do people expect the Editor's page to be full of wise sayings, perceptive viewpoints and the like? Don't they realise that he has read the contents from cover-to-cover many times (and still the odd error slips through!) and isn't coming to it as fresh as the reader is. Apart from that, he has already forgotten what is in the pages and is way ahead dreaming up the next issue.

However, we do have continuations from contributors from the last issue and there is a wonderful competition for you to enter that will gain you tickets for the annual Supreme Festival of Fishkeeping at Weston-super-Mare, more of which inside.

With Spring well and truly upon, and nearly behind us, we shall be looking forward to meeting our garden pond friends at BBC Gardeners' World Live Exhibition at the NEC and also at the Hampton Court Flower Show. There are several articles in this issue which are pond-related too.

The Federation's new Stand Officer will be contacting many Societies face to face during the summer and there is a new event in the calendar in August up in the Tyne-Leas Area. Opportunities for fish-watching are to be found countrywide and FishWorld is here to reflect anything and everything related to them: send us your news and views, tell us where the best shows are (or ought to be), in short give me something I can tell fishkeepers about — and help me fill another bucket! Editorial!

Dick Mills, Editor, FishWorld

Contributions for the next issue should be in hand by July 10th 1995 and sent to: FishWorld Magazine, 10 Rosken Grove, Farnham Royal, Buckinghamshire SL2 3DZ. (Tel/Fax: 01753 645675).

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## From the Chairman's desk:

It is with great pleasure I announce three competitions which have been organised by the Committee of The Supreme Festival of Fishkeeping weekend to be held at:

**Weston-super-Mare 3-5th November 1995**

Within the pages of this magazine you will find a competition sponsored by "AQUARIAN" for a family weekend at Weston-super-Mare.

There is also a competition sponsored by:

**TFH Publications** for a family weekend.

### QUESTION:

Which major event did TFH sponsor for the F.B.A.S. in 1988 & 1989?

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**PLEASE NOTE:**  
DEFINITION OF A FAMILY WEEKEND PRIZE IS FOR TWO ADULTS  
AND TWO CHILDREN

These prizes have no cash surrender value

Good Luck.

*Peter A. Furze*

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

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# A&P

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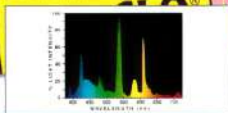


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15	16	43.74	1 25	175
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30	36	89.46	1 14	360
40	42	104.70	1 14	620
40	48	119.94	1 14	620

## Weston Warm-Up

Elsewhere in this issue you will find details on how to win free tickets to the  
**1995 SUPREME FESTIVAL OF FISHKEEPING**  
— November 3rd - 5th (public days 4th - 5th) —

This annual event, again to be held at Pontin's Sand Bay Holiday Chalet Hotel, Weston-super-Mare, rounds off the Federation's aquatic year with a combination of exciting competitions, fun activities and entertaining and informative displays. Under the new sponsorship from Rolf C. Hagen, among the excitements this year will be:

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Colin Richards, Beechwood Cottage, Long Grove Farm,  
 234 Chartridge Lane, Chesham, Bucks HP5 2SG  
 (Tel: 01494 773094)

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## The Green Guide to ... Big Pink Kissers

by Nora Green, Tameside A.S.

When we first started keeping fish, a few years ago, and joined our local Club, Bert (the Secretary) wanted to know what fish we had and all the usual things they ask of new members. Among the fish in our community tank at this time was this very big Pink Kisser — about 3", nose to tail (I do know you don't measure them that way, but when they are as small as ours every little tail helps!). We proudly showed Bert our big fish — he didn't really laugh — but said they grew to 12 inches. Now that really annoyed hubby: for the next twelve months he was heard to be heard, "well, where are all these 12 inch ones? Show me someone with a 12 inch one!" Until one day he dashed into the house saying he had found a 6 inch one and, as the shop only wanted a fiver for it, he'd asked them to save it until we could get a tank ready. He was too big for the community tank, he would eat all the other fish. The only spare tank we had was an 18" we had for breeding so, he'd have to go in there until we emptied the two foot. We set it up and a few weeks later went to collect him.

We hadn't even got out of the shop before things started to go wrong: the man gets a plastic bag which he put in a cardboard box for support and starts to fill it from the tank. "I think it's leaking," says I. When the man lifts the bag, the bottom seems part, spilling water all over the place. "We've had a bit of trouble with these bags!" he replies. This time he puts two together, then puts them into the cardboard box. Hubby carefully carries his Big Kisser out to the car and sits the box on my knee. I like carrying fish in the car because hubby, being afraid of spilling water, drives carefully — he even keeps all four wheels on the ground when he goes round corners.

We arrive home and more problems manifest themselves; it seems this fish is beset with problems. Hubby half empties the tank, lifts the bag careful out of the cardboard box and the seams on the inner bags start to

open. We manage to get the bag from the box and on to the work surface; somehow we have to lift the single paring bag up and over the side of the tank. Hubby's lifting it carefully when the bottom parts company! I grab a bowl and push it under the bag, there's a few gallons of water on the kitchen floor but the fish is safe — in the bowl. Phew! Now we start to really panic for the fish is swimming around in a bowl that has, over the years, had every known detergent, house cleaner and obnoxious substance you can imagine in it.

Two days later he is still alive but not eating (the fish) but he's now got a name — Tarquin. I phone our Club Secretary for advice. "Tarquin won't eat", I say. "Not surprised with a name like that ..." replies Bert "call him Fred instead." From there I go to our local fish shop (where I'm well known), explain my predicament and Carl thinks perhaps he should have other fish with him, it'll make him fight for food. So I'm sold two Catfish with the promise that if Tarquin bullies them I can take them back.

Two weeks later and I've managed to get him eating but the problem is it takes all evening to feed him ... I top on the top right hand corner of the tank and call, "Tarquin, there's a good boy, come to Mummy for your tea ..." He then swims over and I drop two flakes into his open mouth, that is if they are not too big and there's no red bits in! The reason he only eats for me is because he's a very sensitive fish and hubby upsets him by crushing in a handful of flakes (without checking them or taking out the red bits) then shouts "Come on, you stupid sod, EAT!!"

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## The Green Guide to ... Big Pink Kissers

(continued)

He started to lose patience with him when we bought some live Bloodworm (to encourage him to eat) and they chased him around the tank ...

Months after, and we are still having problems with him, by now he must be the most famous fish in the North-west. Roy, one of our Club's Judges, gives us some Platies to keep him company but I have to feed them at one end of the tank and Tarquin at the other. We have now progressed to frozen Bloodworms (they're less lively than the others); the only problem is I'm now spoon-feeding him using a spoon handle — we also have a Platy who steals the worms from his mouth.

From there we go to the real expert, David Sands. (If you've read my Guide to tank Collecting, Tarquin is my reason for the four foot tank). We are told that Kissers are shoaling fishes so we must keep half-a-dozen. We say we'll put our two little ones in with him — he thinks he may turn nasty with his own kind. After lots of expense and upheaval rebuilding the living room to accommodate the new tank, we put the two little Kissers into the tank first, for obvious reasons. Then in goes Tarquin with his little friend, a male Platy (they've become inseparable — I can't decide if Tarquin thinks he's a Platy or the Platy thinks he's a Kisser).

Tarquin doesn't settle down in the tank mainly because while he was in the kitchen I would, sort of, scratch his nose through the glass. Please, this is serious. As soon as he sees you he will swim to the front and sit with his lips to the glass, wagging his tail (sorry, caudal fin). The problem with that is that the other two Kissers, although not half his size, are both stupid boisterous fish who spend their time chasing each round the tank and poor Tarquin is always in the way, so he's getting knocked about. The little Platy does his best to defend him but he isn't any match for two Kissers.

Hubby says he'll have to stay where he is. "I've not spent all that time and money on one stupid fish, only to put it back in the kitchen. If he

wants to starve himself to death that's his problem!" The following week, Tarquin and his little friend move back into the kitchen — and he starts to eat again.

Many months later, when his little friend dies, we buy some baby Harlequins on condition that the shop will take them back, again should they bully him. People just don't realise that Tarquin is a sensitive fish, one person a few weeks ago even suggested he might be stupid. That, I think, was a bit of sour grapes, just because I said our Tarquin was as big as his Kisser. "Then get him out on the show bench," he said. I had to explain he was far too shy and sensitive for that.

I think a few people are jealous of the relationship I have with Tarquin, the above-mentioned person even suggested that perhaps both Tarquin and I ought to see a psychologist because I told him how I call him, and he comes to the front of the tank to give me a kiss. (Yes, I do know kissing is a sign of aggression — but not in Tarquin's case). He also said that fish are deaf, stupid and don't have a memory span of more than two seconds! His fish may be deaf and stupid, mine certainly aren't. They are clever, caring fish — one of my catfish is going to appear on the TV, surfing on a leaf!

The conversation with this person took place at our local Show and, while I was talking to the gentleman, hubby came along with a bag of the finest baby Zebra Danios you have ever seen (Tarquin's eyes are bigger than these fish). "They're too small for the community tank," I said, hoping he hadn't bought another tank to put them in. "They'll have to go in with the Kisser until they grow a bit bigger". "You can't put them in with the Kisser!" our friend announced. "Yes we can," we said. "Ha! Mine would have them for breakfast," he said full of pride. But then his fish are obviously boogymans, unlike our kind, sensitive Tarquin.

I've always said it's the parents who are to blame ...

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## Pondering over a Pond?

**O.K.**, you've been to Chelsea (probably Hampton Court Flower Show too) and you have come away with your head full of plans for a pond. So too, no doubt, has your partner and unfortunately the two of you may well have conflicting ideas.



Rather than rush into things, hurling money in all directions, and then ending up disenchanted, do take time to think things over and set down exactly what you think you want from a pond. Maybe you are already thinking along the lines of 'A well-planted pond with marginal plants, some of those nice big Japanese fish and, of course, lots of shimmering dragonflies.' Well, you could be in for a shock: not everything in a pond is automatically compatible — and we are not necessarily talking about dragonflies and insects either! There are three types of pond — **Nature, Fish and Plants** and **Koi**. We shall look at each in turn, then, armed with the information you could be in a better position to make up your mind.

The **Nature (or Wildlife) Pond** is set up purely for the benefit of seasonally-visiting animals; Frogs, Toads, Newts, Dragonflies and Damselflies primarily, with the occasional visits from birds too. For this reason, it is a modestly-sized affair and needn't be too deep, a saucer-

shaped depression may be all that is required. Because it is shallow, it ought to be thought child-proof but unfortunately accidents can still occur so please take any necessary safeguard when children are about. To help the wildlife in and out of the pond, some shallow beach area can be constructed or a ramp (a semi-immersed tree trunk) provided. Again, with safety in mind, setting a pond out in the middle of a bare expanse of well-manicured lawn is not too good; the animals will then have to cross wide open areas during which time they can become prey to any watchful amphibian-hungry predator. Do ensure that wildlife ponds have sheltering shrubs and/or waterside plants at hand. As far as fishkeeping is concerned, the nature pond is definitely out — converting to fish at a later stage is impracticable. Due to its shallow dimensions, water temperatures will vary widely and at often rapid intervals — not a highly-recommended thing for stability-loving fish. Summer days will be too hot and in winter the whole thing could freeze solid. The warm shallow, well lit water will also encourage algae (and duckweed) by the ton; silt may also build up rapidly and some vigorously-growing water plants (especially if unsuitable species are introduced quite innocently through ignorance) will soon take over the whole pond. These factors too, rule out long-term fishkeeping. Please keep to wildlife with shallow ponds.

The **Fish and Plants Pond** is what everyone thinks they want and, of course, some natural wildlife will visit, even if it is kept to minimum levels by hungry fish! For fish, the water depth should be at least 18"–24" in some areas of the pond: this will give the fish a relatively warmer layer of water (the lowest) in which to shelter during winter. There is nothing to stop the pond having shallow water areas (even a beach area) if required and marginal plants can be sited on the shelves running around inside the perimeter. The advantage of having flourishing water plants (apart from looking great) is that they help to purify the water.

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## Pondering over a Pond?

and maintain a healthful environment for the fish. For successful fishkeeping, the fish and plant pond usually has a volume of 100 gallons or so upwards. It may be desirable to equip the pond with a filtration system (please don't assume that the 'filter' attached to your fountain pump will service the whole pond; it is there purely to protect the pump from any solid material (grit etc) which may be drawn into it).

The **Koi Pond**, although extremely attractive, is another set of circumstances altogether. Koi have hearty appetites which lead to two very serious drawbacks: they produce a proportionally large amount of waste material and, by extending their appetites to include water plants, they actually destroy the very means of keeping their water clean. This means a filtration system is mandatory (in the previously-mentioned fish and plants set up, by keeping very low levels of fish stocks, filtration may not always be necessary). It is quite common for the filtration system to need to be as 30% as large as the main pond itself.



fortunately, it is a simple matter to disguise this filter area (usually set in the ground alongside the pond) by planking over it and using it as a pondside patio, complete with deckchairs and drinks trolley! Another important factor concerning the culture of Koi, they need room not just horizontally but vertically too. It is recommended that the Koi pool should be at least 1.5 metres deep (4.5 feet) in order for them to develop their best body shapes and, again, to overwinter successfully.

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(continued)

Now you have made up your mind (or modified your original plans) you can turn to thoughts of pond shapes and materials.

Generally, the use of a flexible pond liner from thin sheet material is recommended for all round satisfaction. Whilst pre-formed rigid pond liners are commonly available, some may be of the wrong colour, shape or size for your requirements (they always look bigger at the garden centre than in the ground too). There is enough hard work (even using an excavator) in digging out the hole without adding the complications of concrete, although for formal, straight-line designs, concrete can be ideal (not in areas where ground subsidence is likely though) — don't forget that it needs to be treated with a sealing agent to render it safe before filling with water, otherwise the lime from the concrete will kill the fish. Flexible liners give you total 'flexibility' in design but before starting digging try the following: lay a length of hosepipe on the ground where the pond is to be sited, arranged in your chosen shape; go in the house and look at it from an upstairs window. You will be able to see at once what is wrong with the design and/or site in relation to the rest of the garden. Don't make too many fjord-shape outlines, these could turn into stagnant areas building up trouble at a later date.

How much liner do you need? Easy! Add twice the maximum depth each to the length and width dimensions respectively; this will give

## Pondering over a Pond?

you enough surplus to drape over the edge and be hidden under the pond surrounds.

Siting the pond must be considered carefully too. Away from trees is a good idea for several reasons: the tree roots can puncture the liner and fruits, berries and leaves can all fall into the pond with varying degrees of harm. Trees also cast shadows and if the pond is in the shade for most of the day you won't ever get good Water-lily growth. Ponds need full sunshine for best results, water-lilies provide shade for the fish once their leaves grow across the surface (aim for about one-third coverage). Fast-growing aquatic plants (the 'oxygenators') will

(continued)

help combat the threat of green water although a filter and a UV tube will also deal with this problem. Don't site the pond in the lowest (often the wettest) area of garden: the rising water table has been known to force liners up and out of the ponds before now. Why not site the pond where it can be seen from the house all year round? It's a fascinating thing to watch — especially when water birds try to land on it during winter!

The moral of all this is, never make haste when planning a pond. You hope to have it for many years to come, why rush things right at the start?

**NEXT TIME — Installing and a look at some filter systems**

## TOTE THAT Bale!

With the green-water season well and truly upon us, the many and varied treatments to combat the green menace are proliferating almost as fast as the algae itself.

One long-standing treatment, the use of **Barley Straw**, whilst strongly supported by its advocates, has remained of almost myth-like superstitions to many more (and probably equal-numbered) disbelievers. No one actually seemed to know how much of the stuff to use with the subsequent consequence that either ponds were filled too full with it, or people thought up other ways to clear their water just in case they harmed the inhabitants of the pond.

Now, it seems, Barley Straw has become 'legit' with several companies marketing easy-to-use sachets or packets of this wonder-cure. All seem to be of approximately the same amount of straw and each packet clearly states how many gallons it will treat, over how long a period — generally 250–500 gallons over three to six months — depending on packet size, some being divided into two sections for use with smaller ponds.

There you are, now you can test the myth for yourself —

or maybe you know better!

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# FILTRATION

PART 1 by Tim Smethurst,  
Hagen Helpline

**F**iltration — is it a luxury or a necessary evil? Do we really need it, or is it just another way for manufacturers to get more of our hard-earned cash? The answer is yes — and no!

The goldfish, swimming in its life bowl for 15 years with no filtration, is the perfect example: once a month, it is taken out, put in a litre measuring jug of raw tap water (O.K. so some people spoil their fish by putting it in the kitchen sink), whilst its owner washes out the bowl with hot water and washing up liquid, gives it a quick rinse and refills with cold tapwater. The fish is then unceremoniously dumped back into its nice clean bowl. The amazing thing about it all is that it actually lives!

How many of us know someone who has dug a hole 6' x 3' and no more than 24" deep (I was too tired to dig any further down, anyway it's only for fish!). Isn't it common knowledge that any pond should be at least 36" deep in one part so that the fish don't freeze to death in the winter? Obviously not! I digress — back to digging the pond. The new hole in the garden has some old carpet thrown down to cover the soil and butyl rubber liner laid over it, a hosepipe from the house to the new garden centrepiece cascades water, filling it to the brim. Meanwhile, flagstones are laid around the edge. Once full of water, it's off to see that expert at the garden centre to buy half a dozen of those top grade Japanese Koi — and they're only a fiver each! These are placed in a bag, driven home and tossed into the pond. Once a year, in summer, the pond is emptied to clean it (this always happens when the next door neighbour has gone on his holidays), then refilled (again with raw tapwater) and the fish thrown back in. These fish always survive — isn't it annoying when you lose fish to some form of disease and yet your pond has a filter, UV and loads of other gadgets (fountains, waterfalls etc)?

I have kept a 6' x 2' x 2' tropical

fish tank for over 18 months without filtration, before the arrival of my daughter decreed that the fish room become a baby's nursery! My 6' tank was heavily planted and was more of the Dutch Aquarium type than a general community tank; water surface agitation was by courtesy of an Elite 800 airpump with one airstone. O.K. it only contained 20 Neon Tetras, but there was no filtration and it remained a very healthy tank. Faced with those three examples, do we still need filtration? Well, for the majority of us, filtration of one form or another is an absolute necessity. Let's look at different filters, as they all have their separate uses.

**Undergravel (biological) filtration** can have two power sources — on airpump or a powerhead. An air pump is more beneficial for the fish and this type of filtration is generally found in the community tank which everyone starts off with. The reason I say it is more beneficial is that most community fishes come from slow-moving waters; Neon Tetras, Guppies, Swordtails, Angelfish etc do not, in nature, live in rivers in which you can go canoe-slalom. However, an air-powered undergravel filter has two big drawbacks — firstly, it takes a longer time to mature the filter and, secondly, if a diaphragm ruptures it can have dire consequences if not noticed in time (the bacteria in the filter bed start dying). An undergravel filter fitted with a powerhead is more popular and matures quicker but causes 'river-rapids' areas in the aquarium. Still, most fish seem to enjoy it, as you often see them trying to swim against the current. (Alternatively you can direct the powerhead outlet into the corner of the aquarium to dissipate the current more quietly or even fit a spraybar to spread the pressure all

## Filtration Part 1

(continued)

over the surface). The undergravel system is the most popular form of filtration but is no good for large fish that like to rearrange the decor of the aquarium.

The air-powered **internal box, or foam sponge, filter** obviously have limited performance but are ideally suited in small tanks and in fry-raising tanks where they present no danger to the young fry.

The **internal power filter** is a good basic form of filtration. Just drop it in and switch it on. This type of filter is simple enough for the beginner to use and efficient enough for the experienced, dedicated aquarist who shows fish up and down the country. (Exhibits in many of the major weekend-long events are often seen filtered by, say, a Fluval 2). The main drawback with these filters is that people do not read the instructions! So many people complain they break down after 6-8 months. A simple inspection of the impeller shows the amount of debris/sludge collected within it, a quick clean with an impeller brush and it's as good as new. Another (minor) drawback is that some large Characins and catfish tend to pick it up and use it like a fly-swat! So what sort of filter could you use for this sort of aggressive fish?

How about an **external canister filter**? You can hide it in a cabinet and, with a bit of ingenuity, you can hide the connecting hoses too so that it appears that there is no form of filtration in your aquarium at all. The main advantages of a system like this is that you can have three or more forms of filter media in the canister. However, when you do your fortnightly partial water change and filter medium clean, only clean one of the stages of media. In this way, although you may kill off, or set back, one bacterial colony you still have one colony that is on 'half-charge' and one that is 'fully loaded'. In simple terms, 'New Tank Syndrome' never happens. A main drawback is that you do need a cabinet to hide the filter in — having a large

canister beside an aquarium is not everybody's idea of a nice living room ornament! External, hang-on filters are another option; these usually have two or more forms of media within them, but may be more difficult to disguise.

One form of filter that is becoming more popular is the **internal power filter with built-in 'wet and dry' trickle filter system**, such as the Bio-Life series. These are excellent (I use them myself) and if they are used properly (read the instructions!) they are problem free. They contain media with a massive filter area (if you wish to know more about the Bio-Life contact me on 01977-556622 and I'll send you some literature).

Pondkeepers have a much more limited choice when it comes to commercially-available filtration systems. The **internal pond filter** comes with one or two forms of filter media taking the form of cartridges simply clamped on to the input of the supplied submersible pump. Again it is very simple, drop it in, switch it on, every 2-4 weeks pull it out and clean it.

**External pond filters** might be loosely described as big plastic boxes full of foam and really do need to be hidden from view — either in a rockery or maybe sunk into the ground alongside the pond. The most original idea I have seen was to build a dolls' house around it with a water-wheel for the water to trickle down. It sounds crass, but it really did look effective.

Two main drawbacks with the pond box filter — it's nearly always full of foam only and it needs the separate purchase of a pump to make it work.

This article covered the basics of shop-bought filtration systems, not custom-built types. These will be covered at a later date. My only piece of advice on any form of filtration is never skimp on it. Why choose a lesser article for, say £15 or less, when it may cost you an entire tank, or pond, full of fish if it proves to be inadequate for the job.

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## Breeding Fishes

by IW Weller

### PART TWO South-east Asian Barbs

**T**he first fish we are going to attempt to breed are species of Barbs that inhabit the rivers and lakes of the East Indies. I must, before we start, point out that all the revelations and information presented here are based on my own experiences and those of my fellow Club members. The system works for me and it works for them so, in all probability, it should work for you; if it doesn't, don't give up — go back to square one and start again.

The Barbs (and for that matter, the Rasboras) of the East Indies evolved from African Barbs. During the great Ice Age the oceans of the world subsided leaving the area of the East Indies a huge land mass. About this time, a great river appeared called the Great Sunda; this had its origins in Africa and flowed out, across India, and spread down into this new land mass. Various fishes found their way along this waterway, one of them the ancestor of the Asian Barbs. As the world emerged from the Ice Age so the oceans rose again, flooding the dry areas leaving the high ground — the East Indies islands. The fishes that were isolated now began to evolve and, during the next few million years became the colourful Barbs and Rasboras that we are now so familiar with.

The vast majority of these fishes are small to medium in size, of pleasant manner, easy to maintain and fairly easy to breed and raise — in short, ideal community tank fishes. Most, they are what we call herbivorous which means that their diet should have a high vegetable proportion although *Daphnia* and Glassworm (if you can get it) are taken with relish. *Tubifex*, and other worm foods although eaten do not provide

the basics that the fishes need. Water is not important, though they would prefer it on the soft side, does need to be well-aerated and clean with a temperature towards the cool rather than warm — 70°F - 72°F is ideal. Breeding presents few difficulties as long as we are patient and do our preparatory work diligently.

I am a great believer in **PLANNED SPAWNING**. That is to say, selecting and conditioning parents, setting up a hygienic spawning site and preparing fry food cultures.

The fishes we are going to attempt to spawn fall into two temperaments — one slow and placid, the other hectic and vigorous.

<b>Placid spawners -</b>	
<i>B. barbatus</i>	Gold Barb
<i>B. oligolepis</i>	Checker Barb
<i>B. titteya</i>	Cherry Barb
<b>Vigorous Types -</b>	
<i>B. tetrazona</i>	Tiger Barb
<i>B. conchurus</i>	Rosy Barb
<i>B. odessa</i>	Odessa Barb
<i>B. nigrofasciata</i>	Ruby Barb

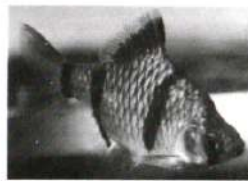
Here we have plenty of choice, all are easily obtainable and cheaply purchased. So, we go looking for prospective parents, nice colourful fishes about half-size, fins up and active. It is always a good idea to beg, steal or borrow fish from a friend and then buy the mate; this avoids the brother and sister problem when buying a pair in a shop. Sexing Barbs is sometimes very easy (Rosy and Cherry) and sometimes tricky (Tigers, Schuberts). Sometimes the clues are in the colouration, other times the body shape. Get hold of a good book, if in doubt, second opinions can lead to doubts and arguments, don't rely on shopkeepers.

We are going to need a smallish tank, 18" x 10" x 10" is ideal, some double-knitting wool (white), a cork, magnifying glass, small fine-mesh net

## Breeding Fishes

(continued)

and a partition for the tank. (Later we will need to hatch some Brine Shrimp eggs and get a micro-worm culture going.)



Tiger Barb

It is very important with any fish you plan to breed that they are brought into 'condition'. This means for a period of two weeks leading up to the spawning act the prospective parents are separated and well fed on good quality foods; in the case of Barbs this means vegetable matter coupled with *Daphnia*. Frequent water changes are also beneficial and necessary. Although the male and females are separated, don't simply put them in a small tank on their own where they will sulke and not feed, but rather keep them with other fishes — preferably not Barbs! Soon the fishes will begin to colour up, become active and, in the female's case, become quite rounded and swollen with spawn.

While the fish are being conditioned, we can put 6 inches of water into the breeding tank with a thermostatically-controlled heater, a dividing glass and an airstone. We are looking for a temperature of about 78°F-80°F which should increase their metabolic rate when they are introduced into this warmer water. Make up a spawning mop by wrapping the wool around a book, slip it off, fold in half and tie with a knot

trim the other end to length with scissors. It is a good idea to boil the wool as it stops it floating. Fix the cork to the mop and it's ready. Although some people hang a mop in the corner of the tank with a few strands hanging out of the aquarium to stop it slipping in, this is not a good idea. **DON'T DO IT.** Strands hanging over can have a siphonic effect and effectively empty the tank all over the floor in a few hours. For the placid spawners, allow the mop to lay on the tank floor, for the more vigorous fish make the mop good and thick! I like white moss because it makes the eggs hard to find when the fishes are looking for the eggs to eat (when spawning is over) — they can see them better if dark coloured wool is used.

When the parents-to-be look active and colourful (especially when the female is nicely plump with roe) we can think about introducing them into the spawning tank. I usually do this in the evening, just before putting the lights out. Carefully catch the female and put her into one side of the divided tank (the side with the mop) and put the male into the other side; put out the lights and go to bed. First thing in the morning, remove the partition and leave them to it. Try not to keep distracting them by walking about in front of the tank and peering in at them (how would you like it?) it is a good idea to set the tank up where it will catch some morning sunshine.

After 24 hours carefully remove the mop and examine it strand by strand. You are looking for tiny little glass-like balls clinging to the strands like little Christmas tree balls. Once you see eggs, put the mop back and remove the parents. **NEVER TRY TO REMOVE THE EGGS OR PUT THE MOP INTO DIFFERENT WATER.** The discovery of eggs must now trigger you into food-culturing activity.

Brine Shrimp is the ideal first food

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## Breeding Fishes

(continued)

for fry, it is small enough and highly nutritious. This can be fed for the first ten days, three times a day. So get that culture going now, to coincide with the eggs hatching. Also start a Microworm culture as this is the perfect second food to be fed once the fish are about ten days old and for the next two weeks, by which time the fish will be ready for sifted *Daphnia* and crushed flake food. During this three-week period we can also add at regular intervals a cupful of fresh worm water (remember we only half-filled the tank). We can also add a small Polyfilter or Corner Filter to deal with the uneaten food. But we are leaping ahead.

The eggs hatch in about 24-36 hours, depending on the water temperature. The embryo consumes the yolk-sac and develops the strength to break the shell and be thrown out. The fry grabs on to the first thing it hits, usually the tank glass or the strands of the mop. Here, they go through a hanging-on period, they look like little slivers of glass when seen through the magnifying glass. **DON'T FEED YET.** They have not developed the swimming ability and you will kill them by feeding too soon. Only when you see them

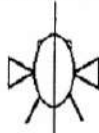
swimming in a jerky motion should you attempt to feed. Carefully siphon some of the newly-hatched Brine Shrimps into a fine-mesh net, rinse under the tap (to get rid of the salt) then swirl the net about in the tank. Once feeding, follow the instructions given earlier.

After three weeks, we must perform our first cull. We have probably 150-200 baby fishes in our small tank, a situation that cannot be allowed to continue as we will stunt our fishes' growth. Using our small net and magnifying glass remove all the runts and malformed fish until you are left with about half the original number. This has to be done, be ruthless. The remaining fish need to be removed into a growing-on tank — the bigger, the better — a minimum of 24" x 15" x 12" is necessary. Siphon down the water (don't catch the fry!) in the breeding tank until only 2-3 inches remain, then carefully float the tank in the growing-on tank for half an hour before tipping it up and emptying the young fish in. It is now only a case of feeding, culling and water changing; out of 200 fish we are going to end up with about 50 or near perfect specimens as possible.

### NEXT TIME — Having a go at DANIOS

#### Spot the Difference - Singletailed and Twintailed Fancy Goldfish

Look at the fish from the rear to see exactly what is meant by the terms "Singletail" and "Twintail". (FBAS Show Class letters U = Singletails V = Twintails)



SINGLE TAIL  
Single Caudal fin and anal fin (hidden)  
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TWIN TAIL  
Divided caudal fin and anal fin



## F.B.A.S. NEWS 1995 OPEN SHOW DATES

[Provisional championship Class Trophies allocated in bold St = FBAS Show Stand]

4.6.95	Erith & D.A.S. Stockton A.S.	(Co)
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)
	<b>T.T.A.S.</b>	<b>(Tynemouth, St)</b>
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	Salway A.S.	
	West Cornwall F.C.	
3-5.11.95	<b>Supreme Festival of Fishkeeping (St)</b>	

### Yellow Badge for Wally

Not to be confused with Soccer's Yellow Card, the awarding of the Federation's Yellow Badge is the long-established practice of honouring those aquarists for meritorious service in the interests of the hobby and recently this well-deserved honour was accorded to **Wally Ryder**, of **Portsmouth A.S.**

Portsmouth A.S. is part of the **Association of Southern Aquarist Societies (ASAS)** and Wally has been involved with both for a long as anyone (including Jack Stillwell) can remember. A staunch worker in any of Pompey's events (including many, many years of the Society's annual aquatic exhibitions) and a willing supporter of any other Society's Shows and activities along the South Coast and up into the Home Counties. Wally has been a well-travelled, familiar figure throughout the years; of course, it's not been all 'pleasure', for Wally also ventured on to the other side of the show benches serving as a Judge for many years too! The Federation Council is therefore pleased to award the Yellow Badge to Wally for all of his long-time efforts in serving the hobby both at Portsmouth, on behalf of ASAS, the Federation and wherever else he so willingly travelled.

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## F.B.A.S. NEWS

### F.B.A.S. 'Anniversary' Awards

Still with long-service type Awards, the Federation has also had a practice of marking milestones in Societies' Calendars, especially when large-denomination Anniversaries occur.

This usually takes the form of a Commemorative Trophy, for the Society's own domestic, or internal, use and is typically awarded at the Society's Silver Jubilee, ie after 25 years of continuous active existence. (Regrettably, Societies which were founded many, many years ago but which have had a lapse of inactivity for any reason, cannot qualify for this award; after any lapse, they have to start from year 1 again). Thanks to the modern database system of recording facts and figures, such events usually automatically process themselves (aren't computers clever?) but Societies should note that the Award is presented to the Society in the year immediately after the magic 25th Anniversary date, NOT in the year running up to it. The FBAS will be pleased to learn of any long-standing Societies, especially if they are nearing this particular landmark.

### Additions to F.A.D.S.

Since the last issue of Fishworld (and the 1995 FBAS YEARBOOK) there have been some new retail outlets added to the **Federation Approved Dealers Scheme (FADS)**. As most readers know, any retail premises featured on the list will, upon production of the current FBAS Member Society Card offer discount. Each Premises should display the FBAS Sticker badge in the window or at the point of sale. **Please tell the shopkeeper that you saw the FADS details in Fishworld or FBAS Yearbook.**

Crabtree Pets  
& Aquatics  
99 Crabtree Lane  
Lancing  
West Sussex  
BN15 9NH  
Tel: 01903 522100

Aqualand  
155 Blendon Road  
Bexley  
Kent DA5 1BT  
Tel/Fax  
0181 303 3711

Aquatic Fanatics  
42 Hockwell St.  
Bishops Cleeve  
Herts CM23 2DW  
Tel/Fax  
01279 504024

Living Waters  
Aquatic Centre  
Unit A11  
Holmer Trading Est.  
College Road  
Hereford HR1 1JS  
Tel 01432 279268

Vanishing World  
Wealden Forest Park  
(ex Brambles)  
Horne Common  
Horne Bay  
Kent CT4 7LQ

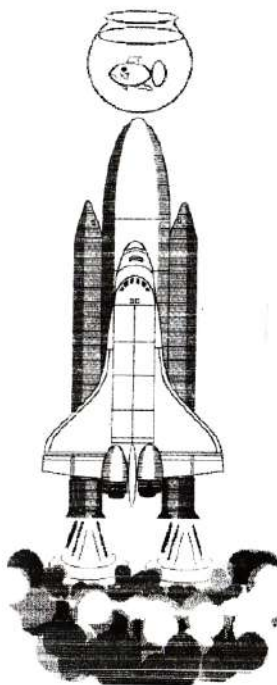
Please send details of any new dealer willing to join the Scheme to:  
FBAS Advertising Officer, R. Lenmon, 17 Fernbank Close, Walderslade, Kent ME5 9NH

## Fish in Space!!!

Following on from Dave Page's article, extolling the virtues of the Golden Medaka or Geisha Girl Fish (*Oryzias latipes*) comes news of further unlikely exploits for this species. All very well that it can tolerate wide differences of water temperatures, as Dave outlined, but how about a really different environment and weightless in the bargain as well?

Well, that's just the conditions two pairs of Medakas found themselves subjected to when they were installed in a space mission from Cape Canaveral, Florida. They formed part of the Aquatic Animal Experiment Unit aboard the Space Shuttle Columbia which blasted off on July 7th 1994. The experiments were conducted by the IML-2 (Second International Microgravity Laboratory) as part of an overall investigation into micro-gravity and its effects on humans and animal — especially the dreaded space sick. One phenomenon found in humans is that the spine stretches due to lack of gravitational pull; in fact, after a few days into the mission Commander Richard Hieb had 'grown' by 2 centimetres which, when added to his normal, earthbound height actually disqualified him from space duty because he had exceeded the maximum for space personnel — a fine time to find out!

Fish are particularly suitable subjects for experiments in space for conditions in water are similar to micro-gravity. Balance, another important factor to a fish, is co-ordinated by organs, otoliths, in the inner ear and, in another experiment, five of the six goldfish carried had had these organs removed either from one or both sides, the sixth fish being the normal control animal. The natural tendency of fish to always turn their dorsal surface towards light was also to be investigated under space conditions where who knows what is up, or down, anyway. Obviously as the



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## Fixed in Space

(continued)

Space Shuttle turns in flight the light received in the fishes' aquarium enters at different angles; fish normally keep upright by combining visual signals with those coming from the otoliths how would they react under weightlessness 'too'?

But why take Medakas? They were chosen because they appeared to suffer no problems at all in space (verified earlier using aircraft flying parabolic flight-paths to simulate weightlessness) whereas goldfish tended to loop the loop! After the 15 day mission the two Medaka pairs had spawned producing 43 eggs, 11 of which actually hatched in space.

News too were carried on this mission: some were treated with spawning-encouraged hormones prior to lift-off, others were treated similarly in flight, but whilst reproduction occurred during the mission, the amphibians seemed less happy in space than the fish and unfortunately two died.

Most of the fishes and amphibians were housed in their special 'space-tanks' a few days prior to launch and, of course, they would be carefully studied both during flight and post-flight when back on earth again. Conditions in the fishes' aquariums were closely monitored by scientific instruments as well as by video cameras and direct crew observations. The water temperatures ranged from 59°F to 77°F, adjusted as required.

Maintaining the water conditions was of prime importance and, as accommodation for filtration equipment was very limited any form of filter medium chosen had to be ultra-efficient in proportion to the

space it occupied. For this reason, Spirax™, the open-pored sintered glass material, was selected. With one litre of Spirax having the equivalent surface area of 270 square metres, it was the best possible solution for the restricted space available, it's sponge-like structure is particularly suitable for colonisation by micro-organisms used to clean the water biologically. On the mission's return there was no evidence of any nitrite formed.

The point of using aquatic animals is that if it can be shown that they can easily adapt to micro-gravity then important aquacultures can be set up permanently in space, say in orbiting space stations, where such animals can provide food as well as purifying water and otherwise disposing of waste products — to the benefit of the astronauts who have to live up there.

Meanwhile, back on earth (in downtown Corby, orbiting at zero level) Dave's fishes continued to spawn right through September. Ever the one to experiment, Dave put some eggs in the fridge to see how much cold they could withstand, but they didn't hatch upon 're-thawing'. Taking out some precautionary 'insurance' Dave brought one pair and some youngsters in for the winter but left the others (and some White Cloud Mountain Minnows) out in the pond. During some cold weather early this year he actually watched the fish swimming about beneath an inch and a half of ice (temperatures had been as low as -10°C with up to 6" of snow) so he can verify that these fishes are tough. Now they are out and about again with no sign of damage or infection for their time in the pond.

*Acknowledgements:* Space mission material kindly provided by Schott Glass and published with their permission, similarly, permission received to reprint abridged material from the Corby A.S. magazine.

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## Weston Stop Press!!

A brand new Society Event for the **Supreme Festival of Fishkeeping.**

The **SUPREME SOCIETY FEATURE** open to any Society (entries limited to 8 — enter early!) will consist of the following:

Each Society will be provided with an 8' freestall table with 13amp electrical power supply point. Each 'table' must contain the following

### Ladies Section

Two items of handcraft made by Society lady members

### Junior Section

Handwritten essay (on 1 sheet A4 paper) written by Society Junior member (under 16 years of age) about their favourite fish; displayed with a separate drawing, or painting of that fish.

### Breeders Section

2 teams of six fish (2 different species) which have been bred by Society members; the parent fish to be exhibited where possible. Each team to be accompanied by written details of that species, for benefit of public information.

### Furnished Tank

Each entry will receive 600mm Hagen Biohabitat aquarium plus gravel and plants. These aquariums to be furnished for display, with Societies providing their own fish.

**Aquariums (worth £150!) may be kept by Societies.**

### Theme Area

Maximum table top area to be used approximately 4 sq. ft (2' x 2'). Theme can be anything but must be aquatic-related. Models can be used but no polystyrene or other readily-inflammable materials.

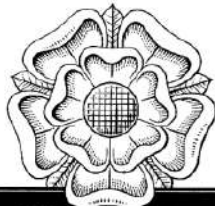
**PARTICIPATING SOCIETIES TO JUDGE ALL ENTRIES EXCEPT THEIR OWN**

Entries by 1st September 1995 please to:

**SUPREME SOCIETY COMPETITION**  
The Orchard  
Gatcombe  
Isle of Wight PO30 3BF

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**FEDERATION OF  
BRITISH AQUATIC SOCIETIES**  
We look forward to seeing you at this event  
**Our Stand No. is AQ2 in The Water Garden Section**  
near the Main Entrance



THE ROYAL HORTICULTURAL SOCIETY  
**HAMPTON COURT  
PALACE**

*Flower Show*

5th-9th July 1995

IN ASSOCIATION WITH THE

**Daily Mail**

Show your F.B.A.S. Membership Card to  
receive discount on purchases  
of Aquatic Plants

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## Chloramines Explained

Chlorine treatment of tap-water has been long established but the increasing use of chloramines in recent times may be still new enough to remain something of a mystery to many fishkeepers. The following information has been extracted from a leaflet sent to consumers of the Severn Trent Water Company; although originating in the Nottingham area, the facts detailed are probably just as pertinent to fishkeepers in most other areas.

Chloramine is a combination of chlorine and ammonia and many people feel that treating water with this, rather than chlorine alone, gives an improvement in taste. Chloramines are both safe and well-established as part of water disinfectant treatment, they have been in use in the U.K., the United States of America and Canada for decades. Chlorinated water is safe for bathing, drinking, cooking and all uses we have for water every day. However, there are drawbacks with its use, and people requiring kidney dialysis, as well as fishkeepers, need to take special care.

Kidney dialysis patients must remove chloramines from water fed into their machines; in the dialysis process, water comes into contact with blood across a permeable membrane. Chloramine, like chlorine, is toxic in this context and must be removed. (However drinking treated water is safe because the digestive process neutralise the chloramines before they reach the bloodstream, even kidney dialysis patients can drink, cook and bathe in treated water without worry as only direct chloramine contact with blood is dangerous). Removal can be done by adding ascorbic acid or using granular activated carbon (GAC) treatment: this is the responsibility of the medical centres operating dialysis

treatments. Patients with home dialysis machines should check with their local renal unit who will recommend the appropriate type of water treatment.

Fishkeepers also need to remove chloramines from water used for aquariums — either directly as in freshwater tanks and for water used with salts to make up synthetic seawater for marine aquariums. Although chlorine is also toxic to fish, it disappears rapidly, especially when fast water flow rates are employed — the turbulence blows off the chlorine and vigorous aeration will do the same. Leaving water to stand for a few days also dissipates chlorine but chloramine-treated water won't respond to any of these treatments, chloramines may take weeks to disappear. Dechlorinating agents, available from your aquatic stockist should work as well for chloramines as they do for chlorine; alternatively a GAC filter used at a slow flowrate (to allow sufficient contact time) is the next best thing. Always follow the instructions given with dechlorinators and carbon filters as closely as possible.

Chloramines affect the fish directly because it can come into direct contact with their bloodstream through their gill membranes. A peculiar anomaly is that whilst chloramine (an ammonia



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## Chloramines Explained

(continued)

based combination) is toxic to fish, they are apparently not affected by the ammonia they excrete naturally themselves from the very same gills during respiration. Ammonia can be produced too when chloramines are chemically removed but this may be subsequently removed by biological filtration, and the use of zeolite and some pH control methods. Reverse osmosis will remove salts from water passing through its permeable

membrane but chloramines pass through easily and are not trapped or removed. During partial water changes, or topping up for evaporation losses, chloramines are still added although their amount depends on the proportion of new water added to the overall aquarium or pond volume. Chlorine residual levels can be monitored during water changes; these test kits are available at aquatic dealers or, alternatively swimming pool supply stores.

For the latest information on water quality in your area (much more than just pH and Hardness figures) do consult your own local Water Authority.

## 1995 British Open Winner for Doncaster

The FIRST big Trophy of the year has been won. The Interpet-sponsored **BRITISH OPEN FISH CHAMPIONSHIP** was held at Corby on the 14th May, in conjunction with the Corby & District Open Show. The Competition was Judged by FBAS Judge, **Jack Stillwell, of Portsmouth A.S.**, who found several high-quality fish facing him on the Show Bench. At the end of his deliberations, only 6 points separated the top places and the **1995 FBAS BRITISH OPEN CHAMPION** was:

*Leporellus vittatus* 90 points  
presented by Messrs. Critch from Doncaster A.S.

### Runners up were:

<i>Xiphophorus xiphidium</i>	89 points
<i>Pseudochalceus kyburzi</i>	88 points
<i>Corydoras narcissus</i>	87 points
<i>Lamprologus brichardi</i> (Daffodil)	86 points
<i>Cyprinella</i> ( <i>Notropis</i> ) <i>lutrensis</i>	85 points

**P.S. Guess who won the Aquascope Class?**  
The same chap who gave out the Prizes and drew the Raffle!!

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The Tyne Tees Area Association present :

## Tyne Tees aquatic Festival '95

In Association with the FBAS and Sponsored by Hagen

27th August 1995  
The Park Hotel, Tynemouth

### Attractions

Area Open Show, including Inter-Area contest with USA  
FBAS Championship Classes No-1 and O

Lectures from Dick Mills, Leading Fishkeeping Author

Trade, Hobbyist and Society Stands

Demonstrations and Competitions throughout the day

Only \$1 Admission/50p concessions

Full Facilities at Venue, adjacent to SeaLife Centre  
and with easy access to all local attractions

For further details, including trade space and local accommodation, contact :

TIAA Event Management Group

Colin Tweddle (0191) 2533452 Jane Bell (01325) 466630

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## COLDWATER CORNER

Here are some answers to those questions you might be too afraid, or shy, to ask. We are grateful to **Gloucestershire A.S.** for permission to reprint the following information taken from their Newsletter.

**Q:** I have recently set up a pond which is about 6' x 6'. How many fish can I keep in it?

**A:** First of all, the pond is far too small to keep, say Koi and other large carp species. Providing you have the correct planting ratio in the pool then in the first year you may keep up to 1" of fish for every square foot of water surface area (don't include the tail in any fish measurement); after the first year, the pond will start to mature and you can then double, or even treble, the total body length of fish depending on the degree of filtration you have. So let's take up your example:

Surface Area	= 6 x 6 = 36sq ft.
First Year	= 36" Total body length @ 1"sq ft.
Second Year	= 72" Total body length @ 2"sq ft.

Please remember to buy our fish a few at a time, purchasing the total number over several weeks. This will allow the filter time to cope with the disposal of the ever-increasing load of waste being placed on it.

Suitable species and varieties to choose from include:-

Shubunkins	Silver Rudd	Blue Orfe
Goldfish	Golden Rudd	Golden Orfe
Red Comets	Green Tench	Rainbow Dace
Sarasa Comets	Gold Tench	Crucian Carp

These could be made up as follows:-

4 Shubunkins	@	3" = 12" Body length
2 Red Comets	@	4" = 8" Body length
2 Sarasa Comets	@	3" = 6" Body length
3 Golden Orfe	@	2" = 6" Body length
1 Green/Golden Tench	@	4" = 4" Body length
36" Total Body length		

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## COLDWATER CORNER

(continued)

### IMPORTANT POINTS

- DO** check health of fish before purchasing.
- DO NOT** buy too many at one time.
- DO** feed sparingly at first.
- DO NOT** buy Fancy Goldfish such as Orandas, Ryukins and Moors, they are NOT pond fish; you can appreciate their beauty (and care for them more conveniently) in an indoors aquarium.

**Q:** What has happened to my *Lobelia cardinalis*? It does not appear to have survived the winter in my pond.

**A:** *Lobelia cardinalis* is a versatile plant (versatile in the sense that it can be grown in damp areas as well as in a marsh or water garden environment) originating from North America, with tall stems of reddish-bronze foliage and most attractive scarlet flowers.

It can be temperamental about its habitat and if the water garden is totally exposed to heavy frosts then this plant will suffer. In more mild areas (such as parts of Gloucestershire), it is very possible for this plant to survive. The crown of the plant should be planted at a depth of 2-4 inches below the water's surface to afford it some protection from our winter. If you feel a severe frost is imminent (and your plants are in baskets) then tie string to the basket and lower it into the deeper part of the pool until the worst of the weather is over. Later on, pull up the plant to its original position and it won't be any the wiser!

**Q:** With reference to Blanketweed, how do these magnetic devices work?

**A:** According to literature put out by the manufacturers, the theory is that exposing water to a strong magnetic field affects the size and structure of the mineral salts present. Although the mechanism is not fully understood, it is believed that these changes reduce the ability of blanketweed to absorb these essential elements into their cell structure with the effect that their growth is limited or curtailed. Generally, a difference in the growth of blanketweed is noticed within 4-6 weeks of fitting a magnetic device. However, some reports suggest that this process only works in new installations and not those already affected by the b----- stuff!

Incidentally, controlling the deposits of limescale by using a magnetic device should prolong the time period between the necessary cleaning of the quartz tube found in UV installations, thus indirectly 'improving' the efficiency of the lamp in clearing green water.

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## A Judge's Point of View

by Cyril Brown,  
FBAS Judge, Riverside A.S.

I should like to express my opinion on part of the article "What's the Point of Shaving Fish" (Fishworld, Volume B, No. 8, page 26).

I note, amongst others, one comment 'One pity 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 just to get the fish identified'. This statement, I fear, requires further cogitation.

Now if the exhibitor has identified and correctly named the fish then there should be no problem for the Judge, providing he/she is able to verify the name proffered by the exhibitor for, as suggested by the contributor, this does help to present newly identified fishes to the Judges and the hobby in general. The second aspect suggested within the paragraph, is that exhibitors requiring their fish to be identified should enter them on the Show Bench in order that the Judge, whilst judging, will identify them. Has Ponderus given serious thought to what he/she is advocating? Obviously not, and I would venture to suggest that Ponderus (hiding behind a pseudonym) is not a person with any experience in judging otherwise a different point of view would have been taken. Let us think the suggestion through from a Judge's point of view.

It has to be accepted the time has to be spent on judging a fish and assume that at an Open Show a Judge will assess approximately 100 exhibits. Now consider the length of time it takes to judge one exhibit (be it a single fish, a pair, a breeder's team, a plant, furnished aquarium or aquascape): how a go and time yourself, just see how long it takes you to measure size, ensure that all fish, plants etc. are

named correctly and benched in the correct Class. Having done that, make sure that all the Federation's Rules have been conformed to and then, finally, add up the points on the Judging Sheet — and woe betide you if you make an error in this final addition!

It has been voiced that it takes 2-3 minutes to judge an exhibit properly (Note: not Furnished Aquaria); now for the arithmetic. 100 exhibits x by only 2 minutes = 200 minutes, i.e. a staggering 3 hours and 20 minutes of continuous judging with no stopping for a cup of tea or a break. Don't forget that FBAS Rules demand that every exhibit (other than those disqualified) be fully judged and pointed.

So what happens if a few undescribed fish are on the Show bench waiting to be named? It is quite obvious that much valuable time will be consumed, possibly by two or three more Judges, endeavouring to ascertain the genera and species. This is unfair, not only to the Judges but to the rest of the exhibitors who have diligently named their fishes and are even now hammering on the doors waiting to be allowed entry! You know, when one considers the amount of work and length of time that can go into finding out the correct name of an unknown fish, how an earth can anyone, even with cases full of books, be expected to find X amount of time during a Show to carry out research on exhibitors' behalf?

Now let us consider the problem of identification from the fish owner's

## A Judge's Point of View

(continued)

point of view. Firstly, it is in their possession 24 hours a day, 7 days a week, presenting them with a great opportunity to study it at their leisure. Secondly, the fish is in its own water and an environment which is probably fully-furnished and should be at its peak of condition, unlike on the Show where fish lose their intensity of colour (especially Characoids) thus leading to an incorrect identification. Thirdly, there is a whole world of aquatic books available to the aquarist, these don't have to be bought as most Public Libraries will get them through their network or, if not, will obtain them for a small fee. Fourthly, if you belong to a Society, why not have an evening where members bring along any unidentified fishes, together with some books, and have a session where everyone joins in — pretending to be Judges identifying fishes!

Why not contact the Natural History Museum (Cromwell Road, London SW7 5DB; tel: 0171-938 9123) and either take the fish, or a description or photograph of it, and get the answer from the horse's (or should I say fish's) mouth?

Nearer to home, why not send a photograph of any unknown fish (a good side view with erect fins is ideal) to me, or the Secretary of the FBAS Judges and Standards Committee (address in the Yearbook)? The Committee is reintroducing the 'Red & the Green' magazine and are currently publishing a series of articles entitled Name This Fish: this consists of a colour description, and illustration, along with a request for information.

So, Mr/Mrs/Miss with a fish identification problem, I hope I have

gone some way towards alleviating the problem of Judges having to name fishes on the Show Bench. Incidentally, I am sure that if FBAS Judges are approached in a proper manner, either before or, if there is time, after the Show (but not if the item is being exhibited in competition at the Show) they will be only too pleased to give their comments regarding the fish in question.

Now, in conclusion, may I be forgiven for resuscitating a true story I have reiterated many times concerning a fish exhibited at the Uxbridge Society's Open Show over two decades ago. Exhibited in the then AOV Tropical Class (now Class M), it was slim, silver in colour and about 300mm in length; Ken Nutt, of the now extinct Tottenham Society, was the unlucky Judge who drew the short straw and he, along with the rest of us Judges, decided that we were stumped, the only clue we had was that, as it had large eyes, it would be a large fish in our estimation, probably between 600 and 750mm. Needless to say, that fish didn't receive an award but after the Show a chap named Stan Cowell from East London, buttonholled me to discuss the possibility of making further enquiries. I suggested he contacted the Natural History Museum. This he did, taking a drawing of the fish (done by his wife, incidentally) and a description. I believe he met Dr. Greenwood, who took one look at the drawing, led Stan out to the gallery, pointed to the wall and said, "there's your fish!" ..... What was it? A bloody great 2 metres plus, Tarpon! Ladies and gentlemen, I rest my case.

## Trade News

When he's not involved with his pond-living Golden Medakas, Dave Page also finds time to look out for new equipment. The **AQUALINE BIO-FILTER** is a range of Pond Filters, originating in Holland, that look like squat Daleks with flat, apparently screwed-on tops and only one, or two pipes emerging.

The inside of each, though, is quite revealing: water enters via a side top inlet (in the case of the three 'bank' or external models) and is redistributed over the filter sponges by deflection from the underside of the lid. This ensures adequate aeration to assist bacterial growth in the sub sponge bio-blocks which, after only a few weeks, become mature to convert organic dirt into nutrients (nitrates) for pond plants. In the in-pond model, under suction from the pond pump, water is drawn down through the perforated top, passing through filter sponges and 'bio-blocks' and back to the pond again.

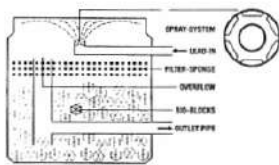
The two in-pond models cater for pond capacities of 4,000 and 5,000 litres whilst the external models can cope with 5,000, 8,000 and 10,000 litre volumes. Incidentally recommended flowrates are approximately 'half-capacity' per hour i.e. 5,000 litres requires a pump flow of 2,500 litres/hour.

Despite their unbecoming appearance, the external models can be disguised by the simple expedient of standing a pot plant on the recessed lid, don't try it with the in-pond models — you'll block up the inlet! Details from: **John Lynch, Aquafresh, 29B Flixton Road Flixton, Manchester M41 5DP (tel: 0161 7476163)** or from **Dave Page, 68 Carter Avenue, Broughton, Kettering, Northants NN14 1LZ (tel: 01536 790932).**

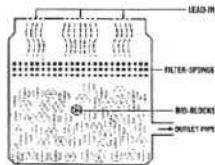
The firm VAN CEFVEN has developed a bio-filter with a unique spray-system, available in 5 different types. The bio-filter 'bank model' consists of bio-blocks and a filter-sponge (the filters for in the pond, 'pond model', are also built up with bio-blocks). In the filter is installed a unique spray-system, where water is equally divided against the underside of the lid. This system stimulates the oxygen assimilation and activates the bacterium growth. Also the unrefined dirt is perfectly divided over the sponges. The bio-blocks are so constructed, that within a few weeks a bio-culture will develop in the filter, that will convert organic dirt into nutrient for pond plants. Your pond becomes visibly more clear. You should clean the filter-sponge = once a month.

- 18 litres pond model, for ponds up to 4000 litres
- 25 litres pond model, for ponds up to 5000 litres
- 25 litres bank model, for ponds up to 5000 litres
- 40 litres bank model, for ponds up to 8000 litres
- 50 litres bank model, for ponds up to 10000 litres

- Suitable for pumps up to 2000 litres per hour.
- Suitable for pumps up to 2500 litres per hour.
- Suitable for pumps up to 2500 litres per hour.
- Suitable for pumps up to 5000 litres per hour.
- Suitable for pumps up to 5500 litres per hour.



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## A Look at Corydoras

PART 3

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

In my last article, we started to look at water conditions in which *Corydoras* will thrive and grow on to become Show specimens and hopefully even to breed. *Corydoras* will, and can, live in very poor water conditions: they have additional breathing capabilities, i.e. taking air from the surface after a dash up from the bottom. However, before you can provide the correct conditions for them, you must find out what the conditions in your aquarium are like first.

What do you need in order to do this? A standard pH Test Kit measures values of acidity (pH values below 7.00) and alkalinity (pH values above 7.00). A Hardness Test Kit will also be necessary to see if your water is 'hard' or 'soft'. Hopefully your pH will be between 6.8 and 7.5 (straddling the neutral point) with a hardness figure of 15°DH (medium hard). If this is not the case — beware, you may have a lot of trouble in store in the form of ammonium salts just waiting for a water change. Let me explain.

Together with Carbon Dioxide, ammonia is produced during the process of decomposition of all types of materials in the aquarium (uneaten food, decaying plant pieces and, of course, fish wastes). Of these, the most easy to control is uneaten food: excess food can be left on the tank floor, literally uneaten, but it may also be food which has actually passed through the fish, despite extracting all it needs from food fish often continue 'feeding' however, all that happens is that food passes straight through to emerge undigested as a very real tank pollutant. The moral is clear, only feed sparingly!

Ammonia is poisonous to all fish and especially to *Corydoras* at even low levels of concentration. Happily, ammonia is broken down by nitrifying bacteria (the type found in biological filters) into less toxic nitrite and even less poisonous nitrate. Below pH 6.5 nitrification stops and so ammonia cannot be broken down by bacterial activity; additionally, because the ammonia is in the presence of acid

water it changes into ammonium salts. This in itself is not poisonous to fish but when the pH is raised to, say, 7 or above (less acid, more alkaline) the ammonium salts release large amounts of ammonia which is harmful, and which cannot be rapidly rendered harmless by bacteria. This rise in pH values can occur quite unsuspectingly due to action on the part of the fishkeeper who may well be carrying out apparently innocently-beneficial large water changes — a requirement for successful breeding of *Corydoras*!

First signs of ammonia poisoning may be mistaken for lack of oxygen in the water: here, as described earlier, the fish dash to the surface as if for air (normally they extract oxygen from surface-gulped air in their hind-gut) but this is not the case; where ammonia poisoning is occurring this action is a cry for help. If these signs are ignored and the fish are left in the same water the next symptoms are bleeding in the fins and on parts of the body. The fish must be moved otherwise they will surely die.

So, if having tested our water, you find you have a reading of pH6 or less, and you have not been regularly doing partial water changes, you may have a problem. One way out is to change only a small amount of water every few days; test regularly until the pH is just over 6 when you can assume that beneficial bacterial activity has restarted. You could also place ammonia-absorbing material such as zeolite pellets in your filter, personally I would do this right from the start if keeping *Corydoras*. Another beneficial

factor would be a well-planted tank (to absorb nitrates) but not too dense as then fin damage could occur plus the fact you would find it hard to see any evidence of deposited eggs!

Some *Corydoras*-keepers use rainwater. There are both advantages and disadvantages in this: a distinct advantage would be if you were trying to spawn wild-caught *Corydoras* rather than tank-acclimatised, commercially-bred ones. Rainwater will readily absorb materials from bogwood, a very popular decoration in aquariums, thus lowering pH again. However water changes can move up the pH value with ease. By using cold rainwater,

spawning activity can be triggered — it simulates melting snow water (from the *Corydoras*' native Andean mountains).

The main disadvantage with rainwater is that you can never be quite sure what you're getting in the way of quality; rain is very liable to become polluted on its way down to your rain-butt from industrial atmospheric pollutants and even from garden sprays — not even necessarily your own!

Lastly, temperatures. *Corydoras* do not like it hot. I like to keep mine between 72°F-76°F but have been known to go down as low as 64°F and up to 90°F — but not on the same day!

Next time — perhaps *Corydoras* breeding in a big way.

### Society News

Eastleigh and District A.S. would like to thank all who attended their recently-held Open Show on the 26th March 1995 including Judges, Sponsors, Exhibitors, Visitors for their support on the day and, of course, the hard-working members who put so much effort in the preparation work before, and on the day itself (including the breakdown afterwards) to make this the most successful Eastleigh Show to date.

As can be seen from the accompanying photographs the Show hall looked a hive of activity whilst elsewhere the Raffle prizes competed for interest with the splendid photographic exhibits.

Report and Photos supplied by J. McLoughlin of Eastleigh & D.A.S.



## Choosing a Pond Fish

What are the pre-requisites of the ideal pond fish? Well, in the first place, it ought to be easily visible, content to have large shadows, from viewing humans, cast over it but be quick enough to dive to the bottom should the shadow be from a heron or a cat! Additionally, it should be hardy enough to over-winter safely in the pond, not require too much attention in the way of water quality and, of course, be prepared to breed at a moment's notice.

Being highly visible is a bit of a double-edged sword to the fish: apart from being valued for its beauty, there is the reverse side of the coin — being that much more visible to any predator. The ability to survive in the pond depends on speed, either to grab food ahead of competitors or, again, escape from danger. Speed demands the right shape of body and the right type of caudal fin. A fairly streamlined body, coupled with a crescent or paddle-shaped caudal is just about right, however, when we come up against the many varieties of Fancy Goldfish, for instance, we find that many of these do not fit the required pattern. An egg-shaped body fringed by long flowing fins hardly makes for a piscine Parschal! Of the varieties of Goldfish just up from the conventional Singletails perhaps the fanciest with its stiffer fins and straighter dorsal outline represents the limit of suitability. The even more 'overdeveloped' Fancy Goldfish such as the Celestial and the Bubble-eye (some might say even the Oranda and Lionheads) are clearly unsuitable for the outdoor pond: maybe the Oranda and Lionhead can see perfectly well from beneath their decorative 'wen' but chasing food (or escaping the net) with inefficient wiggles from their downturned caudal peduncles will soon

be lost causes. Long flowing fins will also be a hindrance in the pond; the slightest fall in water cleanliness will soon create congestion and infection; physical damage from faster swimming companions cannot be entirely ruled out either. To summarise this paragraph then, keep the really exotic varieties where they can be seen, looked after and appreciated the best — in the indoor aquarium.



Lionhead — not a suitable pond fish

Ideally, a pond fish should occupy the middle and upper layers of the waters; bottom-dwelling species, despite any scavenging benefits they may donate to the pond's well-being will, unless they are a gold variety, be quite invisible from above and only seen when the autumn clean-out of the pond occurs.

However, there is no need to think that the pond's inhabitants are limited to a solitary range of faies, although the strict number of scientific families or genera may be only in single figures. The selection of body forms and colours within the Goldfish groups is almost indeterminate such are the varieties, and variances available — remember, pond fish do not have to conform to Show Standards to make themselves popular, many a favourite fish may be, in truth, a bit of a mongrel! The Orfe (even in this species

### Choosing a Pond Fish

(continued)

there are around three colour variants) is a favourite choice for it is constantly on the move just under the water surface, it may have the habit of leaping out of the water at times, during summer, so owners of small ponds might well find them on the lawn — if the cat doesn't get there first! Koi make excellent pond fish, especially if you have the room for them to develop to their full potential. Being bred and developed to be seen from above, this designer-fish must be the ultimate. Many of the North American fishes can be kept in the pond; the Red Shiner is an instant thought, Sunfish are very colourful (some are predatory!) but maybe their colours are again best appreciated in a large aquarium. Elsewhere in this issue, mention has already been made of the Golden Medaka and White Cloud Mountain Minnows; other 'refugees' from the tropical aquarium which can take an annual summer holiday in the outdoor pond include American Flagfish, Penfish, Paradisefish, Platies, Swordtails, Mollies and Guppies. These latter species usually benefit greatly from a 'stretch' outside and, of course, the green food in the water together with all the live insect food should put them into the breeding (and showing) condition better than anything else.

Select the right type of fish for your pond and it will repay you many times over with pleasure and enjoyment and, who knows, perhaps many more of the same.

### Mighty Oaks

by Shorty, Corby A.S.

'It's said that 'Mighty Oaks from tiny acorns grow'. I feel proud to report, and earnestly hope, that these wise words of wisdom will indeed come true for one of the young members of my Society. He is all of a tender seventeen summers and, like myself, looks ten years younger.

I speak, therefore, of no less personage than one Matthew Bryan. As his father is a fishkeeper of no small note (and is the current chairman of the Corby Society) it is little wonder that Matthew was not brought up on Ostemilk and Farley's Ruls — his weaning diet was Liquefy, Tablet Food and Pond Pellets!

He collected his first winning Card at an Open Show a dozen years ago. Since then, he has won Trophies all over the country. The tank in the bedroom became tanks all over the house; the car in the garage now rusts in the street on account of the garage being turned into a well-appointed fish-house.

As Matthew's Dad has pretensions of being a bit of a businessman himself (blustery self-starter type) and not inclined to have Matthew sitting about idle, he told him to a job of some sort. This the boy did, with gusto. He knew about fish, so why not profit from the knowledge? He took a bit of space in another shop and opened Bryan's Tropical Fish Centre.

The fitting-out of the shop has been mainly all his own work as is the day-to-day running of the enterprise. He recently came Second in the local Young Achievers Award Scheme.

His bit of advice for any other 'Young Guns' who want to do their own thing is — GO FOR IT!

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**aquarian**  
ADVISORY SERVICE

by Dr. David Ford  
Senior Consultant

**aquarian**  
ADVISORY SERVICE

**Q.** I recently set up a 48" tank filtered by a Fluval 303 external filter. I have never used carbon before, so I don't fully understand its action. I know it to be a 'chemical filter' but what does this actually mean? I use Bioplast's Monsoon, Variator, Nutriplant and AquaClean. Is the carbon removing these additives before they do their job? These additives cost money so I want to know they are working! What alternative could I use instead of carbon?

Shaun Clarke, Bognor Regis

**A.** Carbon has a micro-sponge structure that traps molecules by adsorption (notice the correct word is spelled with a 'd', not 'absorption'). It is a physical, not a chemical, process but since it removes chemicals from solution it is called a chemical filter. The other types of filtration are, of course, mechanical (trapping solids with polyester fibre etc) and biological (growing nitrifying bacteria on the surface of a medium such as gravel, plastic pieces, ceramics of sintered glass).

The adsorbing powers of normal carbon are quickly lost because it takes organics from the air. However, if it is heated in an oven or pre-heated and sealed in a polybag (so-called **Activated Carbon**) it will remove a lot of organics from aquarium water. Aged aquarium water turns yellow (sulphur compounds) and can be restored to bright water by adding Activated Carbon to the filter for a day or two. Similarly, remedies such as chelated Copper, Malachite green,

Methylene Blue etc. can be removed once they have done their job in curing disease or parasitic problems. Any fresh carbon should be removed before such remedies are used and the carbon must be discarded a few days after its use to remove excess treatments (to prevent re-release of the adsorbed molecules sometime in the future).

Small molecules (inorganics such as chlorides, phosphates, sulphates) found in plant foods are not adsorbed, therefore the use of carbon is not a problem with such treatments.

The best use of carbon is as a biological filter medium. Its chemical adsorbing powers are short-lived and dilution (by regular partial water changes) is the best way to remove aquarium pollution. The massive surface area of the carbon's sponge-like structure grows many, many more colonies of nitrifying bacteria than plastic pieces or gravel etc. The carbon (activated or not, wood charcoal is better than bone charcoal) should be loosely sealed in a nylon mesh bag (fights or stocking leg) and washed to remove any carbon dust. Place in the body of the filter with a little polyester fibre (before the water flow reaches the carbon) to remove solids. Always bag carbon because it floats and can work its way up into the filter's impeller causing a blockage. To clean, discard and replace the polyester fibre but only loosely rinse the mulm from the carbon without opening the nylon bag. Use aquarium water to do this rinsing, since the chlorine in tapwater will kill the nitrifying bacteria. The carbon can be used for many years without the need for replacement.

**QUESTIONS ON FISHKEEPING?**

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