

FISH WORLD



Magazine



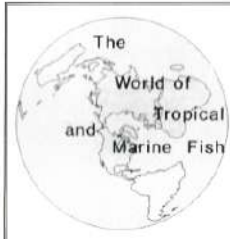
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P. J. PENFOLD M. V. PENFOLD

Dear Reader

First, I would like to thank all of those who entered the **HAMPTON COURT FLOWER SHOW COMPETITION** — out of the answers received, 14 were correct and the lucky winners drawn from these were Jack Stillwell & Moira Short. I trust that they had a very enjoyable day.

The Federation had very good exposure at the Hampton Court Flower Show. They were there in an Advisory Capacity answering many types of questions. From "Where are the Loos?" to "How do I get rid of blanket weed in my 3 acre pond?"

This magazine now reaches a large cross-section of the Fish Keeping community, these readers include many households who keep fish yet do not consider them as pets, but as an artistic feature in their home, to those Society members who keep and breed fish to ensure that where possible the rare specie continues to thrive. Earlier this year **FISHWORLD** was at the **Pedigree Pet Show** at Earls Court. There came to this Show many "Pet" owners who had either a Dog or Cat but on further questioning it was not surprising to find that a large number also kept fish.

To those readers who keep fish and yet do not belong to a Fish Club or Society please write and let us know the type of articles you would like to see in this magazine. ... Thank You!

Successful fishkeeping to all,

Peter A. Furze

Peter A Furze, EDITOR



Material for the next issue of this magazine should be in by the 17 of October 1992, and sent to:
 The Editor, Fishworld Magazine, 9 Upton Road, Hounslow, Middlesex TW3 3HP
 Tel or Fax 081-570 0934

CONTENTS:

ECHINODORUS Part II	6-7	FISH FOR THE GARDEN POND	22-23
WHAT'S THE DIFFERENCE?	10	CLUB NEWS	24
SOME LIKE IT HOT!	11	TENNESSEE AQUARIUM, The	26-27
JUDGES CORNER	13	AQUARIAN ADVISORY SERVICE	30-31
FISHWORLD PUTS THE MATTER RIGHT!	14	PREPARING PONDS FOR WINTER	32
KINGFISHER VIDEO EXPERIENCE, The	17	AQUATIC FILTRATION	34-35
PRODUCT NEWS	18	LETTERS TO THE EDITOR	35
MAIL ORDER	19	BOOK REVIEW	38
HAMPTON COURT PALACE INTERN.			
FLOWER SHOW '92	20-21		

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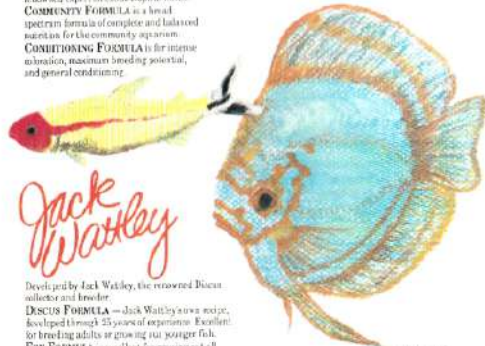
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ECHINODORUS

The Amazon Sword Plant

by Bill Rundle PART II

WATER CONDITIONS are fairly important. As one should provide water of optimum quality for the fish, so this is just as important for Echinodorus, poor water conditions and dirty sand will result in poor growth and may cause the foliage to develop brown dead spots. Regular partial water changes will help to produce nice clean leaves.

Lighting is very important for good results, both in intensity and duration. It needs to be supplied in a regular cycle and a time switch should be fitted to the lights as a priority.

Echinodorus require strong lighting to flourish and will benefit from a mixture of tubes and incandescent lamps, giving as wide a spectrum range of illumination as possible. The deeper the tank the more wattage will be required to penetrate to the plants.

Generally Echinodorus are termed short day plants, coming as they do from tropical latitudes and some species will not do well if the lighting is on for longer than twelve hours. This may well prevent certain species from propagating.

When conditions are to their liking, the plants put on growth fairly quickly and will then in most cases propagate by one or more methods. The smaller species tend to send out runners on the compost producing a young plant at regular intervals. These will soon form a carpet just a few centimetres high that can be very attractive in the aquaria foreground.

Some species will send up a flower spike, often branching, towards the surface, but not all species produce flowers under aquarium conditions. They will however produce young plantlets at intervals along the stem. When these small plants develop a few roots they may be gently eased off of the stem and planted in a shallower tank if possible to

grow on. Occasionally a plant will send up several of these spikes, all with young plants on, often more than it can easily support causing it's own health to suffer, and it is advisable to cut off all or most of these stems close to the crown of the plant to allow the parent to recover.

A few species, as they become mature, will sometimes divide at the rootstock. What appears to be a large specimen plant will on a closer examination prove to be two or more good sized plants on the same rhizome.

Here again they may be gently eased apart and replanted. The existing roots will in all probability die off and the new growth may be slow until new roots are regenerated.

Propagation by seed is not really practical in the aquarium. However if one is lucky enough to obtain a ripe seed head it is worth attempting to germinate and grow on the young plants.

E. horizontale flowers fairly readily in the aquarium and I have sometimes artificially fertilized the flowers by very gently dusting the inside with a fine soft artist's paint brush, preferably using more than one flower or plant. This substitutes the part played by insects and transfers the pollen from the anthers to the female part of the plant. Several times I have been fortunate and a seed head has resulted.

When I judged the seed to be fully developed I removed the stem from the crown of the plant and allowed the stem and seeds to dry out. Once the seeds were completely dry and brown in colour I rolled the seed head gently between finger and thumb over a clean Petri dish transferring the small seeds. With a fairly powerful magnifying lens the distinctive shape of these seeds may be observed with the little beak protruding.

ECHINODORUS

(continued)

I just covered the seeds with clean water in the dish, put the lid on and kept them in the warm and out of strong light.

They germinate after a few weeks, first showing white then pale green as the covering splits. When the first roots appeared they were transferred to a small show tank with a centimetre of fine sand on the bottom and this only just covered with water. The seedlings soon root into this sand and become tiny plants. Algae unfortunately becomes a problem at this stage and tends to smother the young Amazon Swords.

I would like now to conclude this article with some descriptions of species that I have grown and had success with over the years.

E. amazonicus Rataj. ■■■■■

SYN E. brevipedicellatus

This is the plant that we have known as the Amazon Sword for so long. A perfect aquarium plant with long slender beautiful green leaves on short stems. Although the foliage reaches to the water surface, it tends to adjust to the water depth and remains in proportion to the size of the tank. It requires good light and will then propagate freely from 'aerial' shoots that really are the flower spikes.



I find that this species grows well provided that the gravel is clean and the

water conditions are good. Unightly brown spots may appear if the water is less than optimum. These plants will not usually grow well on under-gravel filters.

If too many 'aerial' shoots are produced the parent plant will be weakened.

The species is not so readily available today which is a pity. E. bleheri, a larger species has taken its place and is the plant usually offered for sale. E. amazonicus leaves may be up to 3cm wide and are often curved. E. bleheri leaves can be 7cm wide and are not curved at all. Once planted the species should not be disturbed. Best results are obtained if young plants are used initially and left to grow on. Uplifting mature plants and replanting will cause the roots to die off with a resulting set back until new ones are regrown.

The plants will benefit from a very weak feed of Phostrogen, about 1/4 of a teaspoon in a two gallon bucket when changing the water.

E. Bleheri Rataj ■■■■■

SYN E. paniculatus — E. rangeti

A robust Amazon Sword that is readily available and reasonably priced, but is really only suitable for larger aquariums. A well grown specimen will completely fill the average home aquarium to the exclusion of lesser plants that will not be able to compete for light and room. It is nevertheless a majestic sight with its profusion of wide green lamineae. These are very much to the liking of several species of fish who enjoy the cover and spawning platforms of this broad smooth foliage. Propagation and cultivation is for E. amazonicus.

There are larger Echinodorus, mostly not suited to the home aquarium. E. bleheri is perhaps the largest that is well suited. A must for those who want a lot of plant for little outlay.



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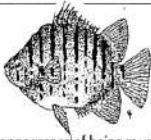
What's the difference?

by C.A.T. (Cyril) Brown
Riverside A.S. & Judges and Standards Member

FOR this edition of Fish World Magazine I have selected the SCATOPHAGIDAE, a family of brackish water fishes, consisting of only two genera, SCATOPHAGUS and SELENOTOCA. Unfortunately, aquarists have found a certain amount of difficulty in separating the genera and their species which are superficially alike in form and colour, but dissimilar in size. As colour is variable within the species, I have decided to concentrate on body shape and finnage, referring only briefly to colour. To this end I have selected for discussion, one species from each genus.

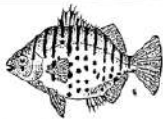
SCATOPHAGUS TETRACANTHUS (Lacepede) Size 350mm

Body shape compressed and disc like presenting in profile an almost circular configuration, unlike SELENOTOCA only eleven hard dorsal fin rays and four hard anal fin rays are carried, further the soft rays of the dorsal and anal fins are long, giving the appearance of being roughly triangular in shape. Body colour varies from pale silvery bluish or greenish, through yellow to the dark brown of SCATOPHAGUS TETRACANTHUS which, as illustrated, has both dark spots and vertical bars. NOTE... the separated dorsal fins.



SELENOTOCA MULTIFASCIATUS (Richardson) Size 150mm

Body shape compressed and disc like, differing from SCATOPHAGUS in having a slight flattening of the dorsal and anal contours, presenting an elliptical appearance when viewed from the side. It carries twelve hard dorsal fin rays and six hard anal fin rays, further, the soft rays of the dorsal and anal fins are short in length with the fins being long based, making them elongate in character. Body colour varies from silvery white to yellow or greenish, overlaid with vertical bars and spots.



The above fishes together with others in the series will be featured in a new series of books to be shortly published by the FBAS. These will not only identify fishes and highlight the differences between them, but will also cover Temperature, PH, Ecology, etc., as well as compatibility with other fishes and breeding procedures. The above sizes are taken from the current FBAS No. 6 Booklet entitled National Show Fish Sizes and Technical Information. C.A.T. Brown 1992

"Some like it HOT"

by Sue Okey Founder of "PETZ", Sparsholt College, Winchester

BUT REPTILES PREFER THE CHOICE! What is an article about reptiles doing in a fish magazine? You might well ask, and it is a long story that started with a chance meeting of your editor Peter, at the Pet Show, Epsom Court, London, where he was introduced to a few scaly friends that captivated both his, his colleagues' and the public interest.

However, these specialist animals fit better into the category of "hobby" animals aside from the more usual "furry" pets. Along with the work of fish-keeping, they also require special conditions to give them a long and happy life — which, naturally, is the ultimate aim of every animal keeper.

Like fish, the scaly world is also ectothermic, otherwise known as cold blooded. This means that reptiles regulate their body temperature by using external means, such as the sun's natural warmth. In captivity, we must therefore provide these animals with the means to THERMOREGULATE, that is to choose within their preferred temperature range how warm they wish to be. This can be achieved by providing a "hot spot" at one end of the vivarium and maintaining the air temperature within the natural range for the species. Correct lighting can also be important, especially for those lizards that spend their time basking in the sun.

Poor husbandry, often through ignorance, is the major cause of disease and death among reptiles, but unlike fish, it can take these animals many months to

die. However, with time spent on researching into the correct requirements, reptile keeping can become an all-inspiring hobby.

Future articles will be picking up on many of these points and looking into them in more detail and we will be discussing the variety of reptiles that can be successfully kept by the hobbyist. The correct choice of animal for your experience, and circumstances, is very important and throughout the range, captive bred animals should be the only choice as these have already acclimatized to life in captivity and are often accompanied by a feed record. The breeder will also be able to answer any of your queries on care and welfare.

As a dosing thought — remember some cute baby snakes can grow very big, very quickly — do you really want to give up your spare bedroom to your scaly friend!!!

Sue Okey is a Lecturer in Animal Management at Sparsholt College, Winchester.



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Judges Corner

by Peter W. Cottle,
Chairman, Judges and Standards Committee

It has been drawn to our attention that *Ctenopoma oxyrinchus* was omitted from the current Class E size sheet. How this occurred we can only guess! Please make a note on the current size sheet that the size is 115mm.

This year has seen a large influx of so called Chinese "barbs" and "loaches". Several have been seen on the show bench and have undoubtedly caused some problems for judges. There appear to be at least four different species of the loaches and they are probably of the *Parabotia* genus. Full identification has proved very difficult so far, as there is a

distinct lack of literature available. The Judges and Standards Committee would be pleased to hear from anyone who has managed to find technical data on these fishes so that we can publish identification and suitable show sizes.

We are in the planning stage of a Judges' Conference to be held once again at the Supreme Festival of Fishkeeping. It will probably be held on the Sunday afternoon (8th November). If you have suitable items for the agenda, please drop a line to the secretary of the J & S Committee. All judges will be very welcome to attend and participate.

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Mr John Jones,
The Aquarist & Pondkeeper
28 Kildonon Way,
Middleton Park,
Coushar,
Midlothian,
EH13 0JL.



17 July 1983

Dear John,

At a recent assembly of the Federation of British Aquarist Societies concern was raised over the future of 'The Aquarist and Pondkeeper'.

The matter was raised because one of the magazines, when publishing that magazine, was told "Enjoy it, the probably the last copy you will ever". The trouble experienced by stating that the magazine was suffering financial difficulties and was likely to close.

As an unorganised magazine, used by the Federation to promote and activities, the loss would be a great blow to B.A.S. Federation, Society - who since the Aquarist Club 50 as a valued award at their Open Shows - and individual reader of the Aquarist and Pondkeeper.

As Secretary, I have been asked by our members, many of whom have either subscriptions or regular orders placed with their newsagents, to write seeking clarification or confirmation of the latter statement.

I trust that you will be able to advise me of the situation so that I can keep our readers aware of the situation.

Yours sincerely,

Robin J. Dugway
General Secretary

AQUARIST
AND PONDKEEPER

August 7, 1983

A. J. Dugway, Esq.,
Federation of British Aquarist Societies
128 GERRARD ROAD
GERRARD
MIDLANDS
CV9 7BB

Dear Mr Dugway

John Jones has sent me a copy of your letter to his dated July 17.

I would like to assure you that Aquarist and Pondkeeper is not likely to close and is not suffering financial difficulties. On the contrary, the magazine is thriving in every way, which is extremely encouraging considering the extra competition and the general financial climate at the moment.

We have some exciting ideas for the future which we are currently promoting in the magazine, and I trust that these are appreciated and an exciting prospect.

I suggest a replacement cover at work here. The question is, should we make every effort to get all our resources into what we do best produce a top quality, readable magazine with hobbyists still clear to more after publication. I personally prefer the latter course, but will take John Jones' advice.

While I am writing I would like to say how much we value our friendship with the Federation of British Aquarist Societies, and look forward to respecting your readers' views for many years to come. In one kind of way to bring this matter to your attention.

Yours sincerely,

John Jones

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14

A Breeding Experience

by Shorty of Corby

IF YOU READ MY LAST ARTICLE you will recall that in my quest for Trophies during the 'Pot Hunting Era' I made mention of the fact that I had also joined the Wellington Society. One of the members of that now defunct society asked me if I would like a Merry Widow. My wife of the moment retorted that the next time a four foot tank burst in the bedroom, she would be one!

Our friend explained that the Merry Widow in question was a delightful little livebearer scientifically named as *Phallocypris Amates*. He gave us a trio in exchange for a trio of the offspring of Mr Magnificent the Mollie, who was running up a series of Firsts at Shows far and wide. He said they were quite a rarity and the year was 1970. They are even more of a rarity now and I must take my share of the blame. The reason was thus:

My fish house at the time was a bedroom and contained about forty tanks, two, three and four footers. They were all stacked to the ceiling with little more than four inches between the top of one and the bottom of the other. All were lit by Tungsten bulbs.

From somewhere in the Midlands we obtained another pair of female *P. Amates*. They were placed into a four foot tank with a host of Mosquito fish (*Heteranatria Formosa*), both families flourished and bred incessantly. When I finally thought that I had cornered the market for these fish, something untoward happened.

As stated, there was not a lot of space to get into the top of the tank. One evening, I noticed that among the four hundred *H. Formosa* and *P. Amates* there had also been a population explosion in the snail family. There were thousands of them. A bottle of Snail killer was

purchased and an assault on the snail was launched.

Lifting the tank lid, the allotted three inches and just managing to slide in a clenched fist full of bottle, I accidentally burned the fingers on the bulb... jumped with pain... the bulb burst and the open topped bottle fell into the water. The retreating elbow hit the steel stand frame... the humerus hurt (it was far from humorous).

I retired to lick the wounds and on returning to the room I witnessed a scene which had its parallel in the 'Killing Fields' of Vietnam. Four thousand dead snails and four hundred equally dead *Formosa* and *Amates*. I think I cried. I have seen very few *P. Amates* since then.

They all have probably refused to travel abroad from their home in the Atlantic coastal regions of Guatemala. They are, compared to the more highly coloured livebearers, a drab fish. But they do have a beauty of their own. The male is a faint greenish yellow, with a blue tint in the right light.

The male shows ten or twelve bars on his side, which the female lacks. She does not lack in length and can attain an inch longer than he at two and a half inches. What the male lacks in inches, he more than makes up for in the gonopodium department! — it is remarkably long!



15



SHOW SCHEDULE FOR INTERPET EUROPEAN OPEN SHOW

Supreme FESTIVAL of FISHKEEPING

Sponsored by Interpet in association with the F.B.A.S. Featuring the Federation of British Aquatic Societies

Supreme Championship Final

Benching from Noon 6th November until 10.00am 8th November Judging 10.30 8th November

HOLIDAY CLUB PONTIN'S SAND BAY CHALET HOTEL Weston-super-Mare

A Special Weekend Break from Friday to Sunday **NOVEMBER 6th — 8th 1992**

For further information regarding Weston-super-Mare weekend

Accommodation contact:

Colin Richards, Beechwood Cottage, Long Grove Wood Farm, 234 Chartridge Lane, Chesham, Bucks HP5 2SG. Tel: 0494 773094

Show Schedules contact:

Show Secretary, Alan Henderson, 5 The Nook, Corby Village, Northants, NN17 1XA. Telephone: 0536 68269



The Kingfisher Video Experience

by Bob Nelhams, Hounslow D.A.S.

I WAS ASKED by the Editor of Fishworld if I would review some video tapes, made by Stan Kemp of Kingfisheries Ltd. I have never done anything like this before, but as I was very interested, I said that I would have a go. They proved to be most informative and entertaining and, I confess, that I have looked at each more than once.

Video No. 9 EL NIDO

This is a marine diving expedition. The fish are identified and commented on as to whether they are easy to keep or not. There are many types of coral to be seen. The volume of the bait type fish was unbelievable and I have never seen so many fish in a dive before. They were so dense that you could not see through them, although the camera was only 15' away from them. The Groupers that were following them were huge as their meals were on top, so to speak. The range of fish, corals and anemones, was quite exceptional. There was also a visit to a turtle sanctuary. The video concludes with a tour of Manila, the capital of The Philippines. Approx. 1 1/2 hours.

Video No.10 THAILAND EXPERIENCE

Three Discus farms in Bangkok and a cultural show are visited. The first Discus farm had hordes of fry sticking to their parents and some of the breeders' ideas to encourage the fish to spawn were shown. The Cultural show entertained the visitors with the Thai girls dancing, elephants walking over people and typical Thai fighting with arms and legs all over the place. The Fish Market is 31400 yards long by about 50 yards wide. The market starts on Friday night, where shop owners buy their fish and continues on through Saturday and Sunday when the fishkeeper can purchase his fish. The last fish farm visited had some good new strains of Marbled Discus. Approx. 1 hour.

Video No.11 THE GERMAN EXPERIENCE

The first visit is to Ravensburg and Kempton fish farms, with breeding and rearing sequences of Tanganyika and Lake Malawi Cichlids. The next stop was at the Nuremberg Inter Zoo 90 Exhibition. This is the largest pet exhibition in Europe. There were many tanks of different shapes, nearly all of which had no covers on and with overhead suspended lighting. The plant life was, therefore, much more prolific with Orchids and others being grown. The last stop was near Hanover, of a breeding establishment at New Farm. This is very modern with a unique heating system. There were very many large Discus of all sorts of colouration, with no breeding problems whatsoever. All breeding is

from wild stock. Incidentally, in one tank were Koi carp and Angels with no disease at all. The temperature of the water was 92°F (33.3°C) and the Angels had spawned with 700 fry reared from the one spawning. Approx. 1 hour

Video No.12 THE SINGAPORE EXPERIENCE

This trip started with a visit to AQUARAMA 91 at the World Trade Centre in Singapore, followed by visits to various specialised fish farms. The fishes shown and named in this video are absolutely magnificent, being the very best of the breeders. The Discus in different colour forms and markings were amazing. Coldwater fish, such as Orandas, Pompos, Pearlbodies etc. are shown in profusion. A visit to Underwater World at Sentosa Island included where you stand on a moving walkway through an acrylic tunnel with fish swimming both sides of you, and also over your head. The specialist fish farms viewed were Discus, Angels, Tetras, Guppies and Neons. Approx. 1 hour

(If you want to see the best fish in the Asian Continent, this is the video for you.)

Video No.13 THAILAND EXPERIENCE No. 2

This video commenced with a look at a brand new Discus holding facility. An insight was shown as to how the various breeders used the canals most exclusively to bring their fish to the holding centre or the market. There is a cobra and a snake show. Also included is a trip to an Albino Oscar farm with crocodiles and a trip to a Discus farm with colour 5 and 7, Cobalts and Reds in profusion. Approx. 1 hour

Tapes can be bought or hired for **£3.50 per week £10 deposit plus postage 70p**
To buy **£9.95 plus 70p postage**
All can be obtained from **Kingfisheries Ltd., 308 Croydon Road, Beckenham, Kent BR3 4NR. Telephone: 081-650 3716**

17

PRODUCT NEWS

by Dick Mills

INTERPET

The figures 4, 9 and 10 feature prominently in recent product releases from INTERPET. No less than 9 sizes of fluorescent tubes can be accommodated by a range of just 4 CONVERTAGEAR lighting control units. Apart from the obvious sizes in tube lengths (according to wattage), there is also the matter of tube diameters to be considered; specially-designed end caps are the answer which can be adapted to suit either 26mm (one inch) or 38mm (one and a half inch) diameter tubes. An ON/OFF switch and 2 metre tube-connecting leads will allow easy installation to any aquarium. Add to this the very important factor that the units fully comply with BS

1. FRESH START — Top water conditioner
2. FLORA BOOST — Nitrate-free plant food
3. FILTER AID — Clumps suspended particles together for easier mechanical filtration removal.
4. GREEN AWAY — top clear green water
5. LIQUISIL — reduces background levels of bacteria, fungus and parasites
6. ANTI WHITE SPOT — eliminates White Spot parasites
7. ANTI SLIME and VELVET — to cure slime (flukes and protozoan) and velvet diseases
8. ANTI FUNGUS and FIN-ROT — cures fungus, mouth-rot and fin-rot
9. ANTI INTERNAL BACTERIA — cures bacterial gill-rot, bloody ulcers and septicaemia
10. METHYLENE BLUE — prevents slime diseases, fungus on fish eggs and flukes

Full details from:

INTERPET LTD., Vincent Lane, Dorking, Surrey RH4 3YX (Tel: 0306 881033 FAX: 0306 885099)

TETRA

The TETRAPOND range of products from TETRA has been enlarged by the addition of **ALGOREM**, the environmentally-friendly to get rid of green water. The premium ingredients in Algorem bind together the algae and other suspended particles into biodegradable clumps which settle on the floor of the pond from where they can be netted, siphoned or vacuumed out. Algorem is harmless to fish, plants and other pond life and can be used safely with other TetraPond products.

In addition to foods (Floating Foodsticks, Floating Koi Sticks, Koi Growth Food and Flaked Fish Food) the TetraPond range also included **Medifin** (supplementary vitamins, trace elements and colour enhancer), **Floral Fin** (plant fertiliser),

5433:102.1:1990 and EN 60498, plus dealers won't have to stock so many variations and you'll appreciate that the expected popularity of the range will soon be in evidence. Moving on to the magnificent 10 we come to the range of **AQUARIUM TREATMENTS**. Instantly recognisable by the colour illustrations of individual fish species, the treatments are designed for coldwater and tropical aquarium systems incorporating an effective range of fish medications as well as water quality additives. Each bottle contains 100ml — enough to treat 500 gallons or, looking at it another way, an aquarium 5ft x 2ft x 2ft. A pipette for easy dosing is also included. The ten treatments are:

Clari Fin (clears turbid, hazy or misty water) and **Lily Fin** (Water lily fertiliser).

New to TetraPond care products is the **TETRAPOND KOI LABORETT**, a complete pond-water testing kit. Ph range is broad-based for freshwater applications whilst a separate Ph kit is available for specifically higher values found in marine aquariums.

The DORO range of foods now includes **DORORED FOODSTICKS** (a tropical colour enhancer) and **DOROGREEN** (has a high vegetable content, particularly suitable for Molaw Cichlids).

Details of all Tetra Products, Tetra Information Centre and Tetra Club Membership from: TETRA, Lambert Court, Chestnut Avenue, Eastleigh, Hampshire SO5 3ZQ. Telephone: 0703 620500.

MAIL ORDER

A new service is being offered by **AIRPORT AQUARIA** — Mail Order POND PLANTS. Having recently seen not only the scale of expansion of the outdoor coldwater display area and the quality of the aquatic plants displayed there, readers should have no qualms about ordering from this source, bearing in mind that some of the species are seasonal in supply.

Airport Aquaria do not supply pre-selected packs of plants (it absolves them from blame for any disappointments over choice of species), nor do they wish to enforce their ideas on to your requirements for your pond. But don't despair, there's a great range to choose from: the Catalogue is divided into several sections — **Marginals** (over 80 species); **Moisture-loving species** (36); **Deep Marginals** (8); **Floating Plants** (8); **Oxygenating Plants** (13); and **Water Lilies** (50 plus).

The Catalogue also gives notes on how many types of plant to order per pond size (water surface area), how to care for the plants upon arrival before and after planting and, where necessary, species descriptions include planting depths required.

For hobbyists unable to visit personally, sending off a large SAE (A4 size) will bring you a catalogue by return and then from the comfort of your own armchair you can plan for next year's great pond show.

AIRPORT AQUARIA,

Heathrow Garden Centre, Sipson Road, West Drayton, Middlesex UB7 0HR
(Tel: 081-897 2563).

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"GINGER PRODUCTS" are fast becoming the brand leader for Fish Food, Filtration and other Aquatic Equipment in the U.S.A. and we are proud to announce that we have just been appointed the U.K. distributors for this exciting new entrant to the U.K. market.

As a **SPECIAL INTRODUCTORY OFFER** we have available a pack of five assorted (1.2oz jars) flake food products Goldfish Flakes • Tropical Flakes • Spinnifin Flakes • Brine Shrimp Flakes • Colour Flakes • For the all inclusive price of £11.99 + 55p postage.

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68 Carter Avenue, Broughton, Kettering, Northants NN14 1LZ

Tel: (0534) 790932



HAMPTON COURT PALACE

The Aquatics Village displays were organised by Chris Skilton (Aquarist). Chris gave hours of his time making sure everything ran smoothly in this area. This report covers some of the Aquatic displays that could be seen this year.

Tetra appeared at the show for the first time and they backed a winner by joining up with Tony Howells (of A.J. Howells Water Gardens, Tolleshunt Knights, Maldon, Essex) whose water garden design "Stepping Stones" took the coveted "Tudor Rose Award" — the highest award that can be obtained.

The Gold Award went to Anglo Aquarium Plant Company whose display entitled "Water Works", although worthy of recognition, would have been better viewed slightly higher than ground level, especially for short people like me?

Dorking Aquatics display was entitled "A Walk On The Wild Side" which featured a wild garden in a water meadow setting. It was a pity that this display was inside a marquee as I felt this spoilt the overall picture. However, in saying that, it was the display which I enjoyed most of all.

One of our advertisers, Mark Hewick entitled his display "The World of Amazing Amphibians". Mark is involved in promoting the captive breeding of reptiles. I suppose one might ask what were reptiles doing at a Flower Show? Well, I made several attempts to talk to Mark to ask him just that question, it proved to be impossible — not from the defensive attitude on his part — the reason being his marquee was always crowded... Well done Mark on an excellent presentation which was enjoyed by thousands.

Airport Aquaria of West Drayton, Middlesex, in conjunction with Interpet and DASH (Disability Association of Hillingdon) produced a Garden and Pond display especially for physically impaired people with raised ponds meant for easy viewing, access and maintenance (even from a wheelchair). Peter Rambau's pocket hid the controller to his fantastic water fountain display which kept everyone intrigued. The sight and sound of water, coupled with carefully-selected, highly-scented shrubs meant that even deaf and blind folk could appreciate this 'Garden for Everyone'. (The Federation would like to thank Airport Aquaria for the items supplied to them at the Show).

The Aquarist and Pondkeeper stand this year had their display created by Colin Stone of Minster Water Gardens. Despite all outside attraction, plenty of people still found time to go inside and browse around the very well-stocked book display and to meet the Editor, John Dawes and other contributors to the magazine, who spent time there. (The Federation would also like to thank Minster Watergardens for the plants they supplied).



Tony Howells with the Tudor Rose Award



Aquascape by Mrs Sheila Cottle of Stroud Aquatic Society



Dr. David and Mrs. Dorothy Ford on the FBAS Stand



Alan Benson on filtration expert (with glasses)



David Ford with a birds-eye view



Dick Mills giving a demonstration

INTERNATIONAL FLOWER SHOW 1992

The Federation of British Societies were there to give away advice, rather than sell products. A large number of subscriptions were taken for this magazine. As all displays in the Aquatic Village have to have a name, we called ours "The Lily Pad". It featured a three-pond presentation of water lilies beneath a pergola, complete with hanging baskets. The lilies were supplied by Harry Hooper of Mill Lane Nursery & Water Gardens, and Secretary of the International Water Lily Society.

Two further ponds (one available with liner in hexagonal kit form, the other a simple fibreglass pond) contained Koi provided by Hounslow DAS members whose achievement in getting the fish to a fair size from young simply had to be admired. The fish themselves took to the display with such abandon that the overnight rain triggered a mass spawning, with egg and milt going everywhere! David Ford, accompanied by his wife, was on hand to provide the Aquarian Advisory Service.

Alan Benson, our filtration expert, provided information on filtration advising of the various systems available. Dick Mills gave regular demonstrations on how to install either a performed or a liner pond.

The camaraderie and friendship found at this exhibition was second to none: a plant loaned here, a piece of rock there, a helping lift or a heave into position, whatever was needed there was always someone there to help — even though we are all in competition with one another.

Joe Nethersell, Chairman of the FBAS, together with yours truly wanted to add our congratulations to Tony Howells of A.J. Howells Water Gardens on winning the coveted "Tudor Rose Award". We did this by presenting him with a bottle of Champagne. (The Federation would like to say thank you to Tony for the rocks and help he gave us at the show). Ed.

FISH FOR THE GARDEN POND

PART I of a Series by Stephen J. Smith

HOWEVER extensive one's interest in outdoor fishkeeping may be — whether as a gardener with only a passing interest in a pond as part of a greater scheme, or as a dedicated hobbyist with an all-consuming interest — there has to be a place in every garden for a pond.

In my opinion, no garden can be said to be complete without water and, occupied by an attractive selection of fish, can provide a worthwhile and fairly maintenance-free complement to any garden for very little outlay.

Stocking the pond, too, can be achieved for a modest sum — unless of course you specialise in high-quality Koi or Fancy Goldfish, for example.

For the "general purpose" pondkeeper, there are a number of options open and, as with the siting and construction of the pond, consideration should be given to your choice of fish before you go out and make your purchase.

OBTAINING FISH

A few words of warning here — and which will come as no surprise to regular readers: *obtain your stocks only from reliable sources.*

By far your safest guide to obtaining reliable fish stock is the coldwater section of your local aquarist society, while there are a number of specialist coldwater societies up and down the country whose members themselves may well be more than willing to supply you not only with fish from their own establishment but also with bucketsful of practical advice from their own experience.

Never, ever, bring fish home from rivers or lakes. Not only would this be illegal but the risk of highly aggressive disease is enormous, resulting in an inevitable wipe-out of all your fish stocks and, possibly, risking the spread of disease to neighbouring ponds and those of your visitors.

If you have a genuine desire to keep certain species of coarse fish, the safest and possibly most rewarding method, is to obtain eggs from a reputable breeder of coarse fish, thus virtually eliminating the risk of disease.

While not wishing to labour the point, it is also advisable to quarantine stocks before introducing them into the pond. I have heard of old baths, large plant tubs and other assorted receptacles used for quarantining, but they all serve a most important purpose — *to avoid the risk of disease spreading to your pond and decimating its inmates.*

This should be undertaken for every fish you obtain for a period of at least three weeks. Myself, I prefer to quarantine for two months before introduction to mixed quarters and I have even heard of fishkeepers quarantining new acquisitions for over a year before, in their words, "taking the risk"!

WHAT TO CHOOSE

Not all coldwater fish will live happily in the same pond so, as mentioned earlier, it is important that some forethought is given in selecting the varieties you wish to keep. Also, different species require different conditions, such as oxygen content, diet and so on, and these should be borne in mind.

THE GOLDFISH

By far the most popular fish in the world, the common Goldfish is the perfect pond fish and provides a number of related varieties which are equally suitable for the pond.

FISH FOR THE GARDEN POND

(continued)

Surely, the major attractions of the Common Goldfish must be that, not only is it fish-shaped, but it sports a vivid red colouring; there can be few sights to beat that of half-a-dozen or so Common Goldfish patrolling the pond in a shoal of red ribbon.

Variations in colour range from red-and-white or sarassa, to lemon or even all-white; while the various Shubunkin varieties and the Comet are most closely related to their Common cousin, differing only in finnage and again making perfect pond fish.

Other Goldfish varieties suitable for the pond include the fantail and the fantailed varieties of Oranda, such as the Chocolate and Blue Orandas and the Redcap. Do, however, avoid the more ornamental varieties of Fancy Goldfish, which are better-suited to an aquarium, where they can be viewed from the side and where conditions can be kept more stable.

KOI AND OTHER CARP

No, you really don't need excessively deep concrete ponds, expensive filtration, pumps, uv filters etc. to enjoy keeping Koi. True, if you are a specialist, you may well wish to, but for the "average" garden pondkeeper a handful of pretty Koi will quickly become firm favourites and a most attractive and hardy complement to the pond setting.

Less decorative native cousins to Koi are Mirror, leather and common carp. The Mirror Carp is the forerunner of the popular *doitsu* varieties of Koi. Its brownish olive-green skin displays large shiny scales, predominantly along the dorsal ridge and the lateral lines. The remainder of the body is scaleless, with a leathery appearance, as with the Leather Carp, which is entirely scaleless.

ORFE

These most attractive pond fish seem to have been overshadowed by the popularity of Goldfish and Koi over recent years, but nevertheless provide a spectacular addition to the pond — especially if kept in numbers, when they will often be seen shoaling, occasionally flicking themselves above the surface to snap at insects.

Golden Orfe are, in fact, a delicate pinkish-gold colour with a silver underside; while its long slender form can reach over 12 inches in length.

Their only major drawback is that Orfe do prefer well-oxygenated water, and can be seen gasping near the pond surface during muggy Summer nights. The answer does not lie in providing more so-called "oxygenating" plants — this only makes matters worse as, although plants do provide oxygen during daylight, they actually remove oxygen from the water during darkness.

A number of varieties related to the orfe have become available over recent years, in blue, silver and a dark brown, and which all have equal attraction to pondkeepers.

THIS SERIES WILL BE
CONTINUED IN
FORTHCOMING ISSUES

By kind permission of Aquarist & Pondkeeper

23



CLUB NEWS



EAST LONDON AQUARIST & PONDKEEPERS ASSOCIATION

Will be holding its 44th OPEN BREEDERS SHOW on the 26th September, 1992 at Catterall Hall, Cecil Road, Chadwell Heath, Essex.

Schedules from: A. Stevens - Tel: 081-590 2075. This being the Association's 60th Year we shall be celebrating the fact by giving engraved glasses to the 1st, 2nd & 3rd card winners. Benching until 11.00.

Special 60th Year Celebration

Cheese & Wine Party - Saturday November 7th 1992

A get together of Old and New Fishkeepers

For details call Hazel on 061-590 1824

MID-SUSSEX AQUARIST SOCIETY.

OPEN SHOW, Southgate West Community Centre, Crawley on Sunday 27th September 1992. Further information and show schedules from: IAN 0293 513408, JOHN 0273 602407 or BRIAN 0273 697528.

HOUNSLOW & DISTRICT AQUARIST SOCIETY

29th OPEN SHOW OF TROPICAL & COLDWATER FISH.

FBAS Trophy Class G

Saturday 12th September 1992. Benching until 12 noon. Show schedules from: T. Butler, (Show Secretary) 0628 25581 - R. Nelhams 0784 259880

BISHOP AUCKLAND & WEAR VALLEY AQUARIST SOCIETY

Will be holding the very FIRST NATIONAL AQUATIC AUCTION on the 15th November. All proceeds will be donated to the BBC Children in Need Appeal. There will be no deductions or expenses taken from the auction. We would like your Society's support by sending or bringing us donations from your members for the Auction, i.e. Fish, equipment etc., any item however small will be greatly appreciated and will go towards this good cause. If you wish to attend the auction and would like more details, write or telephone:

F.J. Corrigan, 8 Clifton Green, Sunnybrow, Crook, Co. Durham DL15 0NP
Telephone: 0388 745674

THE PORTSMOUTH AQUARIST SOCIETY'S INTER-CLUB SHOW for 1992 was a great success; the number of clubs attending was an increase on last year. Two years ago it was seriously considered that this annual event should be discontinued in view of the small number of clubs, usually about four, attending. With a slight alteration in the date, however, an improvement was in the offing; since then we have gone from strength to strength. I do believe that if the date had been forwarded another week, we could have had yet another two clubs. Maybe next year we will have a repeat of the old days, by being in double figures once again. Ten nine clubs attended, and with the weather being as good as it was, a good day was had by all. The **Best Fish In Show** was the White Cloud Mountain Minnow owned by Miss Win Ryder.

ROMFORD & BECONTREE A.S.

It is with regret we announce the sad loss of John Stannard. Our sincere thoughts are with Rose & family. He will be sadly missed by all. Ed.

24

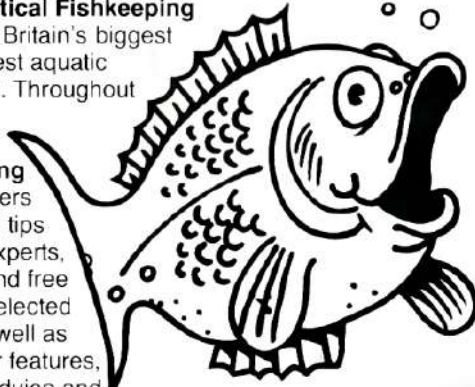
PRACTICAL Fishkeeping

MAGAZINE

Fishkeepers who want to get the best from their hobby

need **Practical Fishkeeping** magazine, Britain's biggest and brightest aquatic publication. Throughout the year **Practical Fishkeeping** offers readers advice and tips from the experts, booklets and free gifts with selected issues as well as the regular features, practical advice and handy hints and tips on every aspect of fishkeeping.

OUT ON THE 30th OF EACH MONTH - 0733 264660



The Tennessee Aquarium Chattanooga, U.S.A.

HERE were two highlights to our holiday this year. After visiting the Kennedy Space Centre we were most fortunate to be able to witness the take off of the new space shuttle ENDEAVOUR. This was an awe-inspiring sight. Television coverage of such an event only gives a brief glimpse of the sheer power required to lift rocket and shuttle into orbit. Even from nine miles away, the closest we could get to the launch, the view was impressive to say the least. After lift-off, the rocket climbed quite rapidly and in fact almost passed overhead, although at a greater distance than nine miles.

As the booster rockets detached, the vapour trail of the remaining rocket plus shuttle gradually disappeared. The memory of that launch will remain for many years to come.

After Kennedy, we travelled some 500 miles to visit some friends in Buckhead near Madison Georgia. There we learned of the Tennessee Aquarium at Chattanooga. They had gathered from newspaper information that it was well worth a visit. So with little more ado, we motored another couple of hundred miles to the city of Chattanooga. There is little evidence of the famous "Choo Choo" as the old railway station has now been converted to a shopping complex. Down the road, however, stands the magnificent new Tennessee Aquarium. Without doubt, this was the second highlight of our holiday.

The Tennessee Aquarium is situated in a prime location on the bank of the Tennessee River. The privately funded project, costing some 45 million dollars (25 million pounds) opened its doors on the 1st May 1992. The modern design is some 12 stories high, covers 130,000 square feet and holds around 400,000 gallons of water! Unlike most public aquaria, it is not devoted to the highly coloured tropical marine fish. The concept has been to show the Tennessee River from source to delta. From the entrance hall, an escalator carries you to the top of the building. Here, under the glass pyramid roof, is situated the "Appalachian Cove Forest". This presents a living forest where Birds, Reptiles and Snakes live in the changing seasons of the year. The aquatic interest is provided by three main exhibits.

a mountain "sink" some 15ft deep is inhabited by, in the upper levels, rainbow and trout. Near the safety of the bottom shiners, darters and hoppers are to be seen. Flowing out of the sink, a mountain stream contains minnows, perch and sculpins. In the midstream, rainbow and brook trout can be seen.... probably eyeing the live food! After the mountain stream is an Otter pool. As in the U.K. the otter has been pushed to the brink of extinction but fortunately in the Eastern United States, conservationists have become involved and the threat has now been reduced. The two otters in the pool seemed to be very well at home and, after a few months, should really get accustomed to "their" public.

Also under the glass roof is a section designed to show the final stage of the river's journey to the sea. This is entitled "The Mississippi Delta". In a recreated cypress swamp can be seen alligators, turtles and a selection of native snakes, including the feared water moccasin. Longnose and Alligator garfish, Bass and Sunfish swim in contained areas. The only Marine tank in the aquarium is devoted to the fish found in the Gulf of Mexico. This is another enormous tank which can be viewed at different levels. Forty species of marine fish are housed in this tank, including Stingrays, Tarpon and small Bonnethead sharks. The decor of this tank, as with many of the others, is very impressive.

Travel through the building is effected by a series of long sloping walkways around a central 60' high canyon. This allows viewing of the tanks at several different levels.

The Tennessee River Gallery depicts the river in 3 different forms. Today, the 652 mile long Tennessee river contains no less than 35 dams. They were built to overcome flooding and provide sources of water and power for the surrounding area. The largest tank in the aquarium, some 25 feet deep and

holding 138,000 gallons of water, depicts Nickajack Lake. This is a man-made reservoir built in the 1930s and the tank shows the sunken forests and roads etc. Probably some of the most impressive specimens are housed in this enormous tank. Giant blue and flathead catfish (Ictalurus) weighing as much as 40 or 50 pounds can be seen in the depths, whilst bass and minnows inhabit the mid and upper reaches. This tank should also contain the giant paddlefish (Polyodon spatula) but feeding problems have so far prevented their exhibition. Reelfoot Lake is most unusual in that it was originally formed 180 years ago by a massive earthquake. An area of 18,000 acres of cypress swamp sank to a depth of 10 feet to form a large basin. This is displayed in the aquarium in miniature. The tank contains turtles around the shore, whilst Bass and Bowfin inhabit the open water. Additionally, this gallery contains tanks of "trophy" fish. Examples of small and large mouth bass caught in the river system are displayed.

Discovery Falls

The Discovery Falls gallery concentrates on the educational aspect. One aspect, primarily for the angler, shows in a series of small tanks, suitable "baits". Other tanks portray "a year in the life of a stream", "shaped for survival" — a look at the shape of fishes and explains where they would naturally feed. Yet another tank shows a display of "Cover Critters" (their words — not mine) which is basically a bankside setting with Frogs, Salamanders, Crayfish and in the stream a variety of small fishes. An exhibit showing the life cycle of the mayfly nymph (24 hours to hatch, mate and die) is a must for the dedicated angler.

The last remaining feature of the displays is entitled "Rivers of the World". Here, 6 major rivers are wonderfully presented. One (of three) devoted to the Amazon contained Pacus the size of which had to be seen to be believed. Another of the Amazon tanks had a shoal of small Piranha fish. That should prove fun when they grow somewhat! The third tank was designed to give the impression of a flooded forest (in the rainy season) and contained a good selection of "tetras". The Zaire river also had three tanks. Suffice to say that the Synodontis catfishes, together with knife-fish, cichlids and characins were in excellent condition and many aquarists would be more than pleased to

have them in their own tanks. The St. Lawrence River tank exhibits the predators of that river — Northern Pike (somewhat similar to our native pike but presumably growing much larger), the Muskellunge and the Atlantic Salmon.

The Shimonoto River of Japan exhibit contained native fishes but for the life of me I cannot remember what they were! A large tank of coldwater fish of Eastern Europe and the Soviet Union displayed fish that are in many cases endangered species. The President of the Tennessee Aquarium, Mr William Flynn, was personally involved in the collection of the rare bairner — the largest member of the trout family, from the river Yenisey in Siberia. The fact that they successfully transported them back in refrigerated containers to Chattanooga, a journey taking some 5 days, illustrates the care and attention that is lavished on all their exhibits. The old adage says "love the best till lost" and the tank which drew me back many times was that of South East Asia, Danios, Barbs, Gouramis etc. were truly superb specimens. Leeri gouramis of at least SIX inch body length and Moonlights of some nine or ten inches were absolutely magnificent. All of the fish in this exhibit were specimens in the true sense of the word.

The Tennessee Aquarium was designed by Cambridge Seven Inc. Among their current projects is a new master plan for the Regent's Park Zoo, containing an aquarium and rain forest complex. I can only hope that the money will be forthcoming so that we can enjoy, in this country, an Aquarium as spectacular as that of Chattanooga.

Without a shadow of doubt, the Tennessee Aquarium is the finest example of a public aquarium in the World today. The detailed planning which has gone into this project to ensure, first and foremost, the well being and comfort of all of the inhabitants is clear to see. That we can view them in such a fantastic setting is our privilege.

Finally, I must thank Deborah Ayres of the Tennessee Aquarium who, despite of being involved in a hectic TV session, found time to chat about the Aquarium and to send further information and some pictures, which made this article possible.



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ADVISORY SERVICE

by David Ford

Q.

Can you please tell me why our goldfish (aged 17 years) is 'floating' upside down on the bottom of the tank, maddly dashing about or 'poised' on his/her nose with the tail bending back.

If there is anything we should do or is it 'nearing the end of its life'?

M.A.G. of Glasgow

A.

17 is quite an age for an aquarium fish, they only live 20 years in ponds.

It is probably having organ problems, could be the heart or liver. All you can do is give it a little support by adding salt to the water (cooking salt is better than table). This reduces what is called the osmotic pressure on the fish so the heart, liver and kidney have less work to do.

The best level is 0.3% which is 3 grams per litre, 1/2 ounce per gallon, or 2 heaped teaspoons per gallon, pre-dissolved and added over 3 or 4 days to give a chance for the fish to acclimatise. Do regular water changes of 1/4 total volume, adding 1/4 of the salt dose, so the salt level remains the same.

This may have to continue for the rest of the life of the fish. Oxygenate the water and feed it bits of meat, fish and shellfish, plus the usual flake foods. Also let nature take its course, euthanasia is not right even for fish.

Q.

I have a 2' tank, an external filter and under gravel filter which contains 2 Goldfish and 2 Black Moors. Just recently, one of the Moors has developed a whitish/greyish coating on some of its body, especially the fins, and a slight cloudiness of the eyes. The Moore still feeds very well but seems a little less lively than the others. I would be most grateful if you could tell me what it is and if so, a recommended cure and the

probable cause of it. The other fish show no sign of this at all.

C. J.

A.

Your Black Moor is probably suffering from Ammonia poisoning. Goldfish are particularly dirty fish producing copious excreta. Always remember that the fish have to swim in their own 'loo'. This is not just the visible solid material, but the invisible dissolved excreta, which is mainly ammonia.

To dilute this Ammonia, the water needs continuous filtration via a power filter and about 25% water changes every week.

You must avoid overcrowding the tank, if too many fish are present they just die off until the right number that can be supported is left four Fancy Goldfish per 2 foot tank is certainly overcrowded. A build-up of excreta (especially ammonia) will cause veining in the fins (red streaks), the first sign that the water quality is wrong. The next problem is cloudy eye and mucus formation ... which occurred in your Moor.

Get the water quality right and the fish will be happy, and happy fish are healthy fish.

Q.

As a Christmas present, I gave my husband a fish tank (12" wide x 24" long x 15" high). We set up the tank, egg gravel, box filter, air stone, light hood etc. Added all the 'tank safe' things and finally the cold water fish. But everything seems to be going wrong and the poor fish keep getting Whitespot and dying. Despite adding your Whitespot remedy, I am now on my fourth bottle having now over a period of 6 months lost approx. 18 fish! Not all in at one time, I hasten to add. We have only had a maximum of 7 fish at any one time, and at one point we even cleaned the whole tank and had to start from scratch.

We just don't seem to be getting it right and I would be very grateful if you could point us in the right direction. We have only 4 fish left now and today I added my second dose of Aquarion Whitespot remedy. Please help. E.M. of Glasgow

aquarian

ADVISORY SERVICE

A.

I am not surprised that you have been losing fish ... a maximum of eight fish in a 2 foot tank will certainly kill them. You see, they are swimming in their own loo! This is not the faeces you can see, that is no problem, they can even recycle that (like rabbits do). It is the equivalent of our urine that is the problem. They excrete ammonia and this builds up in the confines of a small aquarium and irritates them. It passes over the gills causing protective mucus to form which reduces oxygen uptake. The fish gaps at the surface. The body is also affected and the extra mucus

there allows White Spot to grow and Fungus to form.

The eyes are burnt giving cloudy eye or popeye. Eventually the ammonia gets into the blood and the fish die of poisoning.

The only way to keep this from happening is to have biological filtration continuously removing the ammonia as it is excreted, and/or sufficient volume of water so the dilution effect means the ammonia level is not poisonous. Without a filter you can only keep one goldfish per 12" length of tank (so two is your maximum). Even then, frequent partial water changes are needed to dilute any build-up (flushing the loo!).

Filtration will allow three goldfish per 24" tank, perhaps four if a big filter.

Remember always that water quality is the secret of success in fishkeeping.

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Preparing Ponds for Winter

by Harry Hooper

IT WILL NOT BE LONG before you must start preparing your water garden for the winter. At this time of year the days start to get shorter and with the nights drawing in, there is always the possibility of early frosts this is when you realise winter is not too far away. It is advisable not to leave the garden pond to the last job in the garden before your only intentions are to spend the winter sitting round the fire, with your feet up, until spring arrives next year.

The Waterlilies

As soon as the waterlilies start to show signs of becoming dormant for the winter months, it pays to remove the dead and dying foliage and any old flower buds from the plants. This will help minimise the build up of rotting plant material on the bottom of the pond. The miniature or pygmae varieties of waterlilies should be given some protection throughout the winter, it is advisable to over-winter the more tender aquatic plants in a greenhouse or coldframe.

Marginal Plants

Most of the marginal plants surrounding the pond will start to die back after the first frosts. As soon as the lush vegetation of these plants has disappeared you should cut the plants back hard. This will, as with the waterlilies, prevent the build up of old decaying foliage laying on the bottom of the pond. Decaying vegetation will only cause the increase of harmful gasses within the pond that cannot escape if the pond freezes over for long periods.

This will obviously be detrimental to any fish present. It is also beneficial to cut back the marginal plants, if you have been unfortunate to have suffered an attack of the cursed water lily beetle. Cutting back the old foliage of the plants surrounding the pond will deprive this menace of its winter haunt. One other tip for the winter months, if your water garden during the previous summer has been the ultimate in aphid territory, to treat any plum or cherry trees, even ornamentals, with a solution of tar wash oil, as aphids deposit a late brood of eggs on this type of tree.

Floating Plants

Plants such as Water Hyacinths, Water Lettuce, Water Chestnut or Salvinia. This group of plants should only be treated as annuals. The best advice is to remove from the pond and discard and replace with fresh plants the following year, as these plants are sub tropical varieties and will not withstand our winter climates. But on

the other hand Water Soldier will sink naturally to the pond's depth to over-winter and reappear again next spring. Other floating aquatic plants, such as Fairy Moss, may well survive a mild winter but as a precaution if you have the facilities overwinter a small portion in the greenhouse for next year's use.

Submerged plants

Oxygenating plants, such as Elodea or Hornwort, can be cut back at this time of year, as well as the removal of any remaining blanket weed. After all the tidying up of the plants has been completed it does pay to cover the pond with a fine mesh net to prevent falling leaves sinking to the bottom of the pond, also always remember that herons get hungry during the winter.

Other jobs

Other general maintenance should be carried out during the autumn, for example, cleaning and maintaining pumps and filters and also check that if you use a pool heater make sure it is working properly. After you have finished the preparations for your water garden during the winter months you can sit back happily and become totally bored with 'billy'. Should this happen, the only advice I can possibly give is to start planning for next spring, either installing a second pond or enlarging the existing one just an ideal!

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AQUATIC FILTRATION

by Alan Benson, Aquavita

When writing earlier articles on Aquatic Filtration for the initial copies of Fish World, I was worried that my approach could appear patronizing to the more experienced fishkeeper. It would seem from the comments and queries expressed on recent outings with the F.B.A.S. Advisory Stand that I could not have been more wrong.

Those of us who have been around the Aquatic Trade and/or hobby for some time, tend to assume a certain level of basic knowledge when talking to others and this it would appear tends to scare off a proportion of prospective hobbyists.

Now, as the objective of both the F.B.A.S. and Fish World is to attract new blood into the hobby, this is obviously counter-productive. In an effort to redress the balance, therefore, for the next few issues I am going to leave the University and High School education to others and endeavour to put across the Primary level of information required by newcomers to the hobby who are happy to admit that they don't know their Venturi from their Back-Rush.

Having said this, the first comment does in fact concern the more "High Tech" end of the subject, Ultra Violet Units. Since such units were first introduced into the Coldwater section of the hobby, there has been a tendency to call them U.V. Filters and it has been noted at recent Shows that certain dealers are not only using this product description but also advising hobbyists that a U.V. Unit can be utilized in isolation as a "FILTER". **THIS IS NOT SO** and in certain circumstances could result in the loss of fish. I have no intention of entering into the well aired arguments regarding the pros and cons of U.V. Units and will leave this to those who need the publicity. The basic fact is that such units are not filters. The use to which most Aquarists or Water Gardeners put such

units is as a **FLOCCULATOR** in that the unit will join (or flocculate) minute algal particles into larger ones capable of being removed by normal **MECHANICAL** means. As this indirectly clears green pond water, the proprietary use of the description **CLARIFIER** is also correct.

Whilst used correctly in an enclosed environment U.V. is capable of 99.9% Sterilization of water, this cannot happen in an outdoor pond environment for obvious reasons. In practice only objects of lifeforms physically passing within 1"-1½" of the light source will be affected (i.e. through the casing of most units).

For our purpose, "through put" or "retention time" are of no great importance as the effect of the unit is accumulative and the entire water content of your pond will eventually pass through the unit and thus irradiate algal content. One positive side effect is that any parasites or "bugs", with a free swimming life cycle, which pass through the unit will be eliminated.

The question of where to place a U.V. in your system is a little academic as I personally find that full flocculation does not take place until the algal growth returns to the pond and is then removed as it passes through the mechanical filter, so that the U.V. Unit can be used in tandem or in parallel with your filtration, the only proviso being **YOU MUST USE MECHANICAL FILTRATION IN CONJUNCTION WITH A U.V. UNIT.** Again, personally, I find that there are

LETTER TO THE EDITOR



Having read a most interesting copy of Fishworld, in particular the aquarium advisory service, I noticed a question from J.A.F. of Tamworth inquiring about the problems of lumps developing on the side of his fish.

It was recommended in the article that if this lump was forming into an ulcer that it may be treated with antibiotic flake available through King British. Interpet would like to inform other such readers with fish suffering from ulcers that they need no longer have to pay extortionate amounts of money to go through a vet to obtain a prescription for antibiotic flake. We have recently launched a very effective treatment against ulcers, which is not a prescription medication and may be added directly to the pond. This product is called Anti Ulcer and is available from all good aquatic stores. For aquarium fish suffering from ulcers we have Anti Internal Bacteria, also available from all good aquatic stores.

Richard Burton, Product Development Department

Thank you Richard for this valued information. Ed.

Aquatic Filtration

(continued)

advantages if the U.V. is placed in the pumped side of the filter (i.e. INPUT on pumped supply systems or OUTPUT on gravity fed systems) and this is simply on a basis that a pumped supply tends to scour clean the quartz sleeve which surrounds the light source in most units, thus minimising the maintenance of the most expensive and fragile part of the U.V. Unit. It is pertinent to point out here that the U.V. penetration is dramatically reduced by any opaqueness of the quartz sleeve, so a regular cleaning schedule should be maintained. As the light sources (tube) has to be replaced at six monthly intervals to maintain efficiency it is usual to combine the two.

On this point, it is essential to routinely change the light source (tube) every six months. Whilst there may still be a "lighting" effect from the tube, by this

stage there will be little U.V. emission. Used correctly a U.V. Unit is arguably the most efficient means of maintaining clear water at all times — not forgetting earlier comments that clear water is not of necessity pure water.

Two important points to remember when utilizing such equipment are:-

- Water and electricity are always a source of potential danger and such equipment should always be utilized with an appropriate ELCB and installed by competent personnel.
- Ultra Violet rays can potentially damage the human eye so NEVER look directly at a lighted tube.

Please route individual questions via the Editor or alternatively we are always at F.B.A.S. supported Shows with a co-ordinated Advisory Service.

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