

MAGAZINE[®]

AUTUMN 2000

**Green Water
Showing Aquatic Plants
The Clown Loach**

FISHWORLD



**Competition
Ammonia
Book, Video, CD Reviews**

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Dear Readers,

There's loads happening again at the moment.

EDITORIAL

We have some super reviews for you of books, a video and CD and the new Laguna fish food trial.

If you haven't booked in for Bracklesham Bay for the Supreme Fishkeeping & Gardening weekend don't be at all surprised if you can't get in by the time you read this. There will be loads of prizes, offers and some giveaways for those who can bribe the local ticket tout to get you in!

Bracklesham is very closely followed (the next weekend) by the British Aquarist Festival in Manchester - another you must not miss. If you haven't ever sampled one of these festival-type events you really should do. The flavour is very different from the flavour of an Open Show and you also get the opportunity to buy more fish from different outlets.

Congratulations to Peter Furze for his Bronze Medal garden at the NEC this year. You can see more of this in the centre pages.

Sue Crew,
Editor

Contributions for the next issue should be posted to me by
25th October, 2000
at the address in the 1992 Year Book (2000) or
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Page 2

CONTENTS

	Page
Editorial	2
Do your fish live in a hostile environment?	3
Hagen competition	8
Water, water everywhere, but not a drop to drink	10
Cold, but comfortable	12
The Clown Loach	13
African Lung Fish interview	14
Water pollution - ammonia	18
New Laguna pond sticks	21
A day in the life of...	23
A well-planted aquarium	25
NEC Birmingham	25
Plantlife	28
People going places	30
Showing plants	32
Small ads	36
Book review	39
Book review	40
Video review	41
CD ROM review	42
Grockomania	44
Global E-mail	48
Show dates	51

COVER PHOTO

FBAS Bronze Medal
Ponds & Garden
NEC Birmingham
2000

Courtesy
Sue Crew

DO YOUR FISH LIVE IN A HOSTILE ENVIRONMENT? by Les Holliday (Hagen)

Do you feel that your aquarium is a hostile environment for your fish? It could easily be considered so, as within the natural biology of any aquarium, lethal toxins are manufactured daily that can possibly pose a serious health threat to the inmates. Of course, most aquarists recognise the dangers and the value of maintaining good water quality by relying upon the best form of filtration system they can afford to maintain the water quality in the aquarium in good condition. Surprisingly few hobbyists fully understand what is really going on in a filter other than its universally recognised main function is to eliminate the organic wastes produced in the aquarium.

You may be surprised to learn that very few filters on the market fully achieve this objective. Wastes in the aquarium arise from the decomposition of organic matter - mainly fish liquid body wastes, faeces and other dead organic matter such as left over food and plant material. The complete elimination of this nitrogenous waste in the 'closed' environment of the aquarium is a complicated process which starts by employing various groups of what is known as nitrifying bacteria which

transform the wastes by oxidation into a relatively non-toxic nutrient - nitrate. A whole range of filters are able to complete this task - albeit with different levels of success - but the next stage, often referred to as denitrification (the elimination of the nitrate building up as a result of the nitrification process) is very rarely accomplished. In fact, you could say that most of the biological filters commonly available are nitrate producing factories that rely on regular partial water changes of the aquarium water to reduce and manage nitrate levels.

General decomposition of nitrogenous waste in the aquarium leads mainly to an accumulation of ammonia (NH₃) which can be highly toxic and quickly reach dangerous levels if nothing is done to counter it. Ammonia, however, varies in its toxicity dependent upon a number of considerations. This is because it rapidly associates with the water to produce ammonium ions (NH₄⁺). The 'free' ammonia remaining is far more toxic than the ammonium and factors such as level of alkalinity and the temperature of the water govern the amounts of free ammonia to ammonium proportions. If, for example, the pH of the water increases (becomes more alkaline) or there is a temperature increase, progressively more free ammonia is formed from the ammonium ions in solution. On the other hand the more saline the water the less toxic the ammonia becomes. The dissolved salt content in marine aquaria usually is

Page 3

maintained at around 35gm/ltr and ammonia is 30% less toxic at this salt concentration than in fresh water of the same pH value.

Free ammonia can prove lethal to fish at levels as low as 0.2 - 0.5mg/ltr and down at 0.01 - 0.02mg/ltr can still have a chronic effect causing your fish a lack of appetite and susceptibility to disease. Few aquarists seem to recognise how sensitive fishes are to ammonia and an accurate ammonia test kit like those from Hagen test kit range should be an essential ingredient to assist in the regular monitoring of water quality in the aquarium. Weekly testing for ammonia in conjunction with pH will indicate if the biological filter is working efficiently or if ammonia is reading dangerous levels.

In the presence of oxygen, the ammonia is converted into nitrite (NO₂) by bacteria falling into various groups collectively called Nitrosomonas species. A prime function of a biological filter is to provide the necessary conditions - that is a suitable media on which these beneficial forms of bacteria can colonise and a supply of oxygen rich water to encourage them to multiply and breakdown ammonia and other nitrogenous waste. This process, as we discovered earlier, is called nitrification and has been found to work most efficiently at pH 7.5 and relatively high temperatures (30°C/86°F in fresh water, 30°-35°C/86°-95°F in salt-water). To put this into context, at normal aquarium temperatures in a freshwater tropical aquarium (25°C/77°F) a new

biological filter will take two to six weeks for the nitrifying bacteria to fully develop in the filter and in a coldwater system (10°C/50°F) this process may take more than four to eight weeks. In fact, in practice it can take up to six months for a filter to fully mature and many aquarists turn to the use of biological supplements such as Hagen Cycle and Waste Control. These speed up the process by seeding the filter with two forms of bacteria, nitrosomonas forms to break down ammonia and ammonium into nitrite and a further group called nitrobacter bacteria to convert the nitrite formed earlier into nitrate.



Page 4

Nitrate is much less toxic than ammonia but becomes lethal for most fishes at concentrations between 10-20mg/ltr although highly tolerant species such as Cuppies, can accept levels up to 100mg/ltr before they finally succumb. Testing nitrate levels should also, therefore, be a necessary part of our weekly water quality monitoring routine using an accurate form of test kit.

Nitrate is perhaps 100 times less toxic than nitrite and can be allowed to accumulate to some extent in the aquarium. Its lowest limits of lethal toxicity are around 50-300mg/ltr for the most sensitive of fish species. However, nitrate has been found to be toxic at much lower levels for a number of freshwater species such as the dwarf cichlids (Apistogramma species) and discus (symphysodon species) and is also more toxic in salt-water than in fresh.

Although partial water changes have traditionally been the means most aquarists use to manage nitrate levels, biological denitrification should be the real answer to this problem. Denitrifying bacteria are found in all waters all over the world and mainly function in the absence of oxygen. They feed on carbohydrates and respire anaerobically, that is, they break down nitrates (NO₃) utilising the oxygen and liberating the nitrogen as nitrogen gas. Those bacteria from the genus Thiobacillus are mainly responsible and they will effectively reduce nitrate in either a freshwater or marine system. There are two approaches used: the batch denitrifier and flow-

through denitrification. The batch denitrifier employs a sealed denitrification chamber and includes supplementary feeding of the bacteria with a lactose or glucose solution or sometimes, pure alcohol. This method, however, is not as efficient as the flow-through system which relies mainly on slowly flowing nitrate rich water continuously passing through a media which is designed to provide internal substrate areas that, because of the poor water circulation, are low in oxygen. A food source such as lactose or glucose can be added but is not necessary. Denitrifying bacteria soon colonise the anaerobic parts of the media in a flow-through denitrifier and continue to break down the nitrate without any further routine care or maintenance.



Page 5

BioMax is a biological filter media produced by Hagen which has all of the characteristics to allow both aerobic and anaerobic bacteria to flourish. It's made from inert ceramic material which has undergone a unique manufacturing process which provides a huge surface area to accommodate bacterial colonies. Most of this surface area is contained within the porous structure of the BioMax rings which are perforated with two types of pores, each with a distinct function.

Micro Tunnels comprise 85% of the BioMax pore volume. Water flows freely through these open ended pores providing oxygen for the Nitrosomonas and Nitrobacter bacteria that colonise the open-ended pore walls to promote ideal conditions for the biological removal of ammonia and nitrate.

Whilst...

Microcavities cover 15% of the internal pore volume and offer anaerobic areas. In the oxygen free conditions anaerobic bacteria eliminate nitrate by the process of denitrification.

A major consideration during development of the BioMax manufacturing process was to ensure the best possible pore diameter. If the diameter is too small the surface area is wasted. Many porous filter media have a tremendous surface area but a large proportion of the pores aren't actually usable by the bacteria. BioMax utilises optimised pore structure to ensure biological viability.

Denitrification is now, therefore, an added possibility for any immersed biological filter provided the media used is BioMax or similar.

Hagen have recognised the superior characteristics of this new type of media in re-designing their latest Biolife filter and both the Wet and Dry and final total immersed chambers of this filter are now supplied with BioMax. Other Hagen filters such as the Trio internal filter and Fluval external models are now also provided with BioMax and by using this versatile new media these filtration systems have become even better equipped to prevent our aquarium becoming a hostile environment for our fish.



Page 6

TESTING MADE EASY!



Regular testing of your aquarium water is essential to keep your fish happy & healthy, but in the past this has been slow, tiresome and frankly not very accurate.

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For more information or your nearest supplier please contact Rolf C. Hagen, California Drive, Whitwood Industrial Estate, Castleford, WF10 5QH. Tel: 01977 559622 www.hagen.com

Page 7

WIN A BIOLIFE FILTER FROM HAGEN

Here's a competition from Hagen to mark the introduction of the new, even more powerful, FLUVAL BIOLIFE, the fully integrated multistage filter system that contains the first complete internal 'trickle' filter with superb mechanical and chemical pre-filtering.

The latest addition to the popular Biolife internal filter range follows the design of the earlier models by separating filtration tasks into distinct areas to ensure high efficiency and superb overall water purity. The new Biolife design also recognises the superior characteristics of Hagen's revolutionary BioMax media to provide maximum surface area and breeding sites for beneficial bacteria and the whole of the 'wet and dry' chamber in this latest model is devoted to this extremely porous and highly effective media.

Available in one universal size to filter fresh or salt-water aquaria of up to 200 ltr (44 gals) the new Fluval Biolife filtration system is one of the most powerful mechanical filtration and water circulation systems available, incorporating fully integrated, wet/dry filtration, today's space saving internal water management technology.

For a chance to win this terrific new Fluval Biolife filter prize, or one of the 10 runner-up prizes of BioMax media, just unscramble the letters of the words in the table below to correctly spell the names of the groups of beneficial bacteria that deal with organic wastes in the aquarium. Cut out the table (or photocopy it) and send your entry to Rolf C. Hagen (UK) Ltd., at the address shown below. The first correct solution drawn wins the Biolife Filter plus there are 10 further BioMax prizes also to be drawn.

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Page 8

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Page 9

WATER, WATER EVERYWHERE, BUT NOT A DROP TO DRINK....

by WA Irving BSc (Hons) MRSOC of Technical Aquatic Products Ltd.



The majority of pond owners have an overwhelming desire to achieve clear water. But how can you do this? And is it entirely necessary? William Irving of Technical Aquatic Products shares his thoughts on the issue.

The general consensus is that a pond with perfectly clear water adds beauty and interest to any garden, especially when it contains fish, because clear water enhances their glorious colours. But all too often, murky water – usually caused by algae – spoils the appearance and odour of garden ponds and conceals your precious fish. Clear water is desirable for more than aesthetic reasons, it also allows you to check that your fish are healthy.

The average pond has several hundred parts of nitrates per million whereas upwater has only fifty.

Achieving clear water requires a certain amount of work, but don't worry, it becomes easier the longer you have had a pond. After all, a new garden pond is an artificial environment so you have to give Nature a helping hand. After time, you'll find that Nature creates a balance which helps to control algae. And in the

meantime it's up to you.

To understand how to control algae, it helps to know why it appears. The ideal conditions for algae to flourish are sunlight, warm water, and plenty of nutrients such as phosphates and nitrates. If you haven't already created your pond, you have a head start in the battle against algae. You can position your pond where the conditions are unfavourable to algal growth. Make sure the pond has some shade but avoid positioning it under a tree. This will minimise the amount of debris – such as leaves – that fall into the water and eliminate the risk of a pond liner being punctured by tree roots. Once you have installed your pond, you can create more shade by planting plants such as ferns and acers around its edge.

Cutting down on nutrients isn't so simple. Your pond water may not look very nourishing to you, but it's a veritable banquet for algae. Did you know that the

Remember, fish have very different digestive systems to us.

average pond has several hundred parts of nitrates per million whereas tap water has only fifty? Phosphates and nitrates get into pond water in a number of ways: from rainwater, from uneaten food and (how can I put this politely?) from fish excrement that has passed through a filter. Aquatic plants feed on the same nutrients as algae so a well-planted pond helps keep water free of algae. Plant marginal plants such as marsh marigolds, irises and candleabra primulas which are not only pretty but also consume nutrients. Submerged plants also help reduce algal growth. Water lilies are particularly useful because, as well as consuming nutrients, their large, floating leaves also shade the water, depriving algae of light.

Page 10

However, it's important to practise a little preventative medicine and attack the causes of high nutrient levels as well. One of the commonest causes is uneaten fish food. Many pond owners overfeed their fish. In the summer, fish will rise often for food, more often than they actually need. The golden rule is don't feed your fish more than three times a day and only give them what they can consume within five minutes. This might seem mean, but remember, fish have very different digestive systems to us. They have no stomach – only a tube-like gut. While they will eagerly eat excess food, it passes straight through them without them absorbing any of the nutrients, and algae relish this high protein excrement.

On the subject of excrement, even when

UV removal is safe... and extremely effective so most people find that it is worth the investment

fish thoroughly digest all of the food that you give them, their waste still contributes indirectly to providing algae with nutrients. Fish waste is high in ammonia which is poisonous to fish. That's why you need a pond filter to convert the ammonia into nitrite and finally into nitrates which are harmless to fish but, as we know only too well, promote algal growth.

You can effectively kill much of the algae in your pond with a UV clarifier. Your pond water is pumped through a tube where an ultra-violet light bulb burns free-floating algae. UV removal is safe for other pond life and extremely effective, so most people find that it is worth the

investment. If you can't afford the outlay immediately, you could try a flocculating treatment in the meantime. This works by making free-floating algae stick together and sink to the bottom of the pond. Unfortunately, with both these methods, the nutrients still remain in the water which means other forms of algae develop, such as the notorious blanket weed.

So we return to the problem of removing nutrients. There are various methods of removing the nutrients in your pond. For example, you can try using aqua carbon which is available in granular form in a mesh bag, rather like a giant teabag. Carbon molecules attract nitrate molecules which cling to the outside. Once it has served its purpose the carbon is removed and discarded.

Alternatively, you could use a chemical

Don't be surprised if one week you have perfectly clear water and the next it is murky again.

nutrient remover such as Aqua N. This binds up phosphates and nitrates so that algae can no longer feed on them. While we're on the subject of chemicals, there are plenty of chemical products for killing and controlling algae. Algicides kill algae outright but should be used with caution. An overdose could harm your fish. When you use algicides, you also need to remove the dead algae that accumulate as these can reduce the effectiveness of your filter and endanger your fish. There are other chemicals which don't actually kill algae but which slow down their growth. If you are worried about putting too many chemicals in your pond, you could try

Page 11

TAPs Algae Pad. This contains both algicides and algae inhibitors and because you can easily remove it from your pond once the water is clear, there's no risk of chemical overdose. But if you don't like the idea of adding artificial chemicals to your pond, no matter how safe they are, you'll have to leave the nutrients in there, let the blanket weed grow and remove it regularly by winding it around a stick.

Whichever methods of algae control work best for you, don't be surprised if one week you have perfectly clear water and the next it is murky again. There are many reasons for this. For example, a heavy downpour could upset the balance of your pond, or algae spores could be spread by birds. The fight against algae is continual.

Of course, if achieving and maintaining clear water sound like too much hard work, remember, you don't have to. In fact, algae-rich water can actually be beneficial to fish. It helps make fish more colourful, which is why commercial fish breeders usually raise fish in dark, murky water and much fish food contains algae. If you can tolerate green water in your pond, you can rest happy in the knowledge it doesn't do your fish any harm at all.

Flamingoes, like fish, get their colour from consuming algae.

COLD - BUT COMFORTABLE

by Roger Foggitt of Tetra



With the first frosts of winter now just around the corner ready to start nipping at the tips of plants in the garden,

it is time to turn your thoughts to the pond where frozen water can certainly do a lot of damage if the pond is not prepared now.

In the late Autumn if you have any lilies in the pond still in leaf then gently lift the baskets out and cut any growth back to about one inch above the growing tip replacing any soil and gravel as required. Take care not to cover lily crowns though, or rot is likely to set in. If you are concerned when lifting baskets from the pond that the basket may not be as sound as when it went in, then take a clean bucket and gently place it around any basket before lifting it out, this way any debris coming from broken pond baskets will go into the bucket and not the pond.

Other deep-water aquatics can be treated in much the same way and marginals in baskets will also need to be cut back and moved to deeper water if ice at the top of the pond is likely to be a problem. Try and leave some oxygenators at a reasonable size as long as their tips are below ice level. This is to give at least some cover to the bugs

and beesies remaining in the pond. This also gives the pond a 'headstart' come Spring, as far as plant growth is concerned, which can help reduce early algal problems. The 'marsh' or bog plants surrounding the pond will also need a bit of protection as their high-water-content tissues are more prone to ice damage than other more hardy plants in the garden. Cut all growth right back and cover either with a good 6" layer of straw or a couple of layers of 'fleece' to offer a bit of frost protection.

Fish may still be feeding in some parts of the country in late Autumn, so continue until they stop with a high-wheatgerm content food such as TetraPond Wheatgerm Floating Foodsticks. Stop feeding when the fish are spending most of the time on the bottom of the pond where the water will be slightly warmer than at the surface. If you can, take a new clean bucket and sink it to the bottom of the pond with a housebrick holding it down. This gives the fish somewhere to hide out now that all their surface plant cover has gone.

With Autumn's cold temperatures and high winds also comes the yearly problem of leaves. Net the pond now to prevent hours of pond dredging to remove sunken leaves and if you have an electrical supply near the pond, a pond-heater is a worthwhile investment to keep an area of pond ice-free allowing it to 'breathe' over Winter. With this small amount of preparation for the colder weather you can be assured that everything in the pond will be cool, calm and collected, at least

until the Spring, anyway.

JOBS FOR THE PERIOD!

Duckweed - remove as much as you can before temperatures get too low to prevent massive growth next Spring. If not, although it will disappear in Winter, sinking to the bottom of the pond, it will return in the Spring with a vengeance.

Pumps and filters - can now be turned off, removed, cleaned and stored frost-free for the Winter.

Tender floating aquatic plants - like Water Hyacinth can be over-wintered in a frost-free shed or greenhouse in shallow (8-10cm [3-4"] in depth) water-filled trays or better still in a small 'flooded' propagator.

THE CLOWN LOACH

Without a doubt, one of the most colourful and playful of all tropical aquarium fish is the clown loach. Kept in a shoal, these fish will rumble endlessly around the tank playing all day and provide constant activity in your community tank.

Here we will provide more information about these lovable creatures.

Page 12

Page 13

COMMON NAME:
Clown Loach

SCIENTIFIC NAME:
Botia macracanthus

ORIGINS: Most rivers and standing waters of Sumatra and Borneo.

MAXIMUM SIZE:
7 inches (17.5cm) in the aquarium; 12 inches (30cm) in the wild

SUITABILITY FOR THE AQUARIUM:
Well-suited to a community aquarium, but should be kept in groups of three or more, otherwise it will be shy and may even be aggressive. Kept in shoals, the true 'fan' behaviour of this fish will shine through. Hardy and easy to keep once established.

TANKSCAPING:
Provide well-planted areas together with bogwood and/or stones for the fish to hide in. Good water flow is preferred though not essential.

WATER REQUIREMENTS:
As with most community fish, the Clown Loach is tolerant of a range of water conditions. Temperature 75-82°F (24-28°C), pH 6.0-7.5. Intolerant of raised pollutant levels, therefore good filtration and regular water changes are essential. Sensitive to chlorine, therefore use Tetra

AquaSafe to condition all new water. The fish will become paler in poor water conditions.

DIET:
A slow sinking granular or tablet food such as Tetra Prima or Tetra TabiMin is ideal as a staple diet.

BREEDING:
The differences between males and females are almost impossible to distinguish although the males tend to have a larger and more 'serrated' tail than the females. The females also tend to be heavier and fuller in the body. Clown Loaches are only bred occasionally in captivity, usually be accident amongst clumps of plants in aquaria with good water flow.

COMMENTS:
The Clown Loach can be very susceptible to Whitespot and also to many remedies. For Whitespot use TetraMedica ContraSpot. They can be heard to make a clicking noise when feeding.

AFRICAN LUNGFISH INTERVIEW!!

by Roger Foggitt of Tetra

Whilst many of the tropical fish which we keep in our aquariums are peaceful,



causing no harm or bother to any of their tankmates, there are those which, if given half a chance will turn anything that swims into their next meal!

Like the lion in the jungle, these fish tend to be top dog in the aquatic world with little or no threat to themselves. They are, of course, the predators of the fish world! Unfortunately though, to be a successful predator at the top of the food chain means that you usually have to get to a size which means that you are too big to be included on the menu for those around you. It also means, in the world of fish anyway, that you will generally lead quite a solitary life as those around you generally are considered not so much as good friends, but more as good eating!

Which brings me on to the introduction of my next victim/interviewee. As you might imagine, a solitary life with few around you who actually trust you when you are near, may give you a bit of an attitude or complex and this is no truer than with my guest this month, Clifford.

Clifford is a true predator with all the subtlety and pleasantries of a bear with a sore head and he also has some other curious behavioural characteristics that we are about to find out about, as well, of course, as being quite ugly to look at.

In fact, Clifford hails from Africa and has sometimes been called one of the 'missing links' within the fish world, because as an African Lung Fish (*Protopterus aecceus*) he can not only breathe underwater but can also make full use of atmospheric air. He could be considered as one step closer in the evolution of things to a fully terrestrial life than many others around him.

Roger: I know that you have little patience for idle chit-chat Clifford, so on to my first question. Being able to breathe air must be quite a bonus for you and I believe that you are actually able to travel quite large distances totally out of water, indeed survive for up to six months simply buried in mud. Is this true?

Clifford: Oh, we have been doing our homework, haven't we? Yes, it is true. I am as you can obviously tell, far more evolved than those around me and how do I do it? Well, I like to think that it is good breeding, but in simple terms - I know you humans cannot possibly understand anything as complicated as us fish - we are able to use our swim bladder as a rudimentary lung.

Roger: A true benefit I agree. Obviously evolved through living in such a climate as you have here in Africa. I believe it is particularly useful during the dry season. Could you tell us why?

Clifford: Is it not obvious?

Roger: No. Really. No.

Clifford: Oh, well, I suppose I'd better explain then. I have the ability to aestivate. There you are! Fully explained!

Roger: Swallowed a dictionary as well as most of your pond mates, have we? Just for the 'Fishworld' readers, then. Exactly what do you mean?

Clifford: Bloomin' insolent journalists! I did tell you that aquatic life is far too complicated for mere humans to understand but here goes... Each year when the dry season comes, surprisingly

enough, the lakes in which we live begins to dry out. As the pond dries out we can actually crawl from pond to pond because we are able to breathe in the open air. When things get really tough though, we bury ourselves deep in the mud where conditions stay moist, wrap ourselves in a protective mucous cocoon and effectively hibernate until the next rains. Understand?

Roger: Clear as crystal, thanks.

Clifford: I am glad!

Roger: I hope you don't mind me saying this, (but I'm sure you will) looking at you you're not exactly the image of a super-streamlined hunter with jaws lined with sharp, razor-like teeth. In fact, you look a bit, well... cumbersome. Exactly how do you catch your prey?

Clifford: Charming! Here I am allowing you to interrupt my day and all I get is insults. Not all of us have to be beautiful to be good predators you know.

Roger: We'd guessed!

Clifford: Why waste all that energy chasing around after your food. You see us sensible fish simply lie in wait until it comes to us and then take our pick. This way our success rate is no less than other predators and we expend less energy catching our food.

Roger: So what does your diet mainly consist of, then?

Clifford: All kinds, but mainly fish.

Roger: Being that you are a relatively inactive fish, you could, I suppose, be considered as suitable for keeping in an aquarium. If a fishkeeper wanted to keep you, then what would he or she have to do to get things right?

Clifford: Keep his fingers out of my tank to start with! Seriously though, we do get large, up to 90cm in length so a very large tank of a minimum 3' by 18" by 18" would be a start. Although, I suppose, if you are keeping youngsters, then you could start with a slightly smaller tank. Once we get bigger, though, we will need a tank to ourselves so if you do not want that burden later on, then avoid keeping us.

Roger: What about water type and quality?

Clifford: As you might imagine in a muddy lake, water quality can get quite bad but normal zero pollutant levels, zero nitrite and ammonia, and water on the neutral side of things would be fine, although we are hardy and can live quite happily in most water conditions.

Roger: Being that you are an active predator, are there any fish that can be kept with you?

Clifford: Preferably not. Why should I want to share my tank with anybody else?

Roger: Plus obviously the fact they are likely to turn into dinner.

Clifford: Not always, but it depends what they do to upset me!

Roger: What about with youngsters? Is a small lungfish suitable for tank-sharing?

Clifford: Only with fish of a compatible nature and size - remember we do grow and once we get big enough then anything's game.

Roger: Anything else we should know?

Clifford: We like a soft substrate so something like sand or silver sand will do nicely. I certainly wouldn't like to be lying on a hard, uncomfortable bed of gravel. A few plants would be nice, too. Something broad-leaved like Amazon Sword would do nicely.

Roger: What about feeding?

Clifford: I am sure that I will end up upsetting some people with this, but what do I care! We can take either live feeder fish such as goldfish or any large food item. Various foods have been used such as mussel, beef heart, cockle for the young fish, fish filets, etc. We have been known to be quite aggressive when taking food and generally it needs to be placed quite close to us, so a large pair of aquarium tongs will certainly be of use when feeding time comes round.

Roger: Well, I know how valuable your time is. After all you wouldn't want to expend too much energy talking to us, so thanks for your time and HAPPY HUNTING!!

Clifford: It was a pleasure, Roger (for you if not for me)!! Now, if you don't mind I really must be getting on...

WATER POLLUTION - AMMONIA

by Roger Foggitt of Tetra

Water quality is one subject which many koi keepers - whether experienced or just a beginner to the hobby of fishkeeping - find a very confusing subject.

This is not really surprising as a lot of what actually goes on in the water within our ponds is extremely complicated and to really understand it fully requires a real in-depth knowledge of chemistry and biochemistry.

However, there are certain aspects of water quality that no koi keeper can afford to ignore or avoid, and the control of the levels of waste generated in the pond is one of these.

Within any established pond there is a continuous process of removal of waste products going on in its filtration system. These wastes are in two forms: solid waste and dissolved waste.

Whilst solid waste is relatively easy to remove by physical methods, removal of dissolved waste is not so easy and requires us to utilise the services of bacteria which actually use the waste products as an energy source and break them down to less harmful by-products via a process known as the 'Nitrogen Cycle'.

Ammonia - where does it come from?

The first and by far the most toxic waste

product generated in the pond is a chemical known as ammonia. This comes from two main sources: the breakdown of solid wastes by decaying bacteria and as a direct waste product of metabolism from the fish themselves, mainly excreted across their gills.

How harmful is it?

Ammonia is by far the most toxic waste product generated in the pond and can be lethal even at very low concentrations (less than 0.25 parts per million).

If present in all but the lowest levels it affects the koi by disturbing its own body chemistry and metabolic systems, particularly the control of the koi's salt and fluid balance.

As well as this it also acts as a direct irritant to cells within the delicate tissues of the koi particularly affecting the gills.

How do I know if it is present in my pond water?

Unfortunately, by the time the koi are showing symptoms of ammonia toxicity such as flicking, becoming lethargic and gasping at the water's surface, a lot of damage is likely to already have been done to the fish.

It is important then to regularly (weekly or fortnightly) test your water for the presence of ammonia using an accurate ammonia testing kit such as the TetraTest Ammonia Kit.

But testing is not the only answer. Once you have tested, it is a good idea to record what readings you are getting in a notebook so that you have a record to look back on if problems appear in the future.

What is the ideal ammonia level?

As with many factors related to water quality, how poisonous ammonia is in water is also related to pH. Generally the higher the pH, the more toxic the ammonia will be. This is because in water ammonia exists in two forms, the ammonium ion (often incorrectly termed 'non toxic ammonia') and as free ammonia. As the pH rises so does the amount of ammonia which is in the free, 'active' form.

Fortunately most water test kits give a reading for ammonia as 'total ammonia' (ammonium and free ammonia measured in milligrammes per litre of 'parts per million') and in the majority of circumstances it is best to think of ammonia as highly toxic at whatever pH your pond water has.

So ideally go for a total ammonia reading at all times of zero. 0.25mg/ltr is too high a level for koi if the level is likely to remain like this for any longer than 2-3 days. 1.5mg/ltr is dangerous for most koi affecting them within 24 hours. 5mg/ltr is lethal for all but the hardiest of koi with fish losses occurring within 24 hours.

Why would I have a high ammonia reading?

Generally for the following reasons:

1. You have stocked your pond too quickly not allowing the filter to 'mature' and thus pollutant levels have built up because the filter is not established enough to remove them.
2. You have increased stocking levels too quickly, even though your filter is 'mature'. A filter is only mature enough to cope with the current stocking level of fish. If you add too many fish all at once this will 'overpower' the filter until it has had time to re-establish itself at the new stocking level. Never increase the stocking level in a koi pond by any more than 25-30% at any one time.

3. You have affected the filtration capacity of your mature filter - possibly by using a treatment which has 'killed' some of the useful bacteria on the filter. More often than not this is caused by cleaning filter media with chlorinated tapwater during a 'strip-down' or major clean, which effectively kills all the useful bacteria present on it. When cleaning any filter media ONLY USE WATER either from the pond or which has first been dechlorinated using a water treatment such as TetraPond Water Safe. This preserves the useful bacterial populations on the media.
4. In some cases a mature filter may undergo a bacterial breakdown which causes a temporary rise in ammonia. You will only be able to detect this via regular water testing.
5. There has been a breakdown of accumulated waste in the filter or on the bottom of the pond or you are considerably overfeeding leading to high waste levels in the water.

Obviously by countering the above reasons for high ammonia levels you will ensure that they do not become a problem.

LAGUNA GOLDFISH & KOI FISH FOOD

Trialled by Roger Crew

Having used the Laguna Koi Colour Enhancing Food for some considerable time with my fish with very favourable results, I was pleased to be offered the opportunity of testing the new Laguna Goldfish and Koi Fish Food.

These floating food sticks contain multivitamins and claim to be a balanced diet for all coldwater fish.

My ponds contain a variety of Carp approximately 10" to 15", Rudd, Pumpkinseeds, Perch and Goldfish of various sizes.

The trial had variable results... Initially, I found a reluctance amongst the bigger fish to take this food, but I think this was probably because this food is a slightly smaller stick food, whereas my fish were used to the larger Laguna Koi pellets. The Goldfish and similarly sized species took this food readily. Persisting over a period of time, I have found that the larger fish will adapt to this new food, but still exhibit a preference for the larger pellet.

The fish have been quite happy and healthy on this diet and I actually like the versatility that this smaller size of stick provides. For the fishkeeper who has a variety of sizes of fish - a mixed pond - this size of pellet is more useful. I have even used the pellets indoors with some of the larger species of tropical fish. They took it readily.

I do not have specific retail prices, but I feel that it is highly comparable with other makes of Koi and Coldwater Fish sticks.

This has only been a short trial, but I would certainly recommend that you seek this pellet food out in your retail outlets and try it with your own fish. Personally, I feel that a couple more sackfuls would have enabled me to carry out a more extensive field trial!!

PLEASE, PLEASE will somebody manufacture a sinking pellet that Carp (natural bottom feeders) can take full advantage of?



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Page 22

**A DAY IN THE LIFE OF...
A SOCIETY TABLEAU**

by Roger Crew

August saw aquarists from all parts of the country descending upon Doncaster Racecourse and Exhibition Centre to participate to varying degrees in the Yorkshire Aquarists Festival. This annual event brought fishkeepers from literally both ends of the British Isles (and quite a few of the bits in the middle, too). From the far north came the Scots who did not exhibit, but came to see, talk and generally join in. From the other 'extremity' the remote offshore aquatic outpost of the Isle of Wight came three dedicated aquarists and beer swillers, dragging their fish behind them (literally in one case as they were housed in a trailer!).

Some of you may know that the Isle of Wight have, for many years, exhibited their tableaux (yes various thereof) at the British Aquarists Festival in Manchester (not to be missed again this year in October!). The venture into Yorkshire was something of a new departure.

The 'lanny' (sic) Islanders had worked out the 'lazy' way of exhibiting and now arrive complete with a partially set up exhibit towed on a trailer. A sort of 'instant' fishkeeping - just add water!

After a lengthy trip, this method saves considerably on build-up time. It does

necessitate a considerable amount of pre-planning. However, on the day in question, as the little dickie birds woke up in the morning, they were able to see the Isle of Wight trailer hitched to a Tranny van wending its early departure from the Island. Several hours later a fish-laden Shogun meandered up the same route with its "Caution - Show Fish in Transit!" sticker in the rear window!

Some five hours later two valiant members could be seen pushing the trailer into the exhibition hall and installing it into its allotted position.

Simplistically, the process then was of uncovering the tableau, filling tanks from the many barrels of best Island vintage water and plugging in the electrics, having carried out all the safety checks (i.e. water + electricity don't necessarily mix). They then retired for some liquid refreshment and some well-deserved socialising.

A few hours later, when the water had had time to warm up, the mobile bleeped. The fish had arrived and were anxiously seeking the way in. Soon there was another burst of semi-enthusiastic labouring in unloading fish boxes, opening to see what they contained (a bit like Christmas, this) and acclimatising them into their new holiday homes.

No matter what you have brought, there is always a last minute adjustment as to what fish suits what tank best, etc., but

Page 23

eventually they are all settled.

One benefit of tableaux is their ability to have, behind the scenes, that extra storage capacity for 'spare' fish and, of course, the inevitable purchases.

Another benefit of the tableau is that heaters can be used and mature filters run for the benefit of the fish, which will spend up to five days in this watery environment.

All in all we had about thirty-five entries. This is about average for this type of event. The size of the tanks range from about 6" square to 24" x 12" x 12".

With the fish settled and the lights turned out the aquarists set off on a 'major' route march, lasting about five minutes, to their digs for some R & R, some food and - would you believe it - a pint at the local Ukrainian Working Men's Club (no this is not poetic licence). See I told you aquarists came from all over the place!

This was just day one of five days of preparing the exhibits and, of course, enjoying the two actual show days.

The Friday before the Show weekend is Judging Day, which finds our poor unfortunate aquarists forced to go on a tour of the 'local' fish shops! In this case the word 'local' took them as far as Bolton and back.

The Island contingent managed to endure

three different establishments of varying styles and size before returning that evening to the exhibition hall with another vehicle-load of fish. Shades of day one again!

On the serious side, the benefits of exhibiting at this show and at BAF have not only been about the success of the exhibits (which is always welcome, thank you), but comes primarily from being able to share the enjoyment of our hobby with our Club members and aquarists from a wide spectrum of the 'organised' hobby.

When someone desperately needs a screwdriver, a piece of airline, or help in rescuing that fish that inevitably jumps out of the bucket/tank (and there is always one that does...) there's always a friendly face nearby to assist.

As the weary convoy arrived back on the Island around 2 am on the Monday morning, there was still nearly three hours and the prospect of re-locating those you took with you and finding new homes for those you bought up there. It is then easy to think "We must be mad" but, after a refreshing sleep or two, we always look back on these events with enjoyment and look forward to the next.

The earbashing from the wife when I phoned her to tell her how many water changes and new tanks she needed to set up before I got home was worth it!

(Ed's note: He still owes me for that!)

Page 24

A WELL-PLANTED AQUARIUM

The best results are achieved by observing one or two basic rules when designing your planting scheme:

If you are planting your aquarium for home use the best results can be achieved by using an open aquarium. This will allow floating plants to grow to their maximum potential, which is usually above and beyond the surface. If given this freedom they will usually go on to produce fragrant blooms. An open aquarium will also provide you with the opportunity to view your plants from five sides.

Always check the planting conditions required for your plants. On plants purchased from a good source these details will be provided on a small plastic label, similar to those used for terrestrial plants.

Obviously the best effect can be achieved by planting the tallest plants towards the back of the tank. The placement of plants can be further enhanced if you plant them on or between rocks and roots. Many plants will root onto bogwood or stones if you gently tease the roots and wrap them around the root/stone. Then tie the roots to the stone/wood using dark cotton or fishing line. After a matter of weeks or months (depending on variety) you will be able to remove the cotton and find the plant has 'rooted' to the wood/stone. Smaller plants can be graduated towards the front of the tank. A single plant can be planted in the open central space to create 'effect'.

The substrate (bottom) should be graduated from front to back - the back higher than the front.

On the Continent it has become the case that so-called aquarists now concentrate on planting their tanks rather than keeping fish. They have beautifully planted aquaria, but with no fish in them. Many aquarists will tell you that fish and plants do not really mix. If you want good fish you need low nitrates and if you want good plants you need higher levels of nitrates to act as fertilisers. A happy medium can be achieved, but it is a fine line that must be trodden!

Page 25

BACK TO BASICS

THE FBAS BRONZE MEDAL GARDEN AT GARDENER'S WORLD EXHIBITION,
NEC BIRMINGHAM



Page 26



Page 27

COULD TROPICAL FISH LOVERS BE CONTRIBUTING TO THE DESTRUCTION OF THE COUNTRYSIDE?

from "Plantlife"

"Plantlife today warns that tropical fish owners could be contributing unwittingly to the death of Britain's rare wild flowers. The wild plant conservation charity is concerned that aquarium owners are inadvertently spreading non-native invasive plant species throughout the waterway system. The aquatic plants, which rapidly engulf Britain's native species, usually enter the countryside after being released into the wild by unaware gardeners and tropical fish lovers.

Martin Harper, Plantlife's conservation director said, "The problem first arises because consumers buying imported species dispose of unwanted plants by dumping excess material, rather than composting or discarding it with household waste. Once these plants take root, they spread at an alarming rate. To help eliminate this risk, we urge everyone who owns an aquarium not to dump any plant material in the wild."

He says the ten most pestilent species threatening British wild flowers are: Australian swamp stonecrop or New Zealand pigmyweed *Crassula helmsii*; Parrot's leather *Myriophyllum aquaticum*; Floating pennywort *Hydrocotyle ranunculoides*; Indian (Himalayan) balsam *Impatiens glandulifera*; Water fern *Azolla filiculoides*; Water fern *Azolla caroliniana*; Water lettuce *Pistia stratiotes*; Giant salvinia *Salvinia molesta*; Water hyacinth *Eichornia crassipes*; Water chestnut *Trapa natans*.

You can contact Plantlife at:

21, Elizabeth Street,
London SW1W 9RP

The Editor would like to add to the above press release that it is the responsibility of every aquarist to act in a responsible manner when

disposing of anything from your aquarium. We have all been aware of the potential damage that can be caused to habitats for some years now. I believe that the serious hobbyist would not wish to damage the habitat of another species.

Plantlife are not totally realistic in their press release, however. How many of you have tried to overwinter Water Lettuce, Giant Salvinia, Water Hyacinth or Water Chestnut? Even with the best will in the world and a lot of tender loving care, it is virtually impossible to save them through to the next season. How, then, do Plantlife expect them to overwinter successfully in the wild when the hobbyist with his greenhouse, etc., cannot manage this feat?

Perhaps instead of asking outlets to only supply British plant species (which in our pond we do grow), Plantlife should be seeking to educate the ill-informed and perhaps go down the route of licencing?

I believe that there is an element of 'scaremongering' about this press release and, whilst I commend any conservationist activity, it needs to be realistic, informative and sensible in its outlook.

Such organisations should not be isolationist and take a more holistic view of conservation and the environment.

I would be happy to 'discuss' the issues Plantlife and I have raised here in future issues of "Fishworld". My views are personal and so are yours... I do not wish to force mine upon you and will print any of your views I receive.

This is something of an emotive issue to the fishkeeper. It seems that recently we are forever being castigated by some organisation for our so-called irresponsibility. I do not believe that the 'hobbyist' is as largely to blame as we have been given to understand. It is more the 'fault' of the ill-informed 'seven-day-wonder fishkeeper' who buys a tank and its contents with little regard to his responsibilities.

Who put the turtles in the Thames?

BACK TO BASICS

BACK TO BASICS

PEOPLE GOING PLACES



Many of you will know Dr. David Ford who has, for more years than most of us care to remember – and the rest of us cannot – represented Aquarian. Sadly, David retired from the Aquarian Advisory Service in July.

I say 'retired', but all of you who know David will appreciate that the word is not necessarily defined in David's dictionary in the same way as it is in ours!

David being David, has already been seen at the Yorkshire Aquarist Festival beavering away in the same way as he always has.

This would be the point where we wished David and his lovely wife, Dorothy, a restful and carefree retirement, but I somehow think that these wishes may fall on deaf ears to some extent.

Nevertheless, you are a greatly loved couple within the hobby and we will all still be thrilled to see you at shows, but please try to take some R & R time in between! Wishing you all that you would want for yourselves, David and Dorothy, from all of your aquarist friends too numerous to mention individually.

David is ably succeeded by Dr. Peter Burgess. Peter is already well-known within the hobby, having earned himself quite a reputation with his aquatic literary works, quirky sense of humour and, of course, his knowledge of the subject. I am sure that Peter will carry on the 'good work' in a very able fashion.

Another loss to the hobby is Colin Grist, who has left the Blue Planet Aquarium in Cheshire to travel to the more exotic location of the Baltimore (USA) Aquarium. Colin went to help set up the Blue Planet Aquarium from Bristol Zoo Aquarium. I hope there are less sea walls in Baltimore, Colin (yes, this is a private joke). We wish you well and acknowledge that we are losing one of the 'characters' of fishkeeping.

Page 30

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Page 31

AN INTRODUCTION TO SHOWING AQUATIC PLANTS UNDER FBAS RULES

by Bob Esson

Aquatic plants are placed into three basic groups:

Rooted plants: usually a rosette leaf configuration growing on a substantial root structure; reproducing by means of seeds, runners producing plants at intervals, leaf plantlets or by root or rhizome division.

Cuttings: usually a single or branched stem, sometimes bearing aerial roots, reproduction by seeds, by stem, and/or stem branch detachment and by leaf plantlets.

Floating plants: usually the upper leaf or thalli surface is dry and level with (or clear of) the water surface; the root structure can be a single simple rootlet or quite a complex arrangement.

Within the Federation of British Aquatic Societies, plants are shown to a set of Plant Rules (Book 5, Page 2.5, Part 4) in much the same way that fish are, i.e. in the three basic groups. The point of which is to present an entry that can be exhibited and judged in common with like plants. The Federation's basic class letter for plants is 'Z'. Within this basic class, plants can then be subdivided into the three main groups:

Za Rooted plants
Zb Cuttings
Zc Floating plants

The expression used for plants grown out of the water is **EMERSE**, and for plants grown under water the expression is **SUBMERSE**. It must be stressed that some of the plants we accept as aquatic are not true aquatic species. Many are marshland or bog plants and cannot be kept emersed indefinitely. It is also a fact that many plants cannot be positively identified from their leaf form, shape or size. Cryptocorynes are only one group of many that fall into this situation. This has often resulted in the same species of plant being given several names depending on which leaf formation it bore when and where collected. The only positive means of plant identification is from a detailed examination of its flower. However, exhibitors **should**, and Judges **must**, name an exhibit before it can be judged. Therefore, if the Judge believes a plant has been wrongly named, then the name given to the plant by the Judge will be the one that it will be judged to, not the name given by the exhibitor. Further, plants that have several synonyms will be judged within the Federation in accordance with the name listed in the Federation booklet.

Class Za - Rooted Plants

These can be shown with young plants or runners attached. In the case of small plants, these can be shown in a group. In either case they will be judged as seen. In other words, the runners and young plants will form a part of the exhibit. In the case of plants large enough to be shown as a single plant, it is an advantage to show a

single exhibit. There are some plants that will flower when in their submerse growth, i.e. Barflaya, Vallisneria and some Echinodorus. Any plant of this habit can exhibit buds, flowers or seeds.

Class Zb - Cuttings

Plants that are shown as cuttings must be shown in groups of three. There is a tendency to exhibit very short cuttings and 75mm or so will lose points unless this is the nature of the plant. The cuttings must be a reasonable length to judge. 200mm is about right, but by the same token metres of plant wound around the container will also result in down-pointing.

Class Zc - Floating Plants

There is still a strong tendency when exhibiting the small floating plants to show far too many. All that is required is enough to be judged and not more than 50% of the water surface needs to be covered. Overcrowding results in down-pointing. With the larger floating plants there is a tendency to exhibit them in a container that will not allow the root structure to hang down correctly and this, too, will result in loss of points.

Plants attached to rock or bark

Attention is drawn to the Show Rule that allows those plants that in nature will attach themselves to rock, bark or other

natural materials. These are best shown in this manner and will be judged as seen as a group or colony. These types of plants are often suitable to be shown in Furnished Aquaria.

Containers

Societies organising Open Shows sometimes supply a large container to enable exhibitors to show their plants. Although Societies provide this with the best intentions, exhibitors are advised not to rely on the Show organisers to provide a container, but to supply their own, of a size that is adequate for their exhibit. The better Show schedules contain a section where exhibitors can enter the size of their container. If a plant is shown in a container supplied by the Show organisers that is not suitable then your plant could lose points.

There is also a very real risk of transferring disease, snails or other 'bugs' when showing your exhibit in someone else's container. Although the minimum size of a Show container is laid down in Book 5 (Page 2.1, Rules 4 & 5) there is also Rule 2c on page 2.5 to consider when exhibiting aquatic plants.

Plant groupings

When compiling the plant groupings in these classes, where any doubt existed as to the correct group into which to place a plant for showing, careful

Page 32

Page 33

consideration was given to the plant's main features and the conditions under which we felt these features could best be displayed. It is accepted that some plants are not easily classified, examples are, Vesicularia, Bolbitis, Microsorium and Najas species.

Plant pointing

Exhibition plants can be awarded a maximum of a hundred points and, in common with all exhibits judged within the Federation, the points are divided between five features. Each feature is considered of equal merit, so each is allotted twenty points. These features are:

- Size
- Difficulty
- Colour
- Leaves
- Condition

Guide to showing

The following advice is offered to exhibitors and is also a guide to that which the Judge is looking for when judging plants:

1. Supply your own container. Ensure it is of a size suitable for the exhibit. It is bad practice to show several plants together.

2. Set out to impress the Judge with your exhibit. Ensure that your entry is in the correct Class and correctly named. Present the exhibit in a clean container with clear water. Clean the front glass.

3. Present a rooted plant in a nice clean pot. Ensure that the crown is clear of the gravel or sand.

4. Ensure you have three matched cuttings and exhibit them separately. Pinch a small piece of lead onto the base of each cutting and space them out for viewing. Do not clump them together.

5. Ensure that the front of the plant faces the front of the container (plants do have a front, sides and rear).

6. Do not cover the water surface with small floating plants. 50% is enough. Ensure that the roots of large plants can hang down and are not coiled around the base.

7. No snails or snail spawn, leeches, bugs or other water life should be left in the container with the plants. Ensure there are no other plants present by accident (e.g. Duckweed).

8. A pinch of salt in fresh water will inhibit air bubbles attaching themselves to the plant(s), pot or container.

9. Take one last look at the plant before leaving it. Try to see it as a Judge would do. Remember the exhibit will be judged as a whole - runners, plantlets and good or bad points. It is best to remove damaged leaves right back to the plant crown.

Common faults when exhibiting rooted plants (Class Za)

The most common faults with showing rooted plants are:

- poor presentation
- plant facing the wrong way
- leaves twisted or bent and out of character with the plant
- leaves damaged or holed
- plant crown planted too low or high
- algae or blanket weed on the plant
- shown in dirty water or container

Faults when exhibiting cuttings (Class Zb)

The most common faults with showing cuttings are:

- cuttings too short or too long
- less than three cuttings
- cuttings bound or clumped together
- plants not standing upright
- odd assortment of weights
- algae or blanket weed on plant
- shown in dirty water or container

Faults when exhibiting floating plants (Class Zc)

The common faults with showing floating plants are:

- far too much plant with the smaller species
- discoloured or insignificant root system
- too small or too shallow container (generally relates to the larger plants)
- other floating plants present
- shown in dirty water or container

If you follow the advice given, you will be able to successfully show plants at Open and/or Closed Shows.

The popularity of the aforementioned plant classes has waned over the years. Plants are generally less susceptible to the problems of condition and department associated with showing fish and for these reasons are perhaps a little 'easier' to show.

You can acquire plants fairly easily at aquatic outlets and from Society Auctions.

Whilst plants cannot be considered to be an 'easy option', if you can put a good plant on the Show bench you will quickly gain a reputation on the Show circuit.

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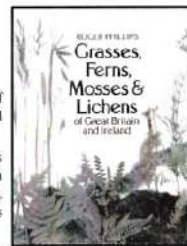
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GRASSES, FERNS, MOSSES & LICHENS OF GREAT BRITAIN AND IRELAND

Author: Roger Phillips
Publisher: MacMillan Reference 1994
ISBN No: 0-330-25959
Price: £14.99 softback 191 pages
Reviewed by: Roger Crew



This book is described as "...a unique encyclopaedia of the grasses, ferns, mosses and lichens that can be found in and around the British Isles..."

Beautifully illustrated with full colour photographs together with comprehensive descriptions of each subject. The book is split into four separate categories, each one encompassing a diverse selection of the less well known plants that may be found in Britain..."

I have recounted the text above directly as found on the rear cover as I felt unable to better summarise this book. To paraphrase a well known advertisement "...It does what it says on the cover..."

This is an enchanting reference book. Although by its author's admission, not describing all species out of the total British flora for the four categories, it is nevertheless very wide ranging and covers a vast array of information for the expert or the amateur. The text descriptions accompanying the illustrations are well thought out and written.

For me, the initial attraction was, I must confess, the section on ferns. The reason for this being that I readily identified the ferns with aquatic habitats being lush, green and providing shade as well as a simple backdrop for more elaborate and colourful displays.

What did surprise me somewhat though, were the illustrations and descriptions for the mosses. This was a riveting section for me and I found myself repeatedly returning to that enchanting section. However, each to their own favourites.

Overall, this book provides an excellent and affordable reference which has been produced in a manner that encourages the reader to delve deeper. I heartily recommend it!!



BRISTLENOSES - CATFISH WITH CHARACTER

Author: Kathy Jinkins
Publisher: TFH Kingdom Books
ISBN No: 185279137-3
Price: £9.95 hardback 112 pages
Reviewed by: Roger Crew



A truly well-written text holds the reader from the start. A short introduction serves to set the scene and is followed by the first of six sections on:

- classification and relationships
- biology
- Bristlenoses at home
- keeping Bristlenoses in the aquarium
- spawning the Bristlenoses
- species of Bristlenoses

The sections are well rounded off with a comprehensive appendix itemising the collection, locations of Ancistrus species and a literature list.

I wondered when I first saw this book, who would it be aimed at? The specialist aquarist or the 'novice'? The answer, I find, is BOTH. Without being so basic as to bore the specialist, the language of this book makes it easily comprehensible, yet it has sufficient technical content to please all but the most expert reader.

PS I thought it only fair to include my final comments as a postscript, being perhaps bold and somewhat controversial.

Kathy, you do not know how refreshing it was to see somebody with the 'guts' to write factually about the use of 'L' (or LDA) numbers. I say "with 'guts'", because the truth is, these designations are next to worthless and sometimes slavishly followed by people who should know better. They add nothing to our knowledge of species (this comment equally applies to the similarly useless 'O' numbers for Corydoras!). As you can appreciate, this is one of my pet hobby-horses, so I will say no more... here!



BRADSTONE VIDEO REVIEW

by Sue Crew

Alan Sargent, the well-known landscape gardener, hosts this video. Many of you will already know Alan either from the 'show circuit' - particularly at Hampton Court - or his book of garden projects.

The video is sectioned to lead the absolute beginner through from start to finish, including:

- planning your project - contains an example plan of a garden with areas for all of the family, a list of tool requirements, the importance of thorough preparation and helpful tips e.g. how to find a right angle.
- preparation
- mixing mortar
- laying
- pointing, edging, cutting
- building different types of wall
- planting
- building a barbecue
- laying a driveway
- and full contact details for Bradstone

Each of the sections includes information on why things are done and appropriate safety information such as the use of personal protective equipment.

I found the format of the video easy to follow and 'user friendly'. The small amount of 'jargon' that was used has been demonstrated or explained.

The 'down' side, if you can call it that, was the fluctuating light and sound levels. This has happened because the video has been filmed in natural daylight in a garden. I did not find this to be a real problem, though.

At less than a fiver I would certainly recommend the purchase of this video. I am sure that unless you are a pretty well-versed DIY-er or a professional you will find your money well spent. However, if you have booked into the FBAS Water Gardening Weekend at Bracklesham Bay in October, you will receive a video free of charge as part of the package for attending the weekend. This video has also been added to the Tape/Slide List and is available to borrow by contacting the Tape/Slide Officer.



BRADSTONE COMPACT DISK REVIEW

by Sue Crew

Another of the Bradstone 'help' products and one which goes hand in glove with the video previewed on the previous page.

The CD includes easy install instructions which will be familiar to any Windows user. The minimum specification for using the CD is 100 MHz Pentium Processor, 32Mb RAM, 800 x 600 screen resolution with 16 bit colour, Windows 95 or 98, 4x CD ROM drive, graphics printer.

The sections included in the CD are:

- About Bradstone
- Stockists
- Technical Information (including safety tips)
- Bradstone Product Range
- Bradstone Projects
- Garden Designer
- Random Patio Generator
- Bradstone Library
- Changing Gardens
- About Alan Sargent



There is a 37-page booklet of garden ideas and a further 40-page booklet of garden features. In addition there are guides on caring for your patio, and other leaflets for you to print and keep.

The CD is easy to use and has been well planned so that the novice will find it easy to use.

Although the CD centres around the Bradstone range, there is much to be learned in the way of general methods, which can be utilised when using other product ranges.

Another cheap product at much less than a tenner! I believe that this product will also be made available free of charge to those attending the Bracklesham Bay weekend in October, 2000. If you are not one of those attending the weekend, you can obtain

copies of Alan's book (on offer at £4.99), the video and CD ROM from: Bradstone Home and Garden Landscaping, Hlland Ward, Ashbourne, Derbyshire DE6 3ET Tel: (01335) 372222.



Page 42

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Page 43

GROCKLEMANIA 2000

by Teresa Constantine
IWAS Show Secretary

The 19th May saw a population explosion amongst the Isle of Wight fishkeeping fraternity. It was Grocklemania time again!

The weekend's entertainment began with light-hearted competition which culminated in the presentation of the prestigious (and much coveted) "Thomas Crapper Trophy" to Gary and Rosemary Ithwaites. Friday night's cabaret was provided by the ever popular "Ivy League", and "Beatles UK" (a tribute band) kept everyone entertained during Saturday night.

The weekend event culminated with the Open Show on Sunday. Despite the absence of some familiar faces (whom we hope we will see back with us next year), the number of fish exhibits remained as high as in previous years.

The Championship Classes were F, judged by Gordon Best and Nu-w judged by Brian McHugh. Chas Raggio's Cyno australe won class F and John Powell won class Nu-w with his Sarcocelichthys parvus.

The Best in Show was won by John Egan from Port Talbot, Tony Tyson and Chas Raggio were Reserve Best in Show - or rather, their fish were!

Recently elected President of the F.B.A.S., Bill Rundle kindly officiated at the presentation of the prizes.

In conclusion, the I.O.W.A.S would like to thank:

The judges (who were a great bunch), for doing an excellent job
Bill Rundle for presenting the prizes (and of course, Joyce)
Peter Burgess for his talk on Fish Health

Above all we would like to thank all our friends - old and new - for coming and making the show the success that it was.

See you all again next year if not before...

Page 44

FEDERATION OF BRITISH AQUATIC SOCIETIES

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SUPREME FESTIVAL OF FISHPKEEPING AND GARDENING WEEKEND

Residents full board accommodation: 20th - 22nd October, 2000

Adults - £75

Children: 10-15 - £42, 5-9 - £28, 2-4 - £13.50, under 2 - free

Day Visitors: 21st and 22nd October, 2000

Adults - £2

Senior Citizens & Children aged 7-15 - £1.50

Children 6 years and under - free

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Situated on the picturesque Sussex coast with historic Chichester nearby plus beautiful seashore and countryside to provide all the ingredients for a perfect weekend at the

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- ❖ Aquarian Aquachamp Final ❖
- ❖ Tetra Junior Painting Competition (semi-final and final) ❖
- ❖ Maidenhead Aquatics aquarium displays ❖
- ❖ Water gardens/features ❖
- ❖ Specialist Society displays ❖
- ❖ Trade displays ❖

Gardening lectures/quizzes/questions and answer sessions
Fish Shows (tropical and coldwater) including:

- ❖ FBAS "Supreme Championship" Final (Sunday) ❖
- ❖ "Hagen Masters" Open Show (Sunday) ❖
- ❖ Junior Fishkeepers Show (Saturday) ❖

Plus many other attractions

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Page 45

The new



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Page 46

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- Prevents algae returning and maintains plants.

PROTALON-707 is effective against Filamentous algae, Beers algae, Slimy algae, Black algae, Green algae, Suspended algae and thousands of other species.



Page 47



GLOBAL E-MAILS

I was recently checking my E-Mails only to find one from some of our fellow fishkeepers in New Zealand. Caryl is the Editor of their equivalent of "Fishworld". I have to say that the New Zealanders have a different way of following the hobby. They seem to work harder at it but also get much more fun out of it! Maybe we Brits can take a leaf out of their books and make our fish shows more of a social event by holding a barbeque as well. Failing this, arrange a club night barbie.

From: "The Simpsons"
 To: "Sue Crew, FBAS Ed."
 <fishworldeditor@bluegill.freemove.co.uk>
 Subject: Hi there from NZ

Hi Sue,

I noticed in the latest Fishworld that you now have an email address so I thought I would drop you a line. I enjoy reading the FBAS magazine although it often makes me laugh at the differences between our countries. The latest issue has a big article about bamboo and how wonderful it is. We spend a lot of time trying to get rid of the damn stuff as it grows and grows and takes over the garden. It wrecks fences and comes up in all sorts of unexpected places. I guess your colder temperatures keep it in check but we usually treat it as an unwelcome addition. The other laugh I got was at your joy of seeing a kingfisher. They are the bane of pondkeepers over here (along with herons) and I didn't realise anyone considered having one 'a privilege'! I was interested in the new pond liner advertised and will have to see if it is available in NZ yet. I have been meaning to build a pond for years now but somehow have never got around to it.

Must go as my son needs picking up from his friend's place. Keep up the good work,

Caryl

Page 48

FBAS MERCHANDISE AND PUBLICATIONS

Available from Show Stands, by Mail Order, or at General Assemblies

Cultivated Fishes	£1.00
Goldfish Standards	£1.00
FBAS Constitution & Show Rules (2000)	£2.00
National Show Fish Sizes (2000)	£2.50
FBAS Yearbook (2000)	£1.00
Forming a Society	£1.00
Dictionary of Common/Scientific Names (Freshwater)	£2.50
Scientific Names and Their Meanings	£1.50
Plants	£1.25
Dictionary of Common/Scientific Names (Marine)	£1.25
Nishiki Koi (in colour)	£1.50
Organisation of the Open Show	£1.00
Quiz Book 1	£1.50
Synonyms of Fish Names	£1.50
Quiz Book 2 (new)	£2.00
Species Reference Dictionary of Freshwater Fishes	looseleaf £1.50 with binder £4.00
A Reference Dictionary of Aquatic Plants	£0.50
Additions, Amendments and Deletions to the Millennium Showfish Size Book	£5.00
***Special Offer package of Book 6, 26, 27, 28 + folder £5.00	
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Lapel Badge	£1.00
Rules	£2.50
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Plug Label	£0.25
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T Shirts (FBAS)	£6.50
Umbrella	£9.00
Holdall	£10.00
20 for size badges	£0.20

ORDERS: BY POST Send cash/cheque with order + 25% of total for p & p
 Cheques made payable to FBAS
 Send to: Address in FBAS Year Book (1998) or
 Roger Crew c/o HMP Albany, 55 Parkhurst Road, Newport,
 Isle of Wight PO30 5RS

SHOWS Telephone orders for collection at Assembly or shows

Page 49

Tetra CORAL CREATIONS

A Tetra (USA) line that became unavailable in the UK three years ago. Recently a small stock was identified in the UK warehouse and Tetra have agreed to its **sole distribution** in the UK through the Federation of British Aquatic Societies' Merchandising at **absolutely knock-down prices!**

Here is the opportunity for all of you marine or Rift Valley enthusiasts (or any fish-keepers for that matter) to create a coral scene **without damage to the environment**, for **Coral Creations** are a synthetic resin product which is totally inert and harmless to your fish tank. Now you can enjoy the sight of lifelike 'coral' at a fraction of the cost.

As an example, the top of the range "Brain Coral 1/2 helmet" which **normally would**



retail at **£23.25** can be yours for merely **£6.80** and for a "Mini Brain Coral" in either white or natural, you pay only **£2.00 instead of £6.75**. Do not forget that these recommended retail prices are now three years old, so you are getting even better value!

This unique opportunity is only available to you through FBAS Merchandising. Obviously the cost of post and packing would be high on items of this kind, so we are offering **Coral Creations** for sale only at open shows and major shows and only whilst stocks last. Enquiries via the Merchandising Officer - address in your Year Book!

Page 50

2000 SHOW DATES AND EVENTS

Rule Codes: A = A of A; FB = FBAS; FN = FNAS; FS = FSAS; U = US of A; Y = YAAS; B = BKAS; BK = BKA; I = International Goldfish Standards; N = NEFAS; C = CAGB WGS - National Goldfish Standards

3.9.2000	Cranlington AS (FB)
9.9.2000	Hounslow AS (FB)
17.9.2000	Osley AS (Y)
1.10.2000	Halifax AS (Y), Grangemouth AS (FS)
15.10.2000	Doncaster AS (Y), West Cornwall AS (FB)
23/22.10.2000	Supreme Festival of Fishkeeping, Brackisham Bay
28/29.10.2000	British Aquarists' Festival, Manchester

NOTE TO SHOW SECRETARIES

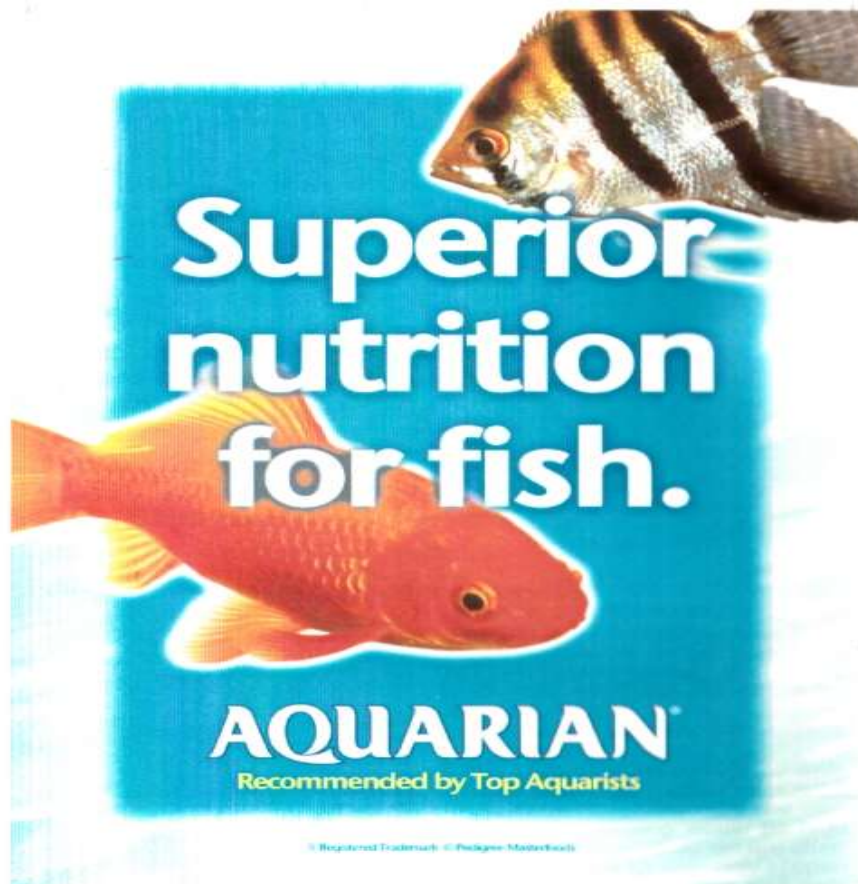
The above dates are those available at the time of going to press. For the latest, most accurate dates and venue information (and trophy allocations where applicable), please refer to the Quarterly Supplement issued by the FBAS giving details of shows around the country.

The Show Supplement is available, price 50p post paid from:

SHOW INFORMATION.

Dept. FW, 22 Flamsted Avenue, Wembley, Middlesex HA9 6DL
In order to provide the most complete service to all Societies, please communicate your show information to the same address.

Page 51



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