FEDERATION OF BRITISH AQUATIC SOCIETIES

BULLETIN

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SPRING 2009

NEWS, VIEWS & ARTICLES

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FEDERATION OF BRITISH AQUATIC SOCIETIES

BULLETIN

March 2009

Contents

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Produced for FBAS website by Dick Mills

www.fbas.co.uk

EDITORIAL

Hello, I'm Malcolm Goss and I'll be following on from Peter Furze as your Bulletin Editor. Lest you think there's a new kid on the block, let me say that I had a spell as Editor a few years back so, theoretically, nothing's too new to me except for the concept of our new online publication system.

Like all other Editors (we all sing from the same hymn-sheet), I can only publish what you send in – it wouldn't do for you to read 'in-house' contributions all the time – so please try to let me have regular bits and pieces. It doesn't have to be a lengthy article every time, small news items about your Society's activities are not only welcome, they might give other Societies an idea of what to do for a change.

As with Peter, you can contact me by all the various means at your disposal – email and by normal post. It would be helpful if you could use email, especially in the case of photographs – at least you'll know I've received them, and they are much more manageable to use in digital form.

I look forward to producing the Bulletin for you and hope you will continue to help me keep up the high standard of past issues.

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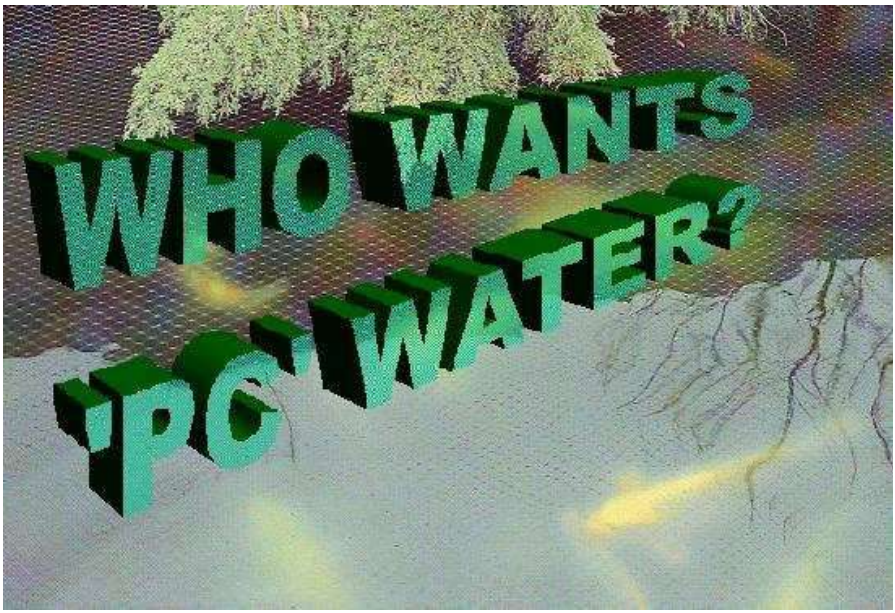
Buckinghamshire HP6 6ER

Tel: 01494 722786 **e-mail: malcolmgoss@tiscali.co.uk**



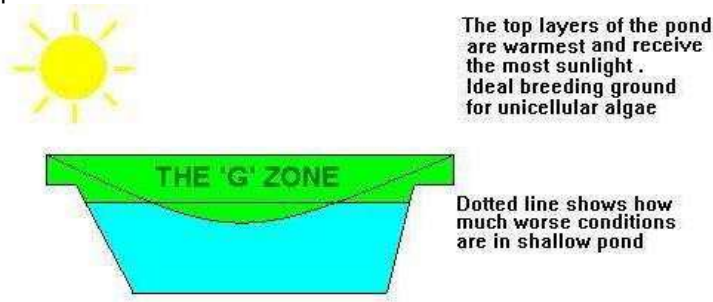
You know the stuff I mean - it's green, entirely natural, healthy, politically-correct and.....unsightly! The real tragedy is that it's only us that hate it,
fish think it's marvellous.

What we're talking about here is, of course, **green water**, the pondkeeper's worst enemy, the very thing that occurs just when you'd thought everything in the pond was lovely. Usually it's newest ponds that seem to suffer most - a real anticlimax, and a devastating occurrence after all your careful planning and hard work.

Green water is caused by microscopic algae, whose mass is so small that it can pass through the finest sponge filter medium as if it wasn't there and, just to be awkward, it appears to take over the pond right at the time when the improving weather is encouraging us to spend increasingly more time by the pond. The immediate natural reaction is to panic, drain all the water out and start again. Unfortunately, this is just what you shouldn't do, for in next to no time, the wretched stuff is back again looking even more dense than before.

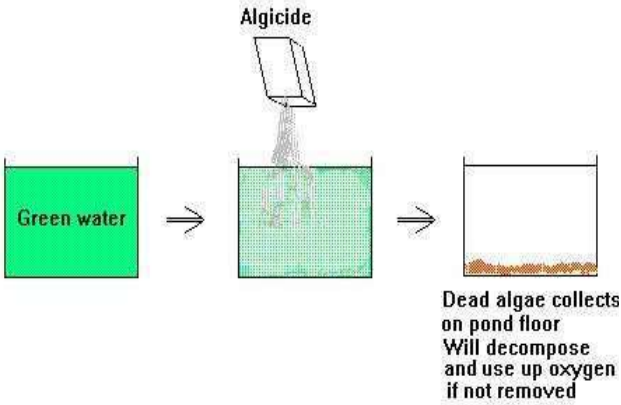
Like all living things, algae needs food to grow. In a new pond, there is a prevalence of food in the form of nitrate-rich water with no established

aquatic plants to reduce it. Add to this, warm sunshine beating down through clear, clean water and you have the perfect recipe for an algal explosion.



Small ponds and large, shallow ponds are most at risk; in deeper ponds only the warm upper layers of water sustain green algae and so its proportional presence is less, giving rise to a less dense green in the water. Wrongly-sited ponds can also be at risk: open-sited ponds are ideal for water-lilies (once they're established) but can suffer from green water until the lilies grow in sufficient numbers; a pond set in a sloping lawn can have nutrients (lawn feed, for instance) rain-washed into it.

Returning to our instant, panic-stricken remedy, replacing the water will only put you back to square one again as the surviving algae (there's always a microscopic bit left!) welcomes the new nitrate-rich water with open .....well, with whatever algae use to collect their food! You may, on the other hand, inherit a pond at the height of its green water problems. Whilst draining down may well reveal what's in the pond, it won't remedy the green water problem for the reasons just described.



At this time, homicidal urges tend to rise up and it's very tempting to throw lethal doses of algicide in the pond to get rid of the green. All very well, except for two things: killing the algae is simplicity itself with the right chemicals but the resulting dead bodies

then drop to the pond floor and quietly (and just as dangerously) start to decompose. Result? Valuable oxygen is taken up in the process leaving the fish gasping at the surface. It is vitally important, when using algicides to follow the manufacturer's instructions to the letter and 'vacuum up' all the debris afterwards.

If you must use remedies always read the label carefully and select one that is safe for plants and fish. Some algicides may set back some of the aquatic plants too, the very things you want to help you out in the battle against the green. So, the best thing to do now, is to sit down and work out just what constructive plan of action to take, how to get rid of the green water and leave your pond looking as you want to see it, rather than as Mother Nature does.

We've already seen that green algae thrives on food and sunshine, so here are two areas in which we can work to deny them. Cutting down the light entering the water is a good start: erecting a pergola is going a bit over the top (literally!) but any sort of shading will help enormously, you can even think in terms of tallish shrubs around the pond. This shading needs only to be effective until the major aquatic plants develop, at which time they will provide surface shading and compete energetically against the algae for food in the water. Fast-growing 'oxygenators' are valuable allies in the battle but, to ensure that they grow as fast as possible, start them off along the marginal shelves, where the shallower water is warmest and there is most sunlight to encourage their growth.

Heavy-feeding Water-lilies, as they grow, will also starve out the algae and they should be gradually lowered into deeper water by removing any earlier-placed bricks from beneath their baskets.

There are other 'foods' on which algae thrive and all are likely to be unwittingly provided by the pondkeeper.

Neglecting to 'tidy up' the pond in autumn can lead to a build-up of nutrients that will get the algae off to a flyer once the warmer weather (and sunshine) return (isn't it funny how the algae always wakes up before the aquatic plants?

Treating the pond at this time with a sludge-busting compound will break down any harmful deposits too and make sure the pond gets off to a clean start again in Spring.

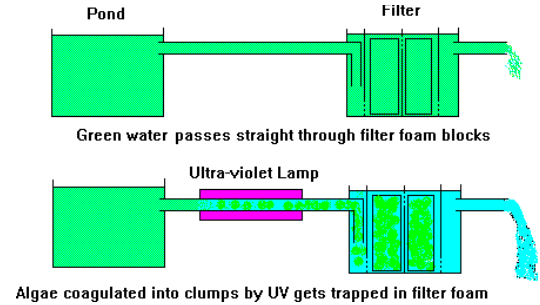
Overfeeding is a bad practice as any surplus food, left uneaten (or alternatively passed out undigested) by the fish, will not only pollute the water, use up oxygen but also, especially with high-protein foods, add to the build-up of nitrates in the water - again, just what the algae ordered! Another source of nutrition for algae is, of course, aquatic plant fertilisers; add these too early in the season, before the aquatic plants are established enough to make use of them and you're merely feeding the wrong type of plants - those hundreds of millions little green ones! You've got to think mean.

In the natural world, one life-form is always part of another's food-chain and algae conforms to this rule. Unfortunately, the rule also applies to those animals which eat algae (*Daphnia* and other aquatic crustacea) and they in turn are preyed upon by fish! Of course, if your ornamental pond does not have fish - maybe it's a formal arrangement with few true aquatic plants - then using algicides will keep the water clean without risk to the plants.

One often advertised remedy for green water is to stock the pond with a few freshwater Mussels (*Unio, Anodonta* spp); the theory is that they filter the water by breathing it in and out. Unfortunately, Mussels have two drawbacks: they either tend to plough around the bottom of the pond, stirring up detritus (and releasing more food for the algae) or they stay in one place and die (often undetected) and so add to the water's pollution. It is not yet known how many Mussels are needed to clear a certain amount of green water anyway, and the suspicion is that you wouldn't be able to fit enough of them in the pond to do the job either! As any continual disturbance of detritus leads to both green and dirty water, it may be prudent to keep water currents in the pond down to a minimum too, by re-positioning the pump if necessary; this will also help the water-lilies to flourish. Don't forget that foraging fish (especially big fish in a small pond) will also contribute to green water; periodic siphoning out (or pond vac-ing) will keep detritus down to a minimum.

Surely with today's technical know-how, there'd be something really effective, I hear you say. Well, yes there is but again you have to understand how it works. Filtration systems on their own are practically useless in attempting to physically strain out the green-ness.

Faced with the microscopic size of the unwanted material, the ideal filter medium pore size would have to be extremely fine - and that means it would clog up within minutes!



A better way would be to make the algae cells clump together into larger particles which could then be trapped by more conventional filter media, and this is precisely what the ultra-violet lamp does when used in conjunction with a pond filter.

There is a lesser known method which also achieves the coagulation effect by another way: injecting a special reagent into the water, by means of a lance, causes 'rafts' of algae to float to the surface from where it can be netted out.

Has green water got anything going for it? We've already said that fishes don't mind it at all and, unlike blanketweed, it won't choke the plants although it does deny them some life-bringing light. Fish fry are safer in green water than in clear (their parents, and other predatory fishes, can't see to eat them); green water is often used by some tropical fish breeders as first foods for very tiny fry. Adult fish are also safer in their green foggy pond environment for the simple reason that herons and cats can't see them so easily

Whilst green water is something that few people want, it needn't be all doom and gloom. Very often, given time (and patience on the part of the pondkeeper) it will suddenly sort itself out without any need for artificial aid, mechanical or chemical, as the pond comes to its own, natural built-in biological balance.

River Reef is a complete aquarium that offers premium filtration and lighting for brilliant results, minimum maintenance and maximum enjoyment. Interpet make it even easier to succeed by supplying a range of start-up kits which contain all you need to set up and maintain a Freshwater “River” planted aquarium or a Marine “Reef”.

Beautiful aquarium design

The aquarium is designed with curved glass ensuring it will look elegant in your home, enabling you to enjoy panoramic views of your underwater world. To further enhance the beauty of your aquarium, all the life support systems are hidden away behind a panel in the back of the aquarium.

See your creation in the best light

A **High definition lighting** system is built into the hood to maximise your viewing pleasure and meet the exacting requirements of your plants or corals.

Daylight is provided by two high output T5 Power Compact Daylight Plus lamps which bring out all the colours of the aquarium inhabitants and provide the optimum level and spectrum of light for your plants and corals to grow and thrive. When the lights go down at night, enjoy watching the "after dark" world of your aquarium come to life under the separately switched moonlight blue LED lighting.

Keeping your vision clear

Behind the scenes **ultra clear filtration** not only supplies an essential life support role, it ensures the aquarium remains crystal clear.
The high capacity built in back filter system is designed to allow comprehensive 3 stage filtration and reduce filter maintenance.

The first stage is removal of water clouding suspended particles.
The water leaves the aquarium through a multi level intake system and enters a settlement chamber where the largest particles settle out. It then passes through Filter balls that remove the majority of suspended material without blocking and reducing water flow. Smaller particles are then removed by open cell foam before the water is given a final polish through the fine filter pad.

The second stage is the biological removal of the toxic fish waste which occurs in the high surface area ceramic Biomedia. This media is the ideal home for essential waste consuming bacteria which act like a "mini sewage treatment plant".

The third and final stage is carried out by Carbon chemical filter bags which remove the remaining organic particles and toxic metals ensuring the water leaves the filter crystal clear and healthy.

Reliable life support

Other essential life support functions are also housed in the filter area. Tropical central heating is supplied by the reliable Interpet Deltatherm heater, Whilst oxygenation is provided by the high flow circulation pumps which turnover the aquarium volume up to ten times an hour – the pumps are adjustable allowing you to match the exact requirements of your chosen aquarium inhabitants.

River Reef aquariums and their matching cabinets are available in two sizes 48litre (40cm) and 94litre (50cm) in either Black or Silver.

RIVER·REEF

AQUARIUM

- Beautiful design with curved glass
- Looks elegant in the home and gives panoramic views of the underwater world
- Available in 2 sizes in black and silver: 40cm/48 litres and 50cm/94 litres
- High output T5 PC Daylight Plus lighting: 40cm/48W and 50cm/72W
- LED lighting gives a beautiful night mood
- Independent light switches
- Come with built-in cooling fans
- Comprehensive 3 stage filtration system
- Cabinets are also available in black and silver
- Plant and marine kits are available separately

So with your River Reef aquarium taking pride of place in your home all you have left to choose is what you want to keep - a River or a Reef?

Plant Kit for River aquarium

The River Reef plant kit is available to buy separately from the aquarium. It contains all the necessary products required to grow healthy aquarium plants.

Flora Base is an aquarium substrate scientifically formulated from natural volcanic ash-based soil, sintered with other minerals into a soft, porous granular structure that is easily penetrated by growing roots, this allows the roots to positively anchor the plants to the substrate while providing immediate access to all of the nutrients. Flora Base also acts as pH buffer which maintains a stable 6.5 to 7.0.

Plant Care Kit is a specifically blended mix of nutrients for feeding leaves and daily supplements. Flora 24, provides the daily used trace elements plants require; Flora Dose are tablets to boost plant growth after the initial nutrients have been used in the Flora base and Flora Gro provides the ongoing nutrients which help your plants grow healthily and prolong their lives.

Turbo CO2 Bio System to grow healthy aquarium plants requires the injection of carbon dioxide into the aquarium. Turbo CO_2 Bio system is a simple and reliable system that generates CO_2 by a pH buffered natural fermentation process providing an almost constant supply of CO_2 for approximately 1 month. The in-tank CO_2 indicator gives an easy to read, continuous, and qualitative visual indication of the current CO_2 in the aquarium.

Marine kit for Reef aquarium

The River Reef Marine kit contains all the necessary products required to create a healthy marine aquarium. Our specialist Red Sea Marine kit supplies high quality products and ease of use in mind. The kit comes with Reef Base, Lab Test Kits, Supplements, Hydrometer and Salt.

Red Sea Salt is a high quality natural sea salt, designed for use with tap water. The Red Sea salt is suitable for all marine fish and invertebrates and is widely used around the world in public aquariums. It contains all the minerals required to ensure the marine livestock thrive and remain healthy. A Red Sea Hydrometer is also included in the kit to measure the level of salt.

Reef Base is a substrate that promotes a healthy aquarium by providing an excellent media for both nitrifying and denitrifying bacteria. The base consists of naturally occurring sand spheres mixed with aragonite coral chips. They help maintain pH level stably in the aquarium. The smooth shape of the spheres provides a great advantage over coral sand and other aragonite based products as it reduces damage to burrowing fish and invertebrates.

Reef Success Supplements are included in the kit including Magnesium, Calcium, Buff and Nitro Bac. These ensure the ongoing health of the invertebrate and fish life in the aquarium.

Test kits are also supplied to ensure the reef aquarium remains healthy. These include Nitrite, pH and Alkalinity tests. All water monitoring test kits are designed to be easy to use, accurate and are well packaged with comprehensive advice on water quality.

River Reef aquariums and start up kits are available from all good aquatic stores. For stockists please contact Interpet on 0845 2267437 or customercare@interpet.co.uk

For further editorial information please contact
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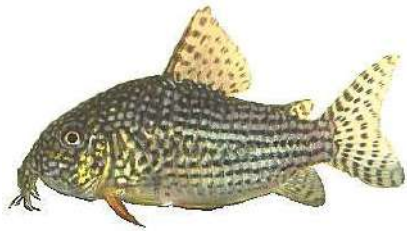
Living with *Corydoras*

The Editor presents a look at one of the most popular Catfish Families

Corydoras species is often the first catfish that new-to-the-hobby aquarists purchase and add to their community aquarium of fishes. It would be ideal to provide tankmates common to the *Corydoras* species in nature. In order to accomplish this, one would have to be present at the time these catfish were collected in their natural habitat. I preferred to let new species that I purchase to adapt themselves to my tap water conditions. However one may have to adjust water conditions to keep some *Corydoras* species which may have critical requirements.

Basically, *Corydoras* should not be placed in an aquarium community that has aggressive species, especially those much larger than themselves. Whilst the Cory's may not be eaten as a form of food, they will be terrorised to death by constant harassment. With this in mind it is better for them to share an aquarium with more suitable species such as small Characins.

It is always best to keep an eye on newly-introduced fish not only for disease but how they get on with the other fish. While *Corydoras* get along well in a small fish community, they will seldom spawn or, if they do, it may go unnoticed by the new aquarist. They by far prefer the company of their own kind even to the same species. With all conditions to their liking they can be observed shoaling in a group, three or more in an open area of the aquarium.



Whilst *Corydoras* will be quite healthy living on a mixed flake food diet they are somewhat on the carnivorous side, and all *Corydoras* prefer a good meat-based diet along with long with vegetable matter.

Home-made recipes are fine as long as you are fully aware what you are feeding your fish. I feel it is best to rely on commercial foods as a basic diet such as a good brand of flake food; with today's research and technology we can feed our fish from a single container.

Corydoras will live and be so much more healthy if meat-based foods are added to their diet. Finely-shredded beef-heart, small live worms, freeze-dried foods which are high in protein and frozen foods such as Brine Shrimp and Bloodworm should all be considered.

Corydoras of all species are basically bottom-feeding fish, they do not eat or utilise the waste products of mid-water swimming fish sharing their aquarium as we are often left to believe. However, whilst they will consume a lot of the excess feeding given by you, this cannot in any way be a replacement for adequate aquarium maintenance.

Corydoras require feeding at their own level in the aquarium, that being the bottom. All tropical fish require some form of individual attention and consideration with their own feeding requirements, and Corydoras more than most.

They feed more readily in subdued light and this can be accomplished by feeding when you have turned off the overhead lighting.

The average size *Corydoras* grow to is between 50 and 80mm of course with a few exceptions. Extremes vary from small, such as C. *hastatus* and C. *pygmaeus* to a large seldom seen (even at an Open Show) the 130mm of C. *barbatus.* There are variations amongst all commonly available species but, as a group, they are ideal size for most community aquariums, housing peaceful species of suitable temperament.

Corydoras are not totally disease-free, and can be troubled with blood spots which appear underneath their heavy armour (scales) plates, being spotted by experienced *Corydoras* keepers. With new fish being added to their aquarium, I have even experienced them contracting White Spot.

A more obvious problem to their health is a secondary infection brought about by attacks from other fish, through our neglect to oversee what is going on in the aquarium. Look at the *Corydoras* you are about to purchase, they may well have been damaged in transit. They are often overcrowded during shipment and well may damage each other with their sharp spines inflicting serious injury that then attracts fungal attacks.

When buying *Corydoras* seek obviously healthy and robust specimens. All too often those offered for sale are so small in size they are unsexable, as well as not being established fish in their own right. If you are buying small specimens, purchase at minimum of six at a time.

Check your fish carefully when they are bagged and always look on as your fish are being caught, do not feel you are embarrassing the person selling you the fish. Today's prices are high even for the most common species, remember *Corydoras* catfish can live up to 25 years, do you really want to look at a fish with a deformed dorsal fin?

Healthy *Corydoras* will stand up off the bottom with its extended pectoral fins. If you have no spare aquaria to keep your new fish in and your fish shop does not hold the fish up to two weeks before putting them on sale,

don't buy them straight away; it does not matter how tempted you are even if they are sold when you return to the shop. See they are disease-free after two weeks as are all the other fish they are sharing the dealer's tank with.

Corydoras often appear to stare at you, almost in a manner of defiance. These fish have the ability to move their eyeballs independently in their sockets. It is a most unique characteristic and one that can be a conversation piece as visitors look at your fish in the aquarium.
They often say "your fish are winking at me" but it is only the eyeball that moves.

Catching *Corydoras* can be tricky as they, like so many catfish of all types, have sharp fins and spines. It is always better if you can catch your fish in a jar or small tank like a show tank - more easily said than done!

When catching *Corydoras* with a net, be most careful not to let the fish get entangled, as you may well have to use scissors to free the fish whilst holding very close to the aquarium's water surface.

These are fish of real character so if you feel they are winking at you, well, wink back, I am sure your *Corydoras* will not tell anyone!

Ref: American Catfish & Loach Association. Dave Knelson Thames Valley Catfish Group magazine No 18 1993 Updated Malcolm Goss 2009

ASK

Q: I've just moved into a new house and found myself the proud owner of a pond, something I've not had before. The cascade and filter are running but although I was told there are fish in there they seem a bit slow to show themselves.Is this typical?

A: The filter would have been left running by the previous owner because if it had been turned off for the winter,
it would have taken several weeks to become established again.

Sorry if that sounds a bit technical for a new pond owner, but filtration systems are a bit like cars used to be – they need a period of running in, when started up from scratch.

Unless the water temperature warms up – and is usually consistently above 10°C - the fish may well still be lethargic from their winter slumbers at the bottom of the pond.

If the water is still cold, they will not be fully active and, more importantly, will not be able to digest food properly at this time so don't waste time adding food to the pond until the fish are active again.

Similarly, until we have some constant periods of sunshine, the aquatic plants may not begin to grow again but don't despair, given a good summer perhaps you'll be complainging that your aquatic plants are growing too rampantly!

We wish you much enjoyment with your pond over the coming seasons.

KNOW YOUR FISH

Hamanishiki

Family: Cyprinidae
Scientific Name: *Carassius auratus*

Description: This Fancy Goldfish variety might be considered as a variation on the Bubble-Eye, the difference being that the 'bubbles' are on the top of the head as opposed to being beneath the eyes.

With the fish featured in the photograph, a further 'variation' is that the domed-shaped scales indicate that it is also a Pearlscale rather than a plain metallic variety.

Ideally, there should be two distinct separate growths on the head with no 'crinkling' as found in the wen of the Oranda and Lionhead.
Like most Fancy Goldfish 'Twin-tail' varieties, should be kept in an aquarium rather than an outdoor pond.

Star Fisheries

AMAZING FANCY GOLDFISH

Thank you to all the people who supported us at the Hayling Island Festival of Fishkeeping, we were very pleased to be part of this event.

During the last few months we have had many visitors to our new site in Lingfield, Surrey. The vast array of Fancy Goldfish on offer has left most people amazed at the quality, selection and condition of our fish.

In the middle of November we had the Practical FishKeeping magazine visit us. They took quite a few pictures and wrote some nice editorial, all going towards the March edition of their magazine. We were very pleased with the outcome.

We have a new shipment of Fancy Goldfish arriving from China shortly. These fish will go on sale around the middle of March. In amongst this shipment promises to be some more hidden gems.
The amount of fish on this shipment is actually more than the previous shipment in September.

I am hoping that the fish we selected out last year have grown on and over-wintered well as many fish was selected with great potential.

If you are interested in Fancy Goldfish then I am sure that you will be suitably impressed with probably the largest selection of Fancy Goldfish in Europe, all under one roof.

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ON THE ROCKS
WITH MALCOLM GOSS

Those that know me well can be excused from thinking I am talking about my favourite tipple. However when one is thinking about setting up a furnished aquarium, either as a show tank that every one will admire in the lounge at home, or maybe trying one's hand at the local Club's Open Show, the cost of it all can be overwhelming.

Up two hundred plants can easily be used to fill a two-foot tank. Then there is the fish, but you could take up some room with petrified wood, a form of bogwood, but this is very costly when purchased in large pieces. But rocks will last for ever when choosing right type but, once again, when purchased from your aquatic shop may be costly.

With an ever-increasing popularity of garden centres, rocks for use in landscape gardening as well as water gardening are on sale and you have so much more in choice.

I was in my local garden centre that had eight types of rock on sale plus large, medium and small boulders for sale. They may have looked a bit dusty and dirty, but you would need to well wash rocks or even petrified wood wherever you got it from.

Putting our chat on rocks to one side for a minute, it was quite a few years ago now that I entered a two-foot tank in the Furnished Aquaria Class at an Open Show. I had just moved from London to Buckinghamshire and as I walked through the woods I was overwhelmed by lovely looking tree-wood that just laying all around. I expected the wood I'd collected to float so I screwed lead to the underside. I set up my tank and all looked well.

In those days every one had to leave the hall whilst the fish and other entries were being judged. On my return I was horrified, I did not mind the water looking like tea, but all those creepy-crawlies were all over the wood, even underwater! I have heard of wildlife ponds, but wildlife tanks? Thank goodness you will not have this trouble with well-washed rocks.

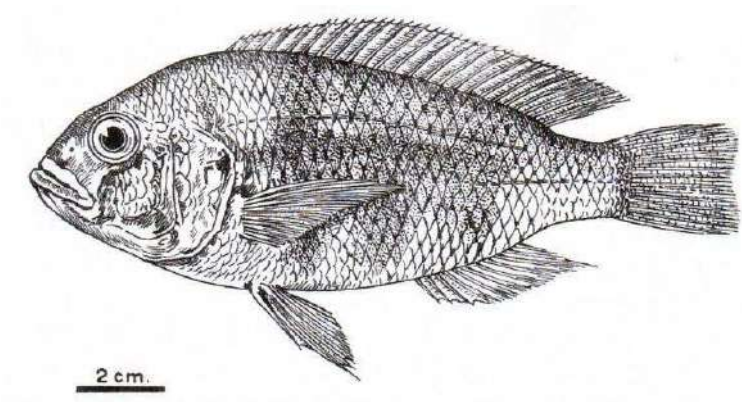
The price was £5.99 per piece of rock or two pieces for £10.00 a real bargain. Whilst they can be very large you can easily break them up when you get them home. Mauve, blue, yellow or even green plus that gorgeous slate. When you have some left over, although time consuming, try crushing it to be the size of aquarium gravel for a matching substrate. Then there are those boulders that are perfectly rounded, just the job as the backdrop for your Rift Valley set up.

When you have placed your rocks in the right places in the aquaria, plant by placing your plants around the back and sides, never in front or you will be hiding all your good work and the saving on plants will make your day - so now you can purchase the fish you *really* want!

WHITE PAPER

by

P .H. Greenwood



Haplochromis cronus

Holotype drawn by Miss D.Fitchew

Holotype. A female, 135mm standard length, from Buka Bay, Uganda.
Description, based on eight specimens, including the Holotype, 114.135mm standard length. Depth of body 39.5/43.5 % of standard length, length of head 30.3/34.6 %. Dorsal head profile strongly curved, with a well-defined but localized swelling above the anterior part of the eye. Preorbital depth 16.7/18.2 mean (M) 17.5 % of head length; least intertribal width 31.9/35.5 (M=33.1). Snout slightly broader than long, its length 31.6/35.7 (M=33.7) % of head; eye diameter 23.1/26.3 (M=25.2), depth of cheek 29.3/34.2 (M=30.1) %. Caudal peduncle 15.2/17.3 % of standard length, 1.1/1.3 (mode 1.3) times as long as deep. Jaws equal interiorly; lips thickened; posterior tip of maxilla not bullate and almost completely hidden beneath the preorbital, extending to the vertical through the anterior part of the eye. Lower jaw stout and deep, its length, 29.3/34.2 (M=30.1) % of the head, 1.2/1.4 times as long as broad.
Fins. Dorsal with 24 /25 rays, anal with 12 rays, pectoral fin shorter than the head; pelvic fins with the first soft ray produced and extending to the vent in females and to the anal fin in males. Caudal truncate, the rays noticeably coarse; densely scaled over about four-fifths of its length (a most unusual character in Lake Victoria *Haplochromis* species)

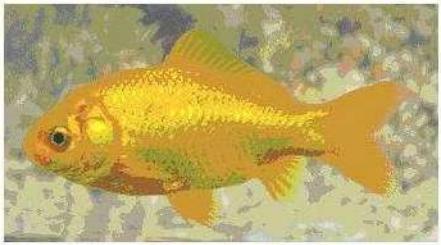
Colour of preserved material in adult females and sexually quiescent males. Ground colour dark golden above, lighter below, with traces of a golden-yellow flush on the operculum; a broad, mid-lateral strip of variable depth and intensity crossed by four of five broad but faint transverse bars on the flanks; a well-defined lachrymal stripe. Dorsal fin hyaline, with dark spots and bars on the soft part (probably deep red in life); caudal hyaline (densely maculate in males); proximal two-thirds of anal fin dark, remainder light; pelvic fins dark (black laterally in males). One of the three females available has a typical *"bicolour"* (piebald black and yellow) colouration, similar to that described in several other and apparently unrelated *Haplochromis* species and in two monotypic genera (Greenwood, 1957)
Sexually active male:. Dark brown above, sooty-grey below; transverse and lateral stripes faint except at their junction mid-laterally.
Dorsal fin dusky, the soft part maculate; caudal dusky and densely maculate; anal dark, except for its extreme tip and two colourless ocelli. Pelvic fins black on the lateral half and dusky mesially.
Distribution: Known only from Lake Victoria.
Ecology **:** *Habitat.* Five of the eight specimens are from an exposed beach habitat, one from the sandy littoral of a sheltered gulf, one from the mud-bottom sub-littoral of a sheltered bay and one from shallow water near a reed bed (no other data available). In no locality was water more than 20 feet deep.
Breeding: Two females were found with, in one, larvae and in the other, newly hatched embryos in the buccal cavity. Since the ovarian condition of these fishes was clearly "spent" it can be assumed that the young were the fishes' own brood and not prey.
Affinities: *Haplochromis cronus* belongs to the small group of deep-bodied, broadheaded *Haplochromis* whose adult size is 100/140mm standard length. The specialized mollusc-eating species *Haplochromis pharyngomylus* (Trewavas) and *Haplochromis ishmaeli* (Boulenger) may be cited as examples of this morph type. *Haplochromis cronus* differs from all other members of the group in having a densely and extensively scaled caudal fin. The species shows some affinity with *Haplochromis obesus* and *Haplochromis maxillaries,* forms which may have evolved independently from an *Haplochromis cronus*-like ancestor.

Ref: Revision of the Lake Victoria *Haplochromis* species (Pisces Cichlidae) Part 3 Vol. 5 No.7 The British Museum (Natural History) Zoology, London: 1959 P. H. Greenwood,

Note: The above is a shortened version of Dr. Greenwood's work edited by M. L. Goss. The full original can be found at the Natural History Museum in South Kensington, London.

VARIATIONS ON A VERY POPULAR THEME

COMMON GOLDFISH



LEMON GOLDFISH

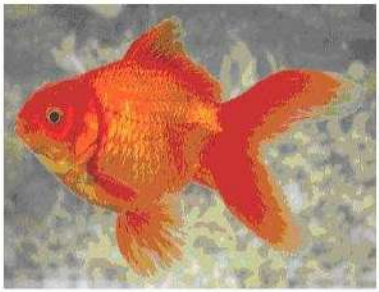
RED COMET

LONDON SHUBUNKIN

BRISTOL SHUBUNKIN

Ryukin

Nacreous Fantail



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NUISANCE ALGAE,
HOW CAN IT BE CONTROLLED?

by LES HOLLIDAY

One of the problems most aquarists have to face at one time or another is the scourge of nuisance forms of algae in the aquarium. Easily recognised but often difficult to control these types of algae, whilst often considered a sign of good health and balance in the aquarium can also be a warning that all is not well unless corrected quickly.

In fresh water aquariums there are two main groups of algae commonly found. The first Cynaphyta (Cynobacteria) more popularly known as slime or smear algae, is considered by many micro biologists to be a form of bacteria rather than belonging to the plant Kingdom as although it photosynthesises like a plant it has a cell structure which it shares with bacteria. Its descriptive common names aptly describe the manner in which this algae forms slimy or gooey mats of blue-green, black or red to maroon sheets. Its rapid growth enables it to quickly cover the substrate of the aquarium like an underwater oil slick and also quickly smother plants and rocks in its path.

The presence of Cynobacteria algae is an indicator of poor water quality as it is most common when there are high levels of dissolved organics in the water. Its not unusual, therefore, to find it growing in heavily polluted areas, rich in organics, such as sewer outfalls. In the aquarium Cynobacteria blooms may occur when an aquarium is initially set up due to the filter not fully functioning effectively and can also be a problem if any accumulation of organics due to, say, overfeeding later takes place.

The other remaining group of algae are the Chlorophyta, green algae which are true algae and related to higher plants. In microscopic form they cause the green water effect frequently found in ponds and rivers whilst the most common types in the aquarium are quite variable and include filamentous forms of algae, turf algae and the green growths which adhere to the aquarium glass.

As an aquarium matures any undesirable Cynobacteria forms are often displaced by rich growths of various types of the green algae as these are also stimulated by high nutrient conditions. Unfortunately green forms of algae are no easier to control as their equally rapid growth will also smother plants and disfigure the aquarium.

The only way to avoid an algae invasion, therefore, is to address the root cause (nutrients in the form of dissolved organic compounds) to solve it. Nutrients are commonly found in the domestic water supplies which can contain high levels of nitrates and phosphates which encourage nuisance algae to multiply unchecked but most organic nutrients are generated within the aquarium itself. The fish in the tank and any other life forms are the main culprits constantly polluting the aquarium with their waste products and slowly organics build up to undesirable levels. Even with good efficient filtration the nutrient load in the tank will tend to increase and many aquarists aim to replace 15-20% of the aquarium water every fortnight to help dilute this.

Other areas to keep an eye on in avoiding the deteriorating water quality conditions which give algae a foothold would include keeping within maximum stocking levels for your tank and with newly set up aquariums not stocking too quickly.

It's also very important to avoid overfeeding which can be extremely polluting especially if high phosphate containing foods are used. Using a low phosphate food like Nutrafin Max will help to minimise this particular problem.

There are a number of aids and water treatments you will also find useful. It goes without saying that regular use of a quality range of test kits is essential as a means of monitoring water quality and avoiding the risk of encouraging unwanted algae growth.

The Nutrafin series of test kits is ideal and the Mini Master Kit containing tests for Ammonia, Nitrate and Nitrite is a perfect choice especially if a Phosphate test kit is also added.

Phosphate is a nutrient which encourages algae when only in tiny concentrations, i.e. from 0.05ppm upward, and an early indication of the presence of this pollutant allows swift action to be taken. Within the Nutrafin water treatments range there are also several which can assist in algae control. When first setting up a tank for example, nutrients build up quickly during the filter maturation process and Cynobacteria algae often emerges early in the process as it is able to not only fix nitrogen from the nitrates produced but also will feed upon Ammonia and Nitrite.

Using the recently developed, increased concentration Nutrafin Cycle will, however, control the production of Ammonia, Nitrite and Nitrate during the maturation process and help minimise Cynobacteria growth. Similarly when the tank has matured it's possible to prevent the effect of water pollution due to fish waste and other decaying material by regularly dosing the tank with Nutrafin Waste Control which like Nutrafin Cycle rapidly depletes organic waste using especially chosen types of beneficial bacterial colonies.

In the past, algae was often controlled using chemicals which killed the algae without removing the cause of its flourishing growth. This kind of measure was, at best, only temporary and the dead and dying algae growth added additional nutrients that encouraged the algae to re-grow with added vigour.

This approach is now discouraged in favour of using adsorbent resins and compounds which reduce nutrients like phosphate and nitrate thus controlling the algae by removing its food source.

Often the best way to tackle the problem is to use a general wide range ion exchange resin such as Fluval Green X or Fluval Clearmax which trap phosphate, nitrite and nitrate principally as a means of reducing algae. Fluval Green X is offered in 4 gram sachet form and can be place in an external or internal filter or just hung in the aquarium. Fluval Clearmax is available in 100 gram bags and is intended for use as an external filter media for Fluval canister filters.

For really dramatic results in reducing phosphates and nitrates you might wish to consider adsorbing compounds from the Fluval Lab Series which have recently been introduced following years of research and development. Fluval Lab Series Phosphate Remover will dramatically reduce phosphate in hours and Fluval lab series Nitrate Remover eliminates nitrite and nitrate within 24 hours.

The best and most reliable way to combat nuisance algae has always been to keep water quality at the highest possible level but with the aid of the range of modern Nutrafin and Fluval products now available its easy to make an optimal improvement even with badly affected tanks.

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The area for Aquatic plant-lovers

Stratiotes aloides
Water Soldier

This very ‘seasonal’ floating plant has an interesting behavioural pattern – it rises in Summer and falls below the surface in Autumn.

The long fleshy, rather fragile leaves are edged with fearsome spines so careful handling is necessary.

White flowers are produced above the water surface but male and female plants usually grow in separate areas. In this event, young plants develop vegetatively from runners thrown out by the parent plant.

In a quirk of taxonomic confusion, a species of the water plant *Ottelia* was originally given the name *Stratiotes alismoides* – too close for comfort!

What is Fish Health?

Dave Hulse, Tetra Information Centre

Defining the concept of 'health' can be very tricky, generally, animals are considered 'healthy' if they are free from disease, however, disease is itself defined as a state of ill health! These circular definitions can lead to confusion so perhaps a closer look at the causes of ill health in fish may help to hone any definition of health.

Causes of disease in fish can be categorised into 5 major groups, firstly, environmental causes; what fishkeepers would call 'water quality' problems. All fish have environmental requirements, they have a water temperature, pH and hardness range they prefer, and differing tolerances for various natural and exotic pollutants. If the environmental requirements are not met or pollution tolerances are exceeded, then disease occurs.

The second type of disease is due to pathogens, infectious agents that can spread from fish to fish. Some are obligate pathogens that can only survive if there are susceptible fish around to infect, others are opportunistic, feeding happily on organic material in the water but switching to a pathogenic phase if the fish become susceptible. The link between environment and pathogen here is very intimate, fish that are weakened by adverse environmental conditions will become much more susceptible to these pathogens.

Thus the aquarist who is battling ammonia and nitrite levels in his fish tank will soon encounter pathogenic disease such as the dreaded White Spot parasite, *Ichthyophthirius multifiliis*.

Diseases of environmental origin are without doubt the most commonly encountered by aquatic professionals and hobbyists alike.
Pathogenic disease often arises as a consequence; other causes of disease can be much more esoteric and less regularly encountered. An awareness is still vital to anyone with an interest in fish health and welfare.

Many diseases can have their root in malnutrition, fish can be fed incorrect levels of proteins, fats or carbohydrates, but more commonly it is an imbalance of micronutrients such as vitamins and minerals that lie at the heart of the problem. The most commonly cited example is a deficiency of ascorbic acid - vitamin C, this anti-oxidant agent is vital for many biological functions not least collagen manufacture and many elements of immune system function.

Fish show repeatable symptoms of deficiency if not enough is provided in the diet. Ensuring enough of this vitamin reaches the fish is complicated by the water-soluble nature of the vitamin and its inherent instability in dry fish foods. Food manufacturers therefore add stabilised forms of vitamin at elevated levels to ensure the required amount reaches the fish.
Avoiding food past its sell by date is a reliable way to avoid vitamin C deficiency in fish.

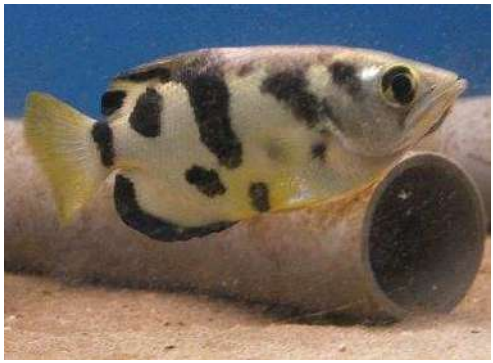
Disease can also have its root at the genetic level; genes are sequences of the genetic material that code for specific proteins, these then form the builders and building blocks of the fish. Just as typographical errors can be made in a sentence, errors in the sequence of base chemicals in the genetic code lead to mistakes in the protein produced.

These mutations are often harmless causing no visible or physiological effect in the fish; occasionally the error has a consequence. This can lead to disease in should this alteration of essential protein structure mean it is no longer be able to perform its role in the complex body system of the fish. We should also remember though that it is this mutation that gives us the infinite variety of life.

As more research into fish behaviour and welfare is conducted, it is becoming more apparent that the psychological well-being of the fish is just as crucial as good water quality, diet, genetics and the absence of pathogens.

Aquarists have known for years that behaviour is a key player in fish health, fish stressed by aggressive attention from a socially dominant tankmate or breeding partner soon succumb to infectious disease.

Even too much attention from humans (banging on the glass!), can weaken timid fish. However psychological well-being extends much further than the fish not being bullied or scared. ‘Environmental enrichment’ is a hot topic among many animal husbandry professionals; this can be defined as the provision of environmental stimuli to encourage physical and mental activity.



Examples of environmental enrichment in the ornamental fish world include target training Archer fish (*Toxotes jaculatrix*) or puzzle solving for a food reward in Common Octopus (*Octopus vulgaris*), more recently a goldfish training kit has become available on the Internet!

At a much more simple level the provision of décor to offer cover, gravel or sand for benthic species, flow for riverine species or the correct spawning substrate would also be considered environmental enrichment, because these make the habitat more conducive to allowing the fish complete its natural behavioural repertoire.

It is only through cutting edge welfare research involving monitoring stress markers such as catecholamine and corticosteroid hormones and endogenous opiods (natural pain relief chemicals), that the importance of the fish's psychological well-being will become apparent.

So let's return to our original definition of 'health' as an absence of disease. Disease symptoms are caused when the fish's environmental requirements are not met, when pathogens infect, when the diet is incorrect, from a genetic origin or when the fish's psychological needs are not met.
Thus when appraising the health of our fish we must consider all of these factors.

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Avoiding the Club Crunch

I am sure we are all aware of the credit crunch over the last few months and this can have a real effect on your Fish Club. While we all are counting any last amounts of change we may have, it is also having an effect on the cost of going to Club nights.

Over many years now, we have seen Clubs close down mainly due to poor support by members not attending Club meetings. With Clubs closing down those of us who are out and out enthusiasts often have many miles to travel to reach our nearest Club. All too often, Club Committees see their membership slowly decreasing and hope it will increase by itself, till they find there is only three of them sitting and saying “What can we do?”

So often this is all too late, even if a new face walked into your meeting place they would walk out again, that ‘failed look’ would have been seen all over your faces.

So, with the credit crunch things could get worse for Clubs. With higher heating bills and running cost, owners of halls that you are having your meetings in will have to charge more. Whether they belong to the Church, Scouts or local authorities they will have to meet their extra cost by charging your Club more in rent.

So do you put up the membership cost? Even though your Club members may well understand, will they keep turning up to your meetings? Maybe now there is so few of us we could hold our Club nights at a member's house? This all right if you do not want any new members. Even if that's OK for the others in the house at the time, holding your meetings can cause a strain on relationships.

Are you holding your meetings, weekly or fortnightly? Why not try monthly? Straightaway you have slashed costs by half in rent. Many Clubs I know already have once a month meetings and still feel if they pass on extra costs in membership fees they will lose more members. Instead of throwing in the towel, think seriously about quarterly meetings, possible on a weekend day in the afternoon (Sunday well may be best). I can hear you saying "Members would forget and give up coming."

So start, and be positive. Only four meetings a year will give you the chance to book Speakers from far and wide, giving them time to travel. When booking a Speaker ask your local shops to put up a poster. This will have to be done with good artwork and no spelling mistakes, otherwise you will not get the chance again!

Start up a good Newsletter or Club magazine with good help and advice for novice aquarist. These to be given to all members when they attend the meetings to save post, but you will have to post the rest. Run free advertising for those shops that put up your poster, showing that your members support their shop. Run a website in conjunction with the Club magazine stating your meeting place time, and who is your next Speaker.

A 'must' is to have a 'Plan B' for the time when your speaker does not turn up. A set of slides plus a member who will stand in is essential, if you want your members and visitors to attend the next meeting.

You may well find with an afternoon meeting, plus a good Speaker, it will mean aquarists will travel longer distances. Now is your Club's chance to lay on food etc and make some more money but don't forget to advertise this also.

Your meeting may well start at 2pm with members and guests arriving and enjoying a good chat with friends over tea/coffee and eats. Now while they are feeling good, it's your chance to hand out the Club's quarterly magazine and sell those important Raffle tickets.

Why not start the first half of your meeting with an FBAS DVD taking approximately 30/40 minutes to watch. After you could always put it towards the Raffle prizes. When you have played it try a quick tea break and then on to the main Speaker. Then draw the Raffle, using your Speaker to pick the winning ticket, and finish by thanking all those that attended and tell your audience what's on at the next meeting.

We wish you the very best of luck.

HOW TO PUT PEOPLE OFF

By not speaking to a new arrival at your meeting.

By asking a possible new member if they would like to be on the Committee - after their 2nd visit!

tank By not taking an interest in the fish or the aquaria they may have.

By getting over-technical with a new member, making them feel "Club life is not for me."

Don't keep harking back to the 'Good Old Days' of fishkeeping.

HOW TO ENCOURAGE PEOPLE

When you are talking to a new member about fish, use cornmon names, as scientific names will make them feel insecure.

A new member is valuable to your Club, whether they have one or twenty.

If new members wish to join in with Club activities don't push them out.

Don't leave the newcomers out when exchanging Christmas Cards just because you feel you don't know them that well.

HOw A GOldfISH CAllEd GINgER lIvEd Out Of wAtER

As reported in the Daily Mail on the 29th December 2008

When this Goldfish leapt out of his bowl and onto the floor in the middle of the night, things looked bleak for Ginger the Goldfish. But astonishingly this fish managed to survive for more than 13 hours.

The owner Barbara Woodward had been distraught to find him lying motionless behind a cabinet at 8am. Unable to shift this heavy piece of furniture, and convinced he was dead, she left for work.

But when Barbara returned from work at 8pm she was stunned to see him flapping around on her living room floor. Barbara quickly rushed for a wooden spoon from the kitchen to scoop him up, then dropped him safely back into his bowl.

As most fish keepers know, Goldfish would normally only survive possibly up to ten minutes out of their natural environment. Mrs Woodward, living in Gloucester with her Goldfish, said "How Ginger survived so long, I will never know."

Feeding pond fish is, or should be, more than just strolling along the edge of the pond randomly scattering handfuls of food over the water surface.

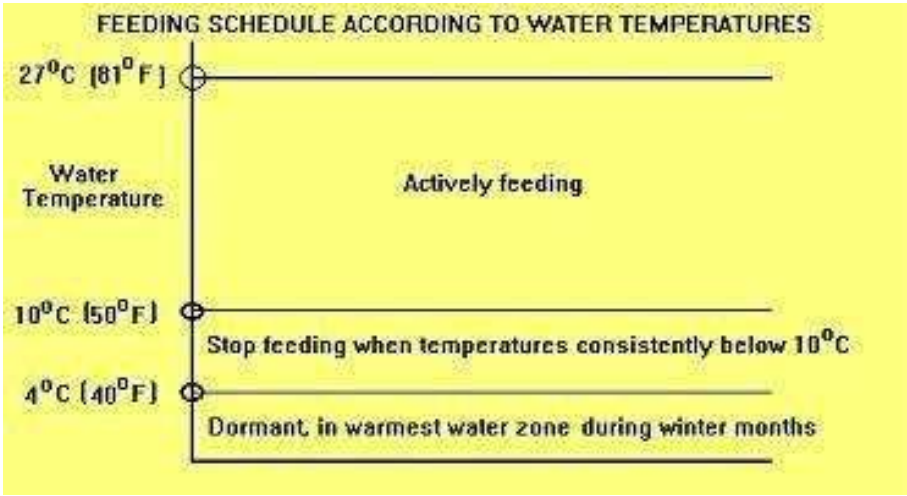
For one thing, it is the only occasion when the pondkeeper is likely to see all of the fish together at the same time; it is therefore, an ideal opportunity to do a 'head-count' of the fish and, whilst they are up at the surface and within easy eyesight range take stock of their condition. From your high vantage point, it is easy to see from their plump flanks whether any of the females are full of eggs ready to spawn; you may even be able to spot the small white tubercles (pimples) on the gill-covers of the males - another clue to imminent spawning activity.

You should always give the correct amount of food (we'll get on to what types of foods presently), as any careless hand-broadcasting of indeterminate amounts will lead to trouble. Staying nearby whilst the fish feed enables you to see just how much food they eat: fish are peculiar creatures in that they take in food almost ravenously, as though they haven't eaten for weeks, and then often spit it out again.

Very often they do swallow the food but, if they do not actually need it, pass it straight out undigested back into the pond water; this unprocessed food promptly sinks to the pond floor to begin decomposing and to pollute the water. Of course, the same thing happens to food left untouched - the pond water is at risk from pollution and you've wasted money unnecessarily. Remember too that floating foods, be they flakes, sticks or pellets offer you the facility of gauging how much to give, fast sinking foods soon drop from sight and you never know quite what their consumption rate is.

When to feed

Taking into consideration the last comments, there is no point in giving fish food when they don't require it - another instance, but less recognised as such, of 'overfeeding.'



Generally speaking, pond fish become less active when water temperatures drop below 10°C (50°F) and another 5°C (10°F) renders them practically dormant. Adding food to the pond in the first warm day of Spring will only help to feed the algae and blanketweed. A further sign when to begin feeding is, of course, when the fish become active on a regular daily basis, rising up through all the water levels - the warmest water in the pond in winter is at the bottom so, until the rest of the water has warmed up, the fish won't venture too far from this zone.

During late autumn, when ambient, and water temperatures start to fall there is a lessening of fishes' appetites and so feeding can stop once water temperatures remain consistently below 10°C; adding food at this time of year is asking for trouble: firstly, partially digested food remaining in the fish can cause internal problems; uneaten food causes water pollution and adds unwanted nutrients - which provides algae with their initial food ready to turn the water green at the first sign of sun early in the following Spring.

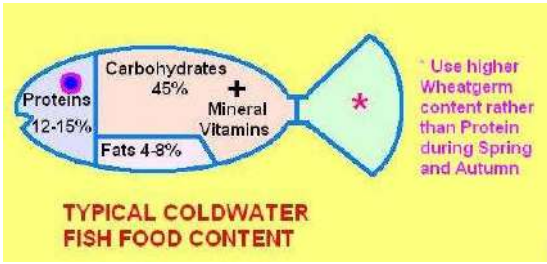
How much to feed

Although the majority of pond fish have no stomachs, and feed and digest on a constant 'production line' basis, feeding twice a day is generally the accepted rule, although on warm days (when food is digested more quickly due to the fishes' increased metabolic rate) small, more frequent feeds are permitted - obviously, a pinch of food when you visit the pondside won't do any harm. It is better to err on the underfeeding side of things: it is a rather inaccurate science trying to gauge just how much food a pond fish needs to be given. During the 'season' (April-October, given a normal climate) there will be plenty of natural food in the pond for the fish to hunt and browse upon. This food includes all manner of waterborne larvae - gnat and midge larvae, Water Fleas (*Daphnia*), Bloodworms, Frog Tadpoles as well as any flying insect that may alight on the water surface!
We may also be completely oblivious to wind-borne seeds and small fruits that may well form part of a pond fish's diet.

The above comments apply to a fully-mature pond. A newly set up pond won't have any well-established plants to provide home for insect larvae or other water-borne aquatic creatures; no soft green algae will be available for the fish to browse upon. In this instance, regular feedings must be carried out but with the proviso that only as much food as will be completely eaten within five minutes is given.

Automatic feeders ought to be able to sort out exactly the right amounts of food but, apart from denying us the pleasure of seeing our fish eating, there are one or two drawbacks in their use. They take no account of the weather which means they continue to feed the pond on both hot and cold days regardless of how the fishes' appetites vary according to water temperature. Loading the food hopper with flake food is just 'feeding the birds' if the wind gets up whilst you're at the office! Manual feeding is instantly adjustable - switch to heavier pellets rather than flakes on windy days.

What to feed



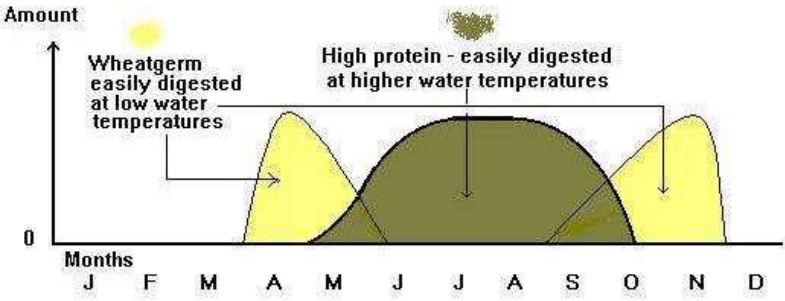
The majority of foods are well-researched and formulated with every mineral, vitamin and trace element a fish could wish for but, just as we would tire of a repetitive, albeit high class, diet, some variation is desirable.

Fortunately, ringing the changes with the major brands not only brings in different flavours but changing formats - flake, stick or pellet - also presents the food to the fish in a different manner.

Most active fishes will have no difficulty in taking floating foods or any that falls slowly through the water; for bottom-dwelling fishes, such as Tench, then using fast-sinking pellets or granular foods will ensure that they do not lose out.

FOOD	TYPE	SUITABILITY	SPECIES
Sticks	Floating	Surface-feeding fish	Goldfish, Koi, Orfe
Flake	Floating/ Slow-sinking	Surface-, mid-water feeders	Goldfish, Orfe, Rudd, Koi, Sunfish
Pellet	Floating/ Slow-sinking	Surface-, mid-water feeders	Goldfish, Orfe, Rudd, Koi, Sunfish
	Fast-sinking	Bottom-feeders	Tench, Koi
Granular	Fast-sinking	Bottom-feeders	Tench, Koi

The importance, to some fish, of a vegetable-based food cannot be overstressed; foods containing spirulina, a natural algae, are said to promote health, vigour and to enhance colours.
Specially-prepared foods for Goldfish and Koi are formulated to provide resistance against disease, promote spawning, highlight colouration and so on. One very important time of year is the autumn when fish are preparing themselves for the cold winter months during which, as we have seen, they will not feed.



DIGESTIBILITIES OF PROTEIN AND WHEATGERM
AT VARIOUS SEASONAL WATER TEMPERATURES

In order to lay up layers of fats and foods within their bodies, Koi should have their diets changed from the usual 'staple food' of summer to one high in wheatgerm content during the autumn. Wheatgerm is more easily digested, especially at cooler water temperatures.

Not all pond fish food comes from a packet: there are many extra foods that the fish will take. All of the live foods obtainable at the aquarium shop can be given; *Daphnia*, Bloodworms and *Tubifex* are commonly available although many fishkeepers prefer to give freeze-dried, or frozen, versions of these foods to avoid any possibility of introducing disease. Earthworms are an excellent food and any Aphids that you can collect from garden plants (not from those exposed to chemical deterrents) can be fed to the fish too.

TIME TO GET YOUR BULBS IN!

It has been in the news of late that due to new EU Regulations we must all change our 100w tungsten light bulbs to the new "energy -saving" bulbs.
A local shop that sold on average 6 in one week, after this news has announced it sold all of their stock of six hundred within a few days!

For me, two 60w tungsten bulbs under my aquarium hood has always worked wonders for my *Echinodorus* Amazon Sword Plants.
So, if you still use tungsten bulbs, and want to keep on using them, buy all you can now - they're being made until October 2009, not much time left.

If you use a source of lighting that has successfully replaced your old tungsten bulbs, or feel these EU Regulations are going too far, email us now.

Have you spotted any of these at your aquatic dealer's?

Spring sees the start of the coldwater system and here are some pond-related products to consider.

Tetra obviously sees a long-term coldwater season, as its new pond care products encompass the whole 'life ' of a pond from setting up (use **FilterZym** to quickly establish the filtration system), through the early days of possible ammonia peaks (**AmmoniaSafe**), keeping the water re-vitaminised and in tiptop condition (**WaterBalance**), maintaining water clear of suspended particles (**CrystalWater**) to finally reducing organic sludge build up (**SedimentMinus**) if you do inadvertently let things go too far.

Topping up the pond water is safeguarded too by treating all new water with **AquaSafe.** Doubts about your pond water quality can be quickly checked by means of the **Tetra Pond Test Set.**

Blanketweed and Green water problems are easily dealt with using **AlgoFin** and **AlgoRem** respectively, whilst **PhosphateMinus** ensures that algae-promoting nutrients are kept at bay too.

Good, competitive aquatic plant development is essential in keeping algae growth down and **PlantaMin** will encourage lush healthy plant growth; should your fish contract disease then **MediFin** is a simple broadband remedy for the most common pond fish diseases.
Details available at www.tetra.net

Just how frustrating can a leaking pond be? Even finding the actual leak itslef is bad enough but reparing a tear or hole can seem well-nigh impossible.

Gold Label pond repair products have most eventualities covered from leaking pipes to holes in liners. What's more, the **Underwater Sealer** bonds to a wide range of surfaces and when used with the **Pond Liner Patches** (available in three sizes) can rectify most underwater leaks in almost any type of pond installation.

Gold Label Aqua Pond Paint (available in 2.5 or 5 litre buckets) needs no primer, two coats are generally enough and it can be applied to 'damp' surfaces.

Details available at www.huttonaquaticproducts.co.uk

Fancy a planted island in your pond? **Islandscapes** from **Freedom Ponds** are floating 'mats' into which you can plug your favourite flowering plants. A weight tethers the island in position in the pond to prevent drifting from wind or water action.

Details from **www.freedomponds.com**

Troubled by herons?

This **Pond Guard** from **Velda** could solve your problems. A sensor detects the heron's pondside presence and triggers flashes of bright light and also emits sounds of Predatory birds.

Yes, we dare to mention the B-word – Blanketweed, because we have found another cure for it.

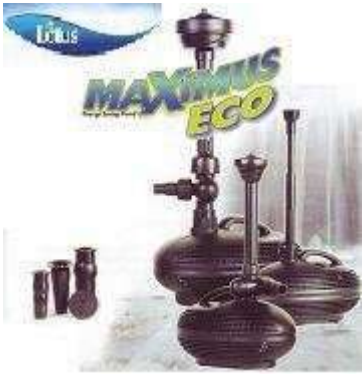
The floating **Xterminator** from **Total Pond Solutions** uses electric current (from a sfae, low-voltage supply) to strip copper from the sacrificial anode and then these microscopically small copper ions are then distributed by water movement throughout the pond to be absorbed by the blanketweed which is then destroyed.

Overdosing is impossible and the Xterminator is only used for specific periods of time, depending on pond size. The comprehensive instruction chart gives operational times for several sizes of pond; at the end of the treatment period the Xterminator can be removed from the pond and stored until the next time blanketweed threatens.

Details available at www.thexterminator.com

Ready for 2009 is the **Maximus Eco** range of pond pumps from **Lotus.**

Ideal for running a filter system, waterfall or fountain the eight model Maximus Eco range incorporates high performance using new low energy motors. The stylish design features wrap-around filter housing and is anti-clog and foam free.

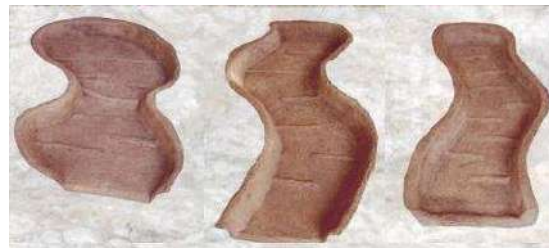


The **Green Genie Triple Kit**, also from **Lotus**, comprises a Biological Filter, Ultra-Violet Purifier and the renowned Otter Pump.

The upgraded 15000 Pro Triple Kit also incorporates a back-flush facility and a combined 'Wet & Dry' system.

Either system guarantees clear water when the correct system is installed for your particular size of pond.

Do you fancy a change from waterfals, cascades and fountains? Why not consider the more tranquil feature of a **Ripplestream,** from **Atlantis,** meandering across your lawn?



Available in three sections, an attractive shallow stream can be easily created using the minimum of excavation; it's up to you to decide the flow rate which can be varied between a gentle, slow-flowing ripple up to a racing 20,000 litres per hour.

Their natural colour will blend into the garden quite satisfactorily but you can add extra dressing in the form of gravel, pebbles or paddle-stones as you so desire. Needless to say, with their minimal water depth, this is one water feature that is child-safe.

Details of all OAL products at **www.oalwatergardens.com**

SHOW & EVENTS DIARY

(full details can be found on FBAS website **www.fbas.co.uk**)

N.W.CICHLID GROUP AUCTION	1st March
FBAS GENERAL ASSEMBLY (tel:01424 431016)	7th March
FAIR CITY A.S. TALK & AUCTION by Ian Fuller	8th March
SHEAF VALLEY AUCTION	9th March
A of A/SCCRS AGM & TALK	14th March
CASTLEFORD A.S. AUCTION 8pm (tel 01977 730754)	15th March
CATFISH STUDY GROUP SPRING AUCTION	15th March
CATFISH STUDY GROUP CONVENTION	20-22nd March
GOLDFISH SOCIETY OF GREAT BRITAIN AGM	21st March
ASHBY F.S. OPEN SHOW & AUCTION (YAAS RULES)	29th March
MID-SUSSEX A.S. OPEN SHOW (tel: 01903 755940)	5th April
ROBIN HOOD A.S. OPEN SHOW (YAAS RULES)	5th April
KIRKALDY A.S. OPEN SHOW & AUCTION (USA RULES)	12th April
CASTLEFORD A.S. AUCTION 8pm (tel 01977 730754)	15th April
BRITISH CICHLID ASSOCIATION SPRING CONVENTION	19th April
CATFISH STUDY GROUP BAP Reports & Discussion	19th April
OLDHAM A.S. OPEN SHOW & AUCTION	19th April
STROOD A.S. OPEN SHOW (01634 389362)	19th April
AMERICAN LIVEBEARER ASSOCIATION CONVENTION	23-26thApril
RYEDALE A.S. OPEN SHOW & AUCTION (YAAS RULES)	26th April
GR MANCHESTER CICHLID SOCIETY AUCTION	26th April
HOUNSLOW & D.A.S. SPRING BRING 'n BUY 8pm	29th April
CATFISH STUDY GROUP 'Catfish Health'	17th May
GLENROTHES A.S. OPEN SHOW & AUCTION (FSAS RULES)	17th May
TONGHAM OPEN SHOW (A of A RULES)	17th May
AQUARAMA Suntec Centre, Singapor	28th – 31st May
A of A AUCTION	31st May
STAMPS OPEN SHOW & AUCTION	31st May
FBAS GENERAL ASSEMBLY (tel:01424 431016)	6th June
BKA - MIDLAND CHARITY AUCTION	7th June
SHEAF VALLEY A.S. OPEN SHOW & AUCTION (YAAS RULES)	7th June
BRACKNELL A.S. OPEN SHOW (tel: 01344 452483)	14th June
WORKINGTON A.S. OPEN SHOW & AUCTION (FSAS RULES)	14th June
CATFISH STUDY GROUP 'Catfish Habitats'	21st June
UNION OF SCOTTISH AQUARISTS OPEN SHOW & AUCTION	21st June
BRISTOL TROPICAL FISH CLUB OPEN SHOW	27th June

FBAS MIDDLESEX OPEN SHOW	5th July
N.W.CICHLID GROUP AUCTION	5th July
Y.A.A.S. OPEN SHOW & AUCTION (YAAS RULES)	5th July
PORT TALBOT & D.A.S. OPEN SHOW & AUCTION	18th July
CATFISH STUDY GROUP 'Migration in Catfish'	19th July
SOLWAY A.S. OPEN SHOW & AUCTION (FNAS RULES)	19th July
NE GOLDFISH SOCIETY OPEN SHOW (IGS RULES)	19th July
SCCRS OPEN SHOW (A of A RULES)	26th July
GR MANCHESTER CICHLID SOCIETY AUCTION	26th July
FRIENDS OF YORKSHIRE OPEN SHOW and AUCTION	9th August
CATFISH STUDY GROUP 'Setting up Catfish Aquarium'	16th August
PERTH A.S. OPEN SHOW & AUCTION (FSAS Rules)	16th August
CASTLEFORD A.S. AUCTION 8pm (tel 01977 730754)	19th August
THREE COUNTIES SHOW (A of A RULES)	30th August
FBAS GENERAL ASSEMBLY (tel:01424 431016) TW8 8NT	5th September
BKA CONVENTION	11-13th September
SCOTTISH AQUARIST FESTIVAL OPEN SHOW	13th September
SHEAF VALLEY A.S. AUCTION 8pm Pre-booked Lots only	13th September
HOUNSLOW & D.A.S OPEN SHOW	19th September
NTN G/FISH & PKPRS SOC OPEN SHOW & AUCTION	19th September
CATFISH STUDY GROUP OPEN SHOW & AUCTION	20th September
FAIR CITY A.S. OPEN SHOW & AUCTION (USA RULES)	27th September
KAAS OPEN SHOW & AUCTION (tel: 01634 221291)	27th September
GR MANCHESTER CICHLID SOCIETY AUCTION	4th October
FBAS FESTIVAL OF FISHKEEPING Hayling Island	9-11th October
SHEAF VALLEY A.S. AUCTION 8pm Pre-booked Lots only	12th October
BASINGSTOKE A.S. OPEN SHOW (A of A RULES)	18th October
CATFISH STUDY GROUP 'Plants for the Catfish Aquarium'	18th October
KIRKALDY A.S. AUCTION	18th October
BKA West London AUCTION	1st November
N.W.CICHLID GROUP AUCTION	1st November
CATFISH STUDY GROUP AUTUMN AUCTION	15th November
CASTLEFORD A.S. AUCTION 8pm (tel 01977 730754)	18th November
SCCRS AUCTION	22nd November
FBAS GENERAL ASSEMBLY (tel: 01424 431016) TW8 8NT	5th December
CATFISH STUDY GROUP CHRISTMAS MEETING	13th December

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