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Dear Reader

It is with great pleasure that I can announce that Dick Mills has joined FISHWORLD as Features Editor. Dick will be responsible for all editorial copy; I would therefore appreciate it if you would kindly send your articles to him for inclusion in the magazine.

I will be taking care of the advertising and layout, which includes your small quarter page adverts giving details of your "Fish Show" (subject to space availability).

The final details are now in hand to ensure the success of the Federation's "Fishworld '93" exhibition at SYON PARK, Brentford, Middlesex, 12-13th June. Many specialist Societies will be there, including one or two club displays - all will have an educational theme. On the Saturday 12th June there will be a Specialist Society COLDWATER Fish Show organised by SPASS.

It is also the 25th year celebrations of the Park's Garden Centre opening - I hope that the first 1,000 customers through the turnstile will each receive a free plant in a commemorative wrapper. Bands will be playing outside Syon House. On the Sunday morning, between 8.00am and 10.00am will be the start of the London to Brighton Classic Car Rally.

Peter A. Fuzze

Peter A Fuzze, EDITOR

Material for the next issue of this magazine should be in by the 16th July 1993, and sent to: The Editor, Fishworld Magazine, 9 Upton Road, Hounslow, Middlesex TW3 3HF
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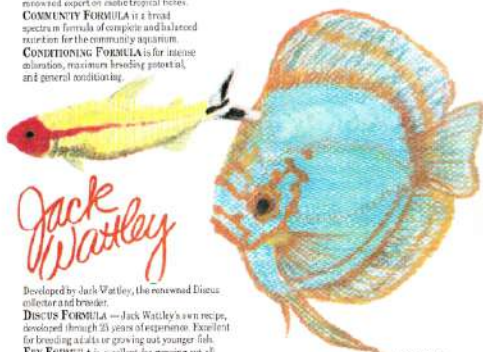
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FROM ...



your Chairman

By the time this Magazine reaches you, "FISHWORLD '93" will be imminent.

I would like to thank all those who have put in so much hard work to ensure that the day will be successful.

I would also like to thank the trade for supporting the Federation in an event which, for many of them, is a first. The shows they normally attend being indoors — this outdoor venue, I trust, will bring them great success.

The Federation has an exciting year ahead and I hope you will all be part of it.

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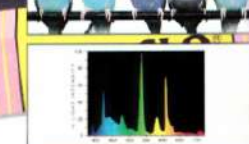
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WHY DO PEOPLE KEEP KOI?

by Nick Chapple of Koi Water Barn

Most people if you ask them why they keep Koi will stare at you blankly and say "Well, it's my hobby". If you press them further as to what they get out of their hobby, you will get very different answers. Most people think that keeping Koi is different to keeping any other type of fish, either coldwater, tropical or marine. There is a fascination about them. The way they move through the water, the colours everything. It is very hard to define but we will give it a go.

Starting in the subconscious mind, fish, in dream imagery, are symbols of power. This may be why so many men keep Koi. Without a doubt it is a predominantly male hobby. In their natural environment Koi look so strong and in control.

The Japanese honour Koi (which are also known as the Samurai fish because they are so strong) one day a year during their National Holiday of Golden Week, on Boy's Day. Male children in past years have been the more important to the Japanese family than female children (obviously that is changing now). The Japanese attribute the qualities in Koi that they would like their boys to have. These are, courage (cut them and they do not flinch), lack of fear and grace. Koi also means love in Japan. You may have seen the brightly coloured Koinobori flying in the wind. A common symbol of Japan.

However, most people do not consciously consider any of this when they start keeping Koi. People have only been able to keep Koi over the last 25 years because of the increase in speed of air, road and rail travel. Our world has changed significantly in the last 25 years also. People have more leisure time and more disposable income for hobbies. Our towns and cities have become more built up with less green, open space and our gardens have become very important to

us. We, like the Japanese, try to create a little view of the world in our own back gardens. It doesn't matter how small our gardens are. Water, especially moving water, adds a different and exciting dimension. The sound of a waterfall or fountain on a summer's evening is very relaxing and a lovely sound to go to sleep to.

Many people have a fascination with keeping the water good and keeping the Koi in it is an added bonus. They like having to pull standpipes and drains, hover the pond and play with valves and pumps. Maybe this pertains to when we were children and all loved playing about with water.

Other people are attracted to the science of keeping Koi. Water quality becomes a matter of personal pride and ammonia and nitrite tests are a weekly (or even daily) vigil. An understanding of how your little part of the world works can be of immense satisfaction and then even minor disasters can be seen in view of a learning experience.

Other people enjoy the challenge of improving and keeping Koi. The colours and patterns on Koi change until they reach a peak and then they stay at this peak for some time and then go downhill in colour and pattern only. Fish, however, can reach their peak at any size from 4" — 34". So, serious hobbyists get a real buzz from buying fish called "otegoi" which basically means fish that have not reached their full potential in terms of colour and pattern and therefore might improve. People get much satisfaction from watching a small Koi develop and improve over the years, especially as they could increase in value.

Another attractive aspect of keeping Koi is that there are many Koi clubs in the U.K. and this allows like-minded people to meet, discuss ideas and exchange

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Why do people keep Koi?

information about their favourite hobby. Many people have found new friends in keeping Koi to share their love of Koi with and as a social bonus enjoy visiting other people's ponds from other parts of the country to admire and envy other people's collections.

The Koi clubs themselves often organise shows and many people enjoy the excitement of showing their Koi. The early start, catching your fish, bagging it up and taking it to the showground, watching the fish being benched (that means classified in to variety and size) and the shocks and disappointments of the judging, all make for an exciting and rewarding day out.

However, most people who keep Koi do it for the love of the Koi themselves. In Japan the proper name for Koi is Nishikigoi, this literally translated means 'brocaded coloured carp' but no one can

deny that these really are "living jewels".

In the more simple terms, most people keep Koi because they are beautiful creatures with an array of dazzling colours. They are pets we keep in the garden which become responsive to their owners, which hand feed and are definitely relaxing. Have you ever wondered why so many doctors' surgeries or dentists have fish in their waiting rooms? Well the simple reason is that watching the fluid movement of the fish swimming lowers the heart rate, so they calm us down after a hard day and reduce our stress levels. What could be better than sitting round the pond on a summer's evening after a hard, sweaty day at the office with a gin and tonic watching the fish and listening to the sound of the water and the birds.....Heaven!



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The Pathogens of Fishes

PART II of a series by Dr. David Ford, Aquarian Advisory Service

Substances

The non-living pathogens are toxic substances, usually chemicals, that cause massive fatalities in fish, a condition all too common in this modern World.

The sensitivity of fish to chemical pollution is well documented. This kind of research is carried out by the Ministry of Agriculture, Fisheries and Food, the Water Research Centre, the Freshwater Biological Association and similar bodies in other countries. Publications such as 'The acute toxicity of 102 pesticides and miscellaneous substances to fish' in Chemistry and Industry (1975) are well-known data referred to by scientists in this kind of research.

Other conditions causing pathogenicity include acidosis and alkalosis. The majority of freshwater fishes accept water in the pH range 6 to 8, marine fish pH 8 to 8.5. In low pH (acidic) water fish show distress by swimming rapidly and trying to jump out. Death is rapid below pH 5 and the fish dies in a natural position.

In alkaline waters of pH 9 or more, the fish become lethargic and develop frayed fins and a translucent skin. The fish die in an unnatural position.

There are so many toxic substances pathogenic to fish it is impossible to list them, but the following are the most common ones met by the ornamental fishkeeper.

Free Chlorine

To kill off any bacteria in drinking water, the waterboards add chlorine to a level of 0.2ppm. If necessary, this can be increased but at 0.4ppm the chlorine is noticeable as an odour when the tap is turned on. 0.2ppm is acceptable to most species of fish, but at 0.4ppm the chlorine will destroy gill filaments so the fish cannot absorb oxygen properly and is

condemned to die some hours or even days later. Never use fresh tapwater if the smell of chlorine is noticeable. Age it, boil it, or add a dechlorinator even if the water is only used for partial changes.

Metals

Copper is deadly but it is not present in water from domestic copper pipes despite the warnings in every beginner's book on fishkeeping. There may be a trace from brand new pipes but a short flushing will remove this.

There is an often published method of killing snails using a battery and wires dipping into the tank. It is not the electricity that kills the snails but the Copper that dissolves in the water from the wires. There is too fine a dividing line between killing snails and killing fish for this method to be recommended.

The greatest danger to fish from metals is in the marine aquarium because seawater will dissolve most metals whereas freshwater will just leave what is called a passive coating (an oxidised layer that stops further chemical activity). That is why Aluminium can be used as a hood in the freshwater tank but must never be used over the marine tank. Lead too is very poisonous in solution but the passive layer allows its use as a weight in freshwater, but again, never use in seawater.

Iron is tolerated at quite high levels, this is why the old fashioned rusting metal framed tanks did not harm, other than to spring leaks!

Zinc is deadly, so never use Zinc baths for fish (such as the old fashioned water tanks in lofts) or use brass fittings with their zinc and copper content.

Research has shown that even the common metal ions like Sodium,

The Pathogens of Fishes

(continued)

Magnesium and Potassium can be toxic to fish in excess. These elements do occur in nature but the ever present Calcium in natural waters has the effect of neutralising the metal ions' toxicity. That is why Lime can be added to ponds without harming the fish (to neutralise acidity or encourage algal growth for Carp) because Lime is a salt of Calcium. This is also the reason why Permutit and similar domestic water softeners must not be used in fish tanks. They replace Calcium with Sodium, so the water does not react with soap, making it feel 'soft'. Removing the Calcium takes away the fish's protection and the increased Sodium can then be toxic. To soften water chemically it is essential to use an ion-removing resin, not an ion-exchange resin. If the resin is rechargeable with brine it is unsuitable.

Airborne toxins include aerosol sprays — don't use them near tanks, not only insect killers but cans of polish or airfresheners.

Cigarette smoke is a killer (for everybody) which can concentrate nicotine and tars in the water by bubbling smoke or through the aquarium via the airpump. If you can't give it up, place the airpump elsewhere and run a long airline tube through the wall or window frame.

Pond Pollution

Never use garden sprays near the pond. Weed killer is deadly to fish, and insect sprays or combined feeders and treatments for roses etc. If the pond is on or near a lawn where commercial spraying is done, the slow water change technique is useful. Arrange for the pond to overflow at some point where it is not a problem to soak away. This should be surface flow so the top water is skimmed off. Seal a long length of airline tubing into a cork (Aerolite is best) that fits into the nearest tap in the garden or garage etc. Run the line under the soil (hidden and stops freezing in Winter) all the way to the

pond, where it can drip water constantly. The amount is too small to cause chlorine problems but a surprising amount of water is actually added in 24 hours, certainly enough to skim off chemical settling on the surface. This is still largely a hopepipe of course so do not use when a ban is in force.

Diseases

The diseases that these pathogens create are well-known and treatments are listed in many aquarium books or leaflets within proprietary remedies packs. It is the unknown disease that causes the biggest problem because the hobbyist tends to treat and hope. A little study and thought may give a much better diagnosis and so correct treatment for the condition applied.

All that the fishkeeper can see are the symptoms so experience and knowledge of the categories of pathogens will allow a much more accurate diagnosis. Even better is the use of a microscope to positively identify a pathogen. Techniques for sampling are simple and listed in publications such as Handbook of Fish Diseases by Dieter Untergasser (TFH) or the Interpet Manual of Fish Health by Dr. C. Andrew, A. Exell and Dr. N. Carrington (Salamander Books) obtainable through any aquarium or pet shop. (see bibliography for more details).

Proper diagnosis will prevent the quite useless addition of antibiotic for protozoan diseases, or chemotherapy for bacterial disease where an antibiotic is really needed. Addition of chemical treatments when the problem is toxicity will only add to the problem, not cure it.

The table shows some of the common diseases and where they belong in the pathogen groupings.

Treatments can be found in the books listed at the end of this article. Where prescription-only drugs are needed contact your local Vet and ask for the

nearest member of the Fish Veterinary Society. Tell him/her that details of this UK Society are available from Pete Southgate MRCVS, Honorary Secretary of the Fish Veterinary Society, 2 Manor Farm Cottage, Manor Loan, Blairlogie, Stirling FK8 5QA. Vets in general practice who

have knowledge of fish diseases are also listed by the British Veterinary Society, 7 Mansfield Street, London W1M 0AT or ring 071-636 6541. Do not forget that this number only gets a clerk or secretary for a list of Veterinarians ... it will not connect you to a Vet for a telephone diagnosis. The

VIRUS DISEASES	
Carp Pom	Waxy lumps on Goldfish and Koi
Lymphocystis	Coal-tower lumps on Morone
Viral Whirling Disease	Head over tail or rapid and round swimming, followed by dropsy, pop-eye and death
Infectious Pancreatic Necrosis or IPN	Multiple deaths. TM shows pale live and spleen
BACTERIAL DISEASES	
Fin Rot	Frayed fins ... a sharp edge usually means damage rather than disease. Improving water may be enough, otherwise use antibiotics. Damage can lead to ulcers but the fish eats and swims normally so the bacterial attack is external requiring water or topical treatment
Body Rot	Ulcers etc. from within the fish indicate septicaemia (bacteria in bloodstream) - use antibiotics. Note food (via Vet)
Inflammation	Fluoribacter columnaris bacteria. Therefore use antibiotics not Fungus Cures
Mouth Fungus	A symptom with many causes. If bacterial, injection of antibiotics needed (via Vet)
Dropsy	Whirling disease sometimes with pop-eye or head spine. No cure yet, the Myxobolus involved are too deep within fish tissue
Fish TB	
PROTOZOANS	
External ones are:	
Cerata, Chilodonella, Trichodina	Use proprietary ectoparasite treatments or fresh Formalin
Amphiprya, Epistylis, Trichophrya	Malachite Green Mix
Internal ones are:	
Ichthyophthirius	Use White Spot Remedy
Quadrine	Use Marine White Spot Cure
Inertidini	
Hexamita	'Hole in the Head' in Cichlids, especially Discus. Use Dimethazole (see Vet)
Systemic	
Cryptobolus, Pygocoma	Caught by eating dead fish ... always remove carcases
Mixosporus, Gilgus	Few effective cures, but rarely infectious
Mycosporidium, Plistophora etc.	
Helminths and Cestodes	
Tricostema, Cestode	Anthelmintics such as Di-ethyl Tin oxide from the Vet
Nematode, Acanthocephala	Some copepods bury so deep chemicals do not work ... remove physically
Angulus, larva: Atherines etc.	
Miscellaneous pathogens	
Intoxics	Most are benign and best ignored
Melanomas	Malignant colour changes - no cure
Anoxia	Lack of oxygen, surface gasping - usually excess micro in gills from gill parasites or toxic water. Test for nitrite and correct before adding chemicals or mucus will increase
Gas Bubble Disease	Do not add or make 'fuzzy' water via ventral devices in aquaria ... aerate normally
Toxic poisoning	Fish hospices to remove concentrated chemicals in coils, only use aquarium quality Silicone Sealer, polyurethane varnish must not be Fach Versish (contains anti-mussel chemicals), beware of paint tubes (turn off air pumps until dry)

The list of fish pathogens seems endless but most can be avoided with common sense. This is far, far better than treatment.

THE PATHOGENS OF FISHES

(continued)

Vet is also legally bound to dispense drugs only as part of his/her diagnosis and treatment, so a surgery visit with a sick fish is necessary, or arrange a visit by the Vet

For more information, especially on postmortem examination techniques, read the following books. The more expensive ones can be borrowed via the local library, so one can be chosen to buy as a suitable reference book for your level of interest in the subject. Any Pet or Aquarium shop can obtain the books.

From Interpet Ltd.

'A Fishkeeper's Guide to Maintaining a Healthy Aquarium'
by Dr. N. Carrington, Salamander Books (1985), ISBN 0 86101 233 6

'The Interpet Manual of Fish Health'
by Dr. C. Andrews, A. Exell and Dr. N. Carrington, Salamander Books, (1988), ISBN 0 86101 368 9

From TFH Publications:

'Handbook of Fish Diseases'
by Dieter Untergrasser, TFH, (1989), ISBN 0 86622 703 2

'Textbook of Fish Health'
by Dr. G. Post, TFH, (revised 1987), ISBN 0 86622 491 2

to your tank or pond. All of which has to be paid for, of course, fish are not treated on the National Health.



CLUB NEWS



Ilford & District Aquarist's & Pondkeepers' Society

Michael Shadrack

Those of us who visit clubs and Societies to give talks do so because it is fun and we meet a lot of really nice people.

Last night, in response to a telephone call some 2 or 3 months ago, I attended a local Society to give a talk. I arrived promptly at 8pm and introduced myself to a handful of members. Then, with the assistance of an FBAS judge from another Society, I unloaded the equipment from my car and set up. I then sat for 45 minutes while the 8 members present (and I've given talks to less!) sat and moaned about lack of membership, poor table shows, no raffles, fish winning prize cards that were dead, only had 1 eye, won at fairgrounds etc...etc... At 8.55pm I was offered a cup of coffee and for another 10 to 15 minutes they sat around chatting. Then the 'Chairman' said, "It is time for your talk, Uncle Mike", and promptly went to the Gents. When he returned he was surprised I hadn't started! So, without further delay or introduction, I began. Only 2 fell asleep and the Judge made up the numbers. I finished. Not a single clap, not a word of thanks — straight into selling fish for a fry competition. I packed up the equipment and whilst doing so a chap asked me if he owed me anything. I bit my tongue and said 'No'. Then the Judge and I left. Nobody noticed. We loaded our cars and left.

I doubt that particular Society will last much longer, although I sincerely hope that it does, but I for one will not be giving a talk there, ever again!

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Black day at SAN JOSE

by Shorty of Corty

During my trip to America, I stayed with my sister in San Jose, California. She told me of a wondrous sight to be seen in the Japanese Friendship Gardens. There were "fish ponds as large as English boating lakes", she said. "The fish in them are the size of seals!", she enthused. Knowing the American propensity for stretching the truth a bit, I was quite sceptical.

A date was set and off we went. The Japanese Gardens were part of the Yankee/Nippon Friendship pact. A gift from Japan to America as a means of saying "Thank you — for dropping the big bombs on our cities and helping us to build a stupendous railway".

Needless-to-say, the fish were Kai. Whilst not exactly the size of seals, most of them came pretty close. There were hundreds of them. 2' and 2½' long for the most part. They were a sight to gladden the heart and make the pulse race in any Kai-lophile's heart.

That is, until you got up close to them. The poor darlings were dying on their fins. The all white fish SHIRO looked like a KOHAKU (white fish with red patches). The red patches, however, were the dreaded suppurating scabs.

It had been said by locals that the fish were so happy to be in the land of the free that they could be seen jumping out of the water with sheer joy. They were fed on the best hamburgers, peanuts, chewing gum, Hershey bars etc. They wanted for nothing! The KIN-RIN was not so much speckled with dozens of gold scales, it probably wished it was, as being with dozens of parasites. No wonder they were jumping, so would any self respecting fish if it was being sucked dry by anchor worms.

The park was closed the next day and the ponds were drained and cleaned. They were closed for weeks, I would

like to think that I had a finger in the fish cake. I told one of the park attendants that the fish were sick, but I am sure the closure was in the pipeline.

There was...HELL...to pay when the news got out. The city fathers were up in arms, "Off with their heads!", was the cry... no, not the Kai but the park workers.

A full city council meeting was convened at which was decided to hire a fish expert from Steinhart Aquarium to try and find the causes of the deaths, which were now rampant.

Apparently there were 4,000 Kai brought to the ponds in 1968/69 — they ended up with just under 200 when I was there in 1975.

The fish expert, George Biasiollo, decided after 2 weeks that the problem was anchor worms, he also said that the anchor worms probably came with the fish from Japan in the first place, *friendlyly* *cunning* *these* *Japanese*... *sent* *back* *a* *slow* *fuse* *time* *bomb* *which* *took* *all* *of* *7* *years* *to* *erupt*).

At subsequent meetings of the City fathers, it was then decided to spend money on drilling a well and installing a water pump. (Incidentally, there was no filtration in the ponds!) One of the worthy Godfathers, James Ferguson, who was allied to the City Architects' Department said that "there was no consideration made for fish since that was not part of the programme at the time".

I ask you, what is a Japanese Garden without KOI???

He then goes on to say "...the temperature of the water should be maintained at 64°, but sometimes it goes over 85°", another quote was "...No more than 800 fish should be allowed in the 3 ponds because there are only 400,000 gallons of water in them."

What do English Kai keepers think about that lot?

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F.B.A.S. Exhibition Theme 1993

Peter Furze (Exhibition Organiser)

Portable Patio Ponds

Those who have been involved in the first two outings of the new F.B.A.S. Show and Exhibition Stand will be aware that the theme for this year has been based upon Water Gardening and Cold Water Aquatics, which statistics show continues to be the fastest growing sector of both the aquatic and gardening hobbies.

To facilitate use in the various venues which are booked this season, ranging from Hampton Court Flower Show and various County Shows to our own Supreme Festival and several National Exhibition Centre outings, it was necessary to devise a system which could be adapted for both indoor and outdoor usage and for a wide range of shapes and sizes of stand space.

The Federation Show Committee, in co-operation with The Aquavita Centre, decided to extend the use of the pack flat hexagon unit which has been a familiar sight at most of our show outings since "Fishworld 88". Although the original manufacturers have been out of business for several years, the original manufacturing equipment has been kept together and is now in operation again in a small Cottage Industry facility.

Although the exhibition stand has been designed specifically for Federation use, the basic concept is available commercially as both a standard product range and custom units made to order.

The concept provides for configurations, ranging from a full Japanese Water Garden to individual ponds and fountains suitable for either large patios or small balcony use. Being

collapsible and pack flat, individual pond units are eminently suitable for quarantine units and all models can be dismantled and transported in event of house moves, etc.

If purists feel that the size and depth preclude use by the serious fishkeeper, then the visitors to this year's Supreme Festival at Weston-Super-Mare will find last year's prototype unit installed at Pontins as a full 4' deep Koi Pond — thus proving the versatility of the concept.

Whilst it must be stressed that neither The Federation nor Aquavita will in any way seriously market the products whilst in use in show activities, Aquavita will be only too pleased to provide information on available units, at any other time.

For further information on Portable Patio Ponds, contact

The Aquavita Centre
1 Lane End,
Old Uxbridge Road,
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Tel: 089582 4556
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POND FILTRATION — The Raw Material by Aquavita

As pond filtration is utilized to maintain water quality in a pond environment, on the principle that if you manage the water then the fish will manage themselves, it is felt that for this issue we should stray a little and look into the basic raw material — WATER.

Broadly speaking, your sources of supply are restricted to:

- Domestic Water
- Collected Rain Water
- Streams and Waterways or
- Withdrawal from the Water Table

First and foremost, let it be clear that the various water authorities have a mandate to supply domestic water suitable for HUMAN CONSUMPTION this by no means or means indicates suitability for maintaining AQUATIC LIFE SUPPORT SYSTEMS.

Until comparatively recently, the only purifying agent the fishkeeper had to worry about was basic Chlorine, which heavy operation or even spraying the input through the air could normally be relied upon to dissipate. Over the past few years there has been a changeover to Chloramine, a substance which not only doesn't dissipate but in fact tends to concentrate in a fish's system, reaching toxic levels in a very short time.

Similarly, various heavy metals and other substances in quantities harmless to the human body are present in domestic water and tend to concentrate in aquatic life forms and at the very least tend to stress the fish and make them more susceptible to disease and infections.

Take these facts, together with the ever present headlines on what the farmer is putting into the water table, the increase in acid rain syndrome, various radiation leaks, decrease in quality (!) of sewage outlets and so on and so forth and it becomes very apparent that the serious fishkeeper really should do something to ensure that the poisonous cocktail which we can apparently drink with impunity, receives a modicum of purification before we subject our aquatic pets to its effects.

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Whilst it is the intention to do a product review on equipment available in a later article, in general one should look to the aquatic sphere when buying such units, as these have generally been designed by fishkeepers for fishkeepers and can thus be relied upon to do a useful job.

Domestic units can be considered reasonably safe for aquatic use if they are of a Membrane type construction, a wary eye should be kept out for "Carbon Based Units" (with apologies to the space fraternity) containing Silver Impregnated Carbon for anti-bacterial purposes — this is one of the substances which accumulates in a fish's system and is extremely toxic.

A general principle for domestic water supplies for aquatic use would therefore appear to be: "Can't trust it, purify it!!" Straying even further afield, I have been involved in 2 separate incidents in the past year which will emphasize the point that you can't be too careful with your water units.

The first incident involved a hosepipe left laying full of water for some weeks in the height of summer, comes top up time and a nameless client slices one end of the hose in the pond and turns on without flushing out the hose ... resulting in the death of some 70 Koi ranging up to 20" in size. Remember ... flush the hose pipe first!!

The second incident was very similar but involved a home-made carbon based unit unused for several weeks and again flushed straight into the pond with similar affects, luckily I arrived on my gallant white steed in very short order, saving all but 2 Oris.

Remember, it doesn't have to be an outside villain from the Water board, a moment of carelessness and you are the villain!! **HAVE A NICE DAY!!**

The Aquavita Centre
1 Lane End, Old Uxbridge Road,
Rickmansworth, Herts. WD3 2XU
Tel: 089582 4556 Fax: 089582 3663

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The COMMON Fish Finger ...!

from Dunstable A.S. Magazine



Common Name: Fish Finger. **Scientific Name:** *Peesacod Incrumus*.
Family: *Avis Occularis*.
Distribution: All major food retailers (frozen food section)

DESCRIPTION:

Peesacod Incrumus is an attractive looking species. The body shape is strangely rectangular and horizontally compressed. When first purchased, the base colour is bright yellow which changes in warmer conditions to a golden brown. The fish are unaffected by this temperature change, in fact their taste is said to be improved. This is because the outer body is "coated" with a protective barrier which prevents them from overheating. The ornate finnage is very attractive but is, of course, invisible. There are no other markings.

SIZE:

3.5" (9cm) for the common strain. Giant strains have also been developed by selective breeding programmes which are becoming increasingly popular in the hobby. These are known in the trade as "Jumbo" fish fingers and can attain lengths of up to 7" (18cm).

SEXUAL DIFFERENCE:

There are no external differences apparent.

BREEDING:

Little is known about the breeding habits of *Peesacod Incrumus*, however judging by the numbers found in the larger outlets they are very prolific. It is thought that they move into deeper freezers where copulation takes place.

AQUARIUM REQUIREMENTS:

Temperature: - 2°C. Lower for breeding. pH: No specific requirements. Water hardness: Very hard (solid).

Any size of aquarium is acceptable, but more commonly the Zanussi 3' x 1' x 1' is used. The aquarium should ideally be kept at about 2°C. Although space is not essential, it should be considered so that access to the fish is not restricted when they are required for handling. Although usually a short-lived species, the *Peesacod Incrumus* can normally survive these conditions for *** 3 MONTHS before their bodies harden up beyond repair. These hardened bodies can sometimes be repaired by liberally covering the fish in malt vinegar or lemon juice. Clean conditions are always preferred and it must be remembered that the aquarium will require defrosting every couple of months.

BEHAVIOUR:

The fish finger is a peaceful species that is usually found in small shoals of 10 or 6. Several other species can be considered as good tankmates, but they go particularly well with the common chip (*Shika Spudus*), the garden pea (*Sphericus Gardenia*) and the baked bean (*Pulsei Flatulatum*). It can also be kept in the same aquarium as its close relative *Peesacode Cokeus*.

Other information:

This fish has been found in increasing numbers in the region of Iceland, where they become easy prey to predators as they skato about near the surface. Aquatic birds eye up the fish before plummeting out of the sky into the water to catch them. Sufficient numbers escape as the powerful caudal *fin dus* a good job in propelling the fish into deeper waters of great speed, where they are out of harm's way. They sometimes hide in small crevices in the rocks where they can be jammed for several days.

CORBY AQUARISTS & BRITISH OPEN CHAMPIONSHIP SHOWS

Corby Aquarists Society held their Open Show on 16th May 1993. The event was another outstanding success for the now acclaimed premier Society in the Midlands.

With just under 600 entries benched, the new Show Secretary Robert Findlay said he was "delighted" to be part of the success as this was his first attempt in the position.

The top judges in the country were hired to examine the top fishes in the position. At the Show was the added attraction of the 5th British Open Championship, sponsored again by Interpet.

This was a battle between North and South, the judges had a difficult task but eventually found favour in nominating the 1st place to **Bob Lommon of Strood Aquarists** with his very magnificent *Anostomus ternetzi*. The 2nd place went to **Mr Crick of Doncaster** with an almost equally splendid *Zungaro*.

The Corby club was not without its winners. **Chairman D. McAllister** was 4th in the British Open and other winners were — **M. Bryan**, highest pointed Junior, Class W won by **Mrs King**, **D. McAllister** in the Livebearers Class, FBAS Championship Trophy Class U, **Mrs. J. Stephenson**, Common Goldfish and highest pointed visiting Society **Strood A.S.**

The Best in Show was a *Theraps bifasciatus* which was owned by **Shane Hunter of Bristol**.

It has been said that if you can win at Corby, you can win anywhere. The competition standard is so high that only the best will stand a chance.

Corby would also like to thank Aquarion, for sponsoring two excellent presentations by Mike Sandford.

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MYSTERY SNAILS

by Abby Osborn, Aquatic World Magazine, New Zealand

FOR THE AVERAGE AQUARIST the odd mystery snail in the community tank is not the most interesting aspect of fishkeeping.

For a long time I myself simply considered the snail only when he got himself wedged between the filter stem and the glass and had to be popped out. Then I put a few snails in a tank of fry to help clean out excess food and I became interested in them for their own unique traits.

Free from the irritating nipping of the large fish, the snail literally expanded his foot, grew back his antennae and soared across the tank at snail's billowing. The area of snail outside of his shell was as big as the shell itself. Quite a change from the timid snail, creeping across the community tank.

Around this time a bubble-gum like nest started appearing on the tank lid and I became very engrossed with watching the snails hatch and grow.

The following article is what I've learned by watching my snails grow.

When a snail becomes threatened, he implements a unique escape mechanism, folding up his foot, he withdraws everything up into his shell. The last thing he curls around is his door which normally hangs above the back of his foot and underneath the shell.

With everything withdrawn the snail is impregnable, except to the attacker who can penetrate the shell itself. This ability helps the snail in transportation. When the door is closed, very little moisture is lost and snails can be shipped with very little water. Being an air-breathing organism, the snail can travel for days as long as he doesn't dry out.

If you have mystery snails and one escapes and crawls out onto the floor, try putting it back into the tank where he may emerge unscathed. I threw away the first

snail I found on the floor without realising that he could have been saved if I'd put it into an aquarium. Snails need no special consideration, other than their tank should be covered. Unlike most other snails, mystery snails do not eat plant and can be trusted with your Madagascar lace plants. They even perform a useful purpose in keeping algae from your plant leaves. A popular myth states that snails eat fish wastes — this is not true! Snails do eat excess food, but don't expect the poor snails to clean up fish waste, it is simply too much to ask.

Snails will not eat the smallest fish so they are valuable in your fry tanks. You can feed enough for all your fry to get some and trust the snails to clean up any excess. One word of warning, however, make sure you add the snails after the eggs have hatched. Nothing delights a snail more than to run rampant through a batch of fish eggs.

The only problem I have ever encountered in keeping my snails is occasionally I find a tank that disagrees with the snail's shell. It starts out as fine white scratches, these gradually get worse forming deep crevices. Eventually, the snail will die. I don't know why this happens. Some people say it is caused by calcium and hard waste which eats away at the shell. I believe this is related to old age. If I move the snails to another tank, sometimes they improve, even though the tank is basically the same.

Mystery snails come in two colours, albino and a deep black. We have spawned both kinds. You can spawn any two mystery snails (theoretically). Each snail has both sexes but building the nest is a one snail task. To build the nest, the snail crawls above the water line, usually at night or early morning. They stretch one side of their foot and make a platform in which the eggs slide up from underneath

Mystery Snails

the shell. The eggs are laid in pairs over a period of about two hours. Each egg contains a complete intact snail inside. The eggs are sticky so they cling to each other, looking like a lump of chewed bubble-gum. You should try to keep the nest moist, but not wet. Nests can be removed with a razor blade.

When the snails are ready, they will break out and fall into the water. Floating plants can save a snail from going all the way to the bottom and then having to climb back up to get his first breath of air. Plants also hide snails from hungry fish.

As snails grow up their shells are semi-transparent and you can see a bubble of air under their shells. This bubble keeps the snail semi-buoyant and provides an air supply for when he goes down under Black mystery snails spawn the same as albinos, except the foot on the young snails starts out a dirty white and then turns black. Albinos have a foot as white as snow when they are young.

Snails spawn at a temperature in the mid 20's°C. They do not like salt in their water. We have discovered by keeping snails in a tank with the regular amount of salt and then moving them to a salt free, soft, acid water tank, induces them to spawn. Our snails spawned when they were about 1/4 the size of a golfball. Young snails grow really fast, reaching about the size of a quarter (US currency) in 4-6 months.

We have enjoyed many hours watching our snails, though we are not very exciting people. We have showed our snails successfully and they have even made it on TV, and we even get live points under the breeding programme.

Mystery snails are Ampullarids and in NZ Killifish members have long used them in their tanks. We find that our ampullarids don't eat our eggs but in fact clean them so they don't fungus. In NZ we don't get points in our National breeding scheme for breeding Snails.

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GROCKLEMANIA '93

by Dick Mills

A Sift to deter the invaders, the elements poured down their worst but still they come — the long red and white ships slid out of the gloom to discharge their load of Grockles in their travelling machines, each marked with strange red and yellow circular devices on their rear viewing screens; muffled chants of "We'll get Thomas Crapper!" could be heard, as the caravanets wound its tortuous way across the cloud-shrouded downs. All along the route, local inhabitants covered in their doorways as the foreign polystyrene-box carriers trundled onwards; so ferocious were the invaders that they even quarrelled among themselves — "we'll stuff Strood", roared the wild Essex tribe, only to be countered by blood-curdling threats from the Medway Men of "you know what you can do with your pier". Eventually, the marauders came to rest at the settlement at the Bay of the Whitecliff where, by the persuasion of Chief Paul of the Corbett, they separated into smaller, more peaceful parties and took up shelter among the members of the Tribe of Wight, already encamped there.

So, what was the cause of this invasion, foretold the day before by the swift descent of an Iron Bird from the sky at the Bridge of Beis? Was it to impose mainland rule upon the Islanders or merely a swift awayday cash and carry expedition? The large temple of Jasco had indeed been raided by a scouting party, led by Bob the Elder but escaped relatively unscathed. No, it was to celebrate the continuing Worship of the Fish, brought to the Island many years ago by Jack of the Still Well and the Hunter Yeman. The invaders were but mere Disciples of the Faith urged on by their Leader Joseph of the Many Suits, a wise man who found much comfort in the South, and his henchmen Colin Sparse of Hair and Peter Full of Tum.

In the Chamber of Culver various alters were already in place on which offerings to the Wise Judges would be made and many lost under the Rule of Downpointing for any striping fishes; a Tablet of Good Recovery was made to Peter, Head Man of the Jayness who had previously been stricken and had not been able to make the pilgrimage.

A nearby watering place made unnecessary water supplies brought from the mainland. Rituals abound amongst those of this faith and customary among the Mainlanders was the Habit of Badly immersion before competitive battle, was engaged and this took place of the Fool they called Nab, usually shortly after daybreak or at dusk. Storytellers were on hand to regale listeners with their tales; these were wide and varied and included Tigers and Snakes as well as Fishes from Strange Lands. Well after sunset, many gathered to witness the Aquaries for the Following Days; this took the form of Humorous Singing to Musick and the dawn was breaking before many returned to their quarters for sleep.

As another full passage of the sun and moon was to occur before the day on which the Show That Is Open to All came to pass, many spent the time in preparation of their offerings with universal Polishing of Glass and Inspection of Fins. Some who would be merely spectators of the main event took to their chariots and ventured further afield, now knowing they could pass unchallenged being Friendly Grockles. Chairborne Levitations at the Bay of Alum, Sustenance at the Botanic Gardens at Ventnor, Ambulations at the Hill of God were but a few of the excursions undertaken by those less than keen on fish; others made more serious pilgrimages to Newport Nurseries and the Fort Victoria Aquarium. Many inter-tribal Trials of Strength were undertaken, the winning team to receive

Grocklemania '93

(continued)

the Accolade of Thomas the Crapper together with a Replica of his Shrine. Again after sunset, many more libations were taken as invocations for good luck during the next day and Incantations and Magick Spells were excitingly demonstrated by a Travelling Wizard.

Yet more ships brought worshippers on the second day and these gathered together in the morning to listen to Brother Steve Lo Thang from Bristol. During the Period of Examination, followers were fortunate to have the opportunity to hear the wisdom of David of the Ford who had made the long journey from Halifax especially to address the throng. However, he and his Lady Dorothy were not the longest travelled on the road. From the North, far beyond the Wall which they call Hadrian's, came followers from the Town called New and these were welcomed with special gift for their perseverance in overcoming the perils of their long journey. The collective Wisdom and Fish Knowledge of two Senior Tribes was publicly put to the AquaClub Test by David of the Ford from the Tribe Aquarian, assisted by Colin of the Scrolls; after prolonged periods of inquisition, it transpired that those from the Southern End of Essex had triumphed over the Tribe of Strood badly lacking the presence of their leader Peter of the Jaynesses).

However, they were not without triumph themselves for a member of their tribe, Robert of the Cirrus Fruit, bare away the Best in Show Honours, together with that for the Championship Class. The struggle for the Thomas Crapper competition was won by a team of Disciples from the High Council; following disappointment in the Walking the Battles Test, in which their leader Joseph failed miserably, the turning factor was probably the vocal prowess of Peter of the Full Tum who went on to demonstrate how the said Replica of the Shrine should be maintained, wearing the Ceremonial Cleaning Apparel — nothing but a Modesty Cloth, Snorkel and Fippers — and brandishing the Brush of Lo!

At the Ceremony of Closing, Chief Brian, son of Hugh and Husband of Aurl, gave Thanks for a wonderful weekend and led Prayers for a smooth crossing for those about to travel across the Head of Spit to the Southern Hampton and beyond.

It is to the local tribe's credit that their earlier prayers for good weather had been answered on the 2 days, and the red and white ships bore the victors and disciples away from the Isle that is called Wight, back to homes again in Grockleland. The signs bode well for a re-convention of worship, next year.



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PHOTOGRAPHS TAKEN AT GROCKLEMANIA '93



F.B.A.S. Chairman, Joe Nethersell, and Dr. David Ford with Doreen Fina and Grace Nethersell relaxing at Grocklemania '93.



Amy, Daniel and Helen — Prizewinners of 'Aquarist & Pondkeeper' Class (Fish and Essay) at Grocklemania '93 with F.B.A.S. Vice Chairman Colin Richards.



Southend Leigh & D.A.S. receive Aquarian AquaClub Trophy from Dr. David Ford.



F.B.A.S. Chairman, Joe Nethersell, accepts Thomas Crapper Award on behalf of the F.B.A.S. team.

Yorkshire 'Fish Fayre'

by Anon and on.

The Yorkshire Association's Festival or 'Fish Fayre' as it is now called took place over the weekend of April 3rd/4th. The venue was the same as last year — Doncaster Race Course, which it is fair to say, is one of the better venues for staging this type of display — Fish and Aquaria displayed in tableaux.

The winning tableau was put together by the Otley Society and depicted a house on fire with a 1850s style hand pump operated by two firemen. This was, of course, a side-swipe at the 'person' who put an anonymous note through the local fire station's letterbox last year which resulted in Otley having to dismantle their tableaux and clearing it away. In saying this, do not think that they won out of sympathy, not so. The tableaux deserved to win. Unfortunately, many of the tableaux did not. They have done the rounds and have lost their appeal and to my mind only won an award because they were present, yet perhaps even these were better than the 'boxes' that were simply there as a means of showing fish.

The trade were present in force, with all the main manufacturers in attendance, one or two others were missing but new faces filled the gaps. Those that I spoke to said the level of business was in keeping with last year, they all plead poverty but most were smiling come Sunday afternoon. Unfortunately, with the exception of Hagen's new 'Power' lighting, which they had sold out of by mid-day Sunday, I saw nothing startling from the trade.

There were two usual obligatory lectures by John Dawes and David Ford. I really do think its time for the organisers

to widen the field somewhat. It is a golden opportunity for speakers from other federations to be invited to speak. There are many speakers within the hobby that societies cannot call on to visit them during the week because of distances involved. Come on organisers, put some thought into this.

The 'Fish of the Year' was disappointing, as all these events have become. Is there any point in continuing with this type of display? Even the prestige C of C is forced into lowering its sights to include the also runs. Surely there comes a time to say ...enough ...not to keep lowering the standard. The 'Fish of the Year' was stuck out of the way in a corner, it added nothing to the festival. There were no invited judges this year and the YAAS judges judged individually and not in pairs, which is I believe a festival first. My only comment is how does a fish that is not a Barb manage to win the Barb class? Still, its all great fun, or should be!

Attendance I would say was slightly down on last year, it was very thin Saturday afternoon but the Grand National (or not), and both the Sheffield Soccer teams playing at Wembley may have made a difference. What difference the exhibition at N.E.C. made I can only guess. All I know is it seems madness to me to have two major fish events on the same weekend, I trust the respective organisers will get together and sort out next year's dates, but at the end of it all, everyone (myself included), had a great time.

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WHY NOT VISIT

by Dick Mills

Aquarists in the south-east Kent Area may well find that the phrase 'popping out for a Sandwich' takes on a whole new meaning should they take the A256 between Ramsgate and Dover.

Not more than 10 metres away from the traffic slowing down for, or accelerating away from, the traffic roundabout on the south side of Sandwich going towards Dover are SOUTH EAST WATER GARDENS. From the line of traffic (coming from Dover) one first sees the sign, of a large Koi cut-out then, through the fence a conifer clad rockery, a Japanese style bridge and a Koi pond. Turning a very sharp left off the roundabout (almost back upon yourself) a small approach path leads to the car park and thence to the main building.

Inside, the stock of Koi, in ten large ponds, was still very much on the move (I'd visited in December) — all rising to see if food was on its way! A selection of popular strains was on view, ranging in size from a few inches to a couple of feet or more, in crystal-clear water (an obviously efficient UV clarifying system).

Despite its title, the centre does not restrict its fish-interest to coldwater or outdoor fishes and the new Manager, Phil Combes, drew my attention to the Tropical Room in the centre of the store. This contained around 50 tanks of varying sizes, stocked with freshwater tropicals. In addition to the normal range of species there were some 'character' fishes too; large Tinfoil Barb (*B. schwanenfeldti*), a very large golden-pink Tilapia, plus the largest Elephantnose (*Gnathonemus petersi*) seen for a long time — around 6" not counting the lower jaw — standing

guard under an arch of bogwood. Some 'Blueberry' Tetras caught my eye but whether or not they were artificially-coloured I wasn't sure. A central alcove housed two large furnished tanks, one completely set up with plastic plants (only a large clump of bushy 'Myriophyllum' type plants really gave the game away). Beneath these, stocks of real aquarium plants were set out to good effect, in a double cascade-fed display.

By now, Phil will have re-arranged things to his own liking (he'd only been there a few months) but he'd already planned alterations for the outside areas where there is plenty of room for further development despite the then existing 20 concrete tanks of coldwater species and plants, and a separate area for prefabricated ponds. Back in the main store, there is a small tank display room and the dry goods area has everything a pond could wish for, from bottom drains to spawning brushes, Aquarium books and equipment, foods and accessories filled other shelves, with a non-aquatic pet centre (birds etc) occupying the remaining space.

It will be interesting to see how things have progressed since I was last there, but as I often visit my folks in the same area it shouldn't be too long before I find out!

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1993 OPEN SHOW

To be held on Sunday 22nd August 1993

AT

Gladstone Lower School
Tenby Road
Northampton
FBAS CLASS Lo
Show Secretary
Mrs D Woodman
22, Fishers Close
Little Billing
Northampton
Tel: 0604 411591

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SATURDAY 11th SEPTEMBER
at

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SHOW SECRETARY

Darren Irvine
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Shaley Lodge
Milton Keynes
MK5 7EB
Tel: 0505 650940

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Nelhams into NORFOLK

by Bob Nelhams, Hounslow & District A.S.

I don't think there's any fishkeeper who doesn't like exploring new outlets, and when they are in a different part of the country too, then the experience of a whole day out is even more enjoyable. Recently, I went up to Norfolk to the Grand Opening of Mick Seaby's second SWALLOW AQUATICS AQUALIFE AND WATER GARDEN CENTRE, the original still going strong much further south at Reyleigh in Essex. The weather was dry and sunny and the M25 and M11 were on their best behaviour too, the journey from Slough taking just under two hours. (Peter Furze please note: no services on the M11 but at least two Little Chefs once you get back on normal roads again!)

To start off the proceedings, a jazz band provided catchy music as Councillor Kenneth S. Jelly, Chairman of Breckland District Council, cut the traditional ribbon barrier to open the centre whose well laid out design gave each aspect of fishkeeping its own area. Three buildings were around a central open area; the first building is the dry goods shop and leads directly into the second, the aquarium fish section (freshwater and marine tropical fishes and invertebrates, plus aquarium plants); this again leads into the coldwater hall with tanks above troughs holding species from a few inches to a few feet in size; one Koi was on sale for £7,200. Two main features in this area caught my eye, the layout of the tanks (between each row was a concreted walkway ledge making for easy access and servicing) and the filtration system. The troughs had semi-exposed slotted drainpipes running horizontally through these via an underground system to a filtration unit in a separate pumping house. Outside the hall were several shallow ponds in which aquatic plants were displayed and each species was clearly labelled and in

crystal clear water. Enclosed by the buildings, the open area makes a handy stage for pre-formed ponds, external filters and statuary.

Many fishkeepers might have been disappointed by the restricted range of fishes on view, but Mick Seaby spent a great deal of time explaining the reason why. Although all the tanks were set up, the filtration systems were still maturing and he would not risk stressing fishes which would then, in turn, disappoint purchasers who may well be first-timers to the hobby. One advantage the empty tanks gave was the chance to see their filtration systems at close quarters. In a very large tank destined to house marine invertebrates, glass trays holding crushed coral substrate were deliberately raised off the bottom to allow extra hiding places. Such innovation and dedication deserves success and by the time the day was over, the staff headed by the manager Steve Clifford and assistant manager, Michelle Seaby, were well satisfied with the day's hectic events.

Once things get into their stride, the centre should become a very popular attraction for fishkeepers, whatever they keep, and I can recommend it as a worthwhile detour if you are in the area, or even fancy making it a special day out.

Finding Swallow Aquatics is easy; follow the A11 past Thetford towards Norwich, turn right after a few miles on to the B1111, through the village and the centre is on your left.

Open 7 days a week 9am — 6pm

SWALLOW AQUATICS
Harling Road, East Harling,
Thetford, Norfolk.
Telephone: 0953 718184

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Using SCIENTIFIC Names

by Jack Stillwell

Ostracion triangulatus duobis aculeis infonte et totiden in imo ventre subcaudalesque binis.

You are probably asking what the hell is all that about. Well, it is the old name of a fish, and if you had been an aquarist before Carl Van Linné invented the Linnaeus system of naming animals and plants called Binomial Nomenclature, you might have had to put up with names like the above, which were descriptions rather than names.

There is an interesting story connected with the above bit of Latin. An ichthyologist by the name of Petrus Artedi saw a dried specimen of a curious fish in the Nags Head pub in Holloway, (just fancy an ichthyologist in a pub) so, being a scientist and pretty good at Latin he described it in that language and had to use thirteen words in the process. Now, thanks to Linné, if you proudly tell your pals that you have an *Ostracion triangulatus* they will of course know that you have a Coffer Fish, or will they?

It is unfortunate that the rules of scientific nomenclature are not fully understood by many aquarists, which gives rise to many mistakes, e.g. *Barbus ticto* or *barbus ticto* instead of *Barbus ticto*.

The following rules are laid down by The International Commission for Zoological Nomenclature.

1. That the former name be the generic name, which in the above case is *Barbus* and spelled with a capital letter,

and the latter name, in this case *ticto* to be known as the trivial name and spelled with a small letter.

If, however, the trivial name be derived from a proper noun, e.g. *Hypheasobrycon innesi* it used to be allowed to use a capital letter. The I.C.Z.S. however in 1954 changed this rule and we must use a small letter for the trivial name, even if it is a proper noun.

2. That the combination of generic and trivial names be known as the specific name. So *Barbus* denotes the genus and *ticto* the species.

You might be asking what does it matter if you spell *ticto* with a capital T. Just this, if one were searching for information in a zoological library for a fish called *Ticto* a great deal of time would be wasted looking for a genus that does not exist, and in these days when we refer to *Hypheasobrycon serpaes* as just *serpaes* a lot of time can be wasted.

Sometimes you will see the name of a fish consisting of three words, this is because it is a subspecies.

One last word, please don't call octopuses octopi. Being derived from the Greek the roman plural is not permissible.

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Judges Corner

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

By the time you read this, the Show season will be under way. I hope that it will be successful for all of you. The new Size Sheets will be in your possession and you will notice that they all show Issue 30. We have renumbered them as there was some confusion setting in, due to the frequency of revision of some classes and not others. Class T has been subject to a major revision and the Judges & Standards Committee would like to record its thanks to the contributors. Among them, Derek Lambert of Viviparous, Chris Cheswright, Dave McAllister and Ken Saxby. The Leptobotias have all been classified into Class L. The Judges & Standards Committee seeks the opinion of judges as to whether the Leptobotias should at a later date be included in the sub-division of La. In any event, this would NOT take place before 1994.

You will be aware that Mrs. Sylvia Brown has retired as J & secretary. Our sincere thanks go to Sylvia for the great job she has done for us over a number of years. Taking over from Sylvia is Gary Woolley, so please send all correspondence for the J & S to him. His address is —

56 Dresden Close, Donesholme, Corby, Northants NN16 9EN.

A number of Judges are due for upgrading tests during 1993. Jim Carney will be contacting you in due course to make the necessary arrangements. Once a date/place has been agreed, please endeavour to attend. If the test has to be cancelled, it may be some time before it can be re-arranged. B class judges who have retained their assessment sheets, should ensure that they have them at the time of the test as the sheets must be returned to the Judges & Standards Committee.

Mr. R. Atherton of the TAA is currently working in the London area from Monday to Friday. Ron has advised us that he is willing to speak to clubs in the London area during the week. He can be contacted at his Hartlepool home address or on the following telephone number 071-611 1012 (office).

Comments have been made recently that "Judges Corner" does not contain as much information as the now defunct "Red and Green". Frankly, it was never the intention that it would totally replace the R & G. Apart from a FEW regular contributors, it fell on Bob Esson's shoulders to produce the majority of articles for the R & G. This was an onerous task and you will recall the odd occasions when it was not produced simply due to lack of copy. It was stated at the time, that if there was important information for judges then we would include it in *Judges Corner* or publish a separate article. This is still the situation. The J & S is awaiting your letter!

Finally, may I wish you on behalf of the Committee an excellent Show Season.

Addendum re: Judges Size Sheets

PLEASE NOTE:

ALL LEPTOBOTIAS SHOULD BE INCLUDED IN CLASS "L" AS FOLLOWS:

Leptobotia	elongatus	230
Leptobotia	manchurica	160
Leptobotia	ornatus	250

These alterations only apply to the A4 judges size sheets, the A5 sheets have been corrected.

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I Need A Bigger TANK!

PART II of a Series by M.R. Emerton of Northampton

My tank was still very quiet and with all the visits to the local (and not so local dealers) I was becoming increasingly aware of the diversity of the world of cichlids available but it was always the big boys that kept my attention the longest. I had to get a bigger tank. After discussion and much decorating and washing up, my wife finally agreed with my request to install a larger tank in the shed and develop my dream. Now the question arose that I would need a big tank, but how big? My own criteria meant it needed to be big but when I visited the local dealers the once awesome 6' x 2' x 2' now seemed pitifully inadequate for what I had in mind. After much searching I saw an advert in my copy of the National BKKS mag for a fibreglass tank of 6' x 3' x 3' dimensions. Now that seemed interesting, but after ringing the number I was informed that it had been sold but the owner knew of a chop up near Walsall with an even bigger tank for sale, 8' x 4'6" x 4'6". Now, that was what I call a tank and after ringing the number I was over the moon when I was told it was still available. I hired a Renault Pick-up truck and with my son, David, in tow we drove up to Walsall to collect the tank that day. Well, I now had a tank but before installing it I decided to spend some time designing the filters and top and working out what equipment I would need to get it running. Over the next few weeks I saw many fish I was tempted to buy and must admit to succumbing to the need to start my collection now. I purchased a small tiger shelve-nose about 6" from my local shop, alongside a small *Pseudodoras niger* from George, who had also been bitten firmly by the bug. A small *Leiurus marmoratus* completed the collection at this stage. Now, many people and most books talk of these Cats being kept singly in a species tank but I had in mind a

Community of Cichlids hence the need for a very large tank.

I purchased a Fluval 403 external filter to assist the undergravel filter in the small tank and this would prove necessary when I developed the large tank and moved to external filtration. The fish were growing faster than I had imagined and it was soon apparent that I would need the large tank quicker than I anticipated. In anticipation of the move, I decided to transfer all the Cichlids into a 200 gallon fruit juice container that was serving as a water reservoir for my pond. This container was duly cleaned out, filled and heated to 78° in preparation of the transfer. I didn't know how long they would be in the tank for, so I set up an external filter above the container containing fluor and siporax and fed by a central heating pump. Over a period of 2 weeks I gradually transferred my fish into the container and with a few water changes, the filter soon took over and with feeding reduced to once a week, the water quality remained good.

At this stage I had done quite a lot of research into the fish, especially their requirements, and more importantly the size that they will eventually attain. This is where I noticed a large disparity between what was printed and said and what I saw with my own eyes. In many books, reference is made to size and in my opinion these sizes are very misleading, as often you can double what is stated. A fact that is often ignored, is the potential power of these fish. From experience of moving many large cats for friends, including Red Tailed cats, Shovel-noses and Nigers all around 36", I am witness to the incredible power these fish possess (and hidden dangers of handling these cats). This power and raw strength these cats possess must be taken into consideration when designing or building your tank.

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I Need A Bigger Tank

(continued)

In preparation for installation of the tank, I gave serious consideration as to insulating the tank and the shed as heating 800+ gallons was not going to be cheap. I lined the inside of the shed with 3" of polystyrene and the tank stands on 2" of polystyrene sheeting. The sides of the tank were lined with more polystyrene and a layer of loft insulation covered with hardboard panels. Initially, polystyrene sheets were laid over the top of the tank with a perspex window to allow observation before a permanent top could be installed. Filtration was shared between an external filter comprising of a cold water tank containing floccor, foam and siporox backed up by the Fluval 403.

Heating the water initially consisted of 2 aquarium heaters in the filter (all heaters, pumps etc. are kept out of the main tank due to the boisterous nature of the cats). This was obviously going to be a long job so I pumped water through a jug kettle by a small powerhead which soon brought the temperature up. Initially, heating was to be controlled by 2, 300 watt aquarium heaters, but it proved difficult to set the stats the same so the temp. varied a little from the desired 78°F. This was later remedied by installing a Rocan Digital and two heater units (one of 300 watts and another of 200 watts). It has proved quite adequate (500 watts) over the years and the Digital has been totally reliable. The tank was first installed in Sept. '90 and its initial occupants consisted of the following:

Common plecostomus 4"; *Blue eyes plec 4"*; *Pseudorasbora niger 8"*; *Tiger shovelnose 10"*; *Liaburus marmoratus 8"*; *Polypterus congicus 10"*; and *Ospireneus garani 8"*.

When I put the fish in the tank and could see them it became obvious that the predatory cats were growing quicker than the others. My next task apart from getting more fish was to concentrate on the filters and over the last two years the filter volume has risen from 25 gallons and a Fluval 403 to a massive 250 gallons and

yet the 403 is still plodding away. I cannot speak higher in praise of the Fluval 403, it has operated continually now for three years and has been a great asset to me. The function of the Fluval is purely as a secondary filter containing carbon and zeolite to help cope with and combat the huge bursts of ammonia these cats produce. I have also added a 15 watt UV unit to the tank and all water is passed through a water purifier before entering the tank. The Ultra Violet unit was installed after I experienced a strange bloom in the tank about six months after starting up. I think it was some sort of yeast bloom but has not re-occurred since the introduction of the unit and the UV also appears to combat the colouring of water caused by pellets and ageing process. Filter materials used consist of Siporax, Floccor, Matting, Foam, Filter, Wool and Springflow. Water is circulated by a Grundfos central heating pump and aeration supplied by a H-Blow model 40. The filter system is being continually updated to cope with the massive fish load it supports.

Over the years, I have now settled with a collection of South American cats that many people state have to be kept alone. In May 1992, I took the ultimate step and added a 14" Red Tail to my collection. I have had no problems in my tank with the cats but other fish have proved more troublesome, a 30" Lungfish decapitated the sensor from the Digital and the Garami didn't settle and continually harassed the mormoratus. When the Lungfish and Garami were moved out, things again settled down.

The cats have grown considerable over the last 2 years and at present the tank contains:

Common Plecostomus 20"; *Gibbiceps Plec 8"*; *Common Plecostomus 16"*; *Pseudorasbora niger x 6 14"-24"*; *Tiger Shovelnose x 2 30" plus, Red Tailed Catfish 26"*; *Liaburus marmoratus 24"*; *Pacu x 3 20"-26"*; *Pangasius Cat 16"*

CONTINUED IN NEXT ISSUE

Dick Mills – PRODUCT ROUND UP

Success for Koi and Pond Hoops

A range of specially formulated floating foods for Koi and pond fish has enjoyed increasing success for specialist aquatic manufacturer Interpet.

The company's range of hoop-shaped Koi Seasons and ornamental pond fish foods has been perfected following intensive research and field trials, to take into account the digestive and nutritional requirements of pond and ornamental fish, including Koi, Goldfish, Orfe, Rudd and Tench. The resultant product combines the very best in natural ingredients at exactly the right proportions for fish's needs, while a sophisticated extrusion process makes them more easily digestible.

The characteristic hoop shape was also the result of precise research hoops have a high ratio of surface area to volume, ensuring quick wetting and increased digestibility; as well as being preferable to fish, which prefer food items where diameter and length are equal.

In addition, the density of the product does not compromise the full nutritional requirements for the fish, especially the protein amino acid balance. Explained Interpet's product development manager Adrian Exall, "Throughout our research, we were keen to provide a floating pond food which was not all air. A density of 200 grammes per litre was the minimum at which we could happily provide the nutritional requirements. This food is formulated to be a good maintenance and growth diet for UK kept ornamentals throughout the year."

He also explained that the thinking behind the Koi Seasons range was a natural progression from the current thinking of specialist Koi keepers, who feed their Koi wheatgerm foods at lower temperatures. "Because fish are unable to control their body temperatures, the temperature of the pond water significantly affects their digestive function. Thus, fish have different nutritional

requirements throughout the year, and Interpet's Koi Seasons provides the correct nutritional balance for fish during the Spring and Autumn period."



A range of specially formulated floating foods for Koi and pond fish is available from Interpet available in either 1 litre, 3 litre or 6 litre packs.

Even my fish can't tell the difference!

Many people cannot tell the difference between Plantastics and real plants in an aquarium set-up, according to Interpet MD Mark Senior. "Even my fish cannot tell the difference, as they often attempt to take a snack of Plantastic leaves!"

Although they had previously kept fish, Mark Senior's family set up a new aquarium following his appointment as MD of Interpet last year. Naturally, when it came to planting, he used a selection from Interpet's high successful Plantastics range.

"Many of my own friends and relatives find it hard to believe that my aquarium plants are not real when they look and act so naturally, especially when the fish occasionally take a nibble at the leaves!"

The realistic effect of the Plantastics range was created by preserving live plants so that the lookalikes could duplicate them exactly, even to fine detail such as individual veins on each leaf.

In general, the leaves of Plantastics are thinner than their competitors' products and are made of speciality plastics to ensure that they behave as naturally as possible within the aquarium. In addition, the surface of the leaves are specially treated in order to refract light in the same way as the leaves of real plants, while an increased surface area is also produced from the treatment and this encourages the growth of friendly

Product Round Up

(continued)

bacteria, so improving the natural filtration of the aquarium.

For practical use, Plantastics are ideal for use with fish species which naturally eat live plants; and each plantastic plant is fitted with a specially-designed base to enable easy anchorage in aquarium gravel.

Plantastics are available in an extensive range of species and sizes, and is complemented by an increasingly popular range of coloured plants with the brand name Supernaturals.

For further information on any item, please call INTERPET LTD. 0306 881033

OPEN SHOWS & EXHIBITIONS 1993

DATE	SOCIETY	C/TROPHY	DATE	SOCIETY	C/TROPHY
12/13.6.93	SYON PARK (FBAS)	Exhibition	22.8.93	PETERHEAD A.S.	FSAS
13.6.93	LLANTWIT MAJ/OE A.S.	FBAS	22.8.93	STROOD A.S.	FBAS
13.6.93	BOURNEMOUTH A.S.	FBAS	28/29.8.93	KENILWORTH	Exhibition
13.6.93	NORTH BRICKS A.S.	FBAS	29.8.93	ASHBY A.S.	YAAS
13.6.93	REDCAR A.S.	NEFAS	29.8.93	IRISH TROP F.S.	IFAS
13.6.93	SKELMERSDALE A.S.	FNAS	29.8.93	LOYNE A.S.	FNAS
16.6.93	HUDDERSFIELD A.S.	YAAS			
16/20.6.93	N.E.C. (BBCI)	Exhibition	9.93	SALISBURY A.S.	B (A)
20.6.93	CANNOCK A.S.	V (C)	9.93	GLENROTHES A.S.	FSAS
20.6.93	CLARITY A.S.	YAAS	9.93	DARLINGTON A.S.	Ch (B)
20.6.93	SCUNTHORPE A.S.	YAAS	11/12.9.93	S.A.F. (FSAS)	Festival
20.6.93	WALTHAMSTOW A.S.	R (B)	11.9.93	HOUNSLOW A.S.	D (B)
27.6.93	BLYTH A.S.	Ex (B)	12.9.93	FAIR CITY A.S.	USA
27.6.93	ST. HELENS A.S.	FNAS	12.9.93	LINCOLN A.S.	YAAS
27.6.93	WORKINGTON A.S.	FSAS	18.9.93	PLYMOUTH A.S.	FBAS
			19.9.93	MID-SUSSEX A.S.	Dc (C)
4.7.93	BRACKNELL A.S.	FBAS	19.9.93	OTLEY A.S.	YAAS
4.7.93	W/WEST GLCHLD A.S.	FNAS	25.9.93	BRISTOL T.F.C.	FBAS
4.7.93	SCARBOROUGH A.S.	YAAS	25.9.93	EAST LONDON F.S.	N.O.(C)
6/11.7.93	HAMPTON COURT	Exhibition	26.9.93	CRAMINGTON A.S.	S (C)
10.7.93	PORT TALBOT A.S.	Ha (B)	26.9.93	DARWEN (A.S)	FNAS
11.7.93	MALTRBY A.S.	YAAS			
11.7.93	TAMESIDE A.S.	FNAS	2/3.10.93	N.E.F.F. (NEFAS)	Festival
18.7.93	SANDGROUNDEERS A.S.	FNAS	3.10.93	HALIFAX A.S.	FNAS
24.7.93	SELECT A.S.	YAAS	3.10.93	WYKE S.S.	YAAS
25.7.93	PHOENIX A.S.	FNAS	10.10.93	DONCASTER A.S.	YAAS
31.7.93	C.N.A.A. (FBAS)	Festival	17.10.93	LEEDS A.S.	YAAS
			17.10.93	SOLWAY A.S.	FSAS
1.8.93	NEWTOWN A.S.	FBAS	17.10.93	WEST CORNWALL A.S.	FBAS
7.8.93	W/SOTLAND GOLDFISH A.S.	GSCGB	24.10.93	FAIR CITY A.S.	USA
8.8.93	CATFISH ASSOCIATION	CACGB	25.10.93	SOUTH INCH A.S.	USA
8.8.93	ROBIN HOOD A.S.	A of A	30/31.10.93	B.A.F. (FNAS)	Festival
8.8.93	WHITBY A.S.	NEFAS			
15.8.93	YAAS	YAAS			
21/22.8.93	C.N.A.A. (FBAS)	Festival	5/7.11.93	WESTON WEEKEND	Festival
22.8.93	NORTHAMPTON A.S.	La (B)	4.11.93	BROADFORD A.S.	YAAS

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Q. How long can Tyre Track Eels live in captivity? I had a large Plec in the same tank and he has died and I don't want to replace him if my eel does not have long left. I have had him 2 years, he is 3' lives in a 6' tank which I would like to replace with a wider one sometime in the future. The only food he eats is earth worms. I have grown attached to him and would like to get another and try to recreate his own environment.
D.S. Birmingham

If the fish is worth the cost the best source of antibiotics is the local Vet. If she/he has no experience with fish, the nearest Fish Vet can be obtained from the British Veterinary Association, telephone 071-636 6541 or contact the Fish Vet Society, Membership Secretary Andrew Grant, MKCVS on 06877 255.

A course of antibiotic treated food will help. A Vet's prescription has to be obtained for this and the food will be made in flake or pellet form by King British of Bradford, details enclosed.

The Vet can obtain professional supplies from Peter Hind, Animal Health, ring 0772 452421 for details.

A. Tyre Track Eels, *Mostacembelus erythrotaenia*, are long lived, I have heard of a 10 year one. However, they are very sensitive to parasite attacks and if something like White Spot or Gut Worms get into the aquarium the fish may quickly die. Earthworms are a good diet, add shrimps and prawns and fillets of fish (but never live fish ... they can introduce parasites).

The bigger the tank the better, the fish like a mud base (soft river sand will do) and warm water (80°). Females are fatter than males but no reports on tank breeding have been seen. It is not a good idea to get another one ... they will probably fight.

Q. I wonder if you could please help me, I have Kai fish and they have eternal disease. They have big pink blister patches on their skin, already 3 fish have died. M.L.Scotland

Q. I have 4 Tiger Barbs in my aquarium and they are a bit of a problem. I have Angel fish and Golden Gouramis and have never had any trouble with the Tiger Barbs nipping at them, but when I put Neon Tetras in the Tiger Barbs killed one and chased the others. I also put some Guppies in and they killed 3 and nipped the fins on the others. What do you suggest?
J.S. York

A. Yes, Tiger Barbs are a problem fish. Yours must also be cowed, they only attack the small fish.

As usual, the only way to keep Tigers is to have at least six so that they spend their time chasing each other, rather than other species.

A. Sores, redness, boils and ulcers are all indications of bacterial attack in a localised area. The best treatment for such conditions is to use an antibiotic and to check that the water quality is perfect so the bacteria will not return.

Why not choose another species of Barb ... there are many available and all are peaceful!

Even experienced FISHKEEPERS have problems



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PLANTING WATER GARDENS

by Harry Hooper

Following my last article published in the March issue of Fishworld covering the subject of "Water Garden Design", the planting of water gardens or ponds is just as important as the design and construction. Always try to plan or create a natural overall appearance — this is where the correct choice of aquatic or moisture loving plants is absolutely essential to maintain a well balanced water feature. Badly chosen plants will, without any doubt, totally ruin your efforts. There are many good books available covering the subject of water gardening therefore it is advisable to "swot" up on the best selection of water plants for your individual pond, before jumping in the deep end. When purchasing plants, try to quote the latin or scientific name. This should ensure you receive the plants you desire. For example *Typha latifolia* or *Typha minima*, there is a difference of about 3' in height so don't just obtain any *Typhas* as you could be disappointed.

Purchasing Plants

When obtaining plants for water gardens, try to remember the three golden rules.

1. Only purchase well grown healthy looking plants and make sure they are well rooted. Never be tempted to buy small "spindly" specimens offered at lower prices and remember if you are in need of plants during early spring, never buy plants that have been forced under glass. Although they may look lush, a late frost could well check them unless they have been hardened off properly.
2. Only select plants that will suit the size of your pond or water garden, because many aquatic plants are invasive growers and can soon outgrow a small pond and become out of proportion. This is the reason you should only select plants that, when established, will enhance your individual water feature. Water lilies are the plants to select with utmost care, as waterlilies can be expensive. Never be persuaded by staff at garden centres to buy what you do not really want, as there is a vast selection of lilies to choose from to suit all sizes of ponds. With all the varieties of waterlilies available, even new cultivars being produced each year, well chosen waterlilies will give you many years of pleasure.
3. Marginal and moisture loving plants are in most cases displayed side by side at nurseries or garden centres. This can probably be misleading to a novice water gardener. I personally have

noticed in many cases several varieties of moisture loving plants offered for sale at retail outlets, actually standing in water giving the impression that this group of plants are for planting in ponds. This is definitely not the case, as bog or moisture loving plants only require a damp environment to flourish properly, so do not be led to believe that bog plants will be happy growing in water. To ensure you purchase the correct varieties of plants that will actually grow in water, always refer to a good handbook.

Floating Plants

Water garden centres normally offer a selection of floating plants, i.e. Water Hyacinth, Water Lettuce or Water Chestnut. These plants should never be purchased until late May as they are of a sub tropical origin. If purchased during early spring with the possibility of late frosts or even cold nights they may well wither away as they cannot stand the cold, but on the other hand, Water Soldiers or Frogbit are perfectly hardy. These plants will reappear each year. Although the softer plants are nice to grow and will look attractive floating on the pond surface they should really be treated as annuals. My advice to anyone about to purchase water garden plants is to only obtain plants from a reputable source who should give you sound advice on the water lilies, marginal or moisture loving plants to suit your particular pond.

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