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Dear Reader

The success of any magazine depends on many things, so at the end of another year it is always pleasing to say thanks to those who have made my job that much easier.

There is no getting away from the fact that to produce anything these days costs money and we are extremely grateful that so many of our advertisers have stuck with us and provided the necessary financial support just at the right (write!) time. Not only have AQUARIAN also supported us with advertising but they have actively promoted FishWorld by making it available to every Society Judge and Speaker in the country as well as mailing a copy to each enquirer of their Advisory Service. When people start ringing up to complain about non-arrival of the magazine, you know you are getting things along the right lines (even though too, so another thank you must go to the contributors of the articles. Many of our authors are by now fish-household names, whose regular articles have, in turn, brought information, education and entertainment to these pages. Should you come across them at Shows and aquatic events around the country, do make yourself known to them as an appreciative FishWorld reader.

Some people are still shy about submitting contributions but, on the other hand are quite constructive in their suggestions and new ideas for future issues. Either way, you the reader will benefit. In this issue we are breaking new ground with a FREE pull-out FISH GUIDE for you to begin your collection. In the following issue, we will also begin a completely new series of 'How To...' articles aimed not at breeding or showing fish but how to organise activities for your Society to enjoy. Talking to people, we've uncovered all sorts of activities that their Societies take for granted but which others might not have considered, we'll let you into their secrets.

If you didn't quite manage to win complimentary weekend tickets to Weston, or you couldn't quite make it this year, then you'll be able to read about what you've missed in this issue (and just who did win those tickets!) Paul Corbett relives the agony and the ecstasy of digging a pond (make up your mind over winter before going ahead next Spring). Terry Waller gets to grips with Gouramis, whilst John Edwards still has another issue to go before you know all there is to know about breeding Corydorass. There is a huge list of book ideas for Christmas plus a chance to design the new cover of FishWorld Magazine.

On behalf of the FishWorld production team, may I wish all readers, wherever they may be.

A Very Merry Christmas and a Happy New Year

Dick Mills, Editor, FishWorld

Contributions for the next issue should be in hand by January 14th 1996 and sent to: FishWorld Magazine, 10 Rosken Grove, Farnham Royal, Buckinghamshire SL2 3DZ. (Tel/Fax: 01753 645675).

Subscription Department —
 FISHWORLD MAGAZINE, 14 Upper Dane Road, Margate, Kent CT9 2LX
 (4 Quarterly Issues: Mar., June, Sept., Dec. £12.00 including P & F. Overseas
 Subscription £15.00 includes P & F.)

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 The Editor accepts no responsibility for views expressed in any article which remains the opinion of the author. ESOE
 Typeset and printed by Haywoods by design Tel: 01922 261693 Fax: 01922 785553

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The British Cichlid Association

by Karen Horrocks, BCA Publicity Officer

Formed in the late 1960's or early 1970's, by a group of like-minded cichlid enthusiasts, the British Cichlid Association (BCA) is still going strong today. Due to the uncertainty of the actual formation date, we celebrate our anniversaries on the date of our first Newsletter in 1971. The 'Cichlid Clanion' was a modest typewritten, photocopied affair but now our publications have evolved and improved beyond recognition: a general bi-monthly Newsletter, along with two black and white information Pamphlets, on specific species or cichlid-related topics (disease prevention, feeding, maintaining water quality etc.), there is also a quarterly 'technical journal', 'Cichlidae', covering more scientific aspects of the hobby. From January 1996, to help celebrate our Silver Jubilee, we will be producing our information pamphlets in colour, this major improvement will help keep the BCA in the forefront of the British hobby.

Membership is once again on the increase after remaining fairly constant in recent years. Currently over 600 cichlid keepers, from general hobbyists through to confirmed cichlids, recognise the value of belonging to an Association such as ours. The BCA offers various services to members including favourable rates on cichlid books (available via Mail order) some of which are not readily available in the U.K., we also offer advice for hire our purchase. Through our Species Controller, there is a search facility by which members can contact others in the group keeping similar species, this service is regularly used by members to obtain unusual stock for breeding purposes. Our 'Trading Post' regularly carries advertisements of species for sale, or wanted, many of which cannot

be found in normal retail outlets. Our Technical Editor offers advice on all manner of problems from setting up that first cichlid tank, right through identification, behaviour, feeding, maintenance and breeding.

As with any hobby group, the BCA relies on its members for support and input for its publications. Our members tend to fall into two groups — those who would find life without cichlids almost unbearable and general fishkeepers with perhaps only a couple of species within a community collection. We endeavour to cater for both these 'extremes' via our publications which cover aspects of the hobby from the regular 'Beginners Guide to...' species which may be frequently available but are slightly more challenging to more sophisticated information contained in 'Cichlidae'.

In March 1996, we will be celebrating our Silver Jubilee with a major event in the North-East — date and venue to be published nearer the date — watch the aquatic Press for further details. Even if you are not a member do come along and enjoy the day, we are sure you will feel it well worth the effort. If you would like more information about the BCA please send a stamped, self-addressed envelope to:

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from puddle to POND

(continued)

feet depth. As the bottom of the new pond was to be three feet above the lower path level, I did not install a bottom drain; I have the same view on bottom drains as a teenager has on condoms — pigs to fit neatly, swines to use and a disaster when they leak! A siphon tube would be much preferable to use all round, with the pond that is! We were getting there but, like the gynaecologist said when Brigitte Bardot walked through the door, so far so good — with the best yet to come.

Now was the time to look at the heart of things — the filter. No way was I going to buy one of those over-priced, over-rated, purpose-built units. I just happened to have a redundant fifty gallon plastic coldwater storage tank and I knew the whereabouts of another one — problem solved. Marine-ply separators were fibreglassed into position (using Isopon car body repair material) to form chambers, the filter area excavated alongside the pond and the two tanks installed. I had always wanted to utilise a vegetable-settlement pre-filter system, so an area 18" wide by 12" long was dug out and lined with butyl. Water fed by gravity from the pond through a gravel filter bed into the main settlement area planted with Starwort (*Callitriche*) and Pennywort. After this there is the first tank (containing brushes and clay pebbles) and the second tank whose first two chambers are filled with what I feel is the finest filter medium I know — COALITE (clinker no longer being available). It is very porous (ideal for bacteria), relatively inert, never clogs (rinse it before using it) and costs just £2.46 for 25kg. The final chamber contains two water pumps, a 2,000gph Lotus Diamond for main flow back into the pool and a much smaller Amphibious 400 for feeding a 15 watt UV steriliser and back to the shallow end. A secondhand Hi-Flow airpump creates aeration for the four central chambers enabling a much higher population of nitrifying bacteria. That was the theory.

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It worked well, until the water reached the chambers containing the coalite: what I omitted from my earlier description of this 'ideal' medium was that it is very light — so light, in fact, it FLOATS. In this particular case, right across the lawn and then down the bank at the end of the pond. This time I was not so lucky, she was watching and all the points saved by the cement mixer incident were used up with interest — the sight of hubby chasing lumps of coalite around the garden made sure of that!

With the coalite retrieved and filter drained, the thinking cap was now donned. A timber frame was fixed to the filter rim with an offset of perspex fixed to the underside over the two chambers now refilled with coalite. Then a brief wait (until the wife departed on yet another shopping spree), a brief sprint to the tap and BINGO! The patent coalite-catcher worked. A quick glance across to the old pond — initiated by a Gollum-turning manoeuvre — don't panic you slippery brute, we're nearly ready for you.

After a couple of weeks 'running in' with regular testing of the new water we were all set. pH levels of both ponds were the same (7.5), time for the transfer. Bilbo went first and all the others followed via containers ranging in size from ice-cream tubs to the washing up bowl. That left one — the 18" lump of muscle, scale and slime that had cost me several hundred quid, about half a pint of blood and sweat, a plethora of lost points and three months of work. Surprise, surprise, he went from puddle to pond with hardly a whimper.

Now several winter months later, with a pergola installed over the new pond and a patio by the side of it, all seems well. The fish have overwintered, the pH is stable and the filters performing well. As I sit in the garden chair on the patio, the phone rings: I inform the wife. "If it's that flaming Editor, you know what to tell him!!!"

IN MEMORIAM

Many years ago, the House of Fishes in Hemel Hempstead was the place to visit. Wonderfully set out, blue carpets on the floors and, of course, the main attraction, Roy and Gwen Skipper's Discus.

Readers familiar with that scene may well be wondering how the old H of F has been doing, well it's taken a bit of sad news for us to find out. A recent report in Hemel District A.S. Newsletter reveals all:

It is with great sadness that we report the recent death of **Doug Meldrum**. Until their retirement in 1989, Doug and his wife Pat, were proprietors of both The House of Fishes and the adjacent Angling Shop in the Old High Street in Hemel Hempstead, Hertfordshire. Together they ran both shops for many years, seeing countless youngsters progress from bamboo canes and bent pins to competent fishermen, and from 'guppies in bowls' to knowledgeable aquarists with wide-ranging interests in the hobby.

Following their retirement, Doug and Pat helped, and actively encouraged my husband and I to begin our own business, **Atwood Aquatics**, in Apsley. They gave us invaluable advice and a marvellous insight into the aquatic trade, indeed they put us on the map. On several occasions, when we desperately needed a break, they very kindly came out of retirement to manage our shop for our holidays. We feel sure that Doug will be remembered by countless people with great affection and gratitude for the encouragement and helpful advice he gave so freely. We would like to assure Pat that she is in our thoughts at this time.

Karen and Dave Atwood, **Atwood Aquatics**, London Road, Apsley, Hemel Hempstead.

The loss of another of fishkeeping's stalwarts has also come to notice. **Halifax A.S.** has suffered a sad loss by the untimely passing of its secretary, **Dave Shields**. Dave's fame had spread far beyond his local area mainly due to his skill in creating prize-winning **Furnished Aquaria**, admired by all that saw them on display at Societies' Open Shows and at major aquatic events in the North of England. Dave was a dedicated aquarist and Society person who will be sorely missed. We extend our condolences to his family.

Photos courtesy: Dr Joe Smart, 1995 Aquarist Aquarist (top left); Lyn-Tree Aquatic Festival winners (top right, centre right, centre left); Fijipers Away — Bristol Sunda Club lessons, Weston (centre); Fijipers Away — Weston (bottom left); 1995 Supreme Champion, J. Hill (bottom right).

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Fish with a NOSE for Trouble



Whilst readers will always be appreciative of information to do with fish, sometimes there comes news of ways in which fish actually help the community in other than a decorative, or even hobby-connected aspect.

The Elephant-nose, *Gnathotaccheus petersi*, is instantly recognisable by its extended lower jaw (yes, Elephant-nose is rather a misnomer) and most aquarists will also be familiar with its ability to emit electrically-generated signals from organs near its caudal peduncle. These signals are mainly used to help the fish navigate its way around, and avoid underwater obstacles and other fishes, in the murky water in its native African habitats; however, scientists have found that the frequency of production of these signals depends on the fish's state of mind — the more stress it feels the rate of production varies either much faster or much slower. Additional

research has shown that the fish has a remarkably ability to detect the presence of an immense number of different substances in water which, in turn, affect the fish's well-being. Add all this together and you have a completely natural pollutant detecting system.

At least one Water Authority is putting these fish to work at water treatment centres. Four Elephant-noses each one in its own aquarium is linked to the main waterflow: yes you've guessed it — computers are used to measure the rate of electric pulses produced by each fish and when any three out of the four fish all show any markedly faster or slower production rates then the alarm bells ring. Graphics show which fish are distressed and any investigation of the probable introduction of pollutants carried out followed by any necessary preventative treatment measures.

New Aquatic Attraction

Coming next July to an Exhibition Centre near you (if you live in Birmingham, that is!) is the latest Sea Life Centre. Adjacent to the National Exhibition Centre, the new public aquatic display should be opening in July 1996.

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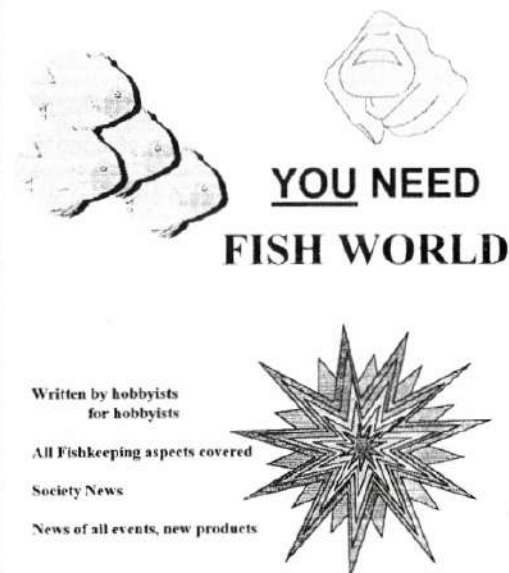
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The GREEN Guide to Fish Psychology

by Nora Green, Tameside A.S.

I'm sure most fish keepers won't agree with me when I say there is more to keeping fish than feeding them up to norm sizes, with nice bodies and fins in order to enter them in shows and win prizes.

I'm constantly told that fish only have small brains, therefore can't remember anything for more than two seconds. Then how is it that they know when it's feeding time? It can't be anything to do with the body clock, because our fish are fed about 5.30 every evening, winter and summer. In the winter they've been swimming around in the dark until we arrive home from work, yet when we switch on the tank lights they know it's feeding time. Also if we constantly feed the fish from the top left hand corner of the tank that is where they will congregate at feeding time. In order to figure out where the food is coming from they have to think and remember.

Why does a water change trigger breeding? That's obvious; all mothers know that a baby needs a nice clean environment. So what better time to breed than after a water change, which works on the same principal as spring cleaning in our homes.

Why do fish lose colour under stress? For the same reasons that humans go pale when afraid or feeling unwell. Working on the theory that if some higher body, suddenly picked you up and dumped you into a strange house without explanation, you would find it extremely stressful. Therefore wouldn't the same thing happen to fish?

I decided to test this theory when it was time to move Percy Plac into a larger tank. Before I let Hubby near the tank with a net I explained to Percy what was about to happen and to disregard Hubby muttering in the

background that I was daffier than the bloody fish.

Half an hour later in his new home he went all blotchy and after a few phone calls I was convinced it wasn't some dreaded disease, but stress. The move alone would have been traumatic but was made worse by Hubby's attitude.

Hubby seems to have more trouble than anyone else catching fish; which is hardly surprising when he menacingly leans over the tank threatening to squash the little so and so's. When I tell him to calm down he shouts at me, this inevitably frightens the fish so they disappear under rocks and behind weeds.

Fish look on their owners as parents and, like children when there is constant tension in the family unit, it disturbs the poor little things therefore causing psychological problems!

Fish like to feel secure, two examples of this is: I decided to set up a Cichlid tank and was wrongly advised on which fish to put in. Along with a Convict and a Firemouth I was sold a Keyhole, being a timid fish, immediately disappeared into the rockery which had taken me ages to design and build. We had to dismantle it to get the fish out, after which he was put into a more suitable environment where he thrived and grew into a lovely fish.

Another example of security is Fudgy, our rather large striped fish. He lived into an upturned plant pot which he had quickly outgrown; it was becoming quite an effort for him to squeeze through his little doorway. But when we replaced his house with a larger one he wouldn't use it. He didn't feel secure because it was new and spacious instead of the previous cosy, familiar home.

He's nocturnal and thought if he buried his head he couldn't be seen; the only problem was he almost destroyed the tank trying to hide under the rocks. It was amazing to see the size of the rocks he moved and it was

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The Green Guide

(continued)

some weeks before he would accept his new house.

If fish can't think then why are some fish territorial? They choose part of the tank which has boundaries not unlike the fence around our houses. If anyone encroaches our territory we don't like it, the same can be said of fish.

If you study a breeding pair of Angel fish you'll see how intelligent they are. They must know the leaf or whatever they want to lay on must be clinically clean otherwise why put so much effort into cleaning it beforehand?

Once the eggs are laid they guard them, protecting them from predators. They'll move the eggs and the little babies about, carrying them gently in their mouth without harming them.

Some parents (like my Angels) invariably end up eating the eggs or babies. There are two schools of thought on why this should happen and so far I'm not sure which to follow. To begin with I put this down to immaturity; however they are now considerably older yet they still eat them. Which leaves me to believe that perhaps they are either psychotic and think the environment isn't suitable for their offspring or, perhaps they feel threatened because I keep banging the tank with my camera while trying to film them.

The more sensitive fish also show signs of jealousy, so you must take care not to spend too much time gazing longingly at one fish. Our Tarquin is incredibly jealous and will hide sulking at the back of the tank. If you do make that mistake you can rectify it by gently talking and coaxing and the fish will return to his normal happy self.

However to end on a more serious note; it can't be easy for fish swimming about in glass tanks full of water with, in some cases a too high or too low pH; not to mention incorrect nitrite and nitrate levels, assuming you understand these things. If not, follow my advice and get to know their personalities; talk to them. If Prince Charles can talk to one's plants, why can't one talk to one's fish? Actually, I also talk to my Cactus and get lovely flowers. If at first you feel a little self-conscious wait until you are alone with them. Tap gently on the glass and say, "Who's a little lover?" Once you are comfortable with fish talk try it at the shops or perhaps in shops. If you're having trouble getting near a particular tank choose one near, then with sincerity as you lean towards the glass say, "Who's my little love, give daddy/mummy a big kiss." Making sure you make the correct kissing sounds. The other ignorant fish keepers will soon depart leaving the way clear for you to look at and hopefully talk to any fish that takes your fancy.

What a coincidence

Most readers will appreciate that no expense is spared to bring you FISHWORLD so it won't come as too much of a surprise to learn that the ubiquitous word-processor is used. Just to make sure there aren't too many spelling mistakes, the built-in spell-checking programme is used but, of course it isn't aqvatically-minded so all the scientific names and hardware descriptions have to be put into its dictionary. However, the spell-checker often makes up its own mind about things and a case in point came up recently. Being confronted with 'egglayers' (not an unlikely situation in this magazine's text) what did it offer to replace it with? Oglers? Given that our predilection is for gazing at things (fish in this instance) almost an inspired guess!

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Let's Go with ...

GOURAMIS by Terry Walker

and don't bang their heads on the cover glass!)

The Anabantoid Family is found in Africa, across India, Sri Lanka, Burma, down the Malay peninsula and Islands of the East Indies. (Read about the continental drift, Gondwanaland and the Sunda River to find out why some species are only found in this part of the world). The whole group is made up of the following genera:

Anabantidae:

Anabas, Ctenopoma, Sandelia

Belontiidae:

Belontiia, Betta, Colisa, Ctenops,

Macropodus, Parosphromenus,

Saharirichthys, Trichogaster, Trichopsis

Helostomatidae:

Helostoma

Osphronemidae:

Osphronemus

The second group, the Belontiidae contain most of what the hobbyist calls Gouramis which are all easily obtained in the shops and also in the 'lower price' bracket too. I have chosen 6 species from this group with a view to breeding. These are *Colisa fasciata* - Giant Gourami; *Colisa lala* - Dwarf Gourami; *Colisa soto* (formerly *C. chuna*) - Honey Gourami and *Colisa labiosa* - Thicklip gourami, (all from India and Burma), *Trichogaster leeri* - Leeri, Pearl or Mosiac Gourami and *Trichogaster trichopterus* - Blue or Gold Gourami from the Malay Peninsula or East Indian Islands.

As we breed these fish in pairs rather than in a shoal we need to be able to sex them. Some of them (*Colisa* and *Trichogaster*, to a lesser extent) all have colour intensity differences separating the males from females; the rest can be sexed quite easily by studying the shape of the dorsal fin - the male's is more pointed.

These 6 species are all nest

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Let's Go with Gouramis

builders, not unusual in fishes, our own Stickleback builds a riverbed nest; and some catfish also build bubble nests too. The gourami nest is built up of bits of leaf stuck together with saliva bubbles blown by the male, a solitary job and lots of hard work. The Moonlight Gourami's nest can be as big as a bowl or spread out most untidily by the Honey Gourami. To breed these fish you will need:

a slightly larger than usual breeding tank (18" x 12" x 12")
a nice pair of fishes
a heater/ster set at 80°-82°F
some bits of leaf and debris
a cover-glass but not aerating (which would break up the nest)
Set up the tank only three-quarters full of water, in a sunny position if possible, add the heater/ster and put a few bits of leaf on the surface.

The parent fish now need to be conditioned for breeding. Split them up, keep them warm and feed well on *Daphnia*, Mosquito larvae or rice, clean *Tubifex*. After a week or so the male will colour up and the female will get a plump appearance which is quite noticeable. Now is the time to introduce them to the breeding tank and to each other.

Once they have settled, the male takes control usually banishing the female to some far corner of the tank whilst he gets on building the nest. (Keep an eye on things for if he feels dissatisfied with her condition he may well attack her constantly, some hobbyists advocate having a thick bunch of plants at one end of the breeding tank in which the female can hide if things get too rough). Once the nest is ready, the male antics the female out of the corner and manoeuvres her up and under the nest; here they entwine, wrapping their bodies round each other and rolling over, as this occurs he squeezes her, eggs are expelled and immediately fertilised. The falling eggs are care-

fully collected and placed in the nest and the whole procedure repeated until the fish become tired or the female depleted of eggs. Now for her own safety, the female must be removed or protected by a tank divider for the male becomes extra aggressive as he guards the nest, replacing any eggs that fall out.

Once the eggs start to develop we should fit a tight-fitting top glass to the tank; not to stop the fish jumping out but to prevent cold draughts getting in. Remember, we only filled the tank three-quarters full, this is to keep a cushion of moist warm air immediately over the nest. After about 48 hours the tiny fry take a quick gulp of air at the surface to start off their labyrinth organ and, as any intake of cold air would probably kill them it is better to try the tight cover glass trick anyway.

An average gourami spawn can number between 300-400 in the smaller species with up to a thousand for the big boys. As the fry are minute, and among the smallest of fish fry, we are now faced with finding a suitably microscopic food for them during the first week; you must expect many fatalities, this is unavoidable.

Many years ago before the war when your editor was a young budding aquarist (which war was that Terry? I hear that Mafeking might soon be relieved!) there were no commercially available fry foods, you had to make your own. Add a few banana skins to half a bucket of water and leave for a few days. A glassful of the resultant water would then show water teeming with tiny live food (and a powerful pong if it went bad!) Carefully pour it into the tank as soon as you see babies darting about (you might find a magnifying glass a help at this time). After a few days, do it again, and then again, each time adding a drop of warm, clean fresh water as well.

(continued)

Let's Go with the Gouramis

The second food, after a week or few days, should be newly-hatched Brine Shrimp, a food full of nutrition. After a further week of daily feeds of this and Micro-worm can now be added to their diet. When the fry are 3 to 4 weeks old a growing on tank can be prepared. A 24" x 15" x 12" or even a 36" x 15" x 12" should be filled with water and heated up to the same temperature as the nursery tank. Add a small filter but not one that is powerful enough to suck the fry into it — a sponge filter is ideal.

The fry grow at alarmingly different rates; after 3 or 4 weeks we will have fishes 1/4" or 3/8" long together with lots and lots of trineer

ones, so we must start taking out the bigger ones and put them in our growing on tank. Now take one magnifying glass, a very fine net and a lot of patience and soon all 'qualifiers' will be transferred to their new home. Keep moving on the bigger ones, every 4 or 5 weeks until you have enough, say 40-50 young fish.

You should now be able to feed as normal — good flake food, small *Daphnia* and occasional treats like mashed up *Tubifex* and scraped Ox heart. Couple this feeding regime with regular partial water changes and keeping them warm and in about 7 or 8 months you will have a tank of very nice full-sized gouramis.

(continued)

NEW QUARTERLY MAGAZINE FOR ALL FISHPKEEPERS

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A Look at Corydorcas

by John Edwards, East Kent A.S.



PART V

I rather left my last article in mid-air (I blame the Editor for this) and, if you remember, we were about to collect the newly laid and fertilised *Corydorcas* eggs.

Corydorcas eggs have a protective shell through which the fry have to break out, this makes natural sense since, as the egg is stuck quite firmly to either tops of submerged tops of bushes or trees (where spawning takes place after river levels have risen due to melting snows) or to the glass walls of the aquarium, it means that the body of the young fry is protected. I first collect my eggs and place them in a small container (an 8" x 6" show tank is just right) with a covering of fine sand on the base and about 1" of water. Eggs are placed apart and enough acriflavine to turn the water yellow added (dosage will depend on species and the age of the fish). The object of this is to stop fungus. The depth of water can be increased to 2.5" and an airstone added.

Fry take between 3 to 5 days to hatch, according to species and to the temperature of the water. For instance, *Corydorcas barbatus* take 4 days at 72°F; with this particular species the eggs seem to shrink towards the 4th day, and the fry have no difficulty in breaking out of the shell. Since they are plain coloured, all you can see are lots of tiny eyes. You have to be quite observant at this stage otherwise you will end up watching the empty egg husk, so always check under the airstone. With some of the round-nosed species, ie *Corydorcas metoe* (Eigenmann 1914) or *Corydorcas burgessi* (Axelrod 1987) the reverse occurs with the egg getting larger and the fry taking a lot longer to emerge. At first, I lost a lot of these types of egg until I used the sand; in some cases the tail can be seen sticking out of the partly open egg shell and some assistance may be required to release the fry.

Once the fry are released, no food

is required until the yolk sac is used up and the fry become much more active. When you are sure your fry are hatching out, siphon out some of the water and replace with aged aquarium water; this water, we hope, will contain minute forms of live food which the fry will feed upon. I move on my fry to a larger tank (18" x 10" x 10") filled again with aged aquarium water, and feed them with egg-layers fry food in sparing amounts. This is usually when I panic and think I've lost the whole batch, because they become hidden amongst the gravel, but a sharp tap on the glass will get you a split second response: just enough time to spot them.

The feeding of the fry is very important - too little food and they'll starve, too much and you'll pollute the tank. I move a small amount of gravel from one corner, enough to show some bottom glass; into this space I drop my mixed up fry food (I make this up into a paste dollop) and by restricting the food to this area I can check just how much has been eaten. I remove any uneaten excess at the end of the day. Once the fry are over 8mm in length I go on to the *Tubifex* but only the fine small kind.

If you are going to move your fry within the first few weeks, do not let them out of contact with water (as when using a net). It has been my experience that moving fry from one tank to another using a net leads to losses; when re-releasing them into their new tank they drop from the net straight down to the bottom and die. After seeing this occur several times, I started moving the fry by means of a siphon tube (ie complete with water) and have achieved far better results - even when I have sucked up some of the fine sand with the fry as well.

Well, by now you should have at least had one batch of *Corydorcas* fry. No? In the next part of the story I will explain how to induce your *Corydorcas* to lay eggs.

Even a Worm can Turn

by R.A. Dove

About 10 years ago, I found myself having hundreds of fishes and not enough live food. The local shop did supply *Tubifex* of somewhat doubtful ancestry, astounding price and at erratic intervals. I therefore decided to collect my own fresh worms from Father Thames.

For an operation of this type, there are one or two obvious basic requirements, namely a couple of buckets and a sieve. Not quite so obvious to the uninitiated is the need for a strong pair of rubber thigh boots (strong thread on the trouser buttons!) and public transport. Imagine the reactions of bus passengers to an evil-smelling tramp sitting in the next seat nonchalantly hugging a dirty great pail of wiggling *Tubifex*! The chances, however of slipping by the conductor without arousing his sensorial suspicions (relating to sewers) would be quite remote and it could be a long and uncomfortable walk home.

Having checked the equipment, the next point is the state of the tide. It can be most frustrating to arrive at high tide, as the usual method of collecting does not require deep-sea diving equipment. Conversely, it can be rather exhausting lugging a couple of buckets containing mud, old bones, other repulsive river refuse and, we hope, *Tubifex* over a quarter of a mile of mud flats to the riverbank for sieving! Confirm the tide times with the Evening News and try to arrive when the river is about half-way: personally I favour a rising tide, giving the worms the maximum time to rise and mat on, or near the mud surface.

One has to be pretty sure-footed and not in the least squeamish to be successful collector. I'm sure that most of our lady aquarists would feel despondent finding their feet transfixed in a bank of black stinking mud and

pitching head first into a bucket of *Tubifex* - I can speak from experience! However, it can be quite interesting in summer provided that your reflections whilst working do not dwell too long on typhoid, tetanus and Emergency Ward 10!

Now down to the serious task of reaping the harvest. Most professionals have their closely guarded hunting grounds. As a rule, the most rewarding areas are mud banks built up by the tide on the down river side of an obstruction such as a moored barge or old houseboat. These mudflats built up by snowdrifts and can be very deep and treacherous. Under ideal conditions the *Tubifex* congregates near, or on, the mud surface and can be scooped up with bare hands. When two buckets have been filled with a mixture of worms, mud and the aforementioned excrement, one retreats stealthily from the exhumation. This retreat cannot be hurried, for the suction on the boots is extremely powerful and leads to one's downfall only too easily, as already mentioned.

Meanwhile, a third bucket and the sieve have been left at the waters edge and it can be most inconvenient if the tide has crept in unnoticed or local Teddy-bays have absconded with a new 'football' whilst you are stuck in the mud. Incidentally, one fiendish trick of youngsters is to observe their target (that you) from the opposite bank and explode a firework in one of the many drainpipes exposed by the low tide, when you are exactly in line. The concentrated sound hurtling across the otherwise quiet and peaceful river is quite staggering.

Assuming none of these misfortunes assail you, the next step entails half filling the sieve with the mixture and riddling with the sieve partly submerged in the flowing water. For the moment, more about the sieve: most commonly used is the one similar to a good garden sieve with an extra fine mesh. By riddling in the usual manner, using both hands, all the

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Even a worm can turn

(continued)

mud is washed away leaving worms and other large solids. These latter can be kept to a minimum by careful choice of mudflats. Personally, I favoured a sieve shaped like a bucket with gauze on the base and sides; fitted with a strong handle, this sieve can be used singlehandedly by rotating the wrist rapidly in opposite directions. When the washing is complete the contents are emptied into the third bucket and the process repeated until the mud buckets are emptied. A further trek up the mud bank is now indicated with a muttered prayer to heaven that some stupid so-and-so doesn't kick the fruits of your labours back into the Thames whilst you are stuck by your boots in the mud!

The average return from the bucket can be about 60-70% of clean worms in mid-summer. Heat can be the worms' worst enemy and for this reason it is best to hurry home with the buckets not more than half-filled to avoid suffocation of both the collector and the collected. By this time, all the solids, coarse sand and grit will have settled at the bottom of the pail and with a little practice it is quite easy to dive two hands in, feel the strata and lift the worms out cleanly in the shape of a large pancake. As we all know, shallow running water is the next essential for maintaining the worms 'in the pink'. By the way, unwanted solids make an ideal medium for tomato growing!

Winter collection of *Tubifex* is an entirely different matter. It is not too hard to visualise the difficulties during a cold spell. Imagine plodding along the foreshore into the teeth of a blizzard into a temperature of minus 5°C then, with bare hands, delving into a pile of freezing muck only to find, after sieving, that the return is about 1/4lb of very nondescript worms per bucket of mud. The mud banks are washed downstream by the strong tides

and the yield from the gritty foreshore can be heartbreakingly low. I have known full-time collectors spend 4 to 5 hours obtaining 6 pounds of worms. January and February are the worst months, if you examine your worms at this time you will notice how coarse and 'tired' they look; they've lost their 'get togetherness' and are most reluctant to get knotted. When the thaw sets in the Thames becomes swollen miles downstream and the collecting sites will be continually under water from one tide to the next.

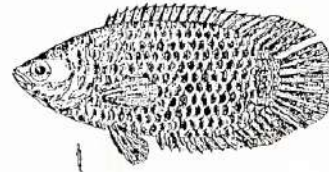
When you are unable to obtain your next supply, do not think of the folk who gravel for the stuff all year round, day in, day out and nights as well should the tides demand. Perhaps sixpence per thimbleful is not so expensive after all.

Have any readers strong views on the use of *Tubifex*? I know of experienced aquarists who swear by it, others who condemn it as a source of disease. One thought then: *Tubifex* do live in mud but they are washed in ever-changing water. Surely, therefore, provided that the worms have been kept sufficiently long to disgorge any impurities they should present less risk than our invaluable *Daphnia* inhabiting filthy stagnant ponds frequented (and well-faced) by visiting sheep and cattle! Controversial! Material for further contributions, I should think.

Editor's note:

*To many readers, the author's name should ring a bell. For many years, Dick Dover was the Treasurer to the FBAS. Now retired, Vice-President Dick still works a 20 hour week despite failing eyesight and still has time to read FishWorld — and support it with the above article written by him — way back in the early 60s. We welcome readers' views on the use of *Tubifex*; maybe some contemporary collector can tell us how it is done today or has the cleaned-up Thames lost its harvestable worm population?*

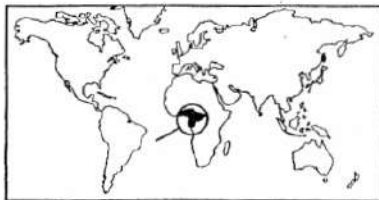
Ctenopoma kingsleyae (Gunther).



- Common Name:** Tallspot Climbing Perch.
- Colour:** Basic body colour brownish grey-green, darker towards the dorsal contour lighter on the belly, a darker outer margin to the scales brings them to prominence so that each scale stands out, a dark oval shaped blotch is present on the caudal peduncle which can vary in intensity between fishes and in immature fish is edged in pale yellow. The body colour extends into the webbing between the hard rays of the dorsal and anal fins and well into the caudal, pectorals and pelvic fins, the outer margins of these fins being devoid of colour as are the soft ray areas of the dorsal and anal.
- Characteristics:** Body and fins as illustrated. This group of fishes tend to be partially nocturnal. Sexual differences are said to be that the male exhibits obvious spiny areas on the operculum to the rear of the eye and on the caudal peduncle.
- Remarks:** *Ctenopoma kingsleyae* is the largest of the known species of *Ctenopoma*. Not recommended for the community aquaria, do not be kept with smaller fishes (see feeding). A tight fitting well secured aquarium cover is essential as climbing perches are renowned as travellers. Exhibit in show class E.

E FBAS FISH GUIDE.

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- Habitat:** Gambia to the Congo and Senegal. Found in well planted streams and lakes and pools overhung with vegetation.
- Temperature:** 25°-28°C (77°-83°F).
- Water:** pH 6.5-7.5. Mildly acidic.
- Feeding:** A predatory fish requiring a high protein diet, live foods such as mosquito larval, bloodworms, as well as the more substantial and readily obtainable maggots and fish flakes should form a major part of the diet. They can be encouraged to accept high protein flake and pellet foods.
- Breeding:** Little is known of their breeding requirements and to our knowledge they have not been bred in captivity, also one does not know if they are bubble nesters (not all of the genus are). However those believing to own a pair and wishing to attempt breeding we suggest the following. Set up a 750mm x 300mm x 300mm well planted tank with plenty of floating plants (in case there are bubble nesters), raise the temperature to 26°C (79°F) and observe. It may be advisable to remove the adults at the earliest opportunity.
- Comments:** It is suggested that some members of the genus are mouth-brooders. *Ctenopoma kingsleyae* possess (in common with all anabantids) an auxiliary breathing organ with which it is capable of extracting oxygen from the atmosphere therefore these fishes are able to tolerate waters with a low oxygen content.

FBAS FISH GUIDE. E

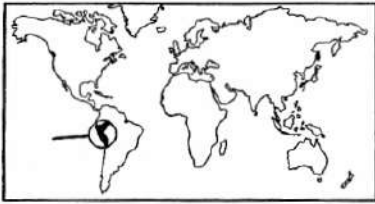
Corydoras panda (Rijssen & Isbrucker).



- Common Name:** The Panda.
- Colour:** Basic body colour light brown shading darker towards the dorsal contour, lighter towards the belly, a black bar commencing on the nape crosses the eye forming a mask terminating before reaching the chin, a second almost circular dark mark is displayed on the body anterior to the caudal peduncle. Dorsal carries a black area covering nearly the whole of the fin and a clear dorsal spine, caudal pale greyish-brown without markings, anal, pectorals and adipose clear without markings, although some specimens may carry one or more dark markings near the spine of the adipose fin.
- Characteristics:** Body and fin shape as illustrated. Note the concave crescent shape of the margin of the caudal fin. Females are larger and more rounded than males.
- Remarks:** A smallish bottom dweller ideal for the community aquarium, a good scavenger that if given the extra food and attention will repay the aquarist twofold. Exhibit in show class H.

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Habitat: Peru, in the fresh waters of the Ucayali River system.

Temperature: 20°-26°C (68°-82°F).

Water: PH 6.8-7.4. Approximately neutral to alkaline, softish water.

Feeding: All types of food are accepted, from live to frozen, Freeze dried and Flake. Corydoras are bottom feeders and to a certain extent scavengers, but extra food should be offered to ensure that they receive sufficient for their needs.

Breeding: The spawning procedure for this species is standard for most Corydoras as indicated in the section dealing with breeding in the preface.

Comment: The uncommon crescent shape of the margin of the caudal margin is present to some lesser extent in other members of the genus including Corydoras caupere and Corydoras caudimaculatus.

FBAS FISH GUIDE.

H



SPOT THE WINNERS!
Answers p.11



Tyne-Tees Aquatic Festival 1995

Sunday 27th August saw plenty of aquarists heading towards Tyneside for the Tyne-Tees Aquatic Festival at the Park Hotel of Lynemouth. Based on the sea-front, next to, coincidentally the Sea-Life Centre, the hotel offered two large halls which were occupied by Trade Exhibits and the Photographic Competition on one hand and the Open Show and Society Displays on the other. A third smaller hall was the location for the lectures and some hectic Inter-Society Activity. A number of FBAS Council members arrived on the Saturday and lost no time in sampling the local Chinese cuisine in Whitley Bay — following scouting parties sent out earlier. Fighting their way through the Bank Holiday weekend crowds back to their respective hotels for a nightcap was an illuminating experience too.

Once the fish were benched and judging started, the aquarists were of liberty to look over the trade stalls or to take in the two talks given by Dick Mills. After much cajoling by Geoff Bell, enough teams 'volunteered' to take part in a fishy version of morning television's 'guess a sketch' game. By the time the end rounds came quite a lot of extra visual clues were being thrown into the pot and frequent recourse to books were the order of the day for the junior team — one member couldn't always draw the species name but his partner managed to guess brilliantly from an almost encyclopedic mind! This combination won through to the final and were up against Steve Jones and his lady — guess who won! The fish Auction was another hectic highlight of the afternoon by which time all the Classes had been judged, Cards signed and stored. Federation Chairman, Peter Furze, did the presenting honours and everyone went home looking forward to the same event next year.

The principle prizewinners were:

Best in Show: G & J Bell

Best Exhibitor: G & J Bell

Three Rivers Championship:

1st B & S Critch; 2nd J Trainer;
3rd T & A Cannon; 4th J Chapman;
5th & 6th C & J Bell

Society Theme Tank:

Gateshead A.S.

Photographic Class:

Mr & Mrs Wilson

Inter Area Competition:

T.T.A.A.

FBAS Championship Class O:

1st T & A Cannon; 2nd G & J Bell;
3rd Mr & Mrs Rodway

FBAS Championship Class NO-T:

1st Mr & Mrs Rodway;
2nd G & J Bell; 3rd Mr Elliott

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Class Winners:

G & J Bell (Ba, B, Db, F, M; Ta, T, X, O-T);

R Hope (Ca);

Mr & Mrs Rodway (Cb, G, H, Ma, N B-M, S);

T & A Cannon (C, Gg);

J Mulroy (Da, Ea, E);

Mr & Mrs Wilson (D, Z);

B & S Critch (Ma);

J Douthwaite (J);

B Street (K, L, Q, X, B-M);

J Champion (M); Mrs S Gray (P);

T & S Gray (W); Mr Elliott (R);

R Tansey (U, V, Wa).

Well, How Would YOU Have Done?

Each year, visitors to the Supreme Festival of Fishkeeping at Weston-super-Mare take great delight in the suffering inflicted on the contestants in the Final of the AQUARIAN-sponsored AquaChomp Competition. Like audiences at home watching the television series Mastermind, you think you could have done just as well. Well, could you? Put yourself to the test with this short compilation of some of the questions that were thrown at the Finalists. If you can honestly answer them without too much trouble, we look forward to putting you in the Big Black Chair next year!

1. Which 'drinks' more water freshwater or saltwater fish?
2. Give three purposes served by the aquatic plants
3. Name two fish where the male incubates the young.
4. Name the special feature of *Utricularia*.
5. Give one word that describes the Catfish's bottom-dwelling, dusk or nocturnal lifestyle.
6. Name the dorsolateral fin location differences between *Parawella* and *Loricaria*.
7. *Callichthys* and *Colisa* share a common behavioural pattern what is it?
8. How much smaller is an American Gallon than the Imperial Gallon?
9. Sub-orbital spines are found where?
10. What is a pedophagist?
11. What is the main threat to the cichlid population of Lake Victoria?
12. Name the main types of scale.
13. Why is the Elephant-nose fish wrongly named?
14. How do Water Boatmen get from pond to pond?
15. Some authorities argue that the Halfbeak belongs to the same family as what marine fish?
16. *Skiffia francesae* is special in what way?
17. What is meant by ovi-oviviparity?
18. What is a trophonemata?
19. What is different about the Amazon Molly, *R. formosa*?
20. How do *Hemirhamphodon* differ from *Dermogenys*?
21. Which group of fishes have erectile spines in the caudal peduncle?
22. Name a family of Aquarium plants which require a resting period.
23. What's the difference between a Hydrometer and a Hydratmetrol?
24. Where does the name Flaty come from?
25. If sex reversal occurs in Swordtails, which way does it go?
26. Name a major marine livebearing fish group.
27. Name the main physical difference between Angelfish and Butterflyfish.
28. Name three types of filtration processes.
29. Which bacteria turns nitrite into nitrate?
30. What internal feature do Characins have but Cyprinids don't?

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Well, How Well DID YOU Do?

The Answers

1. Saltwater fish.
2. Shelter, Nitrate absorbers, Spawning sites, food.
3. Seahorse, Pipefish.
4. Tiny bladders which traps minute life forms.
5. Crepuscular.
6. *Farlowella* opposite each other, *Loricaria* not.
7. They both build bubble-nests.
8. 17% - 3.785 litres against 4.545.
9. Under the eye.
10. A fish that eats eggs and young fry, especially directly from the mouths of mouthbrooders.
11. Predation by *Lates* sp.
12. Ctenoid, Cycloid, Ganoid, Placoid.
13. Its nose is an extension of the lower jaw.
14. They fly.
15. The Flying Fish.
16. It is maintained only in captivity.
17. Internal fertilisation with subsequent deposition of fertilised eggs - *Oryzias*.
18. A pseudo-placenta.
19. No males exist.
20. They have teeth in the lower jaw.
21. Surgeons.
22. *Apogonogton*.
23. One's an instrument for measuring liquid density and one's a pond insect.
24. From the earlier name for the fish *Platypoecilus*.
25. Female to male.
26. Sharks.
27. Angelfish have spine on gill cover.
28. Mechanical, Chemical, Biological, Vegetable.
29. *Nitrobaacter*.
30. Teeth in the mouth.

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Letters



Dear Sir,

On behalf of **Hounslow & District A.S.**, may I beg a brief space in which to pass on the Society's thanks to all those who helped to make our recent Open Show such a success?

Like most Societies these days we were anxiously totting up the pre-Show postal entries and didn't quite know what to expect when they reached 180 or so the night before the show. Fortunately, Show day was a sunny one and we managed to bench no less than 383 entries by the time judging began. 203 on the day - entries can't be bad but it did give our Show Secretary Trevor Butler a wildly-exciting last few minutes!

The one disappointment on the day was to have to turn away entries from the gentleman who had made the trip from Folkestone but had fallen victim to one of the M25's setbacks. By the time he eventually arrived, the Classes in which he wanted to enter had already been judged, signed, 'starred' and delivered.

So, may we thank all exhibitors, all judges, Terry Waller and Brian Chittenden who brought support to our Show in one form or another. Of course, the Hounslow members did their bit in the erecting and dismantling the benches in record time whilst the Ladies Catering Formation Team never allowed anyone to go hungry or thirsty. We look forward to entertaining all of you again in 1996.

Bob Nelhams, Secretary H.D.A.S.

Dear Sir,

This article in the recent edition of *Fish World* by Ms A. Telford has been drawn to our attention. The assertion on page 29 that "...vessel registration (by the Water Byelaws Scheme) does not include any effect the vessels may or may not have on the water..." is quite wrong.

The material of any fitting - this

includes filter bodies and pristine cartridges - listed in the UK Water Supply Industry 'Directory of Water Fittings and Materials' will have satisfied the criteria in BS 6920 and will not be toxic; cytotoxic; give rise to taste or odour problems or microbial growth. The materials therefore are listed because they will have no effect on drinking water. I include two Information and Guide notes.

Would you please print a retraction as the assertion may appear damaging to the Water Supply Industry's testing arrangements. G. D. Meys, Manager, Water Byelaws Scheme, Wrc Evaluation & Testing Centre, Oakdale Gwent NPI 4EH

Editors Note: We are indebted to Mr Meys for setting the record straight by clarifying what, to many, is a very technical subject. In fairness to the aquarium hobby, it is often felt by hobbyists that whilst every effort of the Water Industry to make water safe for human consumption is rightly laudable, aquarium or pond fishes may in consequence have extra problems thrust upon them by the very treatments imposed to protect their owners.

Dear Sir,

As the A.S.A.S. Convention held in Portsmouth on September 10th, members of **Portsmouth, I.O.W., Rehill & Raigate, Eastleigh, Bracknell, Mid-Sussex and South Dorset Societies** heard an excellent talk on the **Cichlids of Lakes Malawi & Tanganyika** by Mary Bailey, who travelled down from Lincolnshire. After an excellent Buffet prepared by Dawn Slade, Bill Rundle the F.B.A.S. President entertained us with a talk on Breeding Characins; this was followed by an Auction of Fish, Plants and Equipment.

Sadly, only 50 people attended. To those members of the A.S.A.S. Societies who didn't attend, I can only say you missed an excellent event, a chance to hear experts in their own particular fields and to go home, not with a card or trophy, but with something far more valuable - knowledge. In this respect there are no losers, **everybody wins.**

Earlier, at the Catherington Show

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Letters

Show, held on Bank Holiday Sunday and Monday and attended by over 30,000 visitors, the **Portsmouth Aquarist Society** exhibited 40 furnished Aquaria of tropical and coldwater fishes, and one vivarium containing pond life.

A novelty aquarium made by Dave Oxford proved to be a real Show-stopper as people young and old queued to get a fish-eyed view of the underwater world. The photographs, taken by Wally Ryder, capture a young enthusiast viewing a Bristol type Shubunkin.

Could this be the way we will be judging fish in the new Millennium, I ask?

Jack Stillwell, Portsmouth A.S.

Dear Sir,

Just a line to thank the members of **Hounslow A.S.** for the welcome we received on the day of their Open Show, which more than compensated for the disappointment of not being able to bench our fish due to the delays on the M25. We did enjoy ourselves at such a friendly Show and we look forward to seeing many of you again at Weston.

Les Bowden, Folkestone, Kent.

Dear Sir

We, at **Castlemilk Fishkeepers Club**, have just recovered from our first Inter-Club Open Night which, I might add, was a great success. Over eighty people attended and judging from the feedback most of them can't wait for next year's Show.

While we, the members of **C.F.C.**, can give ourselves a pat on the back for the hard work we put into the event, I feel that the **F.B.A.S.** deserves a mention in despatches. A number of comments were passed regarding the Quiz we arranged and the tubs of food handed to each place winner, not to mention the trophy awarded for Best Fish in Show. All these items were made possible from the donation received from the **F.B.A.S.** and from

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the obvious hard work put into the production of the **F.B.A.S. Quiz Book**.

Please convey our thanks to all concerned and assure everyone of our best wishes.

Brian Houston, Chairman C.F.C.

Dear Sir,

We would like to say a very big 'Thank You' to everyone for making our trip at **Seascale A.S.**, to the Supreme Festival of Fishkeeping so much fun. We cannot find the words to say how we felt, as everyone simply took our kids to their hearts. We were extremely flattered (almost embarrassed) by compliments on the team's appearance and behaviour but, honestly, we really don't have to threaten, or bribe them - they really are like that all the time. We would like to single out some folk for special praise - Hagens for making the trip possible and Peterhead A.S. for being our 'Champions' in the 'Jug o' War'. Incidentally, you'll be pleased to know that the little lass was only a bit winded and a bit frightened by her fall - nothing that winning the event didn't put right. We particularly appreciated the extra fishkeeping events put on for all the juniors at the Weekend, and hope everyone else had as much enjoyment as we did.

Helen & Chris Steele, Seascale A.S.

Watch out for this backswimmer



The next time you are peering into the depths of your pond you may see the familiar upside down shape of the Water Boatman, *Notonecta* sp. sculling along being propelled by strong rowing action strokes of its hind legs. This creature is generally considered as something that comes with the territory, appearing in Spring shortly after the Pond-Skaters.

Water Boatmen have a hard life staying submerged as the hairs on their body and especially on their legs, trap air which gives them a permanent tendency to bob up to the surface. To counteract this, and to remain submerged, they have to cling onto things under the surface. Returning to the trapped air, this bubble allows the insect to breathe whilst underwater, either directly through spiracles on the

skin surface immediately under the bubble or indirectly by absorbing oxygen in the bubble from the surrounding water. Despite their attractive swimming action, they have a very sinister side for they are very predatory and will take anything that comes within their grasp. They will easily catch young fry and have been seen dragging down mating Damselflies. Recently, whilst trying out Aquarian's latest granule food, guess who beat the Goldfish to it - yes the Water Boatman!

Although captured easily, Water Boatmen should be handled with care; they produce a poisonous toxin which can be injected via their powerful beak. Incidentally, if you wonder how they get from pond to pond the answer is simple - they fly.



Bloomer Corner

Unfortunately, one or two slip-ups occurred in the September issue of *Fishworld*. If you noticed them, and didn't say anything then you are truly blessed. If you didn't notice them then here they are (should you want to retrace your reading for more malicious enjoyment).

We humbly apologise to:

1. **Nora Green** for omitting her by-line at the start of **The Green Guide to Big Show Bargains** (page 15) Actually Tim Smethurst rang up for the name of the lady who thought he was handsome! (See how we protect our authors, Nora!)
2. We don't usually try to present our fishes as **dead** but that's how the marine fish looked in the picture on page 31. It came back upside down from the printer!
3. As far as we know there is no such place as East Kent so it's unlikely there'll be a Society there either (page 39). Apologies to **John Edwards**, who's a member of East Kent A.S.
4. Apologies to **Plymouth A.S.** for getting the date of their Open Show one day early.

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Friday
17th May
1996



Monday
20th May
1996

GROCKLEMANIA '96

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Supreme Festival of Fishkeeping



The turn out was impressive: no less than 320 people booked in for the Festival of Fishkeeping at Pantin's Chalet Hotel at Sand Bay over the Guy Fawkes weekend. Ahead of them lay an event-packed two and a half days, superbly organised by Joe Netherzell's 'Weston Supreme Team' under the new, and generous sponsorship of Rolf C. Hagen.

The Friday afternoon was given over to the International Water Lily Association whose AGM was chaired by no less than James Allison, the author of the best-selling 'Water in the Garden'. Teira's Dr David Pool followed up with a slide presentation to those present. By this time, the complex was filling up with arrivals besieging the Reception Desk and Colin Richards; at the same time finishing touches were being put to the trade stands and the Societies' displays. The first innovation of this year's event, the splitting into two of the evening entertainment areas proved to be successful; Cabaret with its attendant vigorous music was the scene in the main Ballroom whilst the rear bar was the setting for more quieter music where some serious dancing was taking place.

First thing on Saturday, the entries for the Bristol Society's Coldwater Show began arriving. The youngsters from Seascale A.S. were going around in the smartest-dressed gaggle you've ever seen, soon to be pre-occupied with their own junior-slanted entertainments and activities culminating in a Junior Furnished Aquarium Race. In the Swimming Pool those wishing to try scuba-diving were collectively shown a training video and equipment demonstrated before the 'plunge' took place on a timetable basis. Meanwhile, Heiko Blicher began what was to be a marathon performance of a Discus presentation, not helped at all by the fact that (a) his projector broke down and (b) he had planned a 2½ hour programme! This meant that the specialist rounds of the AquaChamp Competition had to be put back to Sunday morning. The Adult Furnished Aquarium Race heats were the

usual frantic scene with even more outrageous sabotaging occurring during the Trade Heats — who said methylene blue wasn't freely available anymore?

However, it was during the afternoon things really hotted up. Whilst Dr. Chris Andrews was giving his slide programme on the Baltimore, London and the home aquarium environments — Geoff Copes was refereeing the 'Tug o' War' in the main Ballroom. Strategy soon directed that shoes and socks off was the rule in order to get a grip on the polished floor and more than once Geoff had to come to the aid of the losing side to even things up. Needless to say, those Seascale kids were into everything and managed to get into the final despite losing one of their members in a pile-up on the floor — no damage done thankfully. As the kids had had to survive a three-pull qualifier those really terribly nice fellows from Peterhead A.S. gallantly offered to proxy pull for them in the final where they duly beat Brocknell A.S. The Grudge-pull between Hagen and Interpet resulted in a win for Hagen — well, who would argue with G.Copes, the Budgie Master from Hagen's? A terrific contest and all undertaken in the best possible spirit, although the Pantin's antipodean team looked a little miffed on their early defeat. Outside, the Tricky Tykes were giving their noisy, exhilarating demonstrations and inside the displays by Bullesey Trophy Centre, Bristol Zoo, the Hagen Pet Fun Factory, Mobile Petz, Sparshot College, Pauline Kidner's Wildlife Conservation Display, Foreign Birds, our Wildlife Artists and Geoff's Budgies attracted many visitors. Then

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Supreme Festival of Fishkeeping

(continued)

.... there was Part the Several of Heiko's lecture which had to be terminated at 5.30pm so that people could get ready for the Evening Dinner and Cabaret.

On Sunday, it all started up again — fish arriving for the Hagen Master's Open Show and the 1995 FBAS Supreme Championship; people plunging in the Pool with scuba gear again, Tricky Tykes (dogs) and Tricky kids (that Seascale lot again). Les Holliday had no problems with his projector during his Coral Reef presentation as the Finals (Junior and Adult) of the Furnished Aquarium Race were taking place elsewhere, this year (another innovation) meant that real plants were to be used in the final — the gravel supplied was a little more accommodating than last year's boulders! Having mopped up the floor it was then time for the Aquarist AquaChamp Final. Just like Mastermind, six contestants with a specialised and general knowledge rounds to face in the chair. After the

first round, there wasn't much in it with all doing extremely well on their own subjects (a selection of questions appear elsewhere for you to try your luck) and the end result only came as a result of a series of tie-breaking questions, the first time a dead-heat has occurred since AquaChamp was first staged. Dr. Joe Smartt just managed to out-smart (see, I did dare say it!) Alan Stevens in a battle that had everyone enthralled. Dr. Chris Andrews again gave his presentation and then it was time for the Show results and THAT ANNOUNCEMENT — of the Supreme Championship winner. No, it wasn't that Loach again but a fish not much bigger — a little *Parotocinclus* owned by J. Hill of Salisbury A.S. In no time at all, the prizegiving was over and the whole event was dismantled again until next year.

The verdict was that it was the best 'Weston Weekend' ever and if that's the case whatever will they devise for next year?

ROLL OF HONOUR

Most Informative Trade Stand
Interpet
Special Award for Continued Support to FBAS
Anglos Aquarium Plant Company
Supreme Society Display
Erith & D.A.S.
Junior Furnished Aquarium Race
1st **Seascale A.S. (Boys)**
Equal 2nd
Seascale A.S. (Girls)
Michael Debonnaire & Stephanie (Hemel Hempstead A.S.)
Richard and Claire (Silkton A.S.)
Aquarian AquaChamp 1995
Dr. Joe Smartt, G.S.G.B.
Runner Up **Alan Stevens (Eastleigh A.S.)**
3rd **Thomas Mayle**
4th **Chris Ralph (Basingstoke A.S.)**
5th **Eric Franklin (S.P.A.S.S.)**
6th **David Gumble (Peterhead A.S.)**

Hagen Masters Open Show
Best in Show **Dave MacAllister,
Xiphophorus neotolanahill
Welland Valley A.S.**

Furnished Aquarium Race
1st
Driffield A.S.
Equal 2nd
Silkton A.S.
Mark Moore & Andrew McDonald (Seascale A.S.)
2nd **Pantin**
Geoff Copes Tug o'War
3rd
Seascale A.S. (Courtesy of Peterhead A.S.)
2nd **Brocknell A.S.**
F.B.A.S. 1995 Interpet Supreme Champion
Parotocinclus maculicauda owned by J. Hill, Salisbury A.S.
Bristol A.S. Invitation Coldwater Show
Best in Show **Tony Roberts**
Highest Painted Exhibitor **Jim Day**
Highest Painted Individual **K. Tyson, Hounslow A.S.**
Highest Painted Society **Strood A.S.**

Brush up your Bogwood

Faced with all the magnificent pieces of well-presented bogwood ready to use for aquarium decoration featured on displays by Cornish Wood Supplies, visitors to Shows might well provide an alternative title to this article with the comment 'How do they do that?'

The answer has been given to us by BI Dendix Ltd., wire brush manufacturers in Chesham. Before the wood is ready for sale it needs to go through a series of processes starting with a high-pressure wash to remove excess dirt (remember the bogwood has lain submerged in peat bogs for many years). Then the surface layer of wood is removed using Dendix brushes, another wash and then it is time for the final drying and polishing and a literal 'brush up' using pencil brushes from the Dendix range. With the intricate natural convolutions of the bogwood (no two pieces are identical) specialised brushes had to be found — not just of the right shape (to get into



information
provided
by BI Dendix Ltd.

all the awkward nooks and crannies) but also of the correct gauge — too coarse they simply lure the wood, too fine and they didn't have much effect. Every couple of months, Susan Wherry from Cornish Wood Supplies, visits Graham Bunt Engineering at Napean near St. Austell, to buy replacement brushes and wire wheels — usually a few dozen at a time.

The resulting 'aquarium furniture' provides excellent decoration for the tank and also helps to replace natural elements in the water which the fish would otherwise only encounter in their original habitat.

by courtesy of BI Dendix Ltd., Lower Church Street, Chesham, Bucks HP6 5XT
(Tel: 01291 625181)

New speakers for Societies

The Federation of British Aquatic Societies is pleased to announce that **Mary Bailey**, the well-known Cichlid expert, has kindly agreed to be included on the Federation's Speakers list. Societies wishing to book Mary for talks are welcome to write to her direct at:

Mary Bailey, The Gatehouse,
Horseshoe Road, Spalding, Lincolnshire
PE11 3JA.

Additionally, **Dr. Peter Burgess**, the well-known livebearing fish-collector and writer for FishWorld, is also offering his lecturing skills to Societies with Fish Collecting in Borneo and the Caribbean, Fish Health and Fish Conservation as subjects. Based in London and Plymouth, Peter can be contacted at the Fish Unit, Davy 6th, University of Plymouth, Drake Circus, Plymouth, Devon PL4 8AA or directly by phone on 0973 411871 (NOTE: this is correct, do NOT dial 01973!)

HAVE YOU READ?

With Christmas fast approaching, it is a great pleasure to bring reviews of some great new books just released, especially as some of them are written by practising aquarists known to most readers. An alternative heading to this column might well have been - 'The Aquarists Strike Back'.

AN ILLUSTRATED ENCYCLOPEDIA OF AQUARIUM FISH by Gina Sandford (The Apple Press - £17.99) is a book by a hobbyist for the hobbyist drawing on her hard-earned practical knowledge and which reflects up to date taxonomic terms in aquarium technology.

Basically, this is not a 'how to' book but a fish book with only 20 or so pages devoted to the keeping theory. After that, it's page after page of well-illustrated species whose text description don't waste time duplicating what you can see in the picture but more importantly giving information about the fish's character and life-style. Essential information on things such as Family and Common Names, Distribution, Size, Food, Temperature range and pH come in almost snappy one-liners. (Size and temperature information is also repeated graphically beneath each illustration). Breeding information and Tank set-up description for each species entry is also given. Fish species are grouped in the usual manner - the popular groups first including, dare it be said, more than a favourable leaning towards catfish (Gina's own fish interests)? These are followed by a miscellaneous selection which in turn leads to a generous marine section.

Unfortunately, one or two misplaced illustrations and some non-uniformity of presentation in the artwork will stick out like the proverbial sore thumb to the more experienced fishkeeper but these should not be used to deny the work a place on anyone's aquatic bookshelf.

Two books, again by well-known aquarists, feature in a new range entitled **An Aquarist's Handbook** (Blandford Press - £9.99 each): they are **CORYDORAS CATFISH** by Derek Lambourne and **PLATIES AND SWORDTAILS** by Derek and Pat Lambert.

Each work is written to a formula, so as to keep the volumes uniform and although each author may well have felt that putting a quart into a pint pot was quite impossible, it is quite amazing just how much information has been included. The chapters common to each book cover Classification, Anatomy, Natural Environment, Aquarium Environment, Stocking the Aquarium, Diet, Diseases, Breeding: at this point due to the difference in species coverage the books diverge. *Corydoras* continues with a species selection whilst cultivated strains of Platies and Swordtails are described followed by an extra chapter on their wild counterparts. Both books then regain a common path including Reference and Further Reading lists, Conversion Tables and Index but *Corydoras* has managed to slip in an Addendum covering four late-discovered species just in time to go to Press.

These full-colour volumes contain a wealth of information, are small enough to be practicable but large enough to stimulate further interest. It remains to be seen if the range will be continued to cover the rest of the popular aquarium fishes filling our aquariums, although I have a feeling that some groups of fishes may well have to be subdivided to get them into the same pint pots.

Also from Blandford Press (but not forming part of the Aquarist's Handbook series), is **THE ART OF GOLDFISH KEEPING** by Peter Cole (£9.99). Following on from his successful work, *The Art of Koi Keeping*, the author has turned his attention to the Goldfish and its many variants. The result is a very well presented and colourful work, the photography (mostly by the author) is excellent, with the accompanying text

Have your read

and the diagrams being clearly set out and a pleasure to follow. Although everyone's idea of complete coverage may vary, this book appears to contain all you need to know, without being overtly technical and provides an excellent introduction into this specialised area of fishkeeping.

FRESHWATER FISHES OF WESTERN INDONESIA AND SULAWESI by Maurice Kottelat, Sri Nurani Kartikasari, Anthony J. Whitton and Soetikno Wiripatmodjo (Periplus Editions-£41.00 plus £3.00 p&p) is one of those books it's hard to pick up let alone put down, although it is obviously a field guide, you wouldn't want to cart it about on your travels! The area of the title is that magic section of the world where many of the aquarist's favourite fishes originate; the home of the Barbs, Rasboras, Bettas, and Gouramis to name but a few. Despite their popularity, they seem to have played more part as important, economic 'exports' to date rather than to be fully explored and documented as a national, and natural resource.

This work sets out to redress that omission. All known species, from freshwater, brackish and saltwaters, have been collected, photographed, measured, preserved and documented. What has emerged is the definitive identification work for these fishes; the importance to conservationists, naturalists and, of course aquarists cannot be realistically be measured but the fact that now someone knows these fishes are not only there, but what they are, must mean their tentative future is being considered to some extent.

Each Family entry is headed by a description of the species's habitats and behavioural characteristics. An identification key allows separate species within the genus to be isolated. The usual scientific facts are given - Ray and Scale counts, size (Standard and/or Total length), physical description (often very detailed) and sexual differences where known; distribution is also noted. You will see that little, or none at all, information is

(continued)

given as to the fish's compatibility for, or requirements in, the aquarium are given but often the fish's importance as an aquarium subject is noted. Should any particular species demand further examination, a list of further reading will direct you onwards.

The 800 or so colour photographs (plus extensive line drawings) undoubtedly give the work specimens shown are dead and preserved, enough details can be gleaned to substantiate positive identification in most cases. As far as the hobbyist is concerned, the number of Betta species shown is most enlightening! Already, the Federation's Judges and Standards Committee have made good use of the work but nobody's commented yet on the fact that the Index isn't at the very end of the book - a very minor criticism. Distributed by Wheldon & Wesley Ltd, Lytton Lodge, Codicote, Nr Hitchin, Hertfordshire SG4 8TE (Tel: 01438 820370).

With conservation constantly in the public mind (and with long-haul holidays getting relatively cheaper) the next three books will enable you to enjoy more thoroughly any marine animal that you might snorkel, or scuba, past during a vacation dip into warmer waters.

REEF FISHES IDENTIFIER, REEF CORAL IDENTIFIER AND REEF CREATURE IDENTIFIER by Peter Hummann (New World - £34.95, £24.95, £26.95 respectively, £79.95 boxed set of all three) are glossy colour printed, flexback editions containing excellent identification photographs of the three 'animal' kingdoms described in their respective titles which live in the waters surrounding Florida and the Bahamas. Every shot has been taken 'on the reef' so to speak; there are no studio set up shots to represent those fish that escaped the tent in the wild. Each species has fairly limited information about it but it must be born in the mind that these books are aimed at the diving fraternity rather than the

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Have your read

(continued)

aquarium keeper. Robust enough to actually take on a dive (the books are obviously waterproof) these titles could prove to add that extra informational dimension to your holiday. For those readers who aren't confident enough to do the whole scuba thing, there is a Shallow Water version.

SNORKELLERS GUIDE TO MARINE LIFE OF THE CARIBBEAN £9.95 which covers the many interesting species that occupy the water from the shoreline to some 3 metre depth. All these Identifier titles are available in the UK through:

Coral Marine International Ltd., 2 Des Roches Square, Witley Way, Whitney, Oxon OX8 6BE (Tel: 01628 810654/01628 810678 Direct Sales Line); Fax: 01628 610669.

With the bulk of aquarium books appearing to come at us from over the Atlantic, it is welcoming to find that although the moving force behind a number of excellent aquarium books is again transatlantic, many, or most of the authors are, in fact, European. **BARRON'S** (of Hauppauge, New York) have a wide range of aquatic titles aimed at all levels of expertise and finance. **The Complete Pet Owner's Manual** series contains the following titles: *Goldfish*, *Tropical Fish*, *Cichlids*, *Discus Fish* and *Killifish*. Each Manual (£4.50 each, £4.95 for Killifish) contains essential information about setting up the aquarium for the particular species under discussion together with feeding, aquarium management, disease control and breeding care. Where relevant in full colour photographs show either strains of individual species (such as Goldfish or Discus) or a wider selection as in the broader based Family or general titles; each book also contains clear, easy to understand monochrome artwork and will appeal to experienced and novice, young and old hobbyists alike.

The three books in the **Handbook** series are *The New Aquarium Handbook*, *The New Saltwater Aquarium Handbook* and *Aquarium Fish*

Breeding. As might be expected, the first two titles go into the aquarium management side of things a little more than comprehensively than the previous titles, information on the fish themselves, whilst very adequate, is restricted to text rather take up unnecessary space with paragraphs. The work on breeding gives a thorough cross-section of breeding information right across the fish spectrum - including Catfish and Rainbowfish - together with excellent details of unisexual and hermaphroditic species (do you know the difference?) and many practical guidelines for extending your stocks of aquarium fishes in the most natural way possible - breeding your own!

Bringing much of the information from all the previous titles together, **Aquarium Fish** (£9.99) is more of a 'half & half' book which, with both aquarium management and an excellent selection of species being fully detailed with photographs and line drawings, represents a valuable foundation on which to base fishkeeping, no matter what direction it takes off in at a later date.

Goldfish and Ornamental Carp (£13.99) is described on the hardback cover as a comprehensive guide to the care of both new and popular varieties. Seeing as the work was translated in the mid-1980's, it is unrealistic to expect that the very latest varieties such as the Panda or even Chocolate Oranda will be included, but allowing for that, the work again gives an excellent overall picture of keeping the more ornamental members of the carp family.

All the above titles from Barron's can be obtained direct from:

CORAL REEF TECHNOLOGY LTD,
62 High Road,
Byfleet,
Surrey KT14 7QL
(Tel: 01932 355121 Fax: 01932 349718)

1995 F.B.A.S. Supreme Championship

Entry	Species	Points	Total
1.	London Shubunkin	13,14,14,13,13	67
2.	London Shubunkin	14,14,14,13,14	69
3.	London Shubunkin	14,14,14,14,14	70
4.	Betta sidthimunki	20,16,16,16,16	84
5.	Corydoras bolivianus	18,17,16,16,16	83
6.	Corydoras bolivianus	19,17,16,16,16	84
7.	Iguanodonectes sapirus	18,15,16,16,14	79
8.	Brachis	18,15,16,16,14	79
9.	Brachis	17,16,15,16,14	78
10.	Epilteoerythrus kallopterus	16,16,15,16,16	79
11.	Xiphophorus xiphidium	20,15,16,16,15	82
12.	Ph. quadropunctatus	19,16,16,17,16	84
13.	R. fuscicolpeatus	20,16,15,16,15	82
14.	Labeo bicolor	14,15,15,16,15	76
15.	Ruby Shark	14,15,17,16,15	77
16.	Polypterus endlicheri	20,17,15,15,17	84
17.	Xiphophorus xiphidium	20,15,16,16,14	81
18.	Guppy	12,16,17,16,16	77
19.	Synodontis frontosus 4th Place owned by L. Hughes, Port Talbot A.S.	20,17,17,16,16	86
20.	<i>Acanthophetichthys sumatranus</i>	20,16,16,16,16	84
21.	<i>Acanthophetichthys kuhlii</i>	20,16,16,16,16	84
22.	Guppy	11,14,16,16,15	72
23.	<i>Och. aequivaerise</i>	20,16,16,14,15	81
24.	<i>Phellichthys tico</i>	12,17,16,16,16	77
25.	<i>Corydoras sodalis</i>	16,17,16,16,16	81
26.	Lamplogus dafodil 5th Place owned by Bob Lemmon, Strood A.S.	20,16,17,16,16	85
27.	<i>Brachydania rerie</i>	17,16,17,16,16	82
28.	<i>Phellichthys pitieni</i>	17,16,17,16,16	82
29.			
30.	<i>Hypessobrycon metae</i>	20,17,16,15,16	84
31.	<i>Hypessobrycon metae</i>	20,17,16,15,16	84
32.	<i>Myxos. guila</i>	20,15,15,16,15	84
33.	<i>Ancistrus rivectus</i>	13,16,17,16,15	78
34.	Pseudochalceus kyburzi 3rd place Owned by T. Roberts, Valley A.S.	20,17,17,16,17	87
35.	Guppy	12,16,17,16,15	76
36.	Guppy	8,16,17,16,14	71
37.	Endlers	20,15,15,16,15	81
38.	Cavilabasia stuarti 2nd Place owned by Dave MacAllister, Welland Valley A.S.	20,17,17,17,17	88
39.	<i>Xiphophorus birchmanni</i>	17,16,17,16,16	83
40.	<i>Melanotaenia boesemani</i>	20,17,16,16,14	83
41.	<i>Leiocassis poecilopterus</i>	7,17,17,16,16	73

1995 FBAS SUPREME CHAMPION
owned by J. Hill, Salisbury A.S.

42.	Parotocinclus maculicauda	20,17,18,17,17	89
43.	Aph. species	16,16,17,16,16	81
44.	Paracheirodon axelrodi owned by K. Redway Darlington A.S.	17½,17,17,17,16	84½
45.	<i>Beldia geayi</i>	18,17,17,16,16	84
46.	<i>Haplochromis bimaculatus</i>	20,17,16,16,15	84

The Judging duties at the Supreme this year were undertaken by **Colin Harding, Selective A.S.** We are grateful to the J & S Committee for allowing early access to the Judging Sheet information in order to make this issue of FishWorld. Please excuse omissions and spelling inconsistencies in the above table - I couldn't read my own scribble.

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FOR
1996 !!!**

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The Calendar is also by Direct Mail at £1.50 (includes postage and packing)
For Direct Mail Orders send Cash with order/Cheques payable to FBAS) to:-

FBAS CALENDAR
28 The Mall
Binstead
Isle of Wight PO33 3SF

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We write to thank and congratulate everybody involved and concerned with the organisation and running of this year's Fishkeeping weekend at Ponties, Weston-super-Mare. All of us from C.A.D.A.S. who attended for the weekend thoroughly enjoyed ourselves. So much so that we are already, as I know Joe's team of organisers are, beginning to think and plan for next year, when we all hope to be there once again.

Although we don't really like to single out any one person, we feel we must mention one, and we are confident that a lot of other people will agree with us. Our A.L.C. for the weekend Trevor Butler, what an absolutely superb job he did keeping things moving and injecting his unique touch to the proceedings.

On behalf of us all thanks once again for a terrific weekend.

David A. Page, Corby & D.A.S.

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by Dr. David Ford
 Senior Consultant

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Q. I am writing to see if you could give me some information on the Lionhead fish I own. Its cap has grown so much that it now cannot see. Its eyes are practically covered over and the fish seems very distressed. It cannot see to eat, or even move, and just lies on the bottom of the tank. We did ask of our local aquatics about this, but they suggested that its sense of smell was enough for it to get by, but the fish seems to be getting worse.

L.W., West Midlands.

A. Lionheads, and some other Fancy Goldfish varieties, have been man-bred to have a 'hood'. This is a cranial growth (also called a 'wen') genetically-selected to be interorbital in Orandas and total in the Lionhead (Bramble-heads, Ranchu, Shu Tze Tou).

The growth is a development of a natural sexual characteristic, hence the largest hoods are seen in males. It is absent at birth but develops with sexual maturity and reaches a maximum at four to five years.

As will all breeders try to achieve, it should not impair either sight or breathing (heavy gill growth can affect breathing) nor should be shed in places (as sometimes happens).

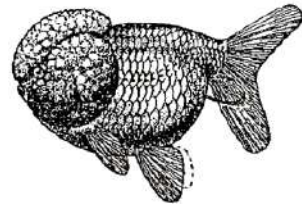
You have fish that would not win prizes, but lack of vision is not a handicap. Sight is not the primary sense organ: Goldfish can 'feel' (using

the lateral line system) and smell the water more effectively than they can see it. This is why, as carp, they have become used to living in muddy waters.

If the fish appears distressed, check that it is not a breathing problem (low oxygen levels in the tank for instance, although you do say your fish is not gasping at the surface looking for air). If you think the oxygen levels might be low, the fish needs well-aerated aquarium air, use an airpump and clear the water via filtration and regular partial water changes. If it is not an oxygen problem, check the nitrate levels (must be zero) and again improve water quality via filtration and initially, a 50% water change.

Feeding and swimming should be normal even if the eyes are totally covered - however, do not breed from the fish as it obviously has not got ideal physical characteristics that you would want it to pass on to its offspring.

Finally, the natural protective mucus that fish exude can become visible within the deep pits of the hood. (The inexperienced fishkeeper often thinks this is White Spot Disease, or even Fungus, and treats the fish, unnecessarily, with chemical remedies). If it looks too unsightly, a salt bath (2% Sodium Chloride - use natural salt not table salt - for 5 to 10 minutes) is effective.



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