

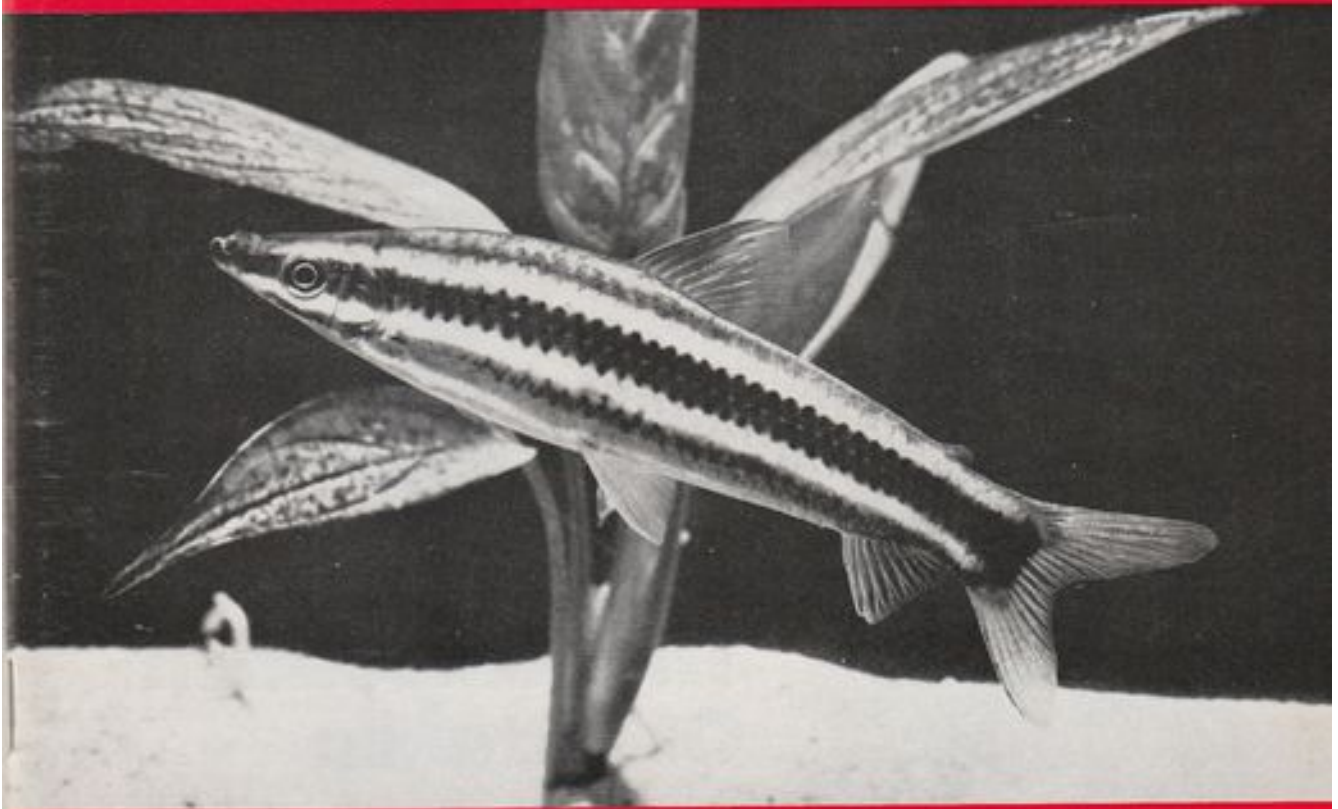
MAY 1971

15p

# Pet Fish

monthly

*The* PRACTICAL FISHKEEPING MAGAZINE



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How to Feed Goldfish  
About Fish Shows  
A New Marine Fish

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# PET FISH MONTHLY LETTERS

Your comments and views on all topics of interest to aquarists are welcomed. Address letters to PFM Letters, 554 Garratt Lane, London S.W.17

### Showing the Rules

**M**AY I reply to Mr L. Howell's letter, which was published in April's edition of PFM. Mr Howell will be pleased to know that displaying of the rules at Open Shows has been practised by the Federation of British Aquatic Societies affiliated clubs for a number of years. Member societies of F.B.A.S. must display the Rules for all to see if the show is run to Federation Rules.

I support Mr Howell in his recommendation that all clubs should show the Rules they are running the show to and, most important, display them where everyone can see them.

Aquarist clubs not yet affiliated to the F.B.A.S. and wishing to avail themselves of the services that the Federation provide should contact treasurer Mr R. A. Dove (5 Farm Close, Crowthorne, Berks.) for details of membership and Mr M. Carter (Publications Officer, 15 New Road, Ascot, Berks.) for details of all F.B.A.S. publications.

D. W. ELLIS  
*Judges and Standards Committee,  
Federation of British Aquatic Societies*

### Malayan Angels

**A** FRIEND of mine, who has recently taken up fishkeeping, commented to me one morning that he had purchased a couple of very nice fish over the weekend that he believed were called Malayan angels. From his description I was pretty certain that it was Malayan angels that he had, and asked him if the retailer had recommended any special treatment. I was told that he hadn't. Being sure that these fish are brackish water fish I mentioned this to him, and being a bit dubious, he went to check with another of his fishkeeping acquaintances, who said that he believed I was wrong. This developed into quite a friendly argument, with the end result that he brought his Gunther Sterba book of freshwater fishes in to work, complete with an apology to yours truly.

Within 2 weeks these fish had died, and my friend, being a bit annoyed over this, went to see the retailer, who said he couldn't understand why the fish had died as he was keeping them in freshwater.

I have often liked the look of Malayan angels and scats myself, but have been put off by the knowledge of their requiring brackish water. On

the other hand, I have occasionally heard of them being kept in freshwater. Whether this is permanent or not I have never found out, but would very much like to know what success other readers might have had in keeping these fish in freshwater for a long period (and keeping them healthy).

Stevenage, Herts.

D. C. MASKELL

### Hefty Orfe

**Y**OU may be interested to hear of the golden Orfe that I had for about 15 years in one of my ponds. When I emptied the pond I weighed them and there were five fish that weighed 5 lb and over—to be exact the largest one was 5 lb 8 oz. They spawned after that when I transferred them to spring-fed ponds.

Bee Fork Water Gardens, Md., U.S.A.

OTTO BELIX

### 'Natural' Marine Tanks

**I**N January's PFM Arpee seems worried about the term 'clinical cleanliness' when applied to marines. Mr Fortescue, in March's PFM substitutes a new term—'strict cleanliness'. Either term, essentially, means the same thing and I think it is this notion that is putting off the average aquarist from trying his hand at marines.

Many serious seawater aquarists are now trying to imitate Nature a little more, growing seaweeds in aquaria and using undergravel biological filtration instead of all the old-fashioned, expensive, long-named purifying contraptions that some fishkeepers employ. I am sure that more successes have been achieved in the spawning and breeding of marines with 'semi-natural' or 'natural' bio-systems than with 'clinical' or 'sterile' aquaria.

In fact, I am sure that many aquarists like myself, who use undergravel filtration, rarely if ever have occasion to siphon any detritus off the tank's gravel, simply because, with reasonable care, no detritus ever collects and remains on the gravel.

Incidentally, if readers are interested in marines and are preparing to set up a tank, I suggest they write to the secretary of the British Marine Aquarists' Association (Mr D. Horton, at 125

*Continued on page 9*

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# LETTERS

continued from page 2

Lowlands Avenue, Streetly, Sutton Coldfield). The more advanced marine aquarist would also benefit by joining the B.M.A.A., which publishes an interesting monthly newsletter containing a variety of articles on all branches of marine biology.

HUW COLLINGBOURNE  
P.R.O., *British Marine Aquarists'*  
*Association*

## Halcyon Days?

PLEASE would Peter Unwin care to explain his comment in PFM (March) about Dr Ghadially's having been a member of the Fancy Guppy

Association 'in its halcyon days'? It seemed to this reader as if the author were having a dig at the present F.G.A. set-up. Perhaps I am wrong—but I would hate to see anyone trying to give the impression that the F.G.A. is anything other than the first-class organisation that it is.

What is so great about the F.G.A.—and makes it in my opinion the best fish organisation in the country—is that its members in the main can give and take criticism with good humour. Some of the discussions at the annual general meetings and the judges' conferences are quite heated but the aim is always to achieve what is best for the hobby and no one fails to realise that. Feelings sometimes get hurt and feathers ruffled but most guppy men soon get over that.

According to my dictionary, halcyon (adj.) means 'calm'. I don't mind calmness but I prefer action. That's why I belong to the F.G.A.

Enfield, Middx.

H. E. VINALL

## Meetings and Changes of Officers

**AMERSHAM & D. A.S.** Chairman, Mr K. North; vice-chairman, Mr L. Brinklow; secretary, Mr J. S. Thompson (8 Windmill Wood, Amersham, Bucks.; phone 6977); assistant and P.O., Mrs W. Thompson; show secretary, Mr B. Jessop; treasurer, Mr M. Wazansley. Meetings: first and third Wednesday of month, 8 p.m., at the Community Centre, Amersham.

**BARNSELY T.F.S.** Change of Secretary: Mr S. J. Barwell (73 Station Road, Wombwell, Barnsley).

**BLACKPOOL & FYLDE A.S.** Change of name. The BLACKPOOL & FYLDE AQUATIC SOCIETY is now known as the BLACKPOOL & FYLDE AQUARIUM SOCIETY. Secretary, Mr G. Howard (95 Stamford Avenue, Blackpool; phone 42676).

**BRADFORD & D. A.S.** President, Mr A. Firth; vice-president, Mr J. P. Chesley; secretary, Mr A. Daugherty (Parkfield, 16 Moore Avenue, Wilmsley, Bradford BD6 3HU; phone 21441); treasurer, Mr J. E. Cavithra; social and P.O., Mr W. Holmes.

**CAMBRIDGE & D. A.S.** Chairman, Mr Ekerton; vice-chairman, Mr Yates; secretary, Mr F. S. Mann (30 Cheney Way, Cambridge CB4 3UD; phone 64292); assistant, Mr Sanderson; treasurer, Mr Smith; show secretary, Mr R. Phillips. Meetings: first Tuesday in month, the Working Mens Club, Fitzroy Street, Cambridge.

**CARDIFF A.S.** Change of Officers. Secretary, Mr G. Thomas (143 Pennsylvania, Llanedryn, Cardiff); show secretary, Mr I. Wilson.

**CARSHALTON & D. A.S.** Chairman, Mr J. Lucy; secretary, Mr C. Lamb (8 Reading Road, Sutton, Surrey); show secretary, Mr E. Hanley; treasurer, Mr R. Widdie. Meetings: The Sun, North Street, Carshalton, Surrey.

**COVENTRY P. & A.S.** Chairman, Mr E. Sheehy; secretary, Mr C. J. Grant (16 Cecily Road, Coventry); treasurer, Mr P. Shipson; show secretary, Mr S. Woodbridge; editor, Mr E. Williams; advertising, Mr B. Hirst. Meetings: second Tuesday of month,

Foleshill Community Centre, Foleshill Road, Coventry.

**GRIMWOOD A.S. New Society.** Secretary, Mr J. R. Handford (55 Thurston, Skelmersdale, Lancs.). Meetings: first Sunday of month, 7 p.m., Quarry Bank Community Centre, Skelmersdale.

**HARWICH & D. A.S.** Chairman, Mr J. Bailey; secretary, Mr M. Bird (8 Masdenough Cottages, Harwich, Essex); treasurer, Mr M. Mason; librarian, Mr P. Halyard. Meetings: first Monday and third Tuesday in month, the Alma Inn, Harwich.

**HOUNSLOW & D. A.S.** Secretary, Mr D. J. Woodward (34 Uxbridge Road, Hanworth, Middlesex; phone 01-898 2495); treasurer, Mr H. J. Woodward. Meetings: alternate Wednesdays, 8 p.m. at the Public Hall, Isleworth, Middx.

**HYDE A.S.** Chairman, Mr P. Bailey; secretary, Mr A. Hirst (129 George Street, Hyde, Cheshire; phone 061-368 2382); treasurer, Mr I. Rowbottom.

**KEIGHLEY A.S.** Change of secretary to: Mr J. Mosley (11 Moorcroft Avenue, Oakworth, Keighley, Yorks BD22 7NE).

**MERSEYSIDE A.S.** President, Mr R. Legge; vice-president, Mr M. Murphy; chairman, Mr P. Mully; vice-chairman, Mr W. Kelly; secretary, Mr R. Moorcroft (24 Frankby Road, Liverpool L4 7DX); treasurer, Mr K. Parkes; show secretary, Mr W. Smith. Meetings: alternate Tuesdays, at Mossrose Athletic and Social Club, 3 Richmond Terrace, off Brook Road, Liverpool 6.

**MIDLAND ASSOCIATION OF AQUARISTS' SOCIETIES.** President, Mr L. Mile; chairman, Mr S. Croft; secretary, Mr R. Roberts; treasurer, Mr B. Todd; services secretary, Mr G. Parker; press officer, Mr M. H. Carter (11 Calverth Court, Foleshill, Coventry).

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Mr J. Reeve (36 Rumbolds Lane, Haywards Heath; phone 3702); treasurer, Mr C. West; show secretary, Mr J. Walker. Meetings: third Thursday of month, 8 p.m., at Oakley Lodge, Keymer Road, Haslemere.

**OLDHAM & D. A.S. New show secretary:** Mr E. Birchwood (39 Inverness Avenue, Blackley, Manchester 9).

**PRIVATEERS A.S.** President, Mr L. Taylor; vice-president, Mr C. Holdsworth; P.O., Mr E. Bowers; treasurer, Mr B. Cooper; secretary, Mr F. W. Cole (18 South Hill Drive, Gilstead, Busby, Yorks. BD16 3NR). Meetings: second Monday in month, at Northcliffe Secondary School, Oley Road, Shipley.

**STONE A.S.** Chairman, Mr A. Smith; vice-chairman, Mr J. Sanders; secretary, Mr B. Hughes (4 Arbor Street, Hasley, Stoke-on-Trent, Staffs. ST7 2HF); treasurer, Mr I. Brough; vice-treasurer, Mr A. Foll; show secretary, Mr N. W. Hunt. Meetings: first and third Wednesday of month, the Swan Inn, Stafford Street, Stone, Staffs.

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**WITHAM & D. A.S.** President, Mr D. Malton; chairman, Mr D. Willett; vice-chairman, Mr E. Baldwin; secretary, Mr M. J. Smith (86 Howbridge Road, Witham, Essex CM8 1BZ); treasurer, Miss M. Brown. Meetings: second Wednesday of month, at the Albert Witham, opposite the railway station.

**WOLVERHAMPTON A.S.** Chairman, Mr R. Short; secretary, Mr R. Bateman (6/9 12 Maslove Street, Penn Fields, Wolverhampton). Meetings: third Tuesday of month, 7.30 p.m., St. Peter's & Paul's School, Red Cross Street, Wolverhampton.

**YORK & D. A.S. New Secretary:** Mrs H. Sutton (18 Abbotsford Road, Hull Road, York YO1 3EE; phone York 54386). Meetings: second Tuesday of each month, at the Tang Hall Hotel, York (new venue.)

## Transatlantic TOPICS

PROBABLY no city in the American midwest typifies the region's industrial importance and progress more than Detroit. In plants such as the River Rouge was perfected the assembly line system, that enables the 1200 acre Ford factory to build a complete car in less than 24 hours (strikes permitting).

Thanks to a well-planned and executed 'Breeders Programme' the lads and lasses of the local aquarium society are also making a name for themselves in producing fish, not quite as fast as the local industry does automobiles but with a regularity that is amazing everyone. The secret lies in the unselfishness of the hobbyists, who don't hold anything back when describing their methods.

Bud and Carol Jenkins tried their hand at the *Corydoras* catfishes and said right from the start that, no matter what the books say, these fishes, especially *C. aeneus*, are not easy but if the breeder will persevere, not impossible.

They used a 10 gallon set-up that incorporated sub-gravel filters covered by an inch of medium-sized gravel. In attempts to induce the fish to spawn, they tried the popular methods: adding ice cubes to the water to create a rapid drop in temperature; sprinkling water on to the surface to simulate rain. Finally, the method that worked the best and was used successfully in many spawnings, was to aerate the tank heavily.

To those who haven't tried the cats, Bud and Carol recommend that as the *Corydoras* love worms, the basic part of their diet should be lashings of Grindal worms and tubifex: 'Catfish will eat a surprising amount of food if they like what they are eating!'

\* \* \*

The continual chopping and changing of the scientific names of fishes makes little sense to most amateur aquarists. The reasons for such alterations might not be mumbo to the ichthyologist and other learned followers but it still remains jumbo to most of us.

Now to further confuse the issue some New World aquarists are suggesting that we further complicate (or is it simplify?) the matter and

\*\*\*\*\*  
\*\*\*\*\*  
\*\*\*\*\*

By JIM KELLY

allocate a number to each fish species. Should the scientific name change we would still be left with the number for reference.

One proposer of the scheme, John Martin, quotes as his example *Aphyosemion galare*, a name now being used for what we previously referred to as *Aphyosemion falax*.

'If *A. falax* is now *A. galare*, what then is the correct name for the old *A. galare*?' asks Mr Martin.

With the American Killifish Association now listing fish as U 69, SL 29 and N.U. 1, John does seem to have a point, but on second thoughts I still tend to think the matter is a case of 'all my eye and John's sister, Betty'. What do you think?

\* \* \*

With summer approaching any society official responsible for programme planning might be having thoughts of a club outing. To show just what our American cousins get up to on such outdoor activities I

*THIS month the first International Rift Lake Cichlid Championship will be the feature of the annual GREAT-ER CITY AQUARIUM SOCIETY Fish Show and Exhibition (15th-16th May in the Hall of Science of the City of New York, located on the site of the 1964-65 World's Fair). The Show will also include a National Marine Aquarium Championship, the Fifth Annual Metropolitan New York Guppy Trio Championship and 22 additional classes of competition. The show committee is planning for the attendance of 20,000 viewers. The idea for the Rift Lake Championship, in which the fish will be shown in pairs, came from Donald Sanford of Richmond Hill, New York, who is a member of both the Greater City Aquarium Society and the American Cichlid Association. Entries have been invited from all over the world (no entry fee for fish from outside the U.S.A.). Show chairman are Mary and Dan Carson, P.O. Box 265, Baldwin, New York 11510, U.S.A.*

quote from a club programme that took place way out west in California.

The scene: Soledad Sands Park for a Society Picnic (no, that isn't a typographical error but the way they spelt it). The Park (the advert, assured us) was beautiful; the rugged mountain scenery was beautiful—even the weather warranted that adjective. Temperature was guaranteed between 80 and 90°F. And, if that hadn't whetted his appetite, the aquarist was assured that at the elevation of 2500 feet there was definitely no smog!

Things to do included eating, swimming, wading, riding the trains and fire trucks, or anything else that took your fancy. The club provided ham, beans, potato salad, fruit punch, ice tea, hot coffee and cream cakes. Members were advised to bring their own plates and silverware but paper cups could be obtained from the officers present. The tempo of the invitation reached top note with the words 'make this a be-good-to-yourself Day!'

Judging by all the goodies offered and the encouragement to participate I wonder how the lady fishkeepers in the party could honestly justify that last remark?

\* \* \*

The wrasse family of fishes from tropical seas encompasses some 600 species and with such a variety one can expect peculiarities, perhaps none more so than the habit of 'pecking parasites' from the bodies of other fish.

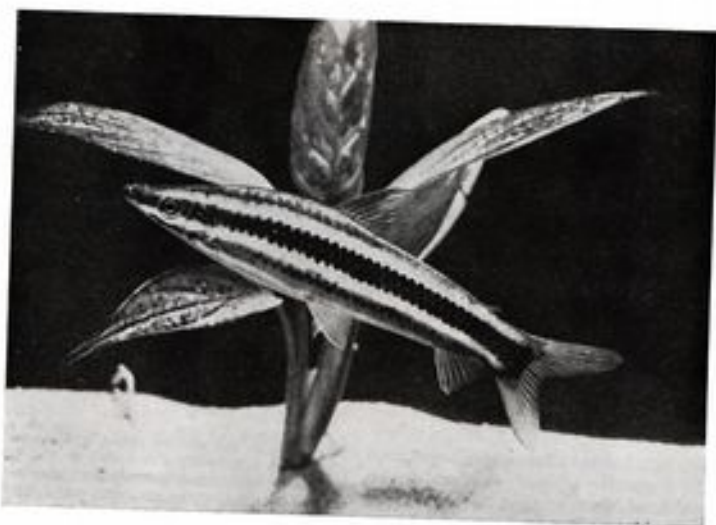
They are the service attendants of the fish world, fearlessly moving around the large predators such as the grouper, moray eel or parrotfish, removing with quick nibbles the annoying fellow travellers that infect mouth, skin and gills. Like the courageous lion-tamer of yore, they even stick their heads in the gaping mouths of these anything but peaceful fishes.

How does this reciprocal service work? Is it some built-in instinctive behaviour pattern that stops the larger species from making a meal of the wrasse? The point that it is seemed to be proved in an experi-

Continued on page 16

# Striped Anostomus

By J. ELIAS



Photograph by R. ZUKAL

*Anostomus anostomus* Linné

Translation by F. MARSH

THE beautiful striped *Anostomus anostomus* belongs to the group of attractive aquarium fish that, up to this time, have defied all the efforts of the breeder to propagate in captivity. They reach a size of about 4½ inches and if they are imported young they soon accustom themselves to the confined space of the home aquarium and quickly grow into their full beauty. The home of this fish is West Guyana and the waters of the Amazon above Manaus. Nothing about sex differences or successful breeding is available in the literature at my disposal on this fish.

The body is elongated and slightly flattened at the sides. In the adult fish we see three dark green to brown horizontal bands. The upper band stretches from the head, the middle one begins at the jaws, the lowest one under the eyes and all three end in the tail stump. Above and below the middle band two red patches are incorporated into the caudal fin. All fins show a red hue. The upper lip of the proportionately large jaw is set back a little.

Practical experience shows that at the recommended temperature of 75°F (24°C) the fish will live happily (the suitability of this temperature is borne out by the excellent coloration the

fish display at 75°F). Give this fish a largish tank with plenty of hiding places. *Anostomus* will use these frequently and, because of the security such cover gives, the fish will gradually lose their timidity. It is quite possible to keep them in a community tank with other fish provided that their companions are of the same size. In order to keep the fish in good condition, I recommend live food such as tubifex worms. Although animal live foods are written large on their menu they also eat vegetable matter.

Although it is a 'headstander' *Anostomus* does not always move through the water head downwards—I have often seen them swimming in the horizontal position. Because they are such able swimmers, if they hit against an obstacle they will retreat without turning round. Their movements are studied, majestic and efficient. *Anostomus* mostly keep near the bottom. Although a fairly unusual fish they are reasonably hardy and conditions in which they must be kept are not critical. In our permanent exhibition in Brno the fish are kept in tap water of hardness (DH) 12-14 and slightly acid to about neutral (pH value between 6.5 and 7.2). This is quite suitable and I can recommend such conditions to other enthusiasts.

### COLDWATER SCENE



By D. SMALLEY

Photograph by the author



## Basics in Goldfish Feeding

ANYONE who has been keeping fish successfully for a number of years will no doubt be asked from time to time to help solve the problems of others. The most common two questions, I find, are: 'How can I stop my water from becoming cloudy?' and 'Why did my fish die?' The villain is often found to be incorrect feeding; keeping goldfish healthy for many years is not luck, and there is no reason whatever why every good specimen should not live to a ripe old age.

Fish do not die young by accident—there is always a reason. It is important for a beginner to know this reason and to put matters right and avoid further losses.

As goldfish are omnivorous, they are very easy to satisfy when it comes to food, for they will eat dried or live animal and vegetable foods. Those who have only a few fish can easily cope with maintaining a varied diet without too much inconvenience, but it is not necessary to have a different food daily. By using a good flake food and once or twice a week feeding with live food, you should ensure good health for your fish.

Live foods can be collected, bought or cultured. If you use daphnia, either buying the water fleas or collecting them yourself, you must accept the fact that pests and disease can be introduced. Garden worms are an excellent food and as they do not live in water there is no chance of disease being introduced with them. Small worms are best, but if they are too big for the fish to eat without difficulty, chop them on a wooden block with a sharp knife or razor blade. White worms can be bought from many aquarist shops and

As shown in the picture above, the dorsal-less varieties of goldfish quickly learn to feed from the hand. Although safe to do with indoor fish the trick may be taken advantage of by cats, herons etc. with pond fish as the latter surface on response to movement nearby

cultured at home in cool dark conditions. Culture medium can usually be purchased with the worms, together with instructions. Always keep the medium damp and well aerated. This can be done by carefully turning the medium over once a week before feeding the worms. I find bread soaked in water then squeezed out and laid on top of the culture successful. Care, proper technique and patience will bring success.

If there is a food that causes controversy amongst aquarists, surely it is tubifex worms. These small red worms live in mud near sewage outlets and in conditions far from pure. When worms have been freshly collected it is essential to keep them in slow running water for about 2 days or so to ensure that each worm's gut has been completely emptied before they are used for feeding. In hot weather, worms can quickly go bad and smell if they are not left under a running or dripping tap. I do not use tubifex worms; again, as with daphnia, if you use them you do run the risk of introducing trouble from the water from which they have been collected. The risks in fact are different, as daphnia and tubifex live in contrasting conditions: the former can be found only in well-oxygenated water, whereas with the latter the reverse is true. Cleanliness when tubifex is used is important, for mysterious deaths caused by possible introduction

of parasites to the fish will surely be the penalty for the careless aquarist.

### When to Feed

Feeding the tank when the fish are not hungry or have had their fill must rank very high on the list of causes of trouble in goldfish keeping. Why should this cause difficulty when we see our tropical enthusiasts all the year round giving a regular diet of live and dried foods and the same amount of feed on each occasion? Well, as tropicals are artificially constantly heated, the metabolism of the fish is kept at the same rate throughout the whole year, but with goldfish this is not, or should not, be so.

Look at our pool fish in the winter. If the water temperature is below 48°F (9°C) it is pointless offering food for at and below this temperature goldfish cease to feed and digest properly. Not only will the food be wasted, but it will also lie uncaten on the bottom of the pool and set up pollution. When the warmer spring days arrive and the fish become more active, and the water temperature is 50°F (10°C) or above, offer a very small amount of food and watch to see that it is eaten. When the summer comes, more food can be given; provided that there is no overcrowding Nature will also supply a very large quantity of food without the aquarist even being aware of the fact. The fish will meet all sorts of delicacies, from worms dropping in the water by mistake to the regular nibble of algae—and what about that greedy sparrow who dropped his bread into the pool when flying overhead!

With a coldwater aquarium a lot will depend on the tank's situation, e.g. whether it is in a living room or a bedroom, or unheated home extension. The higher the water temperature, the more the fish will eat. Always remember that uneaten food will bring the problems of black smelly sand, cloudy polluted water and similar evils.

### Care at Holiday Times

Surely every aquarist is concerned about his fish at holiday times. However, with a little thought one can leave them with a completely easy mind. Pools can be left for 15 days without any human attention whatsoever, as natural foods will be quite sufficient to keep the fish healthy. With tanks, although healthy fish will survive a 15 day break in feeding, it is advisable to make some arrangement to provide a couple of feeds if this is at all possible. Being a member of a club gives one a distinct advantage here for fellow experienced aquarists will always pop in and feed your fish for you.

Never leave fish in the hands of inexperienced relations or neighbours with instructions like 'one

pinch a day' etc. With such helpers, never entrust the can of food to their care and discretion, but before you leave prepare little packets—rather like the salt packets found with crisps a few years ago. Mark them 'Sunday 12/7', 'Tuesday 14/7' etc., and tell your minder that if they get any problems they should ring an aquarist whom you know, or even your local dealer if you know him well enough. Someone with knowledge who can put right quickly any problems is the sort of person you want. The coldwater aquarist with no heater or thermostat at all will have very few problems on his return from holiday if his fish have been underfed.

### Jobs for This Month

- You should have done it earlier but if you are quick there's just time to divide some of those clumps of irises and rushes that grew much too thickly in the pond last year. You'll wreck them if you leave this job until they have fully formed this year's leaves. Lift the clumps in their containers and use a strong sharp knife or spade to split their rhizomes, or break apart the small separate plants that have formed in the tangled rootstocks of reeds and rushes.

- If you had trouble with green water last year because the pond is in the sun most of the day, place your taller rush clumps so as to give some shade to the water. You must have some lilies in such a pond for their pads to provide additional shade.

- How is the crazy paving looking around the pond's edge? Those pieces on the path that rock as you tread on them should be lifted and soft sand placed in their cavities before you tap them back again. Cement can be used for edging pieces but be specially careful with small ponds to see none of it falls into the water.

- Towards the end of the month make sure there are some bunches of submerged aquatics ready to receive the goldfish eggs if you want your pond fish to breed. Clumps of 'seafern' or willow root can be used as egg receivers in the same way and like the plant bunches should be tied with string to keep them in the shallow parts of the pond or close to the surface. Spawning is unlikely until the pond water temperature reaches the sixties (°F) but who knows what the weather might do?

## FISH SHOWS AND SHOWING

# A Rapid Entry System for Open Shows

**T**AKING entries at open shows can be a very arduous task for the show secretary and his helpers. The actual volume of work is unpredictable and those last-minute entries can cause a bottle-neck at the reception area if entry forms are not processed rapidly.

Here, in the West Country, distance, and the consequent road travel, makes the entry deadline difficult to impose. How can you say to a competitor who has travelled nearly 100 miles to reach your show: "Sorry, chum, entries closed 5 minutes ago!"? To overcome this difficult situation we in Torbay had to devise a system that would rapidly give us all the information that we needed and give the competitor his tank numbers to enable him to bench his fish without delay.

On many occasions members of the Torbay Aquarists Society, who have entered West Country shows last season, have returned with the same story that they arrived with only 5 minutes to spare and then had to wait nearly 20 minutes to

By **JOHN HAYNES**

Chairman, Torbay Aquarists Society

get their fish entered. We were determined that this criticism would not be levelled at us, so on went the thinking caps.

As far as the competitor is concerned the only information he wants is the tank number for each class of fish that he has entered. If he was wise enough to make a postal entry he would not only have had this information but would have saved himself 33% on entry fees. In fact, at our 1970 open show only 50% of the 533 entries were received by post; the rest were taken at the door within the last hour before entry closing time.

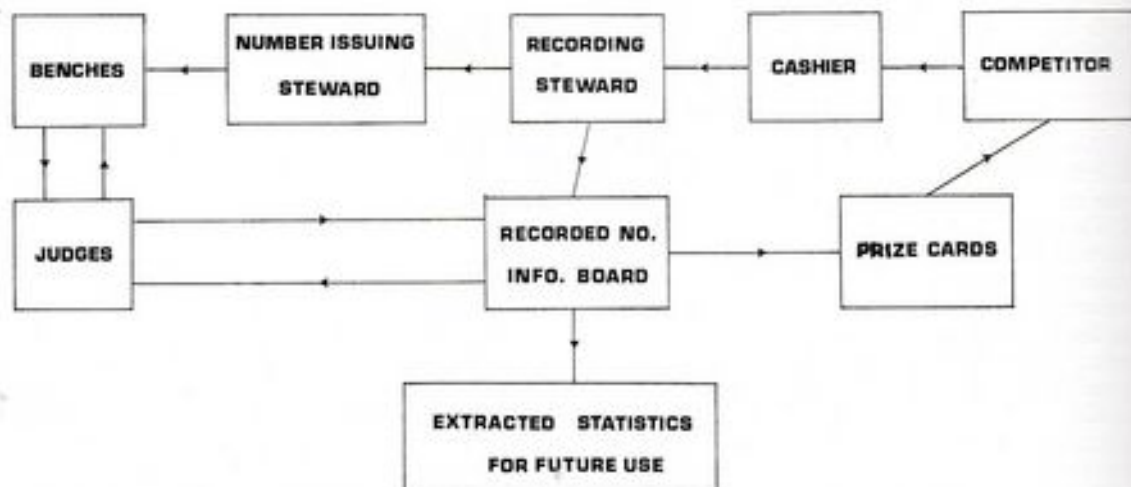
The host club does in fact require quite a lot of information from the competitor and this is tabulated below:

1. Name of competitor

2. Address of competitor
3. Class of fish entered
4. Number of fish in each class
5. Name of fish in each class
6. Total amount of entry fee
7. Aquarist society represented
8. Tank number for each entry in each class

Although this is a formidable list the information involved in items numbered 1 to 7 inclusive is supplied by the competitor on his entry form, and need not be reprocessed by the official taking the entry. The question was, how could this be done effectively, rapidly and with absolute accuracy? The answer was to ask the competitor to complete an entry form in the usual manner and also to complete his receipt half of the entry form as an exact duplicate.

When the competitor presented himself at the reception desk he was first greeted by the honorary treasurer, whose job it was to check the entry fee and, by way of an official receipt, to issue the competitor with a competition number. This was easily achieved by using a



Summary in diagrammatic form of the rapid entry system

standard book of cloakroom tickets, one number being stapled to the top half of the entry form, which was to be retained by the club, and the duplicate numbered ticket was stapled to the bottom duplicated half of the entry form. From this point on the identity of any competitor became simply a number, and this was the only piece of information that had to be processed thereafter.

The next stage in processing the numbered entry form was to issue tank numbers for the various fish entered on that form. To obviate the need for turning over pages in an entry book, a time-consuming item, a completely visual display was prepared before the show. Each Class of fish had an entry sheet ruled with these headings:

Class C: Characins			
Com-			
Tank	petitor	Points	Award
no.	no.		
1			
2			
3			
etc.			

These entry sheets were pasted on to a large sheet of stiff cardboard, one for each Class. This then produced a completely visual picture of how entries were coming in and also assisted the benching stewards by immediately showing the spread of entries in the various classes. This indicated that a particular class needed more bench space, which could be taken from a Class with few entries. Tank numbers could quite easily be allocated and the entry form and duplicate were completed by the entry steward and then passed on to another steward for the issue of tank 'stickers' with class and tank number. The entry form now bearing a competition number was carefully filed away for future reference and the duplicate half handed back to the competitor.

Judging sheets could now be issued from the information on the entry board by referring to Class, e.g. Class C, Tank no. 1 was entered by Competitor no. 36. From the information given by Competitor no. 36 on his entry form the name of the fish in Class C, Tank no. 1, can be found. The judging sheets can then be completed in this way with little or no delay and should give an absolutely accurate list of

fish in each Class on each judging sheet.

When the judges have completed their work it is essential that the judging sheet for each Class is returned to the recording steward so that he can enter the pointing on the entry sheet for each Class and also enter the first, second, third, and fourth awards against the relevant tank number.

Award cards can quite readily be made out with the competitor's name, type of fish and points awarded, by referring back to the winning competitor's completed entry form, via his competition number, giving all the relevant information.

The completed entry board with all the pointing and awards can then be put on public view, if desired, so that those competitors wishing to know the pointing and awards before

the official prize-giving can see for themselves how they got on by reference to their receipted copy entry form, which will bear their competition number.

After the show the completed entry board can be used for extracting information for future shows; such information as the most popular classes, the highest pointed fish and, by using different coloured ink for postal entries, the percentage of entries taken at the door.

We are not claiming that this system is original as it may well be in use in other pursuits, but what we do claim is that it is efficient and extremely quick to operate. The only writing involved in taking the entries is to insert the competition number in the appropriate column, to issue tank stickers, to fill in the judging sheets and to complete the prize cards.

## About Showing

By F. W. COLES

IT is not very remarkable that when people first set up an aquarium, it is on the small side, and stocked with the smaller varieties of fishes. The cost of setting up a large aquarium, or a marine tropical tank, appears to the novice to be prohibitive, and it is only when the hobby has become compulsive and the bug has truly bitten that further equipment is acquired and by gradual stages a change to larger tanks is made.

The novice usually sets up a 2 ft. by 1 ft. by 1 ft. tank and gradually collects more, visits exhibitions and eventually becomes interested in exhibiting.

Now the number of aquarists who keep small fishes is extremely large, and many are very enthusiastic — by and large they are the backbone of the hobby. All of which makes it seem so strange that at present there is such a preoccupation with the large fish exhibits. These are shown by a small minority of exhibitors, who seem to be successful to such an extent that not only does a good big 'un beat a good little

'un, but a mediocre big 'un beats a good little 'un too. Many times, too, these winning large fishes are not the size they ought to be.

**Why this should happen seems inexplicable when it is obvious that it must be doing the hobby harm in the long run.**

It is undeniable that, as a class, people showing large exhibits tend to become better known than the average small fish exhibitor, and many of the exhibits become well known too!

There are, of course, the specialist societies catering for killifishes, guppies, etc., and usually they are able to look after things for their members. Showing these varieties tends to be rather specialised, and the exhibitors are usually showing against each other, so their interest is maintained, but exhibitors of other small varieties are left in the cold to a large extent.

**When this preoccupation with large exhibits fades I am quite**





Does a big fish stand more chance than a little one at shows? This red oscar was best fish in The AQUARIUM SHOW '70 (from a colour transparency by W. Clapinson)

**sure the number of exhibitors will greatly increase.**

The question of large versus small fishes is also closely allied to the cold versus tropical controversy, since the coldwater exhibits tend to be on the large side, and there is not much future exhibiting small fishes in these varieties. But to talk about exhibiting only does not properly cover the question.

One has to consider that the real exhibitor breeds his own fish, and to do that with coldwater varieties means either really large tanks or ponds in the garden, which is rather a far cry from the 2 ft by 1 ft. by 1 ft. tank with which we started this article.

There is also the question of aesthetics. So many of the coldwater varieties are artificially created specimens, which, whilst they may be the pride and joy of their owners, are not looked on with as much favour by people as a whole. Bubble-eyes, celestials, lionheads and the abnormally developed fin varieties are not liked by many people. Neither, of course, are bulldogs, pekingses, poodles, boxers, etc. in the dog world, and in these categories can also be placed the excessively finned swordtails, veiltailed black widows, angels, etc. among the tropical varieties.

Talk to any real old-timer in the

hobby and he will tell you enthusiastically about the beautiful and large (for variety) livebearers, barbs, rasboras etc. that used to be exhibited and describe them with real appreciation. Does he speak in the same tones about the varieties on the show bench at the present time? I'm afraid not.

So when we can lose this predilection for large varieties we can get back to the position when exhibitors will be encouraged to breed the smaller varieties scientifically in the

knowledge that their best efforts will not be beaten by a larger variety, which does not really merit the number of points awarded.

I have no prejudice against larger varieties of fishes—I have kept them, and indeed keep both tropical and coldwater varieties at the present time—I am merely voicing sentiments expressed to me by exhibitors from time to time.

**One thing which would make things easier in the exhibition world would be the provision of standard containers for the exhibits.**

This largely takes place in America and could with advantage be adopted here. In this age of plastics the glass container should be obsolete, and once the scheme got under way it may be possible for the containers to be rented. The rabbit fanciers exhibit their animals in standard rented, wire pens, as do pigeon and poultry fanciers; the mouse fancier has a standard Mason cage. The aquarist uses sweet bottles for the smaller exhibits, but have you ever stood back and looked at the containers for the larger fishes?

I do think that our shows could be made so much more attractive and the exhibits more anonymous by the adoption of standard containers, and I am sure the casual visitors to shows would not feel to have strayed into a shopkeeper's store room as perhaps they do at present.

**One of the problems is that there is not the same central direction amongst aquarists that exists in the fur and feather societies.**

## Transatlantic Topics *continued from page 10*

ment conducted by the New York Aquarium.

The 3-inch wrasse from the Indo-Pacific Oceans are quite different in appearance from their Atlantic cousins, and when some of the former were put in an aquarium containing nothing but Atlantic Ocean eels and groupers it was with some misgivings. Not having seen this type of wrasse before, would the larger fishes recognise the services they offered?

Like all good tales this one had a happy ending. Within minutes the large groupers were queuing up with

mouths open, like automobiles on a petrol station forecourt. The wrasse, true to their habit, took them to the cleaners!

\* \* \*

Overheard at a Canadian club meeting . . .

Chairman: 'Ladies and gentlemen. You will find the speaker for our next club night nailed to the entrance door.'

Making sure he puts in an appearance?

# Selecting Young Tank-bred Goldfish

By FRANK W. ORME

FROM the age of 4 weeks goldfish require at least 24 square inches of water surface area for each inch of body. Failure to provide sufficient space will result in stunted growth. Too much overcrowding could quickly lead to disaster with disease and deaths occurring, possibly even resulting in the loss of an entire batch of fry. The breeder will therefore realise that one of the essentials in raising healthy well-grown fish is that culling, or sorting, must take place as early as possible.

There is absolutely no point in wasting food and space on worthless fish. After all, a poor fish will never improve, whereas decent fry will benefit from both the extra growing space and food that will be created by a ruthless culling of the youngsters. It should be much more satisfactory for the person with a limited number of aquaria to raise half a dozen healthy well-grown fish, of which he can be justly proud, than a large number of stunted ailing fish.

In my article in *FFM* for February I gave a brief description of my fish house and the tank sizes I use. These provide a fair amount of tank space, yet I never try to raise more than six lionheads and six veiltails—the two varieties I breed—to keep for my own use. Of course, many more fish than this are raised but all are disposed of by October at the latest each year.

Veiltails, moors, orandas, fantails and other twintail varieties can be sorted from the age of 10-14 days. I will therefore describe first the points to look for in these fish and then deal with the singletails. It is an advantage for the breeder to obtain copies of the goldfish standards booklets which are available. These will assist him in selecting adult fish and give an idea of what to look for in young fish. At this point I would stress that youngsters will not be miniature replicas of the adult. Many features, but especially the hoods of lionheads and orandas and with the flowing caudal of veiltails, are not fully developed for 2-3 years.

With a cup, or small milk pan, carefully bale out a few of the fry and gently pour them into a white bowl. It is then possible to see the tiny tails from above. With a spoon remove all singletail fish; the twin tails can be recognised by the triangular

shape of the fin. Next remove all bent or twisted fish.

A sharp eye is now needed to inspect those that remain. By carefully studying the tails it will be seen that some have a division. These are the fish to keep; remove all others as their tails will not divide later. Continue with this selection procedure until the hatching tank is emptied of fry. These fish should now be divided among the available empty tanks, which ideally contain nothing other than water maintained at a temperature of 70°F (21°C). This arrangement will allow for heavy feeding and easy cleaning.

As the fish develop further regular sortings must be made and for these a small glass-sided or plastic tank is useful. Body shapes will alter as the fish grow but those with obvious faults must be removed. The upper curve of the body should rise and fall in a smooth line from head to the start of the tail; the lower curve should follow a similar line. Ideally there should be as much curve above the lateral line—a small line of dots along the scales on the sides of the fish—as below, so that the adult body approaches a sphere in the veiltail or an egg shape for the fantail. No signs of a hump should show nor must the head have any appearance of a snout.

Examine the dorsal fin for shape and sturdiness; try not to retain fish with folds in any of the fins. Ensure that two divided evenly matched anal fins are present; very often an apparently good fish will be found to possess only a single anal fin. The caudal fin should be cleanly divided and, if a veiltail, broad and squarish. Remember that the fins continue to grow as the fish develops. A fish with fins resembling an adult is almost invariably a runt. If dealing with moors see that development of the eyes is evenly matched.

The culling of singletail fish follows very closely the methods outlined above except that it will be some time before the fins can be fully assessed. The standards booklet should be consulted when considering the finnage of these fish. Nevertheless, the bodies can be inspected and all deformed or mis-shapen fry removed at an early age. Keep

only those with a streamlined shape having contours that flow in smooth unbroken lines. Again avoid fish with a snouty head or with humps to the back, and also avoid deep heavy-bodied fish.

When sorting fry from a nacreous (calico) pairing remove all metallic (scaled) and pale or pink (matt) fish. Always select young fish with the deepest colours, since colours tend to become lighter with age, unless it is intended at a later date to try a metallic  $\times$  matt pairing, which will give 100% nacreous fry. But remember, matt fish are more

difficult to raise than other groups. If breeding the scaled group choose those fish which change colour earliest.

Once again I would stress the need for growing space. Cull frequently, keeping only the best. By the end of August, depending upon age and treatment, the fish should be 1½-2 inches long. The water temperature in the rearing tanks can then be decreased so that the fish become acclimatised and hardened to naturally fluctuating coldwater conditions.

## Hints and Tips with Surplus Plastics Part 4

By H. J. GILBERT

REASONABLY priced sandwich boxes obtainable in the shops make practically indestructible white or Grindal worm culture boxes. Be certain, however, that they are the opaque type of plastic and that you drill a few small air-holes in the lid; then the cultures will be kept dark and well ventilated.

For micro worms, good disposable dishes can be made from the top and bottom halves of the plastic egg containers which super-markets now use for packing these fragile products in half-dozens. When a new culture is required one has only to partially fill the compartments of the container with the food medium, seed each one and throw the old culture in the waste bin. No more washing or scouring of dishes. It is, however, advisable to stand each container on a dark base to encourage the micro worms to climb the transparent sides and thus facilitate their collection.

For those who require rather larger micro worm cultures the shallow polystyrene dishes used by some stores for packaging meat make excellent containers. Covered with a piece of glass, which should

be reversed occasionally to reduce condensation, the culture will rapidly reach maturity. If necessary, with careful washing these containers may be used several times before being thrown away. These are the



Food container top with useful range of hole sizes

most satisfactory receptacles for micro worms I have come across.

All types of worms may be removed from their cover glasses or containers with the help of the flat type of

plastic spoon provided in many cafes for stirring tea or coffee after the sugar has been added from a shaker.

From worm cultures we turn to dry food for our fishes. Proprietary brands are legion (or perhaps you make your own), but in any case ideal food storage containers and dispensers are to hand in the kitchen. Quantity storage can be done in the various jars and packets with air tight snap closure tops. Food for everyday use can be transferred to any of the containers with sprinkler tops. There are many available which have contained salt, spices, etc. They may be refilled with your fish food either by prizing off the complete top and then replacing it or by using a small funnel through one of the larger holes. The tops usually revolve to allow access to various size holes as well as close the container completely. It would be wise to use the snap closures in the humid atmosphere of a fish house and so prevent undue deterioration of the food.

For feeding fry and other small fish with soaked food or any form of nutrient in suspension, a piece of glass tube drawn out over a gas jet and inserted into the cap of a 'puffer' bottle is much more satisfactory than an eye dropper or pipette. Also the extra capacity of the bottle will be found useful in the medication of fish tanks with many of the liquid remedies now on the market. As the outside can easily be marked with necessary graduations from a correct measure it will facilitate the addition of the chemicals as well as making it easy to distribute the solution evenly around the tank.

To be continued



Half of an egg container makes six cells for micro worms

# An Unusual Species of *Homaloptera* By DR ST FRANK & RUDOLPH ZUKAL



Photo

R. ZUKAL

TWO years ago our permanent aquarium exhibition in Brno received a large number of consignments of unusual fishes. We succeeded, with no little trouble, in identifying almost all the fish although we were not dealing with adult specimens. *Labes forskali*, *Ophronemus goarany*, *Stigmatogobius sadanundio*, *Brachygobius xanthozona*, *Xenotodon cancella*, *Xenomystus nigri* and other unusual species enriched our display tanks. Among these fishes were a few specimens that we incorrectly included as representatives of the *Loricaria* or *Otocinclus* genera. As far as we knew, these were the first fishes of their kind to be imported.

They were kept in a tank on their own. The tank has a capacity of about 10 gallons and the water temperature was raised to 79°F (26°C). We supplemented the usual planting with some decorative roots and the fish rested on these the whole day long. They were very peaceful, not at all nervous, and would eat only from the bottom. When a glass tube was inserted into the aquarium they were completely disinterested and swam past the

accommodation offered them without curiosity. Dark, shady places were their obvious preference and only towards evening would they stir and go to the bottom for food. They would not eat dried and vegetable foods, but they scraped away at algae-covered roots and plants with their tiny mouths. As a result of this observation we tried to get them to eat cooked lettuce, but without success.

The *Homaloptera*, to which the fish in the picture belongs, are members of the Homalopteridae family that includes numerous species and varieties inhabiting southern and eastern Asia and the Indo-Malaysian islands. This family is mostly composed of fishes that in build resemble carp-like fish (Cyprinidae), such as the garra (*Discognathus*), *Discolabeo*, *Epalzeorhynchus* and *Grossocheilus*, and are unlike the loaches (Cobitidae) such as *Botia*, *Acanthopsis*, *Acanthopthalmus* and *Noemacheilus*. Although at first inspection the fish shown in the photograph looks like *Noemacheilus botia* it is in fact a species of *Homaloptera*.

The *Homaloptera* genus is relatively well

distributed. For example, in Thailand alone there are six known species, which do not exceed 2½ in. in size—indeed they are rather smaller. The centre of the distribution is Java, Sumatra, and Borneo. Similarly coloured varieties, to which *H. zollingeri*, *H. sexmaculata*, *H. septemmaculata* and *H. modesta* belong, are known from Thailand. In all these fishes the large pectoral fins are, however, smaller than the ventral fins. With *H. smithi* and *H. lineata*, which differ from each other in colouring, the pectoral fins overlap the ventral fins' starting point.

The Indian ichthyologist Hora divides the Homalopteridae into two sub-families: Homalopterinae and Gastromyzoninae, differing from each other chiefly in the number of unbranched rays in the ventral fins. Members of the Homalopterinae possess 2-5 unbranched rays in the ventral fin whereas the members of the Gastromyzoninae have only one.

Little is known of the biology of the individual

species of this genus and also observations on their aquarium habits are scanty. Mostly they inhabit strongly flowing waters, but, according to the reports of aquarists, they appear not to be over-demanding for aeration. Their pectoral fins are fairly large, and in several species the ventral fins grow together and form a suction-cup. Probably their tiny mouths are suited for scraping algae from stones, etc. Ostermüller observed that they delighted in blue-green algae whereas the green algae were shunned. D. Vogt observed food being taken up from the water surface.

The background colouring of our specimens was yellow-brown with striking brown and black flecks and stripes; these were distributed irregularly over the whole body surface, on the head and on all the fins and this tallies with the description of *Homaloptera modesta* or *H. zollingeri*. After some time all these fish died from some unexplained cause, and unfortunately exact identification has not been possible.

## A New Tang

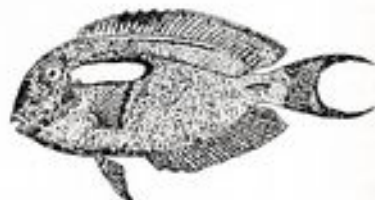
By KARL PROBST

**The projecting sharp spines at the base of the tail characteristically found in fishes of the Acanthuridae are responsible for their popular names of tangs or surgeon fish**

A NEW representative of the popular marine family of tangs and surgeon fish (Acanthuridae) is being imported from the Indian Ocean. Nobody seems to have decided on its exact identity, although it does belong to that fish family. Further identification is not possible without having a specimen lying on the table for examination, to obtain the anatomical evidence required.

It behaves like the orange-striped tang (*Acanthurus olivaceus*), which was described for the first time in the year 1801. The most characteristic feature is an oval orange-coloured patch high above the pectorals, framed in black. As no other sea inhabitant has a similar characteristic, the German name I have proposed for it means 'oval-spot fish' or 'shoulder-spot fish'. From the illustration it may be seen that this patch extends from above the rear edge of the gill-cover to almost halfway along the length of the body.

The body colouring is normally grey-brown to olive (olivaceous), sometimes even darker in growing specimens. The dorsal fin often shows a horizontal stripe in the soft part and there is usually an orange-yellow line at the base of the dorsal and anal fins. The tail fin is pale in the rear centre, and the remainder is a mottled dark brown. Apart from the transparent pectoral fins, the other



fins have the same basic colouring as one of the colours of the body (grey-brown).

According to D. W. Strasburg the young fish are yellow with black-edged fins. (They are apparently identical with the *Acanthurus chrysozona* described by Bleeker in 1857.) By the time they reach 88 mm in length the yellow tinge has disappeared, and I have seen no yellow ones, as only bigger specimens have reached the trade. According to Randall the shoulder patch first appears from 45 mm long and the change in colour from yellow to dark (storage of brown pigment) begins from 55 mm in length. Large males of 17 cm or more develop a strikingly heavy convex jaw profile, as also happens with other acanthurids.

This Indo-Pacific species of fish lives mainly over sandy ground, in depths of 10 metres and more. It is found chiefly in the eastern Indian Ocean and around Hawaii. Unfortunately I can say nothing about how well it lives in the aquarium, because I have not purchased this species.

# STARTING WITH SEA WATER

For those just beginning with tropical marines—the basics of sea water technique

GOOD advice for the freshwater aquarist who 'goes marine' is to forget his preferences and prejudices (if any) for equipment and methods that he might have built up through the years. He'll build new ones with his marines surely enough! The raw beginner, who, let it be said, can start in with marines with every confidence if he is given proper guidance, can have an advantage in not being lumbered with preconceived ideas.

Aeration and filtration are spheres bedevilled by prejudice in the freshwater hobby. For marine setups of the type likely to be within the scope of the beginner a really good aerator of high output is essential and for the basic technique that is going to be given main consideration here it is the under-gravel filter with a high sub-gravel volume that is needed.

These requirements are for the maintenance of correct water conditions for the fishes but not only from the best-known aspect of ensuring adequate oxygenation for their respiration. In point of practice it would make no difference to success for the beginner if he were content to think that this were the only thing involved. The intimate chemistry of his tank need not concern him. Some awareness of the microscopic life his tank will be supporting is much more useful, since the micro-organisms are in fact the unseen chemists working away in the marine fishkeeper's best interests. With good availability of oxygen in the tank only the useful types of micro-organisms will form the 'micro-flora'. Hence the advocacy of artificial aeration.

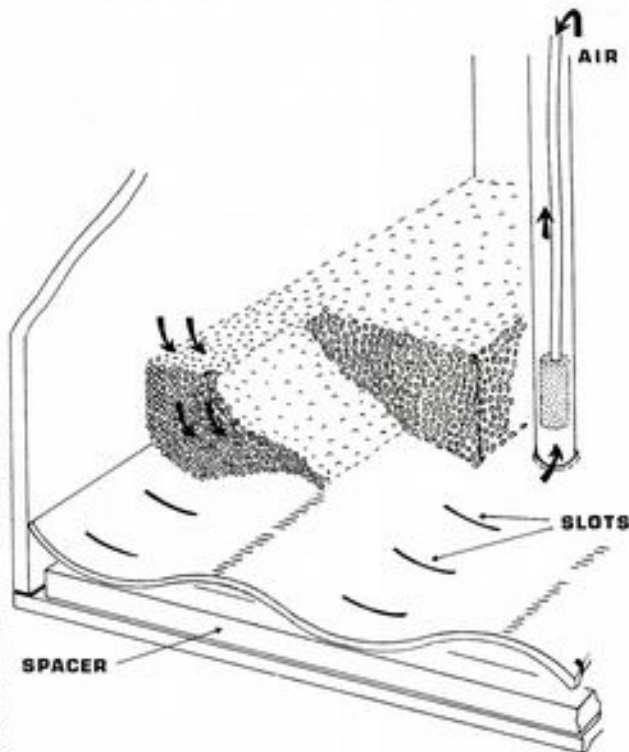
The recommendations of the type of filtration is also based on the need to look after the micro-flora. The organisms grow in colonies—their private conurbations, which form when they are thriving as thin layers over surfaces. Small irregular grains of gravel with the huge surface area that they have offer the best living conditions for them—provided that oxygen continues to be supplied in the water between these

## 2. Aeration & Filtration

grains. Scientific research into the working of sand filters for marine aquaria has shown that the micro-organisms grow most prolifically and are most active chemically in the upper layers of the filter sand bed. For the home marine aquarium a separate external sand filter would be undesirable but the undergravel filter can do this job perfectly as it utilizes the aquarium's own gravel in its

filtering action. Obviously it achieves water circulation through the gravel and keeps the tank's micro-flora healthy and thriving. A rough calculation will show that the amount of a typical aquarium gravel in a 36 in. tank would have a grain surface area of nearly 400 sq. ft.—this could be the ground-floor area of a typical British family dwelling! If something like crushed coral is used in place of fine gravel the surface area could be even greater.

With most of this enormous expanse covered with the micro-floral layer, chemically cleaning the



Cut-away view of all-over undergravel filter made from corrugated roofing sheet. Arrows show water movement

water passing over it, the significance of this hidden force begins to be more readily appreciated. At present, the ideal form of undergravel filter for the marine tank is not available commercially. The best filter would fit the tank base exactly. Slotted-plate undergravel filters can be arranged to cover much of a tank's base but with odd shapes and sizes of aquaria the desired full coverage of the base is not possible. A made-to-measure perforated filter plate is the answer.

The plate must be strong or the weight of gravel above it will bend it and a practical way of meeting this has been described by Mr Stephen H. Spotte of the Aquarium of Niagara Falls in his recent book *FISH AND INVERTEBRATE CULTURE*. This method utilizes the corrugated fibreglass or plastic sold as roofing sheets. A piece is cut to fit the tank

exactly, with its corrugations running the length of the tank; slots 1 in. apart are cut across the lowermost ridges with a hacksaw. The slots are made no more than saw-blade width. The sheet must be supported about  $\frac{1}{2}$  in. above the tank base; lengths of semi-rigid plastic tubing, strips of plastic or even pieces of broken tiles can provide the supports. A wide plastic tube, that will take a bubbler tube or even the smallest size of diffuser block, is cemented in a channel of the filter plate a few inches from one end to form the air-lift. For complete efficiency it is recommended that the plate should be sealed at its edges, where they meet the aquarium glass, with silicone sealant or glass fibre tape so that water cannot enter the subgravel region without passing through the gravel.

The alternatives to this system involve the aquarium keeper in

more maintenance work. Whereas the undergravel filter can run for years without attention and the gravel layer does its job more and more efficiently as it ages, any other form of filter requires to have its filter medium changed at regular intervals and both starting and running costs are greater. It is also the experience of marine fishkeepers that it is undesirable to have any substantial layer of gravel in tanks not fitted with undergravel filters, so that what can be one of the aquarium's decorative features cannot then be used.

It's not so much that there is no other way of successfully maintaining proper aquarium water conditions for marine fishes but rather that the undergravel filter does this so well for the amateur, with the minimum of equipment, minimum of clutter about his tank and with minimum effort.



# GUPPY

## World

THE O.G.G.—Österreichische Guppy Gesellschaft—will be staging their Tenth Annual Show in the Natural History Museum, Vienna, from 20th to 27th June. The Show is open to the public daily from 9 a.m. to 1 p.m., with the exception of Tuesday.

This event has earned its place amongst the 'greats' of similar shows throughout the world and is of especial interest to us because it features many entries from the U.K. One word of advice to those intending to send fish. Be sure to mark your boxes clearly with the words: 'Show entries, of no commercial value'. If you don't you may find the vigilant Austrian Customs Officials delaying your valuable consignment of guppies, even putting a price on their heads.

Further information can be obtained from Herr Max Kahzer, Kaiserallee 23/6/1, A-2100 Korneuburg, Austria; don't waste time

By PETER UNWIN

about getting in touch. No entry fees are payable by overseas exhibitors and your fish will receive the expert attention of show managers Dr Werner Tritta and Mr Robert Kratochwil. If you intend to visit the Show then contact the latter at Heindlgasse, 4/2/18, A-1160, Wien, Austria, with any queries about accommodation.



No doubt the lovers of the 'natural' pre-filter era of guppy affairs will question John Wesley's 'Cleanliness is next to Godliness'. Yet one cannot deny that most of the world's top breeders pride themselves in having

tanks that look as if they are filled with gin.

Keeping things clean usually entails the help of filtration and with some internal and external types of filter this means passing the water through some sort of filter medium.

Having lost fish through the use of glass wool (the young gups thought the tiny slivers were worms, and their curiosity cost them dearly), I became an advocate of man-made fibres and charcoal. Result: no fish choked to death but what a messy business it became when the material wanted renewing. Charcoal, like sand at a picnic, gets in everything.

Now we are hearing excellent results from the use of diatomaceous earth as a substitute. Obtainable from most biological suppliers, this medium takes some time to take effect but when it does the results will satisfy the most fastidious of breeders.

One hobbyist used two similar external filters, one with the usual fibre and charcoal and the other with 'earth'. At the end of one month, the charcoal in the first was saturated and the fibre slimy and discoloured. Apart from a slight algal growth on the diatomaceous earth, the second filter was as sweet and as clean as the day it was set up. That such a medium can be left for long periods without further attention is a point worth considering when vacation time comes around.

A member of the Singapore Guppy Club, Mrs Wu is a lady aquarist who treats her guppies like babies, feeding them on a 2 hour schedule. Proof of her prowess lies in the fact that her fish at 2 months of age are usually bigger in body size than the guppies of similar age belonging to her fellow members.

Before setting off for the market each morning around 8 a.m. she sprinkles a proprietary dried food into the many floating feed rings in her tanks. Returning home around 10 a.m. she gives tubifex worms, after siphoning off about one-third of the water in each tank and replacing it with fresh. (Singapore's domestic water supply flows from the tap at around 80°F (27°C). It is invariably of neutral reaction and very soft.)

Lunch for these aristocrats consists of a home-made delicacy consisting of egg, liver, milk and Farex. Mrs Wu stews this mixture and, on

cooling, makes it into tiny little cakes.

'Even the fry love to nibble at these', she said, and claims that this food is responsible for the exceptional colour in her guppies. This D-I-Y concoction serves the fish for high tea, too! Last meal of the day, in the early evening, consists of live daphnia or tubifex worms, depending on their availability.

Next time you find your average fortnightly water change a chore, spare a thought for Mrs Wu, who apart from running a business and looking after a family, changes some of the water in her aquaria daily. It shows in the magnificence of her fish.



It was a great shock to the Guppy World to hear of the death of Dr Otto Michael Stoerzbach, president of the German Guppy group known as the Deutsche Guppy Gesellschaft.

At the International Guppy Show in West Berlin, in August last year, he suffered a heart attack and after a prolonged illness died early this year.

He became the first president of the D.G.G. when it was formed in Hanover, on 15th February 1955 and remained its first officer until the time of his death.

He was extremely interested in British affairs and was foremost in encouraging our breeders both to show fish and to attend the various events held on the Continent.

Just after the foundation of our own F.G.A. he wrote and asked to be sent a letter bearing all the British postage stamps. This he was going to use on a T.V. programme he had been asked to give from Berlin on guppies.

I'm sure guppy folk everywhere will join with us in sending condolences to his family and members of the D.G.G. on their sad loss.

## Readers' Queries Answered



### Neglected Pond

*I 'inherited' a pond in my new house, which I could not deal with last year as we were too busy in the house itself. Now I wish to set the pond up. It is quite large, about 12 ft. square, and made of concrete. I do not think it can leak as the water is quite high with winter rain, but it is now a horrible sight as the water is black and muddy.*

You have quite a task ahead of you, but one which will more than repay you in the pleasure you will gain from a pond of this size. However, the hard work must come first and the pond has to be completely emptied. At worst, it can be done with a bucket. If the pond is on higher ground it can be siphoned into a drain; or the purchase of a small electric pump may be your

solution. When the greater part of the water has been drained off, pond plants can be removed and of course any fish that may be present (these should be transferred to as large a container as possible that has already been filled half with pond water and half with fresh water). The rest of the water and the sludge at the bottom of the pond can then be removed. The sides and bottom of the pond must be scrubbed with a stiff broom and flushed with clean water. Before refilling the pond, any plants that you may have found should be washed well and planted in small containers, either baskets produced specially for this purpose, or large flower pots that can be held in place with a brick surround. The pond can then be half filled, plants put into place, and the water finally topped up

### Breeding Tench

*Are my tench likely to spawn in the pond?*

Tench do breed readily in ponds, usually from May to July, but it is necessary to take action to save the young if you wish to rear them. The spawning should be allowed to take place only within a defined area by restricting planting to that region and the plants bearing the eggs removed to shallower water or the parents removed from the spawning pond.

### Pond Stocking

*I would like to stock my pond, which is over 2 ft. 6 in. deep in parts, with some rather more unusual fishes but one hardly ever sees anything mentioned in books apart from goldfish and orfe. Aven't there any other fishes that can be kept?*

There are several very good reasons why the first pond fish to be suggested are usually goldfish and perhaps golden orfe or golden rudd. Most pond owners, with small or medium-sized pools, are interested primarily in their decorative effect and for this purpose brightly coloured fish are required, and fish that can be seen at the surface. Goldfish, golden orfe, rudd and nishiki koi are ideal for this purpose. There



are quite a few other species from which a choice of pond fish can be made, but the choice must be made for the individual pond, as few are so accommodating in their requirements as the four species mentioned (even golden orfe will not thrive in too small a pond). For example, dace are attractive fish and appear frequently at the surface but require a

large pond and water oxygenated with a fountain or water fall. Crucian carp, common carp and mirror carp are very suitable for life in a medium-sized to larger pond but are usually passed over for the more colourful goldfish. Bream can be kept in the pond but prefer the depths; chub tend to bully smaller fishes. Another problem is in obtaining healthy

stocks of native fishes. If you have a source of supply, make certain before adding the fish to the pond that they are free from disease by keeping the newcomers in spacious quarantine quarters for 2 to 4 weeks. If all these conditions can be fulfilled we would suggest that bitterling, bleak, golden tench and mirror carp might add novelty to your pond.

## Guppy Types No. 10: The Gold, Gold-laced, Blond and Cream

EVER since Columbus placed the New World on the map man has sought (and fought) for gold in the Caribbean. Just as their search for the legendary 'El Dorado' was unsuccessful, so too were the findings of those early guppy collectors, Peters, Filippi and John Lechmere Guppy himself. Not even a hint of gold did they find in their collections of guppies from this part of the world.

In the gold guppy we have a fish that has lost about 50% of the black pigment cells (melanophores) present in the wild grey. Reduction of this pigmentation enables the underlying yellow xanthophores to show through the skin. A further reduction is responsible for the paler 'blond' and 'cream' varieties of guppy.

The first golds were reported in the tanks of a Swedish breeder called Fredleini in 1934. The original parents came from Germany but from who or from where was never disclosed. One year later the first specimens were shipped across the Atlantic and published reports of these guppies indicated them having a basic body colour of gold but with each scale edged in black. They weren't true golds at all but what we in Britain described as 'gold-laced'.

To further confuse the issue some scientists like Goodrich and co-workers also referred to the gold-laced as 'gold', a name that stuck until modern America changed it to bronze. The accepted true golds in Goodrich's collection he named blond.

The 1934 versions from Germany, sold as 'Bohemian guppies', were true gold with a new slant—the

males were devoid of any body patterns.

In 1935, the Duke of York (later King George VI) gave the hobby a boost when he had aquaria installed in his Piccadilly residence. One of the tanks contained Bohemian guppies. This was our present Queen's introduction to fishkeeping, encouraged by Mr C. Shiller the manager of Selfridges (London) Aquaria Department. His efforts led to him being appointed the King's Aquarist. In 1938 he judged the first guppy show held by the G.B.S.

In those pre-war days guppies were crossing the Atlantic, to and fro between breeders, with a fre-

*THE Sixth International Guppy Show (staged by the F.G.A.), to be held at the Globe Farm Community Centre, Stechford, Birmingham, on Saturday and Sunday, 29th and 30th May, 1971, will welcome entries from non-F.G.A. members in all classes except the Master Breeders Class. Benching of entries will be 12-10 p.m. on Saturday, 29th May, and 9 a.m.-1 p.m. on Sunday. Judging will be from 1 p.m. on Sunday until 3 p.m., and the fish will be on view to the public from 3 p.m. onwards, the awards being made at 5.30 p.m. Entries are expected from all over the world—Singapore, America, and Europe—all the 'experts' will have entries there, and this is your chance to enter your guppies and have them judged to F.G.A. standards. Classes are available for all standard-shaped single fish, breeders' teams of four matched males, or four matched females, or two matched males and two matched females. Full details from show secretary Mr D. Beacham, 17 Pedmore Close, Woodrow South, Redditch Wox.*

quency that put even David Frost's recent trips to shame. Fred Stone from The Radio Corporation of America produced some super golds in 1935 from stock received from Dr Fredleini.

Three years later the newly formed British Guppy Breeder's Society issued Standards for both gold and gold-laced guppies, describing the former as buttercup yellow. British Colour Code no. 53.

On 23rd March 1941, H. B. Goodrich, working at the Wesleyan University, Conn., along with scientists at The Woods Hole Laboratories, Mass., U.S.A., bred a double recessive of the gold and the blond. In a paper printed in the *JOURNAL OF GENETICS* the following year these workers christened this new variety 'cream'. Their initial studies had started in 1938 with stock obtained from a Mr Matsumo. Research showed that the genes for blond and gold were independently assorting, non-sex-linked characteristics. Both were Mendelian recessives on separate autosomes.

In the 'fifties, two types of gold-laced appeared; both had the gold body with scales edged in black. The fins of one type were devoid of gold and streaked with black; the other boasted plain gold dorsal and caudal. The matter was finally settled by the F.G.B.S., who issued the following statement: 'Gold lace females having gold suffused fins are not to be considered by our adjudicators as 'coloured females'.'

Because the gold types of guppy never seemed to grow as large as their sisters, judges allowed for this when pointing. A practice that still continues to the present day.

J.K.

## PLANTING a Water Lily

Demonstrated in pictures by BRIAN FURNER



1. Old but clean sacking is used to line the planting container—here a plastic crate is used



2. The sack-lined planting crate is about two-thirds filled with loamy soil as planting medium



3. With the water lily crown supported on the soil further loam is added to cover the roots



4. Washed rough-casting gravel or pea gravel is spread on top of the soil around the lily



5. Excess of sacking is trimmed from the top edge of the planting crate by the use of shears



6. Before the lily planted in the crate is lowered into the pool the whole is watered well



## Personal COMMENT by ARPEE

WHEN writing about the blood characins in the December, 1970 issue of *PFM* I excluded from mention the phantom tetras, of which the red and the black have been isolated for our pleasure. The genealogic mysteries surrounding the rosy, the serpaie and the minor are complicated enough without the added speculation about how closely they are related to the phantoms. Sterba is tempting on the subject, but *EXOTIC TROPICAL FISHES* states categorically that, as *Megalampodus*, they are separate species whose individuality can only be established with certainty under laboratory scrutiny. The differences are therefore such that we may be forgiven for continuing hopelessly to lump them all into one group for practical purposes. They enjoy much the same conditions as many of the other small South American tetras, namely soft and slightly acid water and temperatures near 80°F (27°C). Their food requirements are easily met, both live and dried categories being accepted with equal interest. These fish are rather smaller than the average, seldom reaching 2 inches, and are therefore candidates for shoals if space is at a premium, which it usually is.

Some years ago I was less than enthusiastic about the phantoms. It so happened that the two species were being imported fairly freely and I introduced specimens of both black and red into my collection. The reds were not noticeably redder than the rosy tetra, but a somewhat more scalloped finnage gave them some distinction. With the blacks the overall shape was the same as that of the reds but the fish stood out as specimens much more readily and were almost on a par in this respect with black widows. Their nuptial dances, so like those of the rosaceus, were fascinating to watch and to wonder at, but I never detected any actual spawnings.

Unfortunately none of these specimens lived very long—6 months at the outside—and this was at a time when the remainder of the collection was doing rather well. There was nothing about the fishes to indicate that they were individually suspect and they all appeared to be in first-class condition until a rapid and ultimately fatal degeneration took place. The impression that I

was left with was that they were rather less robust than the *Hyphessobrycon*, and also that their colouring dropped away rather rapidly as they reached full size.

As every tropical fishkeeper knows, the loss of colour with age is one of the most serious drawbacks of some of the small tetras, and it seemed to me that the phantoms were yet another disappointment in this sense. Their price, which never fell below the 35p mark, was another very good reason why they should be looked at really critically. On nearly all counts I mentally crossed them off my shopping list.

How very surprised I was recently therefore to happen on what I thought was a new species in a local dealer's tank. Here were upwards of thirty pink fish with the most beautiful matt red in all their fins and with jet-black body blotches and upper dorsals, the latter of which were surmounted with a dazzling white fringe. They were moving round the tank in a lively shoal, and as each fish came to a halt it bobbed up and down in the water with sheer controlled exuberance: altogether a most memorable display of super-fit fish at their best. The legend which stated that they were red phantom tetras, rarely imported, and that they were 62p each, did nothing to restrain me from taking home what I hoped was a trio. These have now joined my other small tetras after a trouble-free quarantine during which time they almost ate themselves silly. They are also displaying nicely, but, strangely, it is most difficult to detect sexual characteristics as yet.

I drew attention to the difficulty in defining precisely the rosy and its relatives in my earlier article and I can only repeat that if this red phantom is the same red phantom that was imported several years ago, the *Hyphessobrycon* species I have mentioned share individual irregularities to a marked degree, in common with the *Megalampodus*. Quite apart from the really outstanding red matt-ness of the fins these specimens have quite prominent fin-tips of purest white, and it is interesting that the distribution of these varies as between one specimen and another. Fin shape, too, is rather different: certainly no amount of study of the dorsal fins will help me decide male from female as all three seem to differ in some respect. The most striking comparison remains between the earlier imports and these recent ones. The moral, perhaps, is to trust your eyes rather than book descriptions and generalizations when buying fish where the norm is as ill-defined as with the blood characins and their near relatives.

## 'Poor Relations' Indeed!

**I**N response to your editorial comments in the March issue of PFM, which related to Les Dodge's article in the December, 1970 issue entitled 'The Poor Relation', I feel that some facts should be given which may alter the idea conveyed to readers that the midwater branch of fishkeeping is a minority group to which it is not desirable to belong. Quite understandably, as suggested by Mr Dodge, environment will affect the number of coldwater hobbyists but the statement 'Whoever heard of a successful coldwater aquarist who didn't have a fish house in his garden' is a grossly misleading one. There is no doubt in my mind that the majority of successful coldwater aquarists are those without fish houses, just having one or more tanks about the home. However, the majority of successful breeders do have fish houses, but since I have moved further south I have seen some superb singletails raised by a New Forest breeder by spawning indoors and using outdoor ponds.

In common with other hobbies commercial interests are involved. It doesn't need much imagination to come to the conclusion that many manufacturers and dealers would soon be out of business if we were all coldwater fans, for who would want all those heaters, thermostats or extensive marine equipment? The advanced equipment that I buy as a fancy goldfish breeder would not be available. It is therefore due to commercial aspects as much as midwater aquarists themselves that midwater fishkeeping is not more popular, but for myself I feel that the tropical aspect is complementary to midwater fishkeeping and we have a lot to thank the tropical side for.

Coming to the number of experts, it is just not true that these are limited to a mere 16 in this country and only four in the London area. The Goldfish Society of Great Britain membership list for 1971 comprises three foolscap sheets printed on five sides with names and addresses, I concede that this may be a somewhat misleading indicator, for the G.S.G.B. covers not only goldfish enthusiasts in this country but the world over and is really an international organisation. Bearing the foregoing in mind (and it should be recognised that there are many breeders and enthusiasts in this

### Reactions to recent articles in PFM discussing the current state of coldwater fishkeeping and on the organisation of show classes

country who are not members of the G.S.G.B., like Les Dodge himself, and only some of these are members of local or area groups) breeders exceed 16 over and over again.

Looking back on those 'good old days'—well, I was a toddler at the time so I have no fading or distorted memories. However, it is nothing new to hear from some aquarists the merits of pre-war coldwater fishkeeping but the tales that are told are not borne out by the facts. Let us take a look, for example, at *WATER LIFE* magazine for 25th July 1959. On page 46 we see two bubble-eyes, which, on today's standards, do not look anything special. Part of the caption says 'rare celestial goldfish' and the accompanying text continues to describe the bubble-eye. The article concludes with the words: "These fish were on show in Selfridges Aquarium for a few days and were valued at £150 the trio!"

About 5 years ago the G.S.G.B. held its annual Convention at Chessington Zoo, and incorporated an auction of fancy fish. This event was publicised and circulars were sent to aquarist societies and anybody from the general public was welcome. There were plenty of good goldfish youngsters from most varieties and one particular lot which came under the hammer was a team of five bubble-eyes. The breeder, I believe, was Captain L. C. Betts, one of this country's foremost men. Yes, the quality was there but those fish on bidding never reached the retainer of 25s for the lot of five, and the tank had to be taken away. Was this an insult to the breeder? In many ways I believe it was. (As far as prices go, my previous house in London with three bedrooms, good garden and garage space cost £700 in 1957; when I moved last year it sold for £6700. On comparative values those three bubble-eyes should be selling for around £1350 now, but if five cannot fetch 25s post-war I suppose for some breeders they were the good old days!)

The subjects of stock prices and beginners are extensive and space

precludes me from going into detail, but Mr Dodge does not paint a true picture of the average breeder, who is usually very helpful. I notice that the offending breeder quoted by Mr Dodge was an official of the Society promoting the show referred to in the text, and he was no doubt up to his ears in the work that takes so much time before a show. This would be just about the worst time for anybody to call on a breeder and, if the beginner is like the average, it's not just fish he wants but information as well. I am wondering if Mr Dodge can tell us how he helps the beginner; for how much does he sell his youngsters and show fish?

Although I know Mr Dodge to be a leading breeder those who have had experience with beginners would assume from his article that his experience in this field is limited. I cannot remember seeing any advertisements of his in the aquatic press but I realise that I could have overlooked them. This may mean that Mr Dodge helps the beginner through aquarist shops but if the time can be spared by Mr Dodge it would be nice if we could compare his experiences with some of my own.

I advertised fantail goldfish in PFM and one other periodical from August to December 1969; the fish being offered comprised 3-inch 2-year-olds fully sexed and ready-to-spawn metallics (30s pair): all had double anals and caudals; a dozen or more pairs were all show fish. There were also two pairs of nacreous fish at 50s pair and youngsters from the pools at 3s 6d uncoloured, up to 5s for nacreous and coloured metallics with no silver.

A telephone number was given and for the half-dozen or so enquiries outside the London area, I took names and addresses and wrote giving full descriptions and details. Orders for the pairs from outside London or the south resulted in one pair of nacreous going to Blackburn, one pair of metallics going to N. Shields and a further pair going to Nottingham. All recipients wrote saying they were amazed at the quality

at such a price and the buyer from Nottingham stated that the pair would there have cost £8.

From the London area two people visited me and purchased. One happened to be a G.S.G.B. member, who phoned the following year to say how many 'pots and pans' the fish had won, but he didn't get the best fish as he was one of the last on the scene. The other was a beginner who had the other nacreous pair and who continued to call every week or so to collect information on how to arrange his set-up. The only advice he didn't seem to take was to join our local club and the G.S.G.B.

Now what happened to the other pairs? Several people phoned up saying they would be coming over at a specific time; mostly they were late. Naturally they wanted to look over my pools and see what was going on in the fish house. My wife would always provide tea and biscuits in the fish house and virtually all the callers seemed to think that I was running some sort of business. Any experienced aquarist knows that 30s for a pair of 3-inch body fish only covers a fraction of the outlay on rearing, but one gentleman thought this very expensive. In the end I agreed to let him have a pair that had silver on for £1.

Many of the callers brought children and it seemed that I was doing a conducted tour of the Aquarium at the Zoo. It was good fun really but when the children got fed up they tended to fiddle and become a nuisance. Although some callers were advised that Sunday was a day on which I would rather not see them, I found they just turned up on the doorstep at most inconvenient times. This applied to people who had said they would come at a specific time on Saturday, who, after keeping you in all day waiting for them to call, were most surprised on turning up on Sunday to find you leaving for Church. Most of the callers, as a sort of sop, decided to have two of the 3s 6d youngsters and I let them pick these out themselves. Depending on whether they were true beginners or had some knowledge they either went for the best or took those with extensive finnage, with silver or some other detrimental feature. Those with children were the ones that had four at 3s 6d.

When it came to December most of the youngsters were still not disposed of and I counted ten pairs of

adults. I was now planning for the coming season and the fish had to go, so I called in on a local dealer. He thought 30s a pair very reasonable, and said he would take the lot and more at this sort of figure, so down the shop they went. When I called a week later they had all gone, and I would guess at around £5 to £7 10s a pair.

In conclusion I have found helping the beginner an expensive job and if I had not moved I just could not afford to take fish into Central London as before. In every case, fares to London and carriage cost more than expected and the cost of sending fish to be met at Nottingham at minimum rate was 15s.

One thing revealed by the above is that Les is the real expert. He must have advertised and come to my conclusions when I was playing with a rattle—everybody finds out the hard way, even experts!

Wimbourne, Dorset D. SMALLEY

*Mr Smalley has let us see original letters from two of his satisfied purchasers in support of his statements about the high quality of the fish he was advertising.—EDITOR.*

**N**ORMALLY an inoffensive and serious hobbyist like myself would read your magazine and let it digest. Not on this occasion. What, you may ask, has prompted my reply? Namely articles by Mr T. L. Dodge (December, 1970) and Mr R. D. Esson (March). What, I ask, does the hierarchy of the aquatic world think it is talking about? The strange thing is that they are writing about it, and, even stranger than that, you are putting it into print.

Mr Dodge's head must have been in a block of his fish house ice when he dreamed that bidge up and then had the audacity to write it. Sixteen coldwater fishkeepers indeed! I could name at least six in Bristol, all of whom are muddling along breeding their fishes and sharing their glories from the benches. Does he realise how difficult it is for a newcomer who is even interested to get a fish to start with? No wonder they are lost before they start! What would he have to offer the beginner? The answer, let's face it Mr D., like all the rest, is nothing. The reason!—simple: breed, sort, cull, keep.

As a final suggestion to Mr Dodge, he might care to spend his writing

time in advising the would-be enthusiasts where to shop and how much to spend to obtain the necessary requisites to begin. No wonder people turn tropical.

Then what do they find? 'Organisation of Show Classes' by the F.B.A.S., no less. Where is all this leading the hobby and, more important, who are the misguided individuals organising shows and at the same time attempting to stay inside the vast array of rules laid down by the F.B.A.S.: (1) classes not to be amalgamated; (2) at least 20 basic classes; (3) no closed classes or trophies. Could societies exist without this, or are all societies run by sheep? I agree with Mr Esson on one count, and that is that I would like to visit the show which included his guppy varieties without it being specialised. It seems the 'big brother' organisations are jumping on the band wagon; as if a 'champion of champions' were not enough now we have an F.B.A.S. Supreme Championship Fish and trophy to match.

A suggestion or two to the F.B.A.S.: (1) How about a rule to prevent the same fish getting both trophies within the same decade? (2) A to Z is covered by classes in your organisation—how about including I to cover 'Ich'? Your class would be easy—N.B.—M.I., and the judge's job of counting the number of white spots would certainly give the boost to the hobby you seem to think it needs.

I will be quite happy to receive any correspondence from anyone reading this and thinking about this hobby as seriously as I do, and let's leave the 'pseudo matt mock metallic' boffins to stew in their own juices.

Wimford, Bristol ERIC WILSON



"Tube's gone again!"



**BLACKPOOL & FYLDE AQUATIC SOCIETY**, now known as the **BLACKPOOL & FYLDE AQUARIUM SOCIETY**, recently held its President's Night at new headquarters in the Kings Arms Hotel, Talbot, Blackpool. The Accrington and Loyne Clubs joined in the social evening to welcome the new president Mr C. F. Grace, director of Blackpool Zoo, and former president of Dudley A.S. whilst at Dudley Zoo. In his inaugural address Mr Grace said that he looked forward to participating in the activities of a club which had the conservation of nature, in the aquatic field, at heart, as his own job had a similar purpose in mind, although on a larger scale.

The president was accompanied by his wife for this first meeting, and 93 members and guests saw the presentation of the Eddie Crowther Memorial trophy to Mrs Crowther, to be held until the Annual Show on 1st August. The Home Furnished trophy was presented to Messrs Howarth and Wright, for their coldwater marine aquarium.

Mr R. Hampson from Leeds gave an illustrated lecture on livebearers and his slides of some unusual and interesting fish showed the increase in the variety of livebearers.

Judges of the table show for fish brought by members of the three clubs were Mr Todd of Accrington and Mr Jones, Blackpool. Winner of the Best Fish, Mr C. Whitsey, Accrington, was presented with the Fishfinger Trophy, a source of amusement to the assembled aquarists, the trophy being real fishfingers with cutlery, glued to a plate, the whole sprayed gold!

'MARINE land Florida U.S.A.' was the title of the enjoyable lecture and slide show given to 65 members and friends of **BEDWORTH A. & P.S.** by Mr J. Edwards of Cannock A.S. Most of the slides were of the famous Miami Seagrass, and Mr Edwards described the internationally famous performing dolphins and the beautiful tropical marine tanks for which this aquatic zoo is renowned, before concluding his talk with an account of his visit to the West Indies and Bermuda.

At the March meeting, Mr and Mrs M. Walker kindly stepped in at the last minute to judge the evening's table show, which was also the

eliminator for the Midland Aquarist League Show later in the month. Mr Walker gave a most interesting talk on the construction of a fish house, emphasising both the danger of condensation, and the electrical side of the construction. Table show results were: A.v. anabantid: 1 and 2, Master C. Pratt, who also won the best in show award; a.v. livebearer: 1 and 2, Mr K. Pratt; a.v. barb: 1 and 2, Mr and Mrs Carter.

**FORTY** people attended the inaugural meeting of the new **CENTRAL SUSSEX SECTION OF THE F.G.A.**, held in February at the Park Centre, Burgess Hill, Sussex. 33 entries were benched, making good use of the show stand made by secretary Mr R. Elmes. The chairman, Mr D. Soper, explained that to start a new section there must be at least 12 new members, and in fact 21 new members joined. The section has three judges, Mr T. Croucher, Mr R. Elmes, and Mr D. Soper, as members. At each meeting there will be a table show, an auction, and a raffle to raise funds, plus a lecture or slide during the judging. Further information on the section may be obtained from Mr D. Soper, at Burgess Hill 2251. The guppies were judged by Mr Croucher and Mr Elmes, and results were:

Dove: Mr D. Soper. Ladies, female: Mr D. Leach, Junior, male: 1, Miss J. Corbin; 2, Mr R. Soper; 3, Mr D. Reason, Junior, female; B. Soper. Original veil: Mr D. Soper. L.A.V.: 1, Mr A. Temple; 2, Mr R. Elmes; 3, Mr D. Soper. Natural, female: 1, Mr D. Soper; 2, Mr M. Allen, S.A.V.; 3, Mr G. Leach; 4, Mr D. Soper; 5, Mr E. Johnson. Wedge, female: Mr M. Allen. Delta, male: 1 and 2, Mr D. Soper. L.V.S. male: Mr R. Elmes. Breviter, female: Mr R. Elmes. Roundtail, female: Mr S. Soper. Matched pairs: 1, Mr D. Soper; 2, Mr R. Elmes.

AT the A.G.M. of the **MERSEYSIDE A.S.**, well attended by members in spite of weather conditions, the chairman reported that 1970 had been successful in every way, and he thanked the committee and members for their support. In announcing the new officers, however, he expressed his regret that, owing to the pressures of business, Mr J. Franklin had been forced to resign from his post as the club's exchange editor. Thanks were extended to him for all his hard work in connection with the club 'mag'.

Vice-president of the Society, Mr M. D. Murphy, covered a wide field, including both freshwater and tropical fishes, when he answered members' questions at a recent meeting. His answers were most instructive, and he also told members his plans for keeping marines at the Liverpool Museum Aquarium, which is in his charge.

The visiting speaker at the next

meeting, Mr A. Bland, chairman of Hoylake A.S., gave an interesting talk on livebearers, supported by some excellent slides identifying each fish and giving information about it. An aquarist of many years' standing and past member of Merseyside A.S., Mr Bland has kept an unbelievable number of livebearing species, and he enjoys hybridising two species wherever possible. Amongst varieties discussed were swordtails, platys, guppies and mollies, and to round off his talk Mr Bland showed some slides of other livebearer species, *Limia*, *Gambusia* and the half-beaks, after which he answered questions from members.

**MIR R. SCURRY**, chairman of **HOUNSLOW & D. A.S.**, and a successful competitor of many years' standing in furnished aquaria classes at open shows, recently demonstrated to club members the setting up of a furnished aquarium. Mr Scurry, well-known for his skill and artistry in this field, used a stainless steel tank (2 ft. x 15 in. x 12 in.) and a selection of aquatic plants and rocks, describing each step as he went along, naming the plants and outlining the best methods of grouping and planting them. Afterwards he went on to show the various effects obtained by using different types of lighting.

24 good quality entries in the pairs table show provided an excellent opportunity for beginners to see what points to look for in well-matched fish. F.B.A.S. judge, Mr C. Harrison, presented card awards as follows: 1, Mr R. Spencer (78½ points); 2 and 3, Mr L. Mathews (78½ and 77½).

**BEDWORTH A. & P.S.** were hosts at the first show of the Midland Aquarist League. There were a total of 136 fish benched, 59 in the M.A.L. classes and 77 in the two open classes. Amongst the many visitors were two American aquarists, Tech/Sgt. Jack Hunsiger and Sgt. Bob Scott, both stationed with the U.S.A.F. at Upper Heyford, Oxfordshire. Loughborough A.S. won the first round with 26 points. Results were:

**M.A.L. Classes.** A.v. barb: 1, Mr Delaney (Loughborough); 2, Mr and Mrs Haines (Nuneaton); 3, Mr Parry (Loughborough). A.v. anabantid: 1, Mr Peirce (Loughborough); 2, Mr Sheehy (Coventry); 3, Mr Blotman (Nuneaton). A.v. livebearer pairs: 1, Mr Tidds (Bedworth); 2, Mrs Swadling (Dover); 3, Mr Parry (Loughborough).

**Open classes.** A.V. cichlid: 1, Mr Tidds (Bedworth); 2, Whitfield & Massey (Rugby Select); 3, Mr Robinson (Northampton). A.v. characin: 1, Atwood & Williams (Rugby Select); 2, Mr Robinson (Northampton); 3, Mr and Mrs Kemp (Nuneaton).

**BRISTOL T.F.C.** were very pleased to welcome a considerable number of



## Forthcoming Championship Class Shows Eligible for the 1971 Supreme Championship

WINNERS in the single fish classes listed for the following coming shows in 1971, all of which are in the Federation's Championship Class scheme, are eligible for the Supreme Championship Trophy Competition at THE AQUARIUM SHOW '71 (29th-31st October, Royal Horticultural Society's Old Hall, London, S.W.1). The winner will hold the Federation Council Championship Trophy for one year.

Croydon A.S.	2nd May	Platy	R
Corby & D. A.S.	23rd May	Barb	B
Catford A.S.	12th June	A.O.S. Livebearer	T
High Wycombe A.S.	13th June	Betta splendens	Ea
Chingford & D. A.S.	26th June	Tropical Catfish	G
Basingstoke & D. A.S.	17th July	Corydoras and Brochis	H
Portsmouth A.S.	8th-14th August	Singletailed Goldfish	U
Mid-Herts. A.S.	4th & 5th September	Guppy Female	P
Wellingborough A.S.	5th September	Labyrinth	E
Brighton & Southern A.S.	12th September	Mollie	S
Havant & D. A.S.	18th September	Twintailed Goldfish	V
Bracknell A.S.	23rd September	Swordtail	Q
Torbay A.S.	26th September	Marine	Y
Reigate & Redhill A.S.	26th September	Cichlid	D
Ealing & D. A.S.	3rd October	Loach	L
Kingston S.P.A.S.S.	16th October	A.O.S. Coldwater	W

Shows already held this year with Championship single fish classes are Thurrock A.S. (Danios/W.C.M.M.), Tottenham & D. A.S. (Egg-laying Toothcarps), Medway A.S. (Rasboras), Independent A.S. (Characins), Freelance A.S. (Cichlids).

new faces to their last two monthly meetings. February's speaker, Mr John Wheeler from Trowbridge—a familiar and welcome figure among Bristol aquarists gave a talk that contained many helpful tips of particular value to the newer members on the dietary aspects of keeping tropical fish. The speaker for March was Mr Tony Powell from Keynsham T.F.C. whose topic—'Aquarium Balance or Unbalance' prompted a good response from club members with a fair exchange of ideas and views. Table show results at this meeting were: Loach, open class: 1 and 2, Mr G. Furber; 3, Mr R. Day. Corydoras open class: 1, Mr G. Furber; 2, Mrs Purnford; 3, Mr M. Taylor. Loach, novice class: 1, Mr T. Mursk; 2 and 3, Mr R. Lawrence. Novice Corydoras class: 1, Mr T. Beankin; 2 and 3, Mr R. Lawrence.

Members are now busily engaged in arrangements for the June three-day open show. This show is demanding in its organisation since it remains unique in club shows, not only because of its duration but also in the feature that all exhibits are presented in identical fully heated tanks.

## In Brief

... **MEDWAY A.S.** members very much enjoyed the enlightening slide show and commentary given by Mr R. Forder on tropical plants. For the new members present this must have provided an interesting evening, helping them to recognise various plants and explaining the conditions required for good growth. The judge of the evening's characin table show was most impressed by the high standard of the 25 entries. Winners: 1 and 3, Mr A. Clack; 2, Mrs P. Conner.

... **MID-SUSSEX A.S.** announce that they will be holding a Fish Exhibition on Sunday, 16th May, at the Park Centre, Burgess Hill.

... 25 members and friends of **CARSHALTON & D. A.S.** took part in a slide and tape quiz show on tropical fish, which was won by a junior, Miss J. Wilshire. She received a medallion, presented by the judge for the evening, Mr B. Baker of the F.B.A.S., whose knowledge

made him a valuable mediator in the quiz. Results were: Barb: 1, Mr J. Lucy (76 points); 2 and 3, Mr C. Lamb (75 and 73). Junior barb: 1, K. Hayworth (74). Danios: 1 and 2, Mr T. Barr (79 and 77); 3, Mr C. Wilson (75). Characins: 1, Mr T. Barr (80); 2, Mr I. Davis (79); 3, Mr J. Begbis (73).

... **AT** the March meeting of **HYDE A.S.**, held at the new venue, The Bear's Head, members enjoyed a talk on 'club methods and organisation'. This was given by Mr R. French, and was followed by a lively discussion. Table show results: 1, G. Wilkinson (77 points); 2, Mr I. Rowbottom (74); joint 3, Mr P. Bailey and Mr I. Rowbottom (72).

... **PRESIDENT** of **WARRINGTON A.S.**, Mr A. Higham, presented annual Fish of the Month trophies to club members as follows: 1, Mr S. Ellis; 2, Mr L. Crawford; 3, Mr M. Millman. The Junior Trophy was awarded to Master M. Pritchard, and Mr J. Higham won the Endeavour Trophy.

... **ENTHUSIASTIC** members of **CORBY & D. A.S.** were enthralled by the magnificent colour slides of the *S. discus*, from egg to adult.

shown by guest speaker Mr R. Skipper from Hemel Hempstead. Afterwards he gave an excellent account of his experiences in the rearing and breeding of this beautiful fish.

... FOLLOWING are the dates and venues of the **MIDLAND AQUARIST LEAGUE** shows to be held later this year: 4th September, Foleshill Community Centre, Foleshill, Coventry. Open classes: a.v. cichlid; a.v. characin. 3rd October, Camphill Youth Centre, Camphill Road, Nuneaton. Open classes: a.v. anabantid; a.v. killifish. Benching in all M.A.L. shows is 1-2 p.m., shows to be run to M.A.A.S. standards.

... **ILFORD & D. A. & P.S.** recently enjoyed a most informative lecture and slide show on tropical aquarium plants, given by Mr B. Pye, visiting speaker at the club on a number of occasions. He covered a wide range of plants and their growth habits, from their origins in many different parts of the world to some useful tips on propagation, and the excellent slides of the plants and their flower heads proved tremendously valuable to all members present. Mr Pye concluded his lecture by answering members' questions.

... **RESULTS OF SWILLINGTON A.S.** first quarterly members' show of 1971 are: Guppies: 1, Mr R. Stringer (Harry Spruce trophy); 2 and 3, M. M. & A. Crouther. Mollies: 1, Mr R. Hislop (Swillington Mollie trophy); 2, Mr S. Cadlake; 3, Mark Hislop. Swordtails: 1, Mark Hislop (Swillington A.S. Swordtail trophy for best in show); 2, Mr R. Hislop; 3, Mr P. Reynolds. The entertainment at recent meetings had included a talk on fish diseases by Mr Peter Reynolds and a quiz compiled by Mr C. Gascoigne and Mr D. Strad.

... A NEW Society is being formed in the Skelmersdale New Town (Lancs.) area. It is to be known as the **GRIMWOOD A.S.**, as it was originally formed by a few members of a local firm, but it has now been decided to open the membership to anyone with an interest in the keeping of tropical fish. Meetings are held on the first Sunday of each month at the Quarry Bank Community Centre at 7.0 p.m. Secretary, Mr J. B. Handford, 55 Thurston, Skelmersdale, Lancs.

... THE Appreciation Cup that **NOTTINGHAM & D. A.S.** award annually has been given to Mr and Mrs K. Binns for their unflinching

help to the Society over the past year—1970-71. Mr Bill Pykett has won the Bulleyment trophy, Breeders, and Mr N. B. Kenney, the Society's show secretary, has been awarded the Mackenzie & Lynn Challenge trophy for the member gaining most points in table shows throughout the year.

... **INFORMATION** about **PORTSMOUTH A.S.** Inter-Club Show on Sunday, 30th May, is being circulated to clubs in the south, but further details can be supplied by

Mr W. T. Ryder, 493 Commercial Road, Portsmouth, PO2 7AB.

... **COVENTRY P. & A.S.** members and guests were very interested to learn of the experiences of member Mrs Joan Halling in keeping marine tropical fish. Her talk was well supported by her own colour slides. The table show, an eliminator for the M.A.L. Show at Bedworth, resulted in wins by Mr M. Lewis (pairs livebearers); Mr D. Easingwood (barbs); Mr E. Sheehy (anabantids).

## Dates for Your Diary

1st May. **HENDON & D. A.S.** Open Show, Heatherwood Hall, West Hendon, N.W.9. Schedules from Mr T. Glass, 19 Adelaide House, London, W.10.

1st May. **TROWBRIDGE & D. A. & P.S.** Open Show, Nelson Helen Girls School, Trowbridge. Show schedules and literature from Mr C. Penny, 121 Trowbridge Road, Bradford-on-Avon, Wilts.

2nd May. **ASHTON-U-LYNE & D. A.S.** Open Show, The Jubilee Hall, Dakinfield, Cheshire. Schedules: Mr F. Ffynn, 9 Besswick Terrace, Richmond Park Estate, Ashton-under-Lyne, Lancs.

2nd May. **CROYDON A.S.** Open Show, Stanley Hall, South Norwood Hill, S.E.22. Schedules from Mr A. J. H. Smith, 3 Hindhead Way, Wallington, Surrey.

2nd May. **DUKESIES A.S.** (third Open Show, Windford Park Technical Grammar School, Sparcken Hill, Woking, Notts. Show secretary, Mr M. Woodley, 36 Silverdale, Dinnington, Nr Sheffield.

9th May. **WORKSOP A. & Z.S.** Open Show, North Notts College of Further Education, Carlton Road, Worksop. Schedules shortly from Mr. F. G. Sibson, 17 Clinton Street, Worksop, Notts. Free car park; refreshments available.

9th May. **DERBY REGENT A.S.** Open Show, Sherwood Foresters Recreation Centre (Normanton Barracks), Osmaston Park Road, Derby (follow R.A.C. signal). Schedules from Mr R. T. Bull, 36 Queens Drive, Littleover, Derby.

9th May. **OSRAM A.S.** Open Show, The Recreation Hall, Refuge Street, Shaw, Oldham, Lancs. Schedules: Mr J. E. Shaw, 23 Refuge Street, Shaw, Oldham.

12th May. **CARDEFF A.S.** Open Show, G.R.N. Club, Sioncey Road, Cardiff (opposite Cardiff City A.F.C. grounds). Details: Mr J. Wilson, 4 Clo-y-Graig, Llantresant, S. Wales.

12th May. **UXBRIDGE & D. A.S.** Open Show, Meadow School, Royal Leam, Hillingdon, Uxbridge. Schedules: Mr N. V. Lee, 45 Alreole Road, Ealing, London, W.5.

12th May. **MERSEYSIDE A.S.** Open Show.

12th May. **MID-SUSSEX A.S.** Annual Fish Exhibition, The Park Centre, Burgess Hill, Sussex. Open to the public 10.30 a.m.—6.0 p.m.

22nd May. **SOUTHEND, LEIGH & D. A.S.** Open Show, Liberal Hall, Clarence

Road, Southend (proceed towards sea front from Southend Central Station, first right, first left). Details: Mr R. D. Orford, 4 Benham Chase, Leigh-on-Sea, Essex.

22nd May. **YEovil & D. A.S.** Open Show, Grass Royal Secondary School, Yeovil. Schedules from Mr A. E. Rendell, 77 Freedom Avenue, Yeovil, Somerset.

23rd May. **CORBRY & D.A.S.** Open Show. Schedules from show secretary Mr D. A. Page, 28 Crispin Street, Rothwell, Northants.

23rd May. **COVENTRY POOL & AQUARIUM SOCIETY** Open Show, Foleshill Community Association, 737 Foleshill Road, Coventry. Details from Mr C. Woodbridge, 32 Ridgeway Avenue, Coventry.

23rd May. **LOYNE A.S.** first Open Show, Lancaster University (change of venue). Schedules from Mrs M. Norris, 70 Wyresdale Road, Lancaster.

23rd May. **NORTHWICH & D. A.S.** Open Show, The Scout Hall, Cuddington, nr. Northwich. Benching 12.00-4.0 p.m. Show schedules from Mrs D. Thorne, 28 Whitingate Road, Winsford, Cheshire.

29-30th May. Sixth **INTERNATIONAL GUPPY SHOW (FANCY GUPPY ASSOCIATION)**, Globe Farm Community Centre, Stockford, Birmingham. Open to non-F.G.A. members.

5th June. **F.R.A.S.** Assembly, Conway Hall, Red Lion Square, London, W.C.1.

6th June. **LINCOLN & D.A.S.** Open Show, Drill Hall, Broadgate, Lincoln.

6th June. **ACCRINGTON A.S.** Open Show.

6th June. **BOURNEMOUTH A.S.** Open Show, Kinon Community Centre, Felhams Park, Kinon. Schedules from Mr J. Jeffery, 30 Reservoir Avenue, Southbourne, Bournemouth. BH6 4JF, after 1st April.

6th June. **BISHOPS CLEEVE A.S.** Open Show, The Tythe Barn, Bishops Cleeve (on the A431, Cheltenham to Evesham Road). Schedules from Mrs C. F. Scrivins, 27 Warden Hill Road, Cheltenham, Glos.

12th June. **LLANTWIT MAJOR A.S.** Open Show, Town Hall, Llantwit Major. Details from Mr A. Ibbertson, 84 St Marys Avenue, Barry, Glam.

12th June. **LOUGHBOROUGH & D.A.S.** Open Show, The Sports Centre, Granby Street, Loughborough, Leics. Show secretary, Mr M. L. Farnon, 12 Silverton Road, Loughborough, Leics.

13th June. **HIGH WYCOMBE A.S.** Open Show, West Wycombe Hall, nr High Wycombe. Details from Mr R. Leslie, 22 Meadow Walk, Tylers Green, Penn, Bucks.



13th June. **THORNE A.S.** Open Show. Thorne Grammar School. Schedules: Mr H. C. Jewison, 94 Hawthorne Road, Thorne, nr Doncaster, Yorks.

20th June. **GLOSSOP A.S.** Open Show. Glossop Adult Educational Centre, Talbot Street, Glossop (A.M.D.A.S. Show).

20th June. **SWILLINGTON A.S.** Open Show. Swillington County Primary School, Swillington, nr Leeds. Schedules: Mr P. Reynolds, 60 Lawrence Road, Leeds LS8 3HS.

24th-26th June. **BRISTOL TROPICAL FISH CLUB** Open Show, Congregational Church Hall, Newton Street (Stapleton Road), Bristol 5. Details from Mr E. Newman, 71 Somerdale Avenue, Knowle, Bristol 4.

27th June. **WEDNESBURY & D. A.S.** Open Show. Boys High School, St Paul's Road, Wednesbury (1 min. off M6). Schedules from Mr T. Shipston, 9 Gloucester Road, Wednesbury.

27th June. **STRETFORD & D. A.S.** Open Show. A.E.I. Club, Moss Road, Stretdford. Batching 12.00-2.0 p.m. Details: Mr A. Stear, 63 Derbyshire Lane, Stretdford. Phone 061-865 3423.

27th June. **ALFRETON & D. A.S.** Open Show. Adult Education Centre, Alfreton Hall, Alfreton. Details from Mr B. Hickling, 14 Meadow Close, Eastwood, Nottingham NG16 2RQ.

4th July. **LYTHAM A.S.** Open Show. Lowther Gardens, Lytham, Lancs.

10th July. **G.S.G.B.** Quarterly Meeting. Conway Hall, Red Lion Square, Holborn.

10th-11th July. **ROMFORD & BEACON-TREE A.S.** Open Show (Dagenham Town Show). Central Park, Dagenham, Essex. Schedules 9.00 from Mr D. G. Kent, 74 Lywood Drive, Collier Row, Romford; phone 70-67824.

11th July. **GRANTHAM & D. A.S.** second Open Show. Schedules: Mr M. Pattison, 8 Witham Terrace, East Street, Grantham, Lincs.

11th July. **TADCASTER & D. A.S.** Open Show. Collingham Memorial Hall, Collingham, Wetherby, Yorks. Schedules: Mr H. Truswell, 43 The Fairway, Sutton Road, Tadcaster, Yorks.

17th July. **BASINGSTOKE & D. A.S.** Change of date. Fifteenth Open Show (formerly to be held on 10th July). Carnival Hall, part of Basingstoke Carnival activities. Show schedules from Mr M. Strange, 10 Loddon Court, Neville Close, Basingstoke, Hants.

18th July. **RUNCORN A.S.** first Open Show. Schedules: Mr J. Faulkner, 30 Leicester Gardens, Runcorn, Cheshire.

1st August. **BLACKPOOL & FYLDE A.S.** Open Show. Raikes Parade Annexe (Old Grammar School), Church St., Blackpool. Souvenir programmes, Mr G. Howard, 46 Stamford Avenue, Blackpool (phone 42676) from mid-June.

4th August. **IRISH FEDERATION OF AQUARIST SOCIETIES.** Open Show

London's Annual  
Exhibition of Fishkeeping  
**The AQUARIUM  
SHOW '71**

Friday 29th October  
to Sunday 31st October

Royal Horticultural Society's  
Old Hall, London S.W.1

All details from  
Show Organiser,  
PFM, 554 Garratt Lane,  
London S.W.17  
01-947 2805

'Aqua '71'. The Wellington Hall, Belfast. Show manager, Mr W. McAuley, 43 Benvieu Avenue, Belfast 14.

8th August. **STROUD & D. A.S.** Open Show. Mid-Gloucestershire Technical College, Stratford Road, Stroud, Glos. Show secretary, Mr M. S. Jones, 46 Hillcrest Road, Cashes Green, Stroud, Glos.

9th-14th August. **PORTSMOUTH A.S.** Open Show. Schedules: Mr K. Johnson, 7A Hillsey Road, Paula Grove Portsmouth, Hants.

15th August. **OLDHAM & D. A.S.** Open Show. Werneth Park, Oldham. Schedules: Mr E. Birchwood, 30 Inverness Avenue, Blackley, Manchester 9.

15th August. **NORTH STAFFS A.S.** Open Show.

22nd August. **BEDWORTH A. & P.S.** third Open Show. Nicholas Chamberlain School, Balkingdon Road, Bedworth. Schedules: Mr K. Edkins, 72 Lister Street, Attleborough, Nuneaton.

28th August. **ANSON A.S.** Open Show. St Andrews Hall, Willesden, London Rd., N.W.10. Schedules from Mr D. Thomas, 16 Cornwall Gardens, London, N.W.10.

4th September. **F.R.A.S.** Assembly. Conway Hall, Red Lion Square, London, W.C.1. 2.30 p.m.

4th September. **YATE & D. A.S.** Open Show. Details awaited.

4th-5th September. **MID-HERTS A.S.** International Open Show. Major trophies for all classes. Schedules: Mr C. S. A. Withers, 15 Charmouth Road, St. Albans, Herts. (phone 58346).

5th September. **HUDDERSFIELD T.F.S.** Open Show. The Town Hall, Huddersfield.

5th September. **LUCAS A. & P.S.** 1st Open Show. Joseph Lucas Ltd, Shaft Moor Lane, Birmingham. Schedules from Mr G. Roberts, 30 Charles Road, Solihull, Warks.

5th September. **BRACKNELL & D. A.S.** Open Show. Priestwood Community Centre, Priestwood Court Road, Bracknell (opposite Admiral Cunningham Hotel). Schedules from Mr L. Jordan, 62 Fernbank Place, Ascot, Berks.

10th-11th September. **BRISTOL A.S.** Open Show. St. Michael's Hall, Bishopston. Details: Mr S. Lloyd, 4, Curlew Close, Frenchay Park, Bristol 5. Phone 656532.

12th September. **BARNESLEY T.F.S.** Open Show. Mapplewell & Staincross Village Hall, Staincross, Barnsley.

12th September. **BRITISH KILLI-FISH ASSOCIATION (COLLINGHAM GROUP)** third Open Show. Collingham Memorial Hall, nr Wetherby, Yorks. Details: Mr Crowther, 8 Beechwood, Church Street, Woodlesford, Leeds.

18th September. **HOUNSLOW & D. A.S.** Open Show. The Youth Centre, Cecil Road, Hounslow (change of date).

18th September. **HAVANT & D. A.S.** first Open Show. Deverall Hall, London Rd., Purbrook, Hants. Details: Mr V. B. Hunt, 120 London Road, Widley, nr Portsmouth.

19th September. **STONE A.S.** Open Show. Walton Community Centre, Stone, Staffs. Schedules from Mr N. W. Plant, 18a High Street, Stone, Staffs.

25th September. **G.S.G.B.** Convention. Venue to be arranged.

26th September. **WEST CUMBERLAND A.C.** Open Show. New Civic Hall, Whitehaven.

26th September. **HUCKNALL & BULWELL A.S.** Open Show. Bulwell Youth Club, Coventry Road, Bulwell, Notts. Schedules: Mr E. Smith, 111 Longwood Drive, Daybrook, Nottingham.

26th September. **TORBAY A.S.** Open Show. Torquay Town Hall, Devon.

2nd October. **EAST LONDON A. & P.A.** 25th Open Breeders Show. (Judges: Mr C. A. T. Brown, Mr B. Baker, Mr F. Tomkins.) Schedules: Mr F. Vickern, 13 Irons Way, Romford, Essex; phone 63533.

3rd October. **EALING & D. A.S.** Open Show. Northfields Community Centre, Northcroft Road, London, W.15. Details: Mr R. Sellers, 3A Lady Margaret Road, Southall, Middlesex.

6th-10th October. **BRITISH AQUARIST FESTIVAL** at Belle Vue, Manchester.

17th October. **SHERWOOD A.S.** Open Show. Details awaited.

28th-31st October. **THE AQUARIUM SHOW '71.** Royal Horticultural Society Old Hall, Vincent Square, London S.W.1.

6th November. **G.S.G.B.** Quarterly Meeting. Conway Hall, Red Lion Square, Holborn, London.

7th November. **MIXENDEN T.F.S.** Open Show. Mixenden Community Centre, Clough Lane, Mixenden, Halifax. Details: Mr S. Leedham, 74 Clough Lane, Mixenden.

14th November. **HORSFORTH A.S.** third Open Show. Details to follow.

4th December. **F.R.A.S.** Assembly. Conway Hall, Red Lion Square, London, W.C.1. 2.30 p.m.

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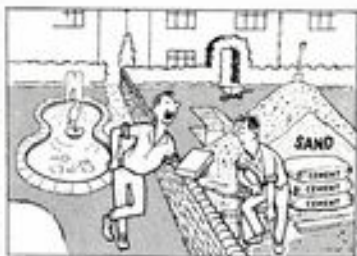
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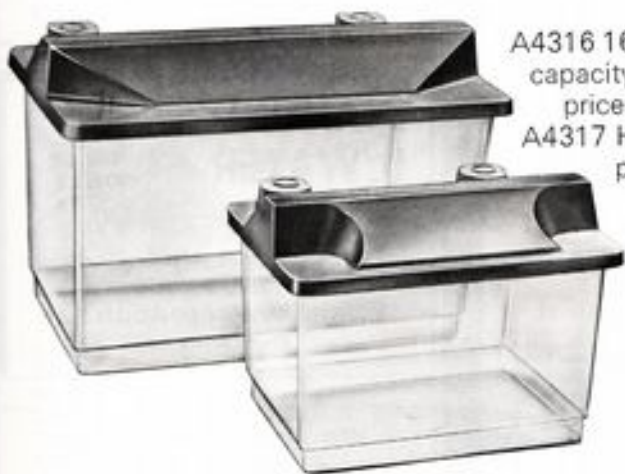
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