

AUGUST 1975

25p

Pet **Fish**

# PRACTICAL FISHKEEPING MONTHLY



**Contents include:**

Glowlight Breeding Problems  
Marinist's Notebook  
Veiltail Goldfish  
Readers' Queries Answered

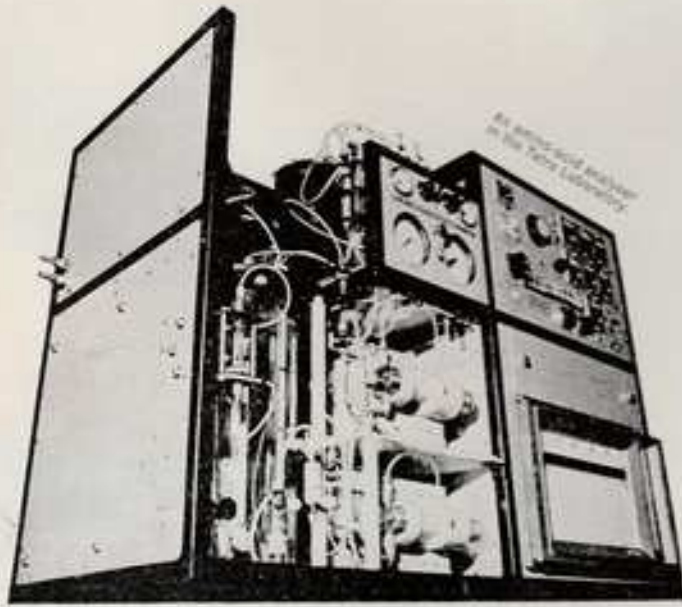
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Breeding the Ruby Barb  
Cultivation of the Lace Plant  
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## Comments and Quotes

- **Aquaria not-so-beautiful** ● **Ban**
- on Crocs** ● **Award to Aquatic Firm**

### On Public View

NOTHING is as pleasing to the eye of anyone with the interests of the hobby at heart as the sight of a well-kept and set-up aquarium in some position where it is on public view. Such a picture cannot fail to win newcomers to aquarium keeping, we believe. One large, well-planted aquarium that gave us this kind of pleasure was placed in the foyer of a large office block in London and someone was undoubtedly doing a first-rate job in keeping the tank as it should be. Was — for unfortunately, the last time we saw the tank, an unwise decision had been taken to 'go marine', and there was the once beautiful aquarium looking like most seawater tanks that are not kept up by true experts, salt-spattered and obscured with algae, unattractively bedecked with lumps of dead coral, and with a few coral reef 'jewels' from which the shine was disappearing fast. Not a pretty sight at all. What harm it now does and will do until its inevitable shut-down in putting people off we hate to think.

Another sight that really caused us to shudder this summer was on full view in a Somerset inn. This was a large aquarium that had started life as a furnished tank with a mixed community of tropicals, and probably (one cannot now be sure!) was at first all that

such an aquarium should be. The sequence of events that followed could be constructed from the sorry evidence now on display. The presence of the few medium-sized underfed cichlid singles of various common species, living in a state of nerve-jangling semi warfare, suggested that someone had unwisely included these as tiny specimens in the first community without knowledge of likely future developments. The leafless stalks of plants to be seen here and there denoted the end of the impossible struggle to keep the aquarium greenery thriving with such fishes in the tank. The general signs were that the owner was losing interest fast — he was probably quite unaware of where he had gone wrong, and in fact the sooner this sad display gets removed from public view the better. Unfortunately one can visualise how, for years to come, mine host will be dissuading all who will listen to him from owning an aquarium by his experience of how difficult he found it all.

It's not easy to say what can be done about such failures on public view. In theory they should never happen, for books giving the proper guidance for success are plentiful, most dealers are free with good advice and there is nothing intrinsically difficult about aquarium maintenance. But happen, they surely do. Societies can perform good work here looking out for and (tactfully) dealing with any aqua-horrors in their localities.



## Aquarium Suppliers Gain Top Award

YET another of the firms whose names are so well known to us in our hobby has received an award from an outside body. Our congratulations to the Liquify Co. Ltd, trading internationally and in the UK under the name of Interpet, on being awarded the Distributive Training Award. This award, made to retailing, wholesaling and mail order companies achieving the highest standard of staff training was introduced by the Distributive Industry Training Board and managing director, Dr Neville Carrington, thinks that the management advice Interpet has received from the Training Board has contributed towards the firm's success in home and overseas markets. Increased efficiency amongst the hobby's suppliers is to be applauded wherever it is found as only by such means can some of the inflationary costs we are all suffering from be absorbed.

## Reptile Restrictions

IN JUNE, Mr Anthony Crossland, Secretary of State for the Environment, laid before Parliament an Order under the

Animals (Restriction of Importation) Act 1964 to extend existing controls on the importation of certain species of live animals to include all species of the alligator, crocodile and garial families of reptiles. The Order came into operation on 18th July, 1975. From this date a licence granted by the Department of Trade is required to import any live animal in these families. Every application to import any of these animals will be referred to the Advisory Committee on the

Importation of Animals for its individual consideration.

There is widespread acceptance among specialists that all species of crocodylians stand in need of conservation.

The Order also extends existing controls of the importation of certain species of turtles to include all species belonging to the family Emydidae.

The Department of Trade will shortly publish in TRADE AND INDUSTRY a list of the species which will be subject to control under the Act.

## The Aquarium Show '75

ENQUIRIES reaching us about this year's Aquarium Show in the past few weeks have exceeded the number we have had at this time in previous years, so it is evident that many people are looking forward expectantly to the event. This is the eighth consecutive show in London, presented as usual by the Federation of British Aquatic Societies.

Entries from societies for the Tableaux Section have already been received, and generally clubs have been appreciative of the changed arrangements giving each society entering an increased grant towards expenses — big prizes are fine for the successful but there can be only one winner!

The popularity of the class for the 'big ones' introduced at last year's Aquarium Show has encouraged the Federation to include the class again and recipients of Aquarium Show schedules (ready this month) will see that a wide variety of competition classes will be staged, including Furnished aquaria and aquascapes.

It is not too early for societies to be planning a party visit to the Show. Make the occasion a day in London for a coach party of members' families! British Rail has some week-end travel bargains, too. Reduced admission charges are available for parties booking in advance by post (write to FBM's offices). Bear in mind that as Sunday is the most popular day you will see everything more easily if you come on the Saturday. Dates: Friday 24th to Sunday 26th October.

## Meetings and Changes of Officers

**BISHOPS CLEEVE AS.** New Secretary, Mr T. Viner (10 Epsley Road, Lower Tuffrey, Gloucestershire).  
**BLAENAU GWENT FISH CLUB.** Chairman, Eileen M. Brown; secretary, Mr B. Phelps (28 Woodland Drive, Trinant, nr. Crumlin, Monm.); treasurer, Mr D. Baddis; vice-chairman, Mr T. Smith. Meetings alternate Tuesdays (5th & 19th August). Blaenau Gwent Working Men's Club, Lewis Street, Cwmillery, Aberdare.  
**BRITISH Koi-KEEPERS' SOCIETY.** Chairman, Mr G. W. Lupton; general secretary, Mr A. J. Bullock; treasurer, Mrs P. Bryant; News editor, Mr M. G. Wainman; membership secretary, Mr D. C. Davis (137 Gayfield Avenue, Sierley Hill, West Midlands, DY5 2BX); P.R.O., Miss V. Frost; Minutes secretary, Mrs E. Hoopes.  
**EAST DULWICH AS.** New secretary, Mr R. Callaghan (22 Veda Road,

Lewisham, London, SE13; phone 01-690 3900).

**HASTINGS & ST LEONARDS AS.** Chairman, Mr C. Weddell; vice-chairman, Mr R. Freer; secretary, Mr P. R. Martin (20 Silverlands Road, St. Leonards-on-Sea); assistant, Mrs J. Pannell; treasurer, Mrs C. Pollard; show secretary, Mr C. Pannell; P.R.O., Mrs G. E. Coleman.

**JERSEY AC.** New Society. Secretary, Mrs P. Duhamel (34 Devonshire Place, St. Helier, Jersey; phone Central 35965); vice-chairman, Mr S. Llesan (8 Manor Close, St. Clements Inner Road, Jersey, C.I.).

**MIDLAND AQUARIST LEAGUE.** Chairman, Mr T. Perry (Loughborough; secretary, Mr F. Underwood (59 Warwick Road, Kenilworth, Warwickshire, CV8 1HN; Bedworth & PS); treasurer, Mr G. Hayes (Hinckley).

**MID-SUSSEX AS.** New venue. The Fox & Hounds, Haywards Heath, S.O. 20m. Secretary, Mr E. Slade (Sangdown, Soiney Road, Arundel; phone Haywards Heath, 53747).

**NELSON AS.** President, Mr H. Illingworth; chairman, Mr R. J. Dickson; secretary, Mr J. Stokes (3 Beckenham Court, Bunting); treasurer, Mr A. Baldwin; show secretary, Mr T. Traby; assistant, Mr S. Pratt. New venue. The Civic Centre, Stanley Street, Nelson.

**SUFFOLK A & PA.** Chairman, Mr R. Smith; secretary, Mr K. Cocker; treasurer, Mr M. Thurlow; show secretary, Mr V. Green. P.R.O., Mr K. Cook (1449 London Road, Ipswich, Suffolk).

**UXBRIDGE & DAS.** New Secretary, Mr Tony Wood (187 Larch Crescent, Hayes, Middlesex; phone 01-845 5767).

**YORKSHIRE ASSOCIATION OF AQUARIST SOCIETIES.** New secretary, Mr W. D. Gilding (28 Rethford Road, Woodbeck, nr. Rethford, Nottingham; phone Rangon 594).

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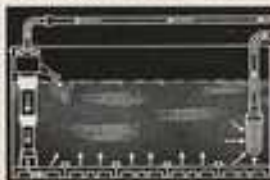
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# LETTERS

Your comments and views on all topics of interest to aquarists are welcomed. Address letters to PFM Letters, 554 Garratt Lane, London SW17 0NY

### Less Bits and Pieces

I WAS interested in the editorial about the production of sealed heater units, thermostatically controlled, that could just be plugged into the mains, but I would like to add to it even more, and not just because of those who think a tank might be electrically dangerous. Most people now in the aquarium hobby seem to be keen do-it-yourselfers, and I don't think enough allowance is made for those who are totally unable to do more than change a light bulb when it comes to electrical things. There really are enormous numbers of people, men as well as women, who won't touch anything electrical — they wouldn't change a fuse until the modern fuses came in that just slip into place. Out of the men in my family, cousins, relations and friends' husbands, etc., at least half can't be persuaded to pick up a screwdriver, let alone wire up a tank. It's not that they couldn't do it if shown — it's just that the idea puts them off even taking the first mental step of having a tropical tank.

I'm sure 'instant fishkeeping' would make the enthusiasts laugh, but if manufacturers want to get ordinary people interested then they should try to produce a tank that only needs water, plants and fish before it can be plugged in. If you buy a frig. or T.V. you don't expect to have to fiddle around buying the bits separately that are necessary before it will work. Let the tank makers, heater makers, pump makers, thermometer makers and so on do the hard work for us. A 'tropical tank' ought to mean, just in the everyday way of things, a complete unit in which tropical fish can be put, ready for plugging in.

(MRS.) V. BRAINTREE

Torquay, Devon

### Clubs and Shows

IT'S going to be interesting to see how the new Romsey Association of Fish Hobbyists gets on with its decision not to become involved in showing. Of course,

clubs that take part in fish showing also fail and a successful club seems to depend in the long run on the enthusiasm of just a few members. But I think that fish showing as part of the organised hobby is useful in spite of the jokes about 'pot-hunters'. It's all very well to have isolated groups of people meeting to learn about fish but unless there is some competitive element introduced the separate groups never coalesce. There has to be some sort of activity going on into which all groups can join and nobody's ever thought of anything better than a competition of some sort. Fish showing makes hobbyists produce better fish and gives us a chance to see better fish — after all, people aren't going to travel to 50 different places to see 50 fish but if all the 50 fish are in one place there's no problem. I honestly can't see why a club can't contain those who want to show fish and those who don't as long as all the club activities aren't slanted to just the one end of fish showing.

V. DESMOND

London, W.11

GOOD for the Romsey Association of Fish Hobbyists, saying they don't want to get involved in fish showing. There seems to be far too much chat in this hobby about rules and regulations and how to show fish and not enough about how to keep them. I wouldn't want to shift my fish about all the time and I know some fish never recover from the experience. I did try joining a club but there was so much emphasis on taking fish to table shows and supporting the showing team and so on that I began to feel quite gully and gradually drifted away. All I wanted to do was to hear a few lectures once a month.

Solihull, Warwickshire

B. TREDEGAR

I SHOULD have thought it was possible for a club to be organised to cater for those who wanted to show their fish and

Continued on page 166

## A New Malawi Cichlid Spawns

### *Labidochromis Opaline*

Male: Body length 3 inches.

Body: Colour — blue/mauve/orange/  
tan

Nine light shadowy vertical lines

One light shadowy horizontal line  
(lateral)

Eye: Iris dark with gold band surrounding

Spot on gill cover: bright fluorescent

Fins: Dorsal: tips orange, more prominent at caudal end — dark line midway

Caudal: tips slight tinge of orange, rays tan, orange spots base peduncle

Anal: edges orange, two deep orange 'egg spots' between 2nd/3rd rays and 4th/5th rays, diffused black line

Ventral: orange tipped, black line along 3rd/4th rays, one small light orange spot

Pectoral: clear

Female: Body length slightly shorter than the male

Body: Colour — golden tan/blue/  
mauve

Base dorsal dark tan horizontal line and four broken tan lines

Nine dark-blue shadowy vertical lines

Eye: Iris dark with gold band surrounding

Spot on gill cover: bright fluorescent

Fins: Dorsal: tips orange, countless orange spots, more numerous at caudal end

Caudal: tips slight tinge of orange, countless orange spots, orange line at base

Anal: whole of fin, except base, golden tan with two light small 'egg spots' close together

Ventral: suffused golden tan throughout with light fluorescent blue on the edge

Pectoral: clear

By

BARBARA P. MAYERS

**A**FRICA'S cichlids, like her minerals found in the earth's crust — both gifts of Nature, are tremendously rich in colour. Our living gems are lively, demanding, at times pugnacious and infinitely more interesting than precious stones.

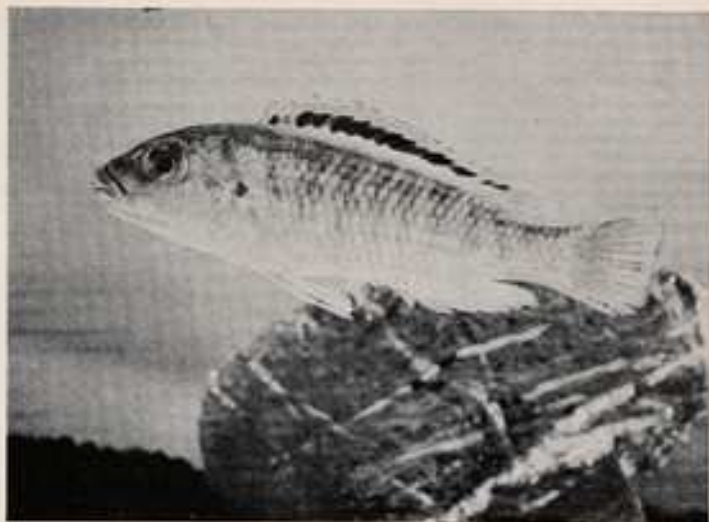
I am most fortunate in having a few of the African cichlids; each and every one a friendly individual with an astonishing awareness — as soon as I set foot in the fish room they swim frantically back and forth to attract my attention. What a surprise then, one day, when Mr T. J. Horeman turned up with yet another beauty to condition and breed.

We selected for our new species an unlit tank size 24in. by 15in. by 15in., installed an undergravel filter, filled it with mature tap water to which we added four level tablespoons of sea salt and adjusted the temperature to 80°F (27°C). An assortment of broken clay pots was arranged to form retreats; in addition we put in two 6in. lengths of 2in. diameter hose to float on the top — the females find these particularly useful when escaping the pursuing males. Not beautiful, but very effective for spawning tanks and easy to keep clean.

As the six fish swam out of the plastic bags into their new abode the sun was shining and we were enchanted with the opalescent beauty of our new cichlids



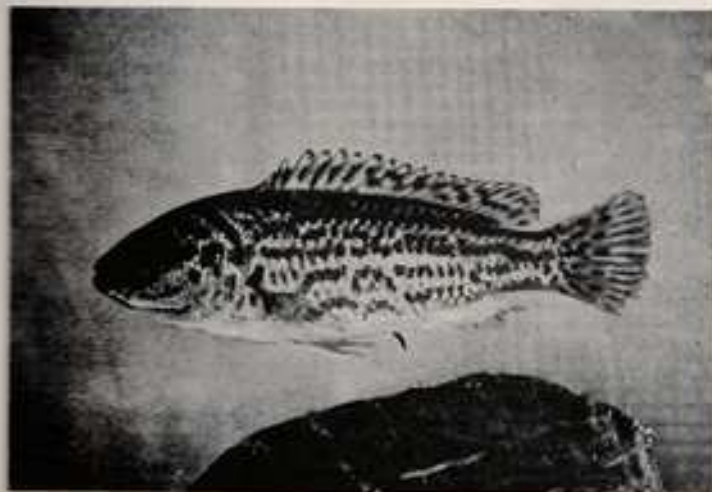
The cichlids described as opaline Malawi by the author are believed to be species of *Labidochromis*. This fish is known to be the male from the author's observations



(tentatively identified as *Labidochromis* sp. Dr Herbert R. Axelrod, AFRICAN CICHLIDS OF LAKES MALAWI AND TANGANYIKA, p.224, TFH Publications, U.S.A.) Smaller than most Malawi cichlids, 3 inches in body length, this slender iridescent fish with its constantly flashing and shifting colour patterns of blue, mauve, tan and orange seemed to exemplify everything

one could wish for. A truly beautiful fish.

One month of live food — white worm, daphnia, tubifex and minced ox heart, plus vegetable matter daily in the form of shelled peas, spinach or chopped lettuce, and the fish had lost their 'pinched' appearance and were in excellent condition. The male's sudden desire to remove all the gravel under the pots in which he had



Female of the unnamed species tentatively assigned to the genus *Labidochromis*. Pictures on this page are reproduced with permission from colour plates in AFRICAN CICHLIDS OF LAKES MALAWI AND TANGANYIKA by Dr Herbert R. Axelrod (TFH Publications, U.S.A.)

established his territory suggested that they were ready to spawn. Next morning one of the females refused food and there was a slight bulge in her lower jaw.

Elated, I carefully moved her into a small hatching tank with a thin layer of gravel, one clay pot and an air-diffusing stone; she settled down comfortably to hatch out her fry. Her buccal cavity darkened and by the twentieth day the fry were clearly visible peeping out of her partially open mouth. Late afternoon on the twenty-second day she released two fry; the following day I was torn between staying with the fish or going to the Old Vic to see a play to which I had been looking forward for months. Reassuring myself that she was comfortable and would probably release the fry over a period of some hours — I left for the theatre.

Late that night I found she had released all the fry, numbering 30, nine of which were dead. I cannot account for this, as invariably with mouthbrooding cichlids mortality is minimal. I carefully netted

the remaining 21, these were from  $\frac{1}{4}$  to  $\frac{1}{2}$  inch in length, and put them into a small bare tank previously prepared. They readily accepted brine shrimp, while the mother fed hungrily on white worms.

The fry are now 20 days old, growing fast on a diet of finely sifted daphnia, micro worms and brine shrimp. A second female has just presented us with fry — all survived this time.

After the second female spawned the dominant male attacked the smaller male — clearly showing the former was more than adequate to attend the female's needs; this was the first time there had been any conflict in the tank. The smaller male is now happily lordling it over a tank of young juvenile *Pseudotropheus novemfasciatus*.

This new fish is a friendly species and will readily nibble food from the fingers — even the fry come to the front of the tank whenever I pass. The cichlids are ideally suited for the Malawi community tank. In short, perfect gems.

## ● Fishes of Every Kind

### ● Siamese Fighters

FISHES OF THE WORLD by Hans Hvass. (Methuen's World of Nature series) Eyre Methuen Ltd., Andover, Hants. 156 pages, colour illustrations. £1.75.

THE title of this book appears to be ambitious for a paperback work of 150 or so pages. Fishes selected for inclusion are representative of the groups of the classification system used, and species of importance in commercial fisheries and to anglers are given prominence along with quite a number of common and not-so-common aquarium species. Each fish is illustrated in a colour drawing, most of the illustrations giving a useful guide to the appearance of the living specimen. The text notes for each fish give common names and scientific names, sizes and place of origin with tantalisingly brief summary of special features, habits or com-

## Book REVIEW

mercial use. In three companion volumes of this series the same author has written about the world's mammals, birds, and reptiles and amphibians.

THE SIAMESE FIGHTING FISH: ITS LIFE CYCLE by William White, Jr. The Oak Tree Press Co. Ltd., London. 60 pages, colour photographs. £2.75.

SEVERAL mysteries are presented by this book. It is not easy to decide the kind of reader for whom it is intended. It is not clear why, with the

main title it has been given, the text concerns itself with the paradise fish as well as the fighting fish. It is a puzzle how, with a fish having such bright and colourful varieties, the colour photographs of fighters in the book can possibly have been selected as doing the species justice. The aquarium specialist in fighting fish could find the scanty text interesting but hardly giving him all the technical information he would like to have (no mention is made, for example, of the genetics of this fish, despite the many genetical studies with fighters). The beginner attracted to the fighter will rightly complain of lack of detailed practical help in how to keep and breed the fish. The general natural history reader will be left wondering what to make of the pictures of dissections and anatomical features more suited to a zoology text-book. Although the publishers describe their work on the back cover as a 'beautiful volume', in typography and lay-out it unfortunately leaves much to be desired.



## MARINIST'S NOTEBOOK

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## Caution in the Early Stages

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By ROY PINKS

A SHORT time ago I received a letter from a reader asking me for my opinion as to where he had gone wrong in his initial steps in marine fishkeeping. He was an experienced aquarist, already successful in conventional culture, and he had clearly gone to more than ordinary trouble to get everything right. His letter was a masterly effort in setting forth the sort of detail one only dreams about, and I read it with considerable interest. In a subsequent article I will quote freely from this account, and will summarise my reply, but the incident itself prompted these preliminary comments, and may be of interest to other beginners.

In general terms the writer had read most of the available books (with the notable exception of the Pet Library MARINE AQUARIUM), and had handled his setting-up procedures perfectly competently. He had also invested in an isolation tank, which is a luxury even the most devout by-pass on occasions, and in stocking his tanks he had indulged in none of the extravagancies which surrounded my own excursion into this specialisation.

On first reading I was nonplussed, but a few points did emerge which provided rather dimmy clues. Had I seen the aquaria with my own eyes I doubt whether I should have been very much better off, and even had a chemist got to work on a specimen of the tank water, it is unlikely that he, either, could have pointed with any certainty to one particular source of danger.

The aquarist was understandably perplexed by the failure of nominally hardy species, even after the so-called seasoning period, which is theoretically the sort of time at which one might be forgiven for considering butterflies as part of one's collection. After all, it has been proved, chemically, that there are only minute traces of nitrites present, and it is a hard

fact that the water is quite new and unsullied by all those aggregating poisons, which, so it is said, ultimately kill off all our marine fishes, however carefully we try to control their environment. There does, however, seem to be a period of some weeks after the nitrites reading is first seen to signal 'clear', during which it is extremely risky to introduce nitrites-sensitive fish. The reason seems to be that the density of the colonies of bacteria which are forming at this stage are sometimes defeated by the volumes of the waste materials with which they have to cope, and there are regressions (invisible to the observer) which may cause havoc in your tanks.

The only way round this is to understock till it hurts, and to resist introducing delicate species until those fishes present are obviously thriving. A good pointer to this is a visible increase in their size. I hope that no-one will conclude from this that new water as such is inimical to the well-being of the less-robust species — indeed the water quality is only part of the story at the early stage. The state of the bacteria is what really counts.

As it becomes clear, both from visible and chemical tests, that the state of the tank is capable of supporting additional life, single specimens may be added in discreet doses, avoiding excesses at all costs. It may be found that a wrasse or two and the odd butterfly will settle down quite well, and as this period lengthens it must be remembered that the water quality will be deteriorating all the time. Whilst the nitrifying bacteria will have reached an optimum level for the capacity of the tank, toxins will have been building up in the water and the pH will have been shifting towards the acid side of the spectrum. Balancing of the pH by additions of sodium carbonate and sodium bicarbonate may well restore this particular fac-



Photo: B. Kahl

Even relatively hardy and trouble-free fishes such as the damselfish (*Dascyllus marginatus*) do not take kindly to careless exchange of water when temperature and density equilibration has not been done.

tor, but only a water change (about a quarter of the total volume) every few months will — theoretically, at any rate — take care of the toxin content of the original water.

Some aquarists have found that water changes have, in themselves, brought about the onset of disease in their tanks, though I am inclined to the notion that it is the maladministration of the changes, rather than the changes themselves, which have given rise to this sort of mishap. Crude addition of a few gallons of unwarmed, brand new artificial salt water can certainly induce shock conditions even in some of the hardier fishes, so no liberties are permissible in the case of the lesser-robust species.

One of the keys to successful marine fishkeeping will undoubtedly be the accurate assessment of the precise stage at which the reconditioning of water should take place. We are obviously going to avoid changes until they are necessary — salt mix is too expensive to lavish around — but it does seem that untold and irreversible damage can be done to outwardly healthy fish by tardy action over water conditioning. The present imprecise guidance over this causes a lot of trouble and misgiving, and I make no apology for

labouring the point that until more reliable indicators are available for general use the lives of captive marine fishes will continue to be recorded in months rather than years. At the same time, those like my correspondent, who have done a really honest job in setting up their aquaria, will view many marine writers with the suspicion they fully warrant if they set out, as they so often do, to prove that it is all so very simple.

## Letters

*continued from page 161*

those who did not. Or does there always have to be a battle between the two sides on how to run the club? Or does the very term 'fish club' at present merely mean a group of people gathered together to show fish? I can't understand the implications of the letter from the new Romsey Association of Fish Hobbyists (PFM, June).

B. DAINTY

Tenby, S. Wales



## Water Problems in Glowlight Breeding

By  
DR STANISLAV  
FRANK

Microphotographs  
by the  
author



Photo:

R. ZUKAL

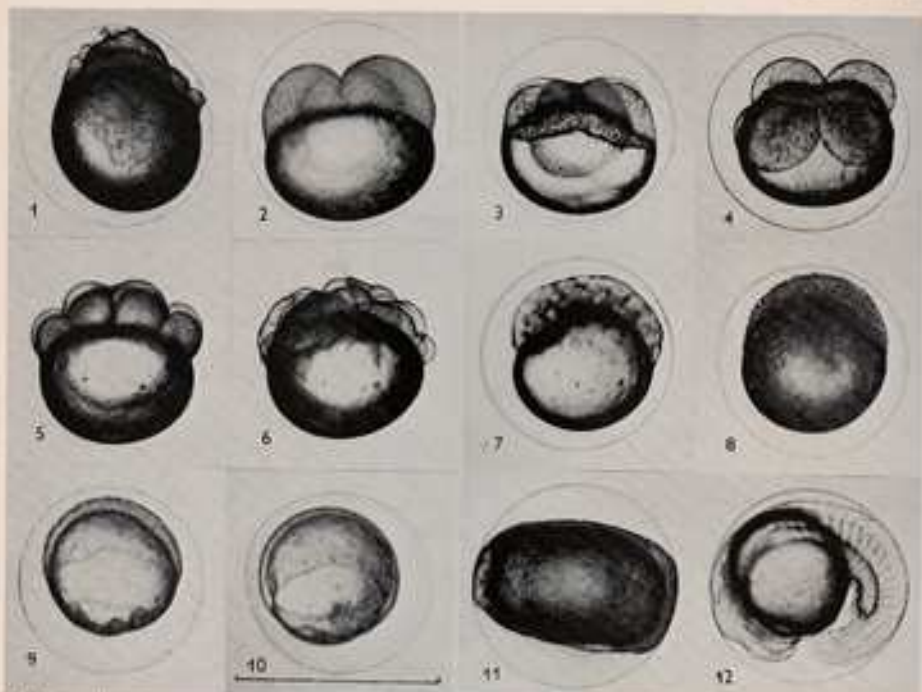
**T**HE glowlight tetra comes from Guyana and belongs in the category of smaller fishes, with even the largest female hardly exceeding 1½-1¾ in. (4-5 cm.). For years, aquarists confused it with *H. gracilis* — which is still finer and smaller although the two species are very similar in coloring.

For breeding the glowlight tetra we use a small, all-glass tank of about 2 gallons (30 litres) capacity. In the literature it is always stressed that the breeding water should not be completely soft. It seems that better spawning results are achieved in a rather harder water, and the literature quotes up to 8 degrees general German hardness (DH) as possible. So how can we explain the surprising failures that so often occur with breeding these fish that put them among the more 'difficult' fish to propagate?

I tried all possible water combinations of degrees of carbonate hardness, of non-carbonate hardness (sulphate hardness) and of pH values. In this way I estab-

lished that embryonic and larval development is almost completely unrelated to and unaffected by non-carbonate hardness, in a range of 1 to 8 degrees non-carbonate DH. On the other hand, if carbonate hardness neared 1 degree carbonate DH (regardless of the sulphate hardness), the death rate of the embryos during development in the egg membrane increased sharply; many of the surviving, relatively well-developed, larvae were unable to fill their swim bladders when they became free-swimming, and moved jerkily and diagonally with their heads up, dying within a few hours or at the most days, largely without beginning to feed.

With too low a total hardness or non-carbonate hardness, that is under 1 degree general DH or non-carbonate DH, or in completely soft water (such as distilled water, or clean melted snow water) many embryos and larvae developed constitutional (not infectious) dropsy — they developed no further and died mostly before they became free-swimming. In



1. Unfertilised egg 4 hours after being laid. 2. Egg about 15 minutes after fertilisation: two cells are forming at the top and below, the larger part is the egg-yolk. 3 (30 minutes) and 4 (45 minutes), the two cells are dividing to make four. 5. At 60 minutes cells have doubled from four to eight. 6, 7 and 8. Further divisions produce many smaller cells (6, 75 minutes; 7, 105 minutes; 8, 120 minutes). 9 and 10. Beginning of the envelopment of the yolk sac (called gastrulation) (9, 3 hours; 10, 4 hours 30 minutes). The line beneath no. 10 = 1 mm. 11. The embryo's belly region

these cases also the condition of the water produced a hypotonic state in the fish and gave rise to physiological and physico-chemical interruption of development.

Another point made in the literature is that the addition of peat is recommended as required. But I established that such an addition is not entirely beneficial. In small quantities peat did no harm, but in unfavourable water conditions it did not help. (Indeed, too high a concentration of peat during egg development is poisonous to all fishes.) I observed practically 100% correctly developing embryos and larvae of glowlight tetras and of free-swimming ones in water with 2-4 degrees general DH, but — during this time the carbonate hardness constituent must not reach 1 degree carbonate DH, and if possible there must only be a trace of carbonate hardness present. The most favourable pH value is between 6.4 and 6.8. It does not

matter by which method the spawning water is prepared. I myself worked with natural spring water or with distilled and well water mixed, or even with carefully hardened tap water of medium pH. All the results compared favourably without visible variation. The pH value was brought up to requirement and made quite stable by the addition of acid sodium phosphate (sodium dihydrogen phosphate) to make acid, and of caustic soda or sodium phosphate to make alkaline.

The pair will spawn in a thicket of fine feathery water plants (Java moss etc.). At the end of the spawning act the fish turn round in a fast horizontal spiral with the belly uppermost. The female, at this moment, ejects the eggs and the male the sperm. During the rearing of the fry, frequent changes of water are recommended since the young fish are very susceptible to an increase in the nitrite content. They



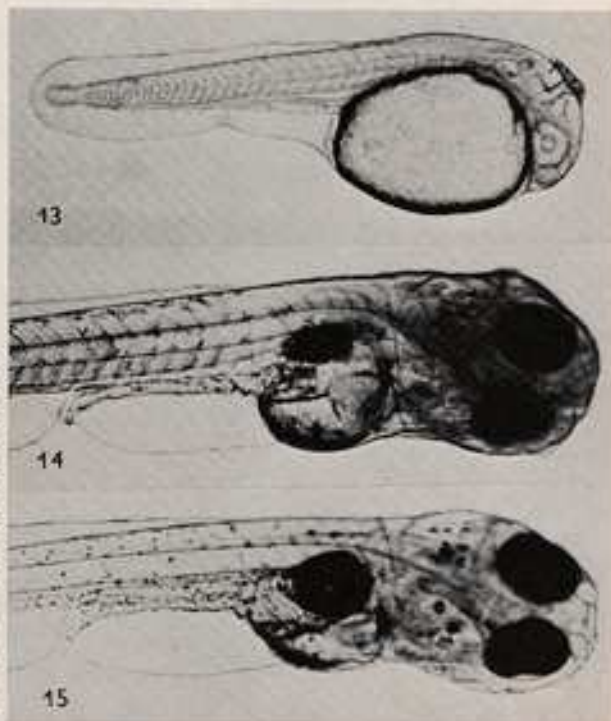
must also be accustomed, very slowly, to carbonate.

About 5 days after they became free-swimming I began adding tapwater of the correct temperature that had been allowed to stand (about 14 degrees general DH, 8 degrees non-carbonate DH and 6 degrees carbonate DH), first in a very small quantity of 5-10 ml. per day and later 50-100 ml. daily. In this way also an undesirable fall in the pH value can occur and addition of carbonate to a small glass tank over a period can be very perilous to the young fish. If a sharp fall in the pH value occurs (acid conditions), the water can be neutralised without danger (if there is good aeration of the tank with the young fish) with dilute caustic soda or sodium phosphate solution (1%) added very slowly drop by drop and with gentle stirring. I did not observe any damage to the young fish by this method. The sodium bicarbonate is often recommended in the litera-

ture is not always safer and the possible addition if necessary of calcium carbonate is still more difficult to effect. The brood is quite sensitive to a swift increase in carbonate hardness but not to its decrease! Once they are free-swimming the fry are at first yellow but later darker marks appear over the entire body. From the start they like relatively large live food like newly hatched brine shrimp, and their rate of growth is fairly quick.

I have supplemented this series with a few microphotographs, for most experienced breeders have only a relatively superficial and imperfect idea of the development of the eggs and larvae of their favourites. The cross-sectional diameter of the glowlight tetra egg is 0.90 (0.80-1.00) mm. The overall length of the newly hatched larvae is 3.00 (2.90-3.20) mm. The overall length of the fry when they become free-swimming is already 4.20 (4.10-4.40) mm.

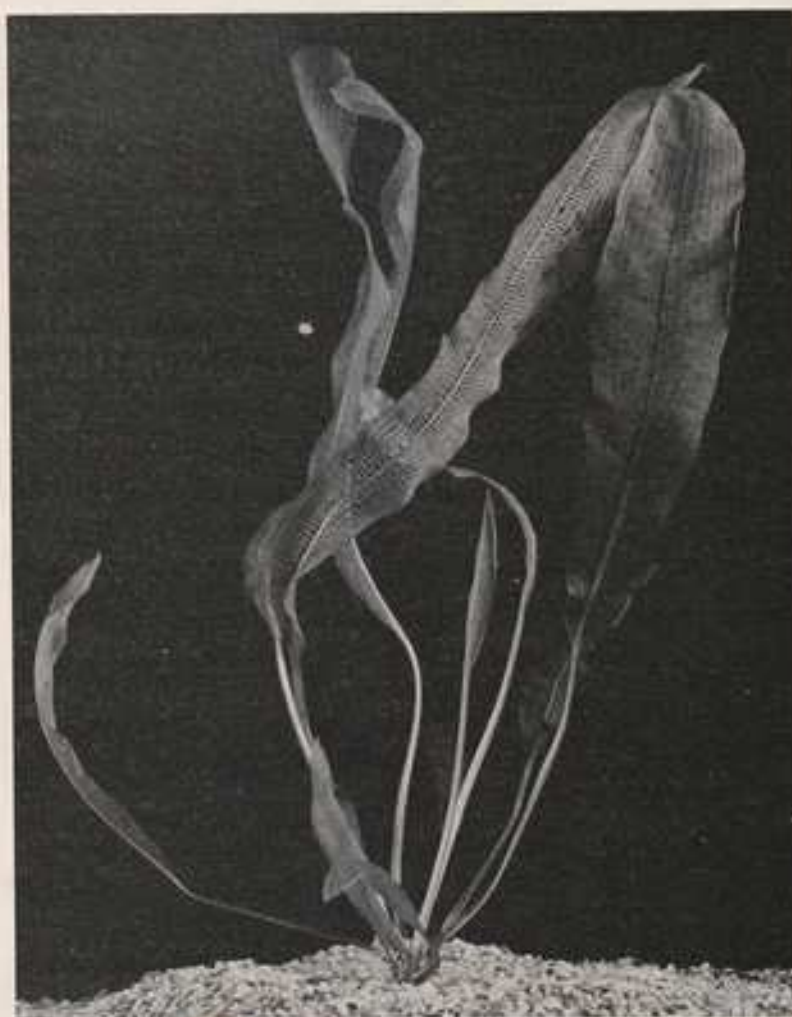
12. At 11 hours the embryo is relatively well developed (head is lower left); the back is clearly segmented. 13. Freshly hatched larva, at 18 hours, 3 mm. long. The eyes are not pigmented and on the top is a group of cells, which form a sticky secretion with the help of which the larva attaches itself to the substratum. 14. At 80 hours the larva has a length of 4 mm. and black pigment cells are concentrated at the site of the future swim bladder. The eyes are coloured. Swimming attempts are made. 15. At the age of 102 hours the swim bladder is filled and the larva is 4.2 mm. long. At this stage the fish begins horizontal like swimming and commences active feeding.



# Cultivation of the Lace Plant

By KARL RATAJ

Photographs by RUDOLPH ZUKAL



Madagascar lace plant, now known as *Aponogeton madagascariensis*



**A**PONOGETON *madagascariensis* is, without doubt, the only plant in the world whose leaf surface is made up only of veins with the fabric missing. The veins of the first and second rows form a net that resembles lace, with more or less regular apertures. Because it is a curiosity, this plant has been cultivated, not without difficulty, in the tropical glass-houses of botanical gardens and in public aquaria for more than 100 years.

In numerous aquarist publications and water plant catalogues, *A. madagascariensis* is mostly described under the name *Aponogeton fenestralis* Hook f. This name is based on the original names — *Hydrocotyle fenestralis* Pers. in 1803, and *Ouzirandra fenestralis* Poir. in Lamk. in 1814. However, in 1968, in his revision of the *Aponogeton* from Madagascar, van Bruggen stated that this plant was first described in 1802 as *Uvirandra madagascariensis* Mirbel, and this must be regarded as the correct name.

*A. madagascariensis* has two basic forms, one with long, narrow, elliptical or lance-shaped blades and the other with short, egg-shaped or broad, elliptical blades. This latter form was described, incorrectly, as *A. henkelianus* Baum (with the further synonym *A. guillotii* Hochr.). In the old literature three species of the genus *Aponogeton* are mentioned, all with leaf blades formed only of vein lattice. They are *A. madagascariensis* (= *A. fenestralis*) and *A. henkelianus*. As I have explained these are really one and the same species. *A. bernierianus* (Decaisne) Bosc is also cited. This name, according to van Bruggen, actually occurred through an error. When W. J. Hooker transferred the species *Ouzirandra bernieriana* to the genus *Aponogeton*, he provided for it, by error, a descriptive sketch of a plant with tiny apertures in the leaf blade. Because of this, the plant was incorrectly classified and later authors were led into an error that lasted for rather a long time. Today, it is clear that only one species exists with apertures in the leaf blade and that is *A. madagascariensis*.

The rootstocks are globular, egg-shaped or elliptical and up to about 1 inch (3 cm.) thick. All leaves are submerged. The leaf blades have apertures, are made up of veins and consequently are very varied, oval, egg-shaped, lance-shaped or elliptical, up to 6 in. (16 cm.) broad and 2½ in. (55

cm.) long. van Bruggen gives the commonest measurements as 8 in. by 1 in. (20 cm. by 2.5 cm.), 9 in. by 4 in. (23 cm. by 10 cm.), 12½ in. by 5 in. (32 cm. by 5.5 cm.) and 21 in. by 3½ in. (53 cm. by 9 cm.). Although all transitional forms with regard to leaf blade size can be found in botanical collections, in cultivated plants two stabilised forms are found more than others. One has the short, broad elliptical leaf blades described by Baum under the name *A. henkelianus* (blades mostly 4-4½ in., 10-12 cm., long and 2-2½ in., 5-7 cm., broad). The base of the blade is wedge-shaped in both forms, chopped off to form ragged rough heart shapes, often irregular. The tops of the leaves are mostly blunt, round and sometimes notched. The middle vein of the leaf is remarkably strong and parallel-running veins (three to ten in each side) are connected by countless horizontal ones. Leaf fabric (mesophyll) is missing between alternate veins or even entirely, when the leaf is reduced merely to a system of veins. If the mesophyll is only partly missing, then there are tiny round windows in the leaves. Some leaves, just here and there, have a normally developed leaf fabric. Leaf stems are



Detail of the lattice structure of the leaf of the lace plant



usually very short, though there is the occasional long one, and so vary between 1 and 14in. (3-35 cm.).

Flower stems are generally 12-16in. (30-40 cm.) long, but do sometimes reach a length of up to 51in. (130 cm.), and under the inflorescence itself the stem may be thickened (up to  $\frac{1}{2}$ in., 1.5 cm.). The inflorescence consists of two to four, exceptionally six, heads, which are  $1\frac{1}{2}$ -3 $\frac{1}{2}$ in. (4-9 cm.) and exceptionally up to 7 $\frac{1}{2}$ in. (20 cm.) long. Corollas are white or violet.

The ripe heads contain characteristic, pointed fruits about 8 mm. long. Immediately after the fruit disintegrates, very tiny seeds (3.5 mm. by 1.25 mm.) float for up to 10 hours on the surface of the water. They are covered with a fine membrane (the testa) which is transparent, usually colourless but sometimes purplish red. This testa enables the seeds to float for several hours on the water surface, so that they may sometimes be taken by the current some way from the mother plant. After the testa falls away the seeds sink and germinate in about 1-4 hours.

*Aponogeton madagascariensis* occurs in



Flowers of the lace plant form on long stems reaching above the water

central, west and eastern Madagascar and has also been carried on to the isle of Mauritius where it grows wild. It grows in both stagnant and flowing water on a variety of geological bases including chalk formations, and is to be found in marshes and open country. In Nature the plant blooms and fruits the whole year round without interruption.

Since *A. madagascariensis* is a most attractive plant it is naturally imported for the aquarist. Rootstocks are brought in, which, after they are put into the aquarium, quickly produce wonderful leaves and even, within 3-4 months, bloom and quite easily produce fruit. Unfortunately, in artificial surroundings the life span of the plants is, at the most, only 5-6 months. The plant develops only so long as the reserves in its rootstock, grown in natural surroundings, last. Although these rootstocks are capable of producing a relatively good root system, they will begin to decay and the plants to die in the autumn months even though the tank should be lit every day for the length of a tropical day. For community tanks, planted with a variety of plants and inhabited by fishes, we must be satisfied with the fact that to keep these wonderful plants at all must involve us in buying new stock every year.

Nevertheless, it is possible to achieve successful artificial cultivation. But to do it, it is essential to grow *A. madagascariensis* in a separate tank with crystal clear, filtered water without fish or other plants. According to experienced growers, success is achieved with clean, coarse sand to which has been added a little clay soil. The water should be very soft (clean rain-water that has been allowed to stand) and now and again — about once every 1 or 2 months — part of the water should be renewed.

*A. madagascariensis* is self-pollinating, but the seeds develop better and in greater numbers when two plants bloom at the same time and cross-pollination occurs. Compared with those of other species of this genus, the seeds are very small and because of this spontaneous germination on the bottom is not recommended. It is better to sow them in a bowl and to cover them with a 1-2in. (3-5 cm.) layer of fine sand. If the seeds are left to germinate naturally on the sand surface they move with the slightest move-



ment and rooting is delayed or even prevented altogether. The stock of reserve material in the seed is very small and seeds moving about on top of the sand turn yellow and wither.

Although many experienced growers obtain good results with the growth of *A. madagascariensis* by the above method, it is still not entirely clear why this is so. The method is contrary to what is observed in Nature. The artificial cultivators maintain that the culture should,

and must, take place in specially soft water but in Nature the plants can occur where there is a chalk bottom. Also in Nature the cleanliness of the water is often questionable, particularly where the plant is growing in a marsh. The species is rather easier to propagate in the tropical glass house than in the aquarium but even here it happens that plants that have vegetated safely for years suddenly wither during the winter months although the conditions may have remained unchanged.



by  
ARPEE

## Personal COMMENT

NOW that we have looked at some of the main colour groupings in our search for fish which will 'go with the furnishings', it is worth turning to species which have patterns distinctive enough in themselves to comprise subdivisions. Regency stripe demands that we should, perhaps, look for fish with gold bars, but it is rather up to the user to decide whether he wants them arranged vertically or horizontally. In point of fact, there are not so many fishes with horizontal barring, but there is plenty of material if verticals are required, and of course there are lots with patches, blobs and comparable markings. Most of these appear as black under normal conditions, and are Nature's way of providing the bolder accents of camouflage, which is the sole means of protection for many species.

I exclude livebearers from this discussion, partly because there are few qualities, anyway, but mainly because the aquarist who is looking for purely visual effects scarcely wants all the culling work necessary in the management of fish which so easily and regularly reproduce themselves. As a group, the barbs are first class in providing vertically barred patterns, though the spanner is admittedly a bit of a mix-up: despite its many good

points it does offend the more symmetrically minded, and I put it in the 'muddle' category. Perhaps the ever-popular tiger barb (*Barbus tetrazona*) is the most striking of all, and it is a remarkably perfect species in every way excepting temperament, and it can be a horrible bully. All the more reason, therefore, to assign a whole tank to a collection of these fish, as they richly deserve this treatment. They are always on the move, and specimens in prime condition are a joy to watch as they range through their territory in a particularly athletic sort of way for such a chubby species. When it comes to mixing barbs, Cuming's barb (*Barbus cumingi*) and the black ruby barb (*Barbus nigrofasciatus*) will go well together, though they somewhat lack the spirit displayed by their aforementioned near relative. They are most attractive and present no cultural problems, and may be thoroughly recommended.

The black widow (*Gymnocorymbus ternetzi*) is another vertically striped fish which is a perfectly good mixer, and because of its near-circular shape, it has wide appeal as a curiosity. Rather unfortunately the jet-black markings, which are so necessary if this species is really to make its presence felt, are often lost in the overall pewter coloration which characterises it. I suspect that breeders have been concentrating on messing about with the finnage of this fish, and they have produced some perfectly horrible results. More attention to its basic character would have done it a power of good, and I hope that those possessed of some degree of responsibility will put the clock back and bring back the contrast. If you see good specimens, therefore, snap them up. They are increasingly hard to come by

My next recommendation, the barred pencilfish (*Poecilibrycon espeii*), is one of my newer acquaintances, but I think it will remain high on my list of personal choices so long as I can obtain specimens. They are rather rare importations and are more expensive than the general run of tropicals, but this is not to suggest that they are in any way difficult or delicate to keep. They are secondary to other species, being too dignified to comprise the dominant element in a mixed collection, yet well able to stand up for themselves if somewhat boisterous companions are chosen to share their tank.

The universally popular angel must rank as one of the main stars under this billing, and few fish deserve this acclaim more than this species. I still think that the natural, wild, variety is infinitely preferable to the oddities which irresponsible breeders have developed, but if you have taste for horrors and the bizarre, there is certainly a wide range to choose from, though I will make no recommendations here other than a qualified nod in the direction of the black variety. The angel is regal, full of character and most striking as an exhibit. The breeding habits are exceptionally interesting, and even if their owner has no wish to raise any fry, the parent fish may be left alone to sort out their own affairs. The result is usually annihilation of the young, but as this happens even when one has breeding very much in mind, very little is actually lost, and much entertainment and education are gained, so it is worth giving any fish their head if they show an inclination to procreate. Angels, like tiger barbs, should have a large tank to themselves because they can become really spiteful when fully adult and ready to breed.

There are three supplementary, largely bottom-dwelling species which are worth considering in combination with the less aggressive of the fishes I have discussed in this article. The clown loach (*Botia macracantha*), with its vivid orange base colouring offset by jet-black bands, is one of the most striking of our freshwater species, and if you can obtain small specimens reasonably cheaply, they are well worth cossetting to adulthood, as at that stage they are very expensive indeed. You really need several in a tank, whatever the other occupants may be, but the investment is a real one, marred only by their

unfortunate trait of dying without apparent sickness at times when all seems to be going well. The bumble bee (*Brachygyobius xanthozonus*) is a real little oddity, and can be accustomed to either fresh or brackish water. It can nip the fins of the unsuspecting, and can prove a trifle difficult to feed because it really likes its prey to present itself ready for consumption—hardly a fair task for the busy aquarist. However, success may well depend on feeding methods, and this is an attractive enough creature to accommodate if at all possible. The ubiquitous kuhli loach (*Acanthophtalmus semicinctus*) is a fish which can often be obtained for absurdly low prices in the smaller sizes, and as I have found it virtually indestructible and therefore very long lived, it may be added to many tanks without hesitation. You never seem to have any trouble feeding or managing them, and they disappear and reappear more or less as they please. They are distinctly in the back row of the orchestra, but, like the percussion, there is absolutely no mistaking when they are there, even if it isn't all the time!

So much for the vertical bars. We will consider the horizontals in a future comment.



I outlined recently the merits of planning fishkeeping routines in an ordered and disciplined fashion. Quite apart from the fact that this practice usually results in the actual discharge of the necessary functions, it does spread the load of unwanted chores fairly evenly throughout the year, and to many this will have considerable appeal. Even after many years of highly enjoyable fishkeeping there are some jobs I really hate, and the only way I can get them done is by the exercise of iron will power which seems to get a little rustier as each year passes.

For example, I find the job of checking electrical wiring and apparatus tedious in the extreme, mainly because I don't always know what I am looking for; perhaps lowest on my list of likes is the wiping away of salt deposits from the top of the marine tanks — the wretched incrustations seem to build up so rapidly, and



as soon as one attacks them they fragment and land all over the place, much to the detriment of anything on which they may settle undetected.

Here is a list of some of the daily routines which we should carry out. In future articles I will cover weekly, monthly and less frequent tasks which should have our attention. My remarks are not intended to be exhaustive, and readers are invited to write about any significant omissions I shall almost certainly make. These shortcomings are inevitable because to some extent aquarium upkeep is a subjective matter and what I may think is vital may be totally unimportant to other readers.

**Dead fish and disease.** It is always wise to make a daily check that your fish look free of disease, and that there are no corpses in the tank. This is easier said than done, because often disease is invisible in its early stages and corpses can so easily get hidden by the topographical features within the tank. On the whole, if your fish are swimming around as usual and proceeding with their business in a purposeful sort of way you may assume that all is well, but any jerky motions and drooped dorsal fins in the case of freshwater species should be regarded with concern. If numerous fish are all facing into the aeration stream and rolling slightly, you may expect an outbreak of white spot any moment! Undetected deaths may be established via the nose, so sniff the odour of the tank before feeding your fish — it should be earthy and sweet, with no suggestions of decaying material whatever. If there is any offensive smell, investigate at once.

**Temperature.** If the temperature is all right, there should be no worries of the sort listed above, but it should become instinctive to glance at the thermometer first thing in the morning, and this is a must if the owner is away from home all day and if the tropical tank is situated in an unheated room. Many valuable fish have been lost by failure to apply this simple precaution. If it helps, mark your thermometer with a plastic strip to indicate where the temperature level ought to be — this can be quite a help to those with indifferent eyesight, or to those whose thermometers are difficult to read. It goes without saying that the thermometer

should be firmly anchored and it should not be necessary to chase it round the tank in order to take a reading. Incidentally, I hope someone will one day invent a thermometer which can be relied upon to stay in one place. I do get tired of buying rubber suckers which rot away and fail to suck, and plastic suckers which curl and do likewise.

**Feeding.** This is the one routine of the day we all, including the fish, look forward to with particular pleasure. I always make a point of feeding my animals before myself, just to make sure that they get a fair deal. In truth, it probably wouldn't hurt them if I did miss out occasionally, but as missing out can get into a habit, I try to plan my routines in such a way that this will never arise. The main thing about feeding is that it should be adequate but not excessive, and that it should be as varied in content as one can manage. This change of menu is best effected (in the case of the lazybones amongst us) by inserting a suitable reminder in the weekly column.

**Recording.** Although the owner of a single tank may not think he has enough information worthy of recording, if he is a keeper of single and perhaps unusual species, this assumption is almost certainly false. A 5 year diary is a wonderful acquisition for the pet keeper, the gardener and almost anyone interested in natural and seasonal things, and the daily short jotting eventually adds up to a unique source of interesting and useful reading.

The Victorians were great recorders of information and I often read through some old notebooks of family matters which make one wonder and which often amuse. I do wish my trait of fishkeeping had gone back further in my ancestry, as I might have benefited from the mistakes of those times. It is quite extraordinary how those chroniclers committed such detail to paper — the art no doubt developed from painstaking observation of what went on around them — and this is a quality which the aquarist would do well to cultivate today. Apart from the usefulness of the information gained from quiet and systematic observation, the therapeutic effect on the individual, who is so often torn by the strains of the times, can be very considerable both in content and impact.



*Barbus nigrofasciatus*

**L**IKE the tiger barb, the ruby barb is a much-loved species in the aquarium world. The barbs are found in southern Ceylon, from where they were imported into Europe in 1935. The body is deep, laterally compressed and will reach a length of about 2 in. (5 cm.) The head is pointed at the front. Yellowish grey in colour, the fish is marked with three or four dull black wedge-shaped vertical bands. The head of the adult is crimson (which accounts for the name, the purple-headed barb, by which the fish is known in Germany) and the jaws are reddish and without barbels. The rows of silvery scales form long lines of gleaming spots on the body. The male's dorsal and ventral fins are black, the caudal fin is blackish grey. During the spawning period the vertical lines on the male turn deep black and the front of its body becomes a vivid red. The female is the smaller fish; her body cross-banding is slightly less noticeable and her vertical fins are only partly black.

Ideal conditions in which to keep them include a large or medium-large tank, heavily planted and with floating plants added (the fish prefer half-shaded surroundings). Ordinary tap water can be used but the tank water must

By RUDOLPH ZUKAL

Photographs by the author

Translated by F. MARSH



## Breeding the Ruby Barb

remain clear and clean; a temperature of about 72°F (22°C) is suitable. They are a peaceful fish and like to be with some of their own species, but they can, of course, also be kept with other peaceful community fishes.

Propagating these barbs does not present any particular problems and their breeding procedure resembles that of

tiger barbs. I myself prepare a smallish or medium-sized tank with soft or fairly soft water, plenty of fine-leaved plants and a water temperature raised to 79-80°F (26°C). Before the actual spawning the male follows his partner about, constantly butting her in the belly area to bring her to a willingness to spawn. Finally the female starts looking for a spawning place



Spawning of the pair of ruby barbs took place at all levels of the aquarium — in plants close to the water surface and above the bottom gravel



and waits for her partner to come up to her; the fish press together, the male swings his caudal fin over the female's back, the fish part with a jerk and the spawning act is completed. The fish go on spawning like this at fairly short intervals until all the eggs are laid. In fact, this is the typical spawning procedure among barb species.

The fish will actually spawn in hard water, but under these circumstances the eggs will not hatch. From a single spawning some 500 eggs are likely to be ejected. Once the spawning is completed the parent fish must be removed. The brood hatches within 24-36 hours. After they

become free swimming, on about the sixth day, they must be given plentiful supplies of the finest live foods. One point to watch — in the first days of their life the fry are highly susceptible to sudden changes in the condition of the water or their surroundings. The fry grow quite quickly and if they are well fed the first striping can be seen after only about 14 days.

Ruby barbs are not only of interest to the experienced aquarist — they can be thoroughly recommended to the beginner, for if you have a good breeding pair you can more or less count on good results.

## GOLDFISH TYPES

# The Veiltail and its Relatives

By FRANK ORME

**P**ROBABLY the most popular of fancy twintail goldfish, and good specimens are expensive, the veiltail is the variety which almost invariably attracts the 'oohs' and 'aahs' from those seeing them for the first time. Normally it has a slow sedate manner of swimming and is at its best when displayed with its own kind. Because of its overdeveloped finnage it should not spend the whole year in an outdoor pool, for this tends to cause damage to the flowing tail; however, during a warm summer, a spell out-doors should do no harm, although in a pond a lot of the beauty of this variety will not be seen.

Reference to Show Standards will reveal that the ideal fish should have a round, deep body, in which the depth is greater than half the length. The height of the dorsal fin should equal the body depth and commence on the highest point of the back, over the pelvic fins. The tail must be long and broad, falling in graceful folds with a square-cut lower edge. Anal fins must be double and fully divided, as must the tail. The eyes must be of the normal type. If you have a fish that fulfils these requirements then you have a fish to be proud of!

Developed by American breeders many years ago, the veiltail goldfish is found in both nacreous (calico) and metallic scaled forms — although the metallic type is not seen as often as the much more favoured nacreous type, which is a pity because it is an eye-catching fish and hardier.

There is a 'telescopic-eyed' variety, in both scale groups of the veiltail; however, the Standards, with the exception of those of the G.S.G.B., do not recognise them. Nevertheless, there is a telescopic-eyed variety that is recognised and that is the moor. Here, the Standards differ, for the Goldfish Society of Great Britain specify that the divided twintail shall have the trailing edge forked to a third of its length. This type of tail has proved unpopular with most exhibitors of the moor, who prefer the body and finnage to be identical with the normal-eyed veiltail.

The two main features of the moor are the eyes, which are larger than normal and protrude from the head (as described for the telescopic-eyed fantail in last month's PFM), and the colour. The required colour is a deep velvety black, that has no trace of brassiness, and spreads fully into all fins, leaving no clear or white



areas. This variety is fairly hardy and will do quite well in the open garden pool in the less-exposed regions of Britain.

Another fish, having the same body and finnage requirements as the veiltail, is the *oranda* — the nacreous form of which is known to the Japanese as the *Azumunashi*. The outstanding feature of this variety is the head growth, otherwise known as the hood. The growth that forms after some time upon the head of this variety also gives rise to small soft protuberances which cover the head and gill plates. When fully formed the head growth appears similar to a large raspberry. A most attractive variety, which is very popular with goldfish enthusiasts. It has the disturbing habit of forming a light whitish mucous covering on the head during cold weather, but this need cause no alarm, for it will usually clear up as the temperature of the water rises.

Although these are varieties that are all descended from the common goldfish, they are not as hardy. This does not, however, mean that they are any more susceptible to disease than their less fancy brethren. Mostly the best specimens are bred, in this country, by amateur breeders and their

cost is fairly high for reasonable quality fish. It could be upwards of 20 pounds for a single yearling veiltail. Imported fish are not, as a rule, of the type sought by the enthusiast but, when available, they do cost considerably less than those that are home-bred.

The person who decides to keep these varieties should, in fairness to the fish, be prepared to lavish on them that little extra attention. Preferably keep them in spacious quarters with those of their own, or a similar, kind. Keep the tank clean and feed the fish with the best foods available. A starchy diet will tend to give a deeper outline, but it will not add height to the back; therefore, too much of this type of feeding could result in a 'U'-shaped body.

Some strains do have a tendency to suffer from fin congestion in the trailing, long caudal fin. This can, to some extent, be prevented by attention to hygiene, avoidance of rapid temperature changes in the water and a varied diet that does not rely entirely upon dried foods. Give the fish the attention they deserve and they should prove no more difficult to maintain in good health than any other variety of goldfish.

## Readers' Queries Answered



### Delayed Birth

I have a female red delta guppy in my possession (I have been breeding red deltas for a while now) which, although she has not produced young for nearly 40 days and doesn't seem to be increasing in size at all, has a dark-coloured gravid spot. I have read in a previous edition of *PFM* that if a female is isolated for 28-32 days and no brood is forthcoming then she can be pronounced 'clear' and ready for mating to a desired male. Is it likely that

my female could be pregnant?

Reply from Mr F. Campbell: You do not give enough information about the female guppy so a reply can only be given based on assumption. You say she is a red delta and also that you have been breeding red deltas for 'a while'. From this I would assume that her complete history is known. If she has been isolated for 40 days without any young being seen either she is a virgin, or has dropped a brood and eaten them, or is past her best. If

she is not a virgin then either she or her mate are sterile. Assuming she has eaten her young, introduce a breeding trap and leave her for another 16 days. Generally speaking, a female guppy in an advanced state of pregnancy will have distended sides and show a marked darkening and enlarging of the gravid spot. It is possible, however, for a brood to appear without the mother showing any of these signs.

### Banded Knife Fish

I have recently purchased a very interesting and unusual fish, the *Gymnotus carapo*. Please could you tell me what conditions it requires and also what feeding. Can you also tell me if I can keep other species of fish in the same tank?

The banded knife fish is certainly interesting but it is not suitable for the type of tank usually referred to as a 'com-



munity' tank. It can, however, be kept with a community of larger fishes such as spiny eels and the more peaceable cichlids. In Nature it is crepuscular, becoming active and eating at night, but in the aquarium, of course, it will become used to feeding at other times. However, because it is nocturnal a bare, brightly lit tank is to be avoided. It should be provided with a large, well-planted tank with rockwork to provide hiding places. It will accept live foods, small garden worms, small pieces of chopped raw meat or ox heart—small fishes provide the bulk of its natural diet. Towards members of its own species it can become rather snappy.

#### Aggressive Fish

*My local aquarist shop has a supply of small *Polycentrus schomburgki*. I have a tank of medium-sized community fish (swords, mollies) and would like to add these fish to them. Is it possible to breed them?*

Do not add *P. schomburgki* to a tank of the sized fishes that you quote. Although they are not going to grow to an enormous size (3—3½ in), they should be kept only with fishes larger than themselves and of a fairly vigorous nature, such as cichlids. They are aggressive and will eat smaller fishes.

Spawning these fishes is interesting and the male's breeding coloration is well worth seeing. His colour changes from the usual brownish grey to a deep black speckled with silver and dotted with blue green. The

female's colour at this time merely lightens. Water conditions are not critical but the temperature should be raised to 80–82°F (27°C). Eggs are laid on a firm surface; a broad-leaved plant, inverted flower pot or flat stone will do. The female will lay a large number of eggs over a period of about 3 hours and she must then be removed as the male will tend the eggs. Once the young hatch the male, too, must be removed. The fry should be fed live foods of appropriate size and if you wish to rear them all some care must be given to sorting them out in sizes since the smaller ones may be eaten by the larger.

#### Tinfoil Tank

*I am considering growing tinfoil barbs. Of the following two tank sizes, which would be the better—6ft. by 15in. by 15in. or 4ft. by 2ft. by 2ft.?*

The problem here is whether it is better to utilise the greater amount of water in the 4ft. tank (100 gallons compared with about 60 gallons in the narrower 6ft. tank) or whether to have the greater length in the 6ft. tank. On the whole we would choose the latter tank as giving the extra 2ft. length 'swim' for these very active fish. The smaller cubic capacity can be compensated for by making certain that you change part of the water at frequent intervals (perhaps a quarter of the water once every 3 or 4 weeks). You will also presumably be giving special thought to filtration for these large-bodied plant eaters.

Undergravel filtration and or use of a power filter will be necessary.

#### Busy Clowns

*I have been warned to expect my clown loach to look as though it were dead at times but what I had not expected was to see it whizzing about so much. Is this natural or is it being irritated by parasites, for instance?*

It is true that clown loaches have given a nasty shock to many a fond owner by lying about on the bottom on their sides or even on their backs, but when they do move about they can travel quite swiftly and dart around the tank, tail down, in an oblique position. Do not worry about the fish not keeping to the bottom of the tank—you may also find it hanging in the plants by its fins—but this is also quite natural.

#### Plants at Risk

*Can you please settle an argument — is the clown barb (*everetti*) a plant-eater or not?*

Barbs are omnivorous and enjoy a certain amount of vegetable material in their diet. Some are plant-eaters certainly, and *B. everetti* is not averse to nibbling the leaves of the softer-leaved plants so any prize soft-leaved plant could be at risk. However, if you keep your planting to *Cryptocoryne*, *Ludwigia*, *Acorus* and such-like plants with plenty of floating plants available the fish will be happy without ruining your tank.

**THE BRITISH AQUARISTS' STUDY SOCIETY** are looking for practising aquarists who can contribute in constructive ways to increasing knowledge of our hobby. The Society is formed of practising aquarists and others interested in the study of more advanced and abstract topics connected with the aquarium hobby. Members are encouraged to carry out controlled experiments likely to

benefit all and are expected to take an active part in the work of the Society and to attend lectures and the Annual Conference where possible. A Central Bureau exists to deal with members' queries and requests for assistance, and advice and technical advice on fish house design and construction etc. can be obtained. A 22-page journal is published at intervals. Lectures and meetings are held in

the Fellows Lecture Hall at the offices of the Zoological Society of London, Regent's Park, London, N.W.1 and the annual conference and dinner is held in October of each year. Membership is by invitation but interested individuals are invited to contact Mr John A. Dawson, 27 Maze Green Road, Bishop's Stortford, Herts., CM23 2PG for further details.



## What's New?

### Livebearer Fry Food

PHILLIPS (Phillips Yeast Products Ltd, Aquatic Division, Park Royal Road, London, NW9 2D) announce another important addition to their range of fish foods. This is **Fry Food for Livebearers**, a growth food specifically formulated for the fry of livebearing species. This is a companion product to Phillips' existing Fry Food for Egg-layers, so that the two foods together meet the needs of aquarists breeding and rearing both tropical and coldwater fishes. The new food provides 22% protein from a special formula containing liver and fish meals, skimmed milk powder, yeast, cod-liver oil, insects, soya meal and wheat flour, as well as highly nutritious freeze-dried ingredients such as egg, raw shrimp, liver and spinach. The manufacturers emphasise that particular care has been given in the selection of the correct particle size for the food to make it suitable and acceptable by all young livebearers.



'Sunken Galleon' background



Flexible heating unit capable of being buried in the aquarium gravel

### Flexible Base Heater

HOBBYISTS of longer standing will be glad to learn that the ES-ES Flexible aquarium heater is now in good supply again. This unique heater is made from long-lasting, non-perishable silicone rubber tubing that encloses a heavy duty 100 watt element, and it is designed to rest within the aquarium compost. As a result, of course, it is unobtrusive and, it is claimed, gives greatly improved plant growth since it gently warms the plant roots as well

as the water. The manufacturers, Singleton Brothers (Electronics) Limited, Cornwall, are now part of the Armitage Pet Products Group of Companies. The heater is suitable for tanks up to 15 gallons and is retailing at the recommended price of £2.30.

### Aquarium Backgrounds

THE new range of **Aquarium Backgrounds** introduced by Armitage Bros. Ltd. (Armitage House, Colwick, Nottingham NG4 2BA) are high quality reproductions of paintings created specially for aquaria to give the illusion of considerable depth and to add just the right amount of colour and interest to the tank without detracting from its fish and plant life. There are three designs—Sunken Galleon, Atlantis and Natural Bridge and two sizes—for 2ft. and 3ft. tanks; the backgrounds can be trimmed to meet the exact sizes of aquariums within this range. Retail price: 2ft. tanks, £1.00; 3ft. tanks, £1.50.

**COLDWATER SCENE**

By FRANK W. ORME

● **Making the crucial selection from this season's young** ● **Yes, let's have a Breeders' Directory**

**F**OR the benefit of the novice breeder, this is a good time to deal with the final sorting out of this season's young. By being ruthless and culling hard, only the best will be kept, and these can be given that essential all-important growing space. Far better to finish the season with a few decent well-grown fish than to end up with a large number of mediocre stunted specimens. Such fish will bring you no credit.

Implements required for this task are a large plastic flour sieve — this is less likely to damage finnage than a net, a small plastic or glass tank and a bowl for selected fish, together with a container for those that are rejected. With this equipment the sorting can begin.

First place water in the three receptacles, making sure that it is at the same temperature as that in which the youngsters are swimming. With the flour sieve, catch just a few of the fish and gently place them in the small tank. The inspection now depends upon the variety that is being sorted.

Presumably, with nacreous types all matt and metallic scaled fish will have previously been removed. In the event that this has not been done — do it now. If you are dealing with metallic fish it would pay to remove any that have not changed from the wild colour to the required gold. By keeping and breeding only from those fish which change colour early it is possible to encourage the strain to make ever earlier changes, whereas, if later changing or wild colour fish are used the tendency will be to retard the colour change.

To cull singletail varieties, carefully inspect the body shapes, removing any youngsters that are mis-shapen in any way. Similarly, any fish that has bent, folded or twisted fins should be taken away so that you are left with those that will stand closer inspection. The inspection should now be very severe and

critical. Is the finnage of the correct shape and in proportion to the age and body length of the fish? — remember that the finnage will continue to grow. Are the dorsal and ventral contours nicely curved without any dips or bumps, or any snouty appearance to the head? Is there any sign of hollowness to the ventral shape, especially in the region of the anal fin? If any fish shows any of these faults — get rid of it. Nacreous fish should also be discarded if they do not have the normal iristype eye; 'black button'-eyed fish are not highly regarded!

The sorting of the twintail varieties follows the same procedure, with special attention being given to the body shape, which should be short and deep with a matching well-rounded back. Closely look at the fins to ensure that all are evenly matched, that the tail is well divided and the anal fins are double, alike and fully divided. With moors care should also be taken to see that the eyes are developing evenly and that the black coloration extends fully into the fins and over the body. Ideally the fish should be a velvety black all over without any trace of brassiness on the body.

Adopt the same critical culling with those varieties which lack a dorsal fin: scrap any fish that does not have a smooth back, free of bumps, spikes or hollows. The anal fins and tail should also be fully divided. Of course, many of the features — such as the hood of the lionhead — will not have developed, for you are dealing with immature fish, not miniature replicas of the adult. Evidence should nevertheless be there to suggest the future potential development of the particular feature, be it the shape of the tail of the young veiltail or the roughness on the head of the young lionhead.

Be severe in the culling so that only the very best specimens are kept (it is quality not quantity that counts). Always remem-



ber that it is upon your selection that the quality of the future generations of fish depends. Having made your choice, give them clean quarters with plenty of uncrowded swimming space in which to make the maximum amount of growth before the onset of cold weather.

★ ★ ★

The recently repeated suggestion that a Breeders' Directory — both coldwater and tropical — would be a worthwhile feature to incorporate in this magazine has met with a limited amount of support. Amongst those who have written in favour of the proposal the following comments are typical: Mr A. J. Manser of Southport, Lancs., writes: "... I think it is a good idea to publish the names of amateur breeders, where it could help the beginner and the furtherance of the hobby in general". He goes on to say that he is interested in livebearers, which he breeds, and belongs to a number of societies including the British Livebearer Association. Mrs Virginia Lee of Whitchurch, Hampshire, writes: "I should be interested in a Directory of Fish Breeders...". Mr R. C. Avery, who writes from Romsey, Hampshire, says "... I wholeheartedly agree that a Directory of this nature would be invaluable." Mr Avery breeds common goldfish but, when he has a fish house, hopes to keep and breed the fancier types and thinks that a Breeders' Directory would be a great help — to help him locate breeders of his chosen varieties.

From these few replies, and I thank all who wrote welcoming the idea, it is obvious that some do believe, as I do, that there is a need for this sort of information. The person seeking fish would be able to locate sources of supply — at the present time this can, on occasion, prove most difficult. The breeder would find a wider circle of distribution for the fish that he produced. Benefit would thus accrue to both sides. The producer would find any extra sales useful in helping to offset his expenses. On the other hand, the purchaser would know that he was buying home-bred stock, which, since it is home-bred, would offer a greater likelihood of surviving and being a success in his tanks than some imported fish.

Come on, all you amateurs who breed fish, let's have your letters of support. Let

us hear from the 'big names' in the fish breeding hobby, wherever they live and whatever they breed — tropical or coldwater. You can help with little more effort than it takes to write a letter! This proposal could, I believe, serve a very useful purpose to our hobby but it can only become feasible if it can be shown that the necessary information, and support, would be forthcoming. (*Information required is name, address, phone number and the names of species or varieties bred; no charge, of course, will be made for inclusion of amateur breeders in the Directory.*—EDITOR.)

★ ★ ★

A show that should not be missed this month is the Second Midland Aquatic Festival (14th, 15th and 16th August at Bingley Hall, Birmingham). Supported by the country's specialist goldfish organisations, this Show will provide the opportunity to see some of the finest goldfish in the British Isles together with young fish produced by some of the best-known breeders of fancy goldfish. Apart from the interest that the hobbyist will find in viewing high-quality fish, much can be learnt by the newcomer to breeding. A comparison can be made between your own young fish and those on exhibition. Possibly the greatest shock will come when the sizes of young fish are compared. In fact some self-important 'know-alls' may well be overheard to challenge the fact that fish can be grown so large in less than 12 months! Given the right conditions of plenty of space and correct feeding, the young goldfish can, and do, make fast sturdy growth. This, in itself, is a lesson that can be learnt by visiting a prestige Show, such as this.

Two forthcoming major one-day Shows may also be of interest. Bristol Aquarist Society are staging their Open Show on 13th September at Bishopston Parish Hall, Gloucester Road, Bristol and, on 27th September, the Goldfish Society of Great Britain will be holding their Open Show at Sutton Adult School, Benhill Avenue, Sutton, Surrey. Both Shows will be devoted to the coldwater side of the hobby. The country's top exhibitors are also attracted to both specialist shows and you can expect to see some fine examples of really first-class fish. Do not be afraid to



ask questions — most fishkeepers are usually only too willing to talk fish and very often you can pick up some worthwhile information. Equally, if you see in the Breeders' Classes young fish of a variety that interests you, first see if the exhibitor's name and address is listed, and if not then ask one of the officials if it is possible to be given the information. It is

then a simple matter to approach the breeder to ask whether he has any young fish for sale. Remember, if writing, to include a self-addressed and stamped envelope for the reply. Do not expect the fish to be cheap, for, as with so many things, production costs have risen steeply and this has to be reflected in the selling price.

## Anatomy of an American Show

By  
WILLIAM  
FACKERT III



General view of the display, held in a shopping complex

THIS year the Michiana Aquarium Society presented their fifth annual Show at the Concord Mall, a huge shopping complex in Elkhart, Indiana. It was the most successful show in the history of the club with 306 entries in 30 classes including Species, Aquarium Beautiful, Novelty and Educational. The accompanying auction was also successful and the club grossed \$1200.00 (about £480) for the entire affair.

Setting-up was an all-night affair. Table-tops and trestles were taken out of storage and placed together in adjoining sections. One change from previous years was that individual trestles were chained at each side since the legs had shown an alarming tendency to 'spread'. A large Gast com-

pressor and 130 feet of 1/2 in. plastic tubing was set up, along with an immense string of four-plug electrical sockets. Happily, as this was the largest show in the 6-year history of the club, all 16 tables were used and the total length of the display was approximately 150 feet.

The method of judging followed no set rules, as is the case in most U.S. shows with the exception of Beta and Goldfish shows sanctioned by the respective societies. Species, Aquarium Beautiful, Novelty and Educational classes were judged in general by elimination of tanks or fish with obvious imperfections. Aquaria Beautiful were expected to be well-balanced and to be in harmony with a central idea or aesthetic effect; in other words,

to express perfection in the best possible manner. The only 'system' followed was that with relatively few exceptions, fishes were placed highly if they were rare, unusual, in top condition and (most important) of maximum size for the species. The last criterion of judging is under considerable debate by members of the Michiana Aquarium Society; particularly those who entered excellent, albeit juvenile, specimens of electric catfish, bicolors, pacus etc.

At present, many societies in the United States have attempted to differentiate between what is called 'sight judging' and judging by a set of tight rules. Whereas a stringent rule system can be readily employed in the case of fishes bred for



Images such as bettas and goldfish, any numbering system for most Species and Aquarium Beautiful classes becomes in practice just as subjective as sight judging. Thus, rarity and condition of the fish, maximum size for the species and unified thrust and aesthetic appeal have been the primary criteria for judging all shows at which this author has judged or in which he has participated.

At the Awards Banquet, Best of Show, Second Best of Show and High-point Trophies were presented. The last-named was a new idea which we are currently disseminating to other aquarium societies after having seen its success during horse shows. The Renton trophy for the largest number of points was presented to Kirk Walkowiak for an outstanding 88 points from 38 entries — i.e. 3 points for first, 4 for second, 1 for entering etc. ~~Previous~~ recently had forwarded an enquiry from Michiana AS to Mr Renton in England after the trophy presented by Mr Renton to last year's Aquarium Show had been seen in 1974, and Mr Renton's efforts in getting a trophy to us on very short

Mr Kirk Walkowiak with the hand-carved Renton Trophy from England that he was awarded at the Show



notice should be listed in the Guinness Book of World Records! Participants in our Show were most impressed by the uniqueness of the Renton trophy when comparing it with the standard US trophies, which require only a new screw-on top to relate to any activity whatsoever.

We are very grateful to Mr Renton.

In summary we had a most successful show and we are happy to share the results with our fellow aquarists in Europe.

**RESULTS**

All fish were shown in pairs except where indicated. Any size aquarium up to and including 29 gallons was



Mrs Sally Fackert presents best of show award to Mr Bob Atz of Fort Wayne, Indiana, for his frontosa cichlid exhibit

accepted but base size could not exceed 30 in. long and 12 in. wide (exception: Aquarium Beautiful class where a standard 10 gallon aquarium was allowed). Since the show was for the enjoyment of the general public as well as hobbyists gravel, plants, background and lighting had to be used, but no GFLux or coloured incandescent lighting or coloured water was allowed except in two classes. All tanks had to be pre-tested for leaks. Leaking tanks could be removed at the discretion of the Show Committee. All entries had to be labelled with the common names — labels were provided at the time of entry. Each entry fee was £1.00.

Aquarium Beautiful, natural (standard 10 gallon tank; no coloured or GFLux lighting, natural gravel and rockwork): 1. Mr. B. Alt; 2. Mr. K. Walkowiak; 3. Mr. M. Estep. Aquarium Beautiful, artificial (any size tank, any type or colour of lighting, plants or gravel): 1. N. & E. Jannah; 2. Mr. D. Szardrowski; 3. Mr. K. Walkowiak. Community: 1 & 3. Mr. K. Walkowiak; 2. Mr. B. Alt. Novity (anything goes): 1. Mr. W. Fackert (Jungle Paradise); 2. Mr. J. Nagy (Lansers); 3. Mr. J. Nagy (Light Blue). Open (any type of livebearers, must be in pairs): 1. Mr. W. Fackert (Juffers); 2. Mr. J. Nagy (glass fish); 3. Mr. B. Alt (high fin). Single fish (no spawning of pairs): 1. Mr. B. Alt (ferrosia); 2. Mr. T. Koopp (suzuki cat); 3. Carol Ritter (brick-red sword).

Family egglayers (minimum of 12, parents and at least 10 fry): 1. Mr. T. Koopp (microsomus); 2. Mr. R. Anderson (bumpheads); 3. Mr. R. Fenwick (blue bottle (brown in bowls)). 1. Mr. L. Wells; 2. Mr. J. Brock; 3. Mr. K. Walkowiak. Catfish (singles): 1. Mr. T. Koopp (paleostomus); 2. Mr. J. Lindeman (bumble bee cat); 3. Mr. D. Szardrowski (upside down cat). Guppies (shown in bowls): 1 & 2. Christine Daly (red, half black); 2. N. & E. Jannah (German half black). Mollies: 1. Mr. T. Koopp; 2. Mr. K. E. Williamson; 3. Mr. M. Estep. School (minimum of 10): 1. Mr. B. Alt (black neon); 2. Mr. W. Fackert (pearl dantes); 3. Mr. K. Walkowiak (spaty variatus). Xiphophorus: 1. Mr. K. E. Williamson; 2. Mr. R. Fenwick; 3. Mr. T. Koopp.

Angels: 1 & 3. Carol Ritter; 2. Mr. R. Fenwick. Regular cichlids (e.g. Cichlasoma, Tilapia): 1. Mr. J. Lindeman (brown severans); 2. N. & E. Jannah (bumpheads); 3. Mr. R. Anderson (bumpheads). Kill Lake: 1 & 2. Mr. T. Koopp (beak microsomus). Barbs: 1. Mr. K. Walkowiak (gold); 2 & 3. Christine Daly (tiger, tiger, tiger); 1. Mr. J. Nagy (black); 2. Mr. D. Szardrowski (hemp); 3. Mr. B. Conley (black). Anabantids: 1. Mr. R. Anderson; 2. Mr. K. Lahr (black-topped); 3. Christine Daly (senekesin). Characins: 1. Mr. R. Anderson (red hook); 2. Mr. W. Fackert (piranha); 3. Mr. D. Szardrowski (ferrosia).

Scavengers (sharks & botias, singles): 1. Mr. M. Estep (rainbow shark); 2. Mr. H. Shelton (botia); 3. Mr. B. Conley (botia). Goldfish (singles): 1. Mr. K. Manly (italico); 2 & 3. Mr. T. Koopp (red-cap lionhead, red fantail). Educational (to the non-informed public, such as a tank on pollution etc.): 1 & 2. Mr. D. Szardrowski (Is your tank deadly to your fish?); Perils of Tropical Fish; Freshwater molluscs (singles only shown in bowls): 1. Mr. J. Shaw; 2. Mr. K. Walkowiak; 3. Mr. T. Koopp. Corydoras (singles): 1. Mr. H. Shelton (thorax); 2. Mr. J. Nagy (bipro); 3. N. & E. Jannah (spotted Corydoras). Single cichlid: 1. Mr. B. Alt (frontosa); 2. Mr. T. Koopp (icon victi); 3. Christine Daly (ortoblenensis).



## THE MIDLAND AQUARIST LEAGUE

held their first show of the season on 11th May at Bulkington Parish Hall, Bulkington, nr. Bedworth. As the League were late in getting under way this year it has been decided to stage fewer, but larger, shows which has proved more interesting. 142 entries were benched in the Inter-Society classes, and although pleased with such numbers this was 26 entries short of what had been expected. Although the open classes attracted entries from as far afield as Lancashire, only 85 were benched in the six classes. MAAS judges in attendance were Mr F. Ash and Mr G. Cox.

Open classes, av Characin (26 entries): 1. Mr. Nightingale (TKAG); 2. Mr. F. Hux (Coventry); 3. Mr. P. Smith (BAWS). Single tailed goldfish (B): 1 & 2. Mr. C. Pratt (Bedworth); 3. Mr. H. Brakes (Leicester A). av Cichlid (7): 1. Mr. T. Redfern (Hinckley); 2. Mr. Nightingale; 3. Mr. G. Henson (GAS). Egglayer pairs (20): 1. Mr. E. Sandercock (GAS); 2. Mr. I. Perry (Loughborough); 3. Mr. S. Whitehouse (Darlington). Av Tropical (11): 1 & 3. Mr. Nightingale; 2. Mr. I. Perry. Danio & WCMM (14): 1. Mr. S. Bostock (Loughborough); 2. Mr. B. Mrs. Burman (BAWS); 3. Mr. R. Cleaver (Coventry).

Inter-Society results, av Barb (22): 1. Mr. A. Simmons (Coventry); 2. Mr. Leo (Bedworth); 3. Mr. B. Mrs. Short (Hinckley). Livebearer pairs (21): 1. Mr. B. Mrs. Short; 3. Mr. L. Somerville (Loughborough). av Anabantid (24): 1. Mr. B. Mrs. Chamberlain (Leamington); 2. Mr. R. Cleaver (Coventry); 3. P. & C. Hind (Coventry). av Catfish (24): 1. Mr. D. White; 2. Mr. A. Nash; 3. Mr. S. Lindsey. av Loach (22): 1. Mr. Keeble; 2. Mr. R. Cleaver; 3. Mr. P. Mrs. Chamberlain. av Rasbora (28): 1 & 2. Mr. Bramhall

THE SPALDING & DAC will meet at 7.30 p.m. on Thursday, 4th August at Fulney Church Hall, Spalding, to hear a talk illustrated by slides given by Mr E. A. Allen of The British Kai-Keeper's Society on keeping fish and methods of pond construction and water filtration. Non-members wishing to attend the meeting should contact Mr M. Barnes, 32 Windsor Road, Spalding, Lincs.

(Goodbye! End): 3. Mr. B. Mrs. Short (Hinckley). Best in Show was awarded by Mr Keeble (Coventry), 84th best (81) points.

THE Best Fish in Show award at the NORTHWICH & DAS seventh Open Show was won by Mr & Mrs G. Bond who received the Thorne trophy and the Russel-Allen trophy for best livebearer. Trophy winners: Benoy trophy, best breeding egglayers, Mr A. P. Vassiere; Hyland trophy, best catfish, loach or botia, Mr & Mrs Houghton; Interpet trophy, society gaming most points, Merseyside 34 (Southport, 33; Northwich, 29); King British trophy, Norwich member gaining most points, M. & D. Valentine.

Key to societies: A, Ashton-under-Lyne; B, Blackburn; Bu, Sutton; D, Dunlop; L, Leigh; Le, Leam; M, Macclesfield; Me, Mersey; N, Northwich; O, Oldham; R, Runcorn; Sa, Sandersons; So, Southport; Va, Vale Royal; Vi, Village; Wa, Warrington; Wv, Wrexham; Wv, Wythenshawe. Results were: Guppies: 1. Mr. K. Houghton (So, 69); 2. Mrs. S. Mahoney (So, 68); 3. Mr. O. Hindley (L, 67). Swordtails: 1. Mr. J. Drake (N, 59); 2. Mr. E. Seymour (Me, 58); 3. Mr. P. Mullen (Wa, 51). Mollies: 1. Mr. R. Bamber (So, 71); 2. Mr. Poulton (Vi, 71); 3. Mr. G. Mrs. A. Davies (D, 61). Platy: 1. Mr. B. Mrs. G. Bond (So, 79); 2. Mrs. B. Mahoney (64); 3. Mr. E. Southport (MA).

Barbs, small: 1. Mr. T. Hampton (D, 70); 2. Mrs. Winstanley (R, 67); 3. Mr. B. Bamber (Sa, 64). Barbs, large: 1. Mr. B. Mrs. G. Bond (74); 2. Mr. K. McLeod (R, 69); 3. Mr. A. P. Vassiere (Me, 68). Characins, small: 1. Miss S. Goddard (MA, 76); 2. R. B. Johnson (H, 70); 3. Mr. J. Drake (68). Characins, medium: 1. Mr. S. Bamber (Sa, 73); 2. Mr. P. J. Whelan (B, 63); 3. Mr. T. Hampton (D, 62). Characins, large: 1. Mr. F. Thorne (70); 2. J. & D. Waterhouse (64); 3. Mr. B. Mrs. Houghton (69). Fighters: 1. Mr. L. Thorne (N, 72); 2. K. & F. Tarburton (Wa, 70); 3. Mr. S. Boyle (N, 68). Anabantids up to & including thick lips: 1. Mr. O. Carr (Wv, 74); 2. Mr. B. Wilson (Hv, 71); 3. Mr. J. Taylor (Me, 70). Anabantids over: 1. Mr. B. Mrs. Goddard (76); 2. Mr. D. Carr (71); 3. Mr. E. Seymour (69). Angels: 1. C. & K. Davies; 2 & 3. Mr. A. Ason (A, 71 & 69). Cichlids, dwarf: 1. Mr. A. Chadwick (D, 77); 2. Mr. F. Thorne (V, 73); 3. Mr. A. Jevkinson (Sa, 71). Cichlids, large: 1. Mr. P. J. Whelan (76); 2. Mr. J. Taylor (Me, 70); 3. Mr. S. Seymour (68).

Danio & minnow: 1. 2 & 3. Mr. B. Bamber (Sa, 67, 66 & 63). Rasbora: 1. Mr. P. Hegan (R, 71); 2. Mr. B. Wilson (Me, 70); 3. J. & D. Waterhouse (Sa, 68). Sharks: 1. Mr. T. Hampton (74); 2. Mr. H. Suckley (N, 73); 3. Mr. B. Mrs. G. Bond (70). Flying foams: 1. Mr. R. M. Vassiere (76); 2. Mr. H. Suckley (73); 3. Mr. S. Seymour (71). Corydoras & Breichia: 1. Mr. B. Mrs. Houghton (74); 2. Mr. P. Mullen (70); 3. Mr. B. Newport (R, 69). Catfish av: 1. Mr. B. Mrs. G. Bond (73); 2. M. & S. Gillies (71); 3. Mr. A. Hopwood (Wv, 67). Loach & botia: 1. M. & S. Gillies (73); 2. Mrs. Winstanley (68); 3. Mr.





J. Drake (R. 65). Toothcarps: 1, Mr S. Seymour (76); 2, Mr L. Thorne (88). *av* Freshwater tropical: 1, Mr P. J. Whelan (72); 2, K. B. F. Tarbutton (64); 3, Mr & Mrs A. Davies (82). *av* Marine: 1, Mr & Mrs A. Davies (83).

Pairs livebearers: 1, Mr J. Taylor (70); 2 & 3, Mr & Mrs G. Bond (68 & 69). Pairs egglayers: 1, Mr A. P. Vassiere (75); 2, Mr & Mrs Houghton (73); 3, Mr T. Hampton (71). Breeders livebearers: 1 & 2, Mr & Mrs G. Bond (70 & 68). Breeders egglayers, *easy*: 1, Mr & Mrs A. Davies (72); 2, Mr J. Buckley (70). Breeders egglayers, *hard*: 1 & 2, Mr & Mrs P. Vassiere (76 & 73); 3, Mr G. Bassal (Wv. 70). Goldfish, common: 1, Mr & D. Valentine (60); 2, Mr & Mrs G. Bond (58); 3, Mr H. Buckley (57). Goldfish, fancy: 1, Mr & S. Gullane (73); 2 & 3, Mr B. Newport (R. 53 & 50). *av* Coldwater: 1, Mr L. Seymour (61); 2 & 3, Mr & D. Valentine (55 & 51). Juniors, livebearers: Mr A. Whittaker (Ma. 68). Juniors, egglayers: 1 & 3, Mr P. French (N. 72 & 85); 2, Mr P. Redbone (86). Furnished mini jars: 1, Mr E. Jones (Wv. 74); 2, Mr L. Bradley (N. 73); 3, Mr L. Thorne (70).

**SOUTHEND, LEIGH & DAS** held their Open Show recently.

The results are (key to the societies who took part: Ba, Basingstoke; BG, Bernal Green; Ch, Chingford; Co, Cornington; Cr, Crawley; Do, Doncaster; Du, Dunmow; EL, East London; GY, Great Yarmouth; H, Harlow; K, Knutsford; NK, North Kent; O, Orpington; P, PFA; R, Riverside; SA, SAPA; SL, SLADA; Su, Sudbury; Sy, Symonds; Th, Thurrock; W, Walthamstow):—Aa-b: 1 & 3, Mr A. Kudesovitch (BG, 74 & 72); 2, Mr H. Preston (SL, 73). Ag: 1, Mr W. R. Dale (BG, 72); 2, Mr & Mrs Tolliday (Ch, 67); 3, Mr D. Eaton (Co, 64). Ak: 1, Master S. Emptage (W, 76); 2, Mr D. Eaton (70); 3, Mrs S. Hedges (BG, 67). Ba: 1 & 2, Mr & Mrs Hubert (unattached, 77 & 71); 3, Mr I. Farlow (Du, 65). Bz: 1, Mr D. Durrant (SL, 78); 2, Mr M. Strange (Ba, 77); 3, Mr R. F. Thoday (Du, 77). Ca: 1, Mr T. Frezer (Ba, 81); 2, C. & J. Richards (Su, 77); 3, Mr R. Wylie (SL, 76). Cb: 1, C. & J. Richards (72); 2, Mr & Mrs S. J. Harris (Ch, 71); 3, Mr C. W. Goddard (Su, 67). Cc: 1 & 3, Mr K. Adams (SL, 80 & 74); 2, Mr P. Moya (Su, 75). D: 1, Mr K. Martin (Th, 72); 2 & 3, Mr A. F. Ward (Co, 88). Db: 1 & 2, Mr T. Frezer (Ba, 85 & 77); 3, Mr C. Breitkreutz (CA, 75). Dc: 1 & 3, Mr R. F. Thoday (Du, 84 & 82); 2, Mr P. A. Moya (Su, 82). Dd: 1, Mr C. J. Lyon (SL, 82); 2, Mr R. Plume (Sy, 79); 3, Mr E. Milsud (Du, 77). Ee: 1 & 2, Mr C. Breitkreutz (SA, 72 & 71); 3, Mr D. North (Co, 70). Ee: 1, Mr & Mrs B. Fry (NK, 73); 2, Mr C. Welford (SL, 72); 3, Mr A. E. Noronha (O, 71). Ee: 1, Mr K. Adams (80); 2, Mr A. Chandler (W, 80); 3, Mr K. Collins (unattached, 71). F: 1 & 2, Mr V. C. Green (SA, 72 & 71); 3, Mr P. F. Capoo (70). G: 1, Mr D. Lambourne (R, 84); 2, Mr K. Adams (78); 3, C. & J. Richards (77). H: 1, Mr P. A. Moya (80); 2, Mr T. Frazer (78); 3, Mr Warden (77). J: 1, Mr T. Frazer (79); 2, Mr D. Edwards (78); 3, Mr D. Durrant (75). K: 1, Mr M. Strange (Ba, 81); 2, Mr T. Frazer (Ba, 80); 3, Mr P. A. Moya (74). L: 1, Mr K. Disher (76); 2, Mr D. Durrant (75); 3, Mr D. V. Wylie (SL, 74). M: 1, Mr & Mrs Copper (Co, 83); 2, Mrs S. Hedges (81); 3, Mr R. F. Thoday

**THE THREE COUNTIES GROUP** of aquarist societies (Basingstoke, Bracknell, Didcot, High Wycombe and Reading) hope for a really memorable 21st Open Show on 14th September in the Students Union Hall of Reading University. There are over 50 classes, with a total of eight classes in the kille section and the FBAS Championship trophy going to the best killifish. There are seven classes for the coldwater enthusiasts, and to encourage an important, but somewhat neglected, part of the hobby three classes for plants are scheduled. Mr Ron Forder has kindly offered to present the overall winner with a special prize of an unusual plant and will also be available at the Show to give advice on plants.

(78). NB-M: 7, Mr G. Biggs (R, 84); 2, Mr C. Breitkreutz (82); 3, Mr R. Wylie (79). NO-T: 1, Mr T. Frazer (78); 2, Mr B. Brett (NK, 77); 3, Mr K. Usher (76). O: 1, Mr A. E. Noronha (78); 2, Mr K. Maitin (Th, 77); 3, Mr & Mrs Fry (76). P: 1 & 2, Mr A. E. Noronha (68 & 68); 3, Mrs Ann (NK, 66). Q: 1, Mr K. Usher (71); 2, Mr A. E. Noronha (70); 3, Mr R. F. Thoday (69). R: 1 & 2, Mr G. Smith (80 & 79); 3, Master S. Emptage (W, 78). S: 1, Mr R. C. Burton (W, 71); 2, Mr P. A. Moya (89); 3, Mr G. W. Goddard (68). T: 1, Mr K. Usher (80); 2, Mr J. H. Preston (79); 3, Mr M. Strange (78). U: 1, Mr T. Bullock (BG, 73); 2, Mr B. Brett (72); 3, Mr J. Wylie (71). V: 1 & 3, Mr A. Bullock (71 & 66); 2, Mr & Mrs B. Fry (67). W: 1, Mrs S. Hedges (78); 2, Mr & Mrs B. Fry (71); 3, Mr K. Martin (70). XB-M: 1, Mr M. Strange (79); 2, Mr C. Breitkreutz (78); 3, Mr P. A. Moya (77). XO-S: 1, Mr G. Smith (77); 2 & 3, Mr A. E. Noronha (74 & 73). Xt: 1, 2 & 3, Mr K. Usher (80, 78 & 76). Y: 1, Mr I. Farlow (Du, 74); 2, Mr M. Strange (71). Z: 1 & 2, Mr D. M. Cheswright (78 & 76); 3, Mr R. Davis (75). Zb-c: 1, Mr A. Durrant (75); 2, Mr A. Chandler (74); 3, Mr D. Little (73). B-Tv: 1 & 2, Mr D. Wylie (79 & 75); 3, Mr C. Sharp (74). V-Wv: 1, Mr D. Wylie (76); 2, Mr A. M. Durrant (68); 3, Mr P. Brett (67).

THERE was a record number of entries, 597, at the STOCKTON-ON-TEES AS 10th annual Open Show and the Best Fish

in Show award was won by Mr K. Greenley (Billingham Half Moon) with a *Labeo erythrura*.

(Key to the societies: A, Ashington; Bil, Billingham; Bin, Bimbi; Br, Bridlington; C, Castleford; HM, Half Moon; H, Hartlepool; K, Killingworth; N, NGLS; P, Priory; R, Redcar; S, STAS; Sc, Scarborough; SS, South Shields; Sta, Stanley; Sto, Stockton; W, Washington; Z, Zenith.) Results are as follows: Furnished aquaria: 1, Mr & Mrs Kane (S); 2, Mr & Mrs Saunders (Sto); 3, Mr & Mrs Wood (Sto). Furnished jars: 1, Mr C. Robinson (Sta); 2, Mrs Surtees (Bil); 3, Mr & Mrs Saunders. Large barbs: 1 & 2, Mr C. Robinson; 3, Mr & Mrs Duffin (R). Small barbs: 1, Mr F. Holmes (C); 2, Mr M. Clark (Ind); 3, Mr K. Greenley (HM). Large characins: 1, Mr D. Shearer (R); 2, Mr S. Hay (H); 3, Mr & Mrs Lamb (R). Small characins: 1, Mr M. Aylesbury (R); 2, Mr F. Myers (Ind.); 3, Mr & Mrs Jackson (R). Large cichlids: 1, Mr J. Quantrell (P); 2, Mr & Mrs Lamb; 3, Mr Kidd (K). Small cichlids: 1, Mr G. Walker (C); 2, Mr & Mrs Jackson; 3, Mr N. Lynch (Sta). Rift valley cichlids: 1 & 2, Mr G. Liddle (Bin); 3, Mr R. Asherton (H). *av* Fighter: 1, Mr M. Dudley (H); 2, Mr P. Hope (H); 3, Mr & Mrs Wood (Sto). *av* Eltc: 1 & 2, Mr E. Prytherch (A); 3, Mr L. Walker (Ind). *av* Labyrinth: 1, Mr M. Cox (Z); 2, Mr Sneddon (H); 3, Mr & Mrs Saunders. *av* Tropical catfish: 1, Mr & Mrs Saunders; 2, Mr H. Garthwaite (H); 3, Mr L. Collins (Sto). *av* Corydoras & Brochis: 1, Mr & Mrs Saunders; 2, Mr D. Turnbull (Bin); 3, Mr & Mrs Emerson (C). *av* Danio wcm: 1, Mr A. W. Redford (P); 2, Mr D. Rodham (Z); 3, Mr G. Fenwick, Rastora: 1, Mr D. Lawrence; 2, Mr R. Goodchild (Z); 3, Mr Ryan, Loach: 1, Mr D. Turnbull; 2, Mr King; 3, Mr J. Taylor (Sto). Sharks & laboos: 1, Mr Greenley; 2, Mr Moreland (Stoc); 3, Mr Hall (Bil). Breeding pairs (egg): 1, Mr F. Holmes (C); 2, Mr N. Wainwright (H); 3, Mr J. Aylesbury (R). Breeding pairs (live): 1, Mr R. S. Dawson (H); 2, Mr J. Chamberlain (H); 3, Mr & Mrs Holmes. *av* Guppy: 1, Mr R. Asherton (H); 2, Mr W. Walton (P); 3, Mr M. Hope (W). Swordtail: 1, Mr N. Blenkin (Br); 2, Mr & Mrs Jackson; 3, Mr & Mrs Kennedy. *av* Platy: 1, Mr W. Mooney (Sto); 2, Mr & Mrs Kane; 3, Mr Kidd. *av* Mollia: 1, Mr S. Hay (H); 2, Mr & Mrs Wood; 3, Mr N. Blenkin. *av* Livebearer: 1, Mr R. Daly (N); 2, Mr P. Wright (SS); 3, Mr & Mrs Dorrer (R). *av* Coldwater: 1, Mr M. Potts (SS); 2, Mr & Mrs Craggs (Sto); 3, Mr T. Hope (H). Breeders (egglayers): 1, Mr E. Prytherch (A); 2, Mr N. Lynch; 3, Mr Walker. Breeders (livebearers): 1, Mr R. Daly; 2, Mr & Mrs Dorrer; 3, Mr D. Chamberlain. *av* Marine: 1, Mr M. Middlemast (Sta); 2, Mr Harrison (Bil); 3, Mr Ryan (Bil). *av* Tropical egglayer: 1, Mr L. Collins; 2, Mr D. Turnbull (Bin); 3, Mr & Mrs Duffin. Junior section: 1, Mr R. McCartney (HM); 2, Mr G. McGuire (H); 3, Mr M. Lister (Sta).

**RESULTS of the OSRAM AS Show** are as follows:

Anabantids: 1, Mr D. Carr (Wythen-shawe, 70); 2, Mr & Mrs Newton (Blackburn, 68); 3, Mr & Mrs K. Crosley (Middleton, 65). Fighters: 1, Mr & Mrs Muckle (Sandgrounders, 71); 2, Mr J. Bates (Sandgrounders, 68); 3, Mr T. Davies (Heywood, 65). Barbs, small: 1, Mr & Mrs Stock



(Farnworth, 75); 2. Mr & Mrs Smith (Oarem, 86); 3. Mr & Mrs Burton (Blackburn, 83); 4. Bards, large; 1. Mr A. Goddard (Macclesfield, 72); 2. Mr B. Mahoney (Southport, 70); 3. Mr L. Backenham (Ostham, 69). **Labeos, sharks, loaches:** 1. Mr G. Horrocks (Oarem, 72); 2. B. G. Waterhouse (Sandgrounders, 67); 3. J. O. K. Reid (Leys, 65). **Characins, small:** 1. P. & H. Bachelor (Leys, 73); 2. Mr & Mrs Muckle (Sandgrounders, 71); 3. Mr & Mrs Baldwin (Sandgrounders, 70). **Characins, medium:** 1. Mr & Mrs Newton (Blackburn, 72); 2. Mr & Mrs G. Bond (Southport, 70); 3. Mr & Mrs H. Houghton (Southport, 69). **Characins, large:** 1. J. & B. G. Waterhouse (74); 2. Mr J. Ridway (Heywood, 71); 3. Mr F. Thorne (Village, 70). **Dwarf cichlids:** 1. Mr F. Thorne (76); 2. Mr E. Lees (Wythenshawe, 74); 3. A. & P. Jarvis (72). **Angels:** 1. Mr C. Norton (73); 2. Mr A. Haldby (Oarem, 72); 3. Mr J. Essex (Heywood, 70). **avc:** 1. Mr S. Wolstenholme (78); 2. Mr D. Gregson (73); 3. P. & H. Bachelor (72); 4. T. & C. Carr (87); 5. Mr S. Barrett (68 & 67); 6. Mr H. G. Bartley (66). **Rasbora:** 1. J. & B. G. Waterhouse (68); 2. Mr A. Goddard (87); 3. Mr & Mrs Muckle (63). **Danios & minnows:** 1. Mr K. Houghton (Southport, 71); 2. Mr W. Bamber (Sandgrounders, 66); 3. Mr G. Newton (65). **Guppies:** 1. Mr G. Bond (Southport, 74); 2. Mr T. J. Balby (72); 3. Mr E. Smith (71). **Swordtails:** 1. B. 3. Mr E. Lees (Wythenshawe, 68 & 66); 2. Mr D. Carr (87). **Mollies:** 1. Mr & Mrs Baldwin (Sandgrounders, 72); 2. Mr W. Bamber (Sandgrounders, 64); 3. Mrs B. Guiver (Heywood, 62). **Plahs:** 1. Mr & Mrs Bond (66); 2. Mr W. Bamber (70); 3. Mr J. Brown (69). **Loaches:** 1. B. 2. Mr & Mrs Muckle (76 & 75); 3. Mr C. Backenham (74). **Corydoras:** 1. Mr & Mrs Newton (74); 2. Mr & Mrs Houghton (72); 3. Mr & Mrs Bond (71). **Catfish avc:** 1. B. 2. P. & H. Bachelor (77 & 75); 3. Mr & Mrs Baldwin (74). **Goldfish:** 1. Mr & Mrs Wolstenholme (68); 2. Mr C. H. Whitley (65); 3. Mr D. Adams (51). **Shubunkins:** 1. Mr L. Dean (71); 2. B. 3. Mr S. Foote (69 & 63). **Vaultails:** 1. Mr S. Foote (74); 2. Mr C. H. Whitley (70). **Orandas:** 1. Mr C. H. Whitley (71). **Loachoids:** 1. Mr H. Penhall (Oarem, 69); 2. Mr C. Walsbank (Blackburn, 49). **Fantails:** 1. B. 2. Mr C. Whitley (72 & 71); 3. Mr S. Walsh (70). **Moors:** 1. B. 2. Mr W. Dawson (43 & 42). **avc, Fancy goldfish:** 1. Mr H. Penhall (75); 2. Mr S. Foote (73); 3. Mr C. H. Whitley (69). **avc Asian or USA:** 1. Mr D. Harvey (75); 2. Mr G. Harvey (74); 3. Mr C. Whitley (72). **avc European:** 1. B. 3. Mr C. Whitley (71 & 68); 2. Mr S. Walsh (69). **Breeders guppies:** 1-10; 1. A. & P. Jarvis (Sandgrounders, 72); 2. Mr J. Ridway (69); 3. Mr J. Essex (65). **11-20:** 1 & 2. Mr S. Hooton (79 & 78). **Breeders livebearers:** 1-10; 1 & 2. Mr & Mrs Bond (72 & 71); 3. Mr & Mrs Newton (Blackburn, 70). **avc Not listed:** 1. Mr P. T. Whelan (79); 2. B. 3. P. & H. Bachelor (76 & 70). **Pairs guppies:** 1. Mr A. Giphon (71); 2. Mr B. Mahoney (70); 3. Mr & Mrs Muckle (69). **Pairs livebearers:** 1. Mr & Mrs Newton (76); 2. Mr & Mrs Bond (68); 3. Mr M. Jarvis (65). **Mini jars natural:** 1. Mr K. Smith (70); 2. Mrs Han (69). **Mini jars novelty:** 1. B. 2. Masters N. de M. Rimmer (Sandgrounders). **Marine avc:** 1. Mr P. Squerrel (72); 2. Mr K. Smith (70). **Oarem Juniors, livebearers:** 1. Mr D. Dawson (72); 2. B. 3. Mr J. Walker (68 & 66). **Guppies:**

1. Mr D. Dawson (72); 2. B. 3. Mr W. Carr (68 & 62).

**THIS year the ASSOCIATION OF MIDLAND GOLDFISH KEEPERS** staged the coldwater section of the Coventry P & AS Open Show at Templars School, Coventry. Many fine fish were entered which drew favourable comment from the very large public attendance and the Show Committee of the Coventry Society have thanked the AMGK for their co-operation in helping to make the show such a success. In appreciation they made a donation to AMGK funds, which was accepted with appreciation and thanks by treasurer, Mr E. Hancock.

The May meeting of the Association gave members the opportunity to hear vice-chairman Mr D. Eastingwood describe the construction of his new fish house — together with the costs involved. Each stage was illustrated by projected colour slides and examples of the materials used were displayed. This led to much animated discussion afterwards and the speaker was warmly applauded for a most interesting talk.

Future meetings at the Foleshill Community Centre, Foleshill Road, Coventry, are as follows:— September 28th: Mr T. L. Dodge will talk of the early days and personalities he has known during his many years in the goldfish hobby. November 30th: The Annual General Meeting. Visitors are welcome and details of membership can be obtained from the Secretary, Mr F. W. Orme, 94 Newman Way, Rubery, Birmingham, B45 9LZ. Please enclose a self-addressed and stamped envelope with your enquiry.

**THERE** were 438 entries at the **CORBY & DAS** Open Show held recently, the results of which are as follows:

**B:** 1. Mr P. Butt (Northampton); 2. Mr W. O. Neville (Grantham); 3. Mrs Cruikshank (Grantham). **C:** 1. Mr H. Strange (Basingstoke); 2. Mr P. Moya (Sudbury); 3. Mr K. Usher (Dunstable). **Co:** 1. Mr H. Strange; 2. B. 3. Mr C. Lucas (Sudbury). **Cr:** 1. 2 and Nene Valley trophy, Mr P. Moya (Sudbury); 3. Mr M. Nethersall (Riverside). **DZ:** 1 and FBAS trophy, Mr H. Strange; 2. Mrs Nethersall; 3. Mr P. Butt (Northampton). **Da:** 1 and

Fidelity trophy, Mr Usher; 2. Mr Batten (DAS); 3. Mr & Mrs Crow (WADAS). **Dr:** 1, 2 and TCW trophy, Mr H. Strange; 3. Mr Wyatt. **Da:** 1. Mr T. Chambers (WADAS); 2. Mr P. Moya; 3. Mr B. White (Blatchley). **E:** 1. Mr C. M. Allen; 2. Mr N. Coleman (WADAS); 3. Mr & Mrs Green. **F:** 1. Mr E. Usher; 2. B. 3. Mr D. Ditchener (WADAS). **G:** 1. Mr J. Fuller (Uttoxeter); 2. Mrs Nethersall; 3. Mr S. A. Lucas. **H:** 1. Mrs Cruikshank; 2. L. B. J. Brazier (Sudbury); 3. Mrs Nethersall. **I:** 1. L. B. J. Brazier; 2. W. B. S. (Banbury); 3. Mr R. Wilson (Corby). **K:** 1. Mr P. A. Moya; 2. Mr H. Strange; 3. Mr R. Elliot. **L:** 1. Mr Elliot; 2. Mr P. A. Moya; 3. Mr K. Usher. **M:** 1. Mr D. Elliot; 2. L. B. J. Brazier; 3. Mr J. Fuller. **NE-M:** 1. B. 3. Mr D. Ditchener; 2. Mr Richards (Sudbury). **NO:** 1. 2. B. 3. Mr K. Usher.

**O:** 1. 2. B. D. Whittall Memorial trophy, Mr & Mrs Humphrey (Corby); 3. Mr A. J. Waldman (Sudbury). **Q:** 1. Mr & Mrs Crew; 2. Mr K. Usher; 3. Mr P. A. Moya. **R:** 1. Mr J. Fuller; 2. B. 3. Mr L. W. Poole (Banbury). **S:** and D. Kowin trophy, Mr T. Fuller (Uttoxeter); 2. Mr Bigham (Corby); 3. Mr Chambers (WADAS). **T:** 1. B. 2. Mr K. Usher; 3. Mr A. Onslow (Loughborough).

**U:** 1. B. 2. Mr & Mrs Crew (WADAS); 3. Mr B. White (Blatchley). **V:** 1. G. B. M. Allen. **XB-M:** 1. B. 2. Mr M. Marsden (Corby); 3. Mr & Mrs Crew. **XO-T:** 1. B. 2. Mr E. Usher; 3. Mr C. Usher.

**EAST DULWICH AS** members have enjoyed an interesting and varied programme since their AGM. Secretary Mr R. Callaghan writes: "Our thanks to Mr F. Tomkins for his talk on breeding and to Mr D. Lambourne for his slide show on catfish. At the Bring-&-Buy sale members dug deep into their pockets, a nice profit was made for the club and an enjoyable evening provided for the members. Another interesting evening was had when we visited Croydon & DAS for an inter-club show — our congratulations to the home club on being the victors. We look forward to the return match and reversing the decision. Our congratulations to Mrs Doris Winder and son David on their successes at the Riverside Open Show and the Catfish Open Show."

**GLOUCESTER AS** recently held their annual Open Show at Chequers Bridge Centre, Gloucester. Major awards presented are as follows: The Mayor Cup, F. E. King Cup, Best Angel Fish: Mr C. Cowles (Bristol); Sally Oppenheim M.B. Rose Bowl, Best Male Guppy: Mr P. J. Greenwood (Bishops Cleeve);

Langdon Aquaria trophy, Best Fish in Show: Mr J. Canning (Newbury); Colborne trophy, Best Coldwater: Mr P. Rogers (Evesham); Gloucester Aquarist Society trophy, Most acquired points: Mr F. Timmins (Gloucester); Gloucester AS Committee trophy, Gloucester AS member with most points: Mr F. Timmins.

Remainder of results: Guppy male: 1, Mr F. Greenwood (Bishops Cleeve); 2 & 3, Mr D. Perry (Bishops Cleeve). Guppy female: 1, Mr D. Perry; 2, Mr E. Walsh (Bath); 3, Mr M. Bishop (Bishops Cleeve). Platys: 1, Mr J. Canning (Newbury); 2, Mr L. Poole (Banbury); 3, Mr M. Bishop (Swindon). 1 & 2, Mr P. Greenwood; 3, Mr D. Elliot (Newbury). Mollies: 1, Mr R. Crook; 2, Mr A. Wilson (Midland Tropical); 3, Mr D. Elliot, Barts; 1, Mr B. Dewa (Midland Tropical); 2, Mr F. Timmins; 3, Mr R. Jarvis. Bunnies: 1, Mr B. Iles (Rhodes); 2, Mr N. Wing (Evesham); 3, Mr K. Hillier (Newbury). Chascins: 1 & 2, Mr F. Timmins; 3, Mr B. Dewa, avy. Characins: 1, Mr C. J. Nightingale; 2, Mr P. Greenwood; 3, Mr D. Wilson. Ramose fishes: 1 & 2, Mr C. Pross (Bath); 3, Mr C. Rossiter (Gloucester). Labryrinths: 1, Mr S. Dutton (Cotswold); 2, Mr B. B. Goll (Evesham); 3, Mr K. Gill (Gloucester). Labryrinths: 1, Mr D. Reed (Yam); 2, Mr E. Morgan (Merrym); 3, Mr C. J. Nightingale.

Corydoras catfish: 1, Mr F. Timmins; 2 & 3, Mr F. Greenwood, avy. Catfish: 1, Mr J. Caering; 2, Mr S. Dutton; 3, Mr Whitfield (Fishery Select). Botias & true loaches: 1, Mr K. Hillier (Newbury); 2, Mr F. Timmins; 3, Mr S. Owens (Bath). Rasboras: 1, Mr G. Perkins; 2, Mr D. Wilson; 3, Mr F. Timmins. Danios & kuhloons: 1, 2 & 3, Mr B. Dewa (Midland Tropical). Labos: 1 & 2, Mr F. Timmins; 3, Mr H. Rogers (Evesham). Cichlids: 1, Mr C. J. Nightingale; 2, Mr L. Phippen (Bath); 3, W. B. S. (Banbury). Angels & discus: 1, Mr Cowe (Bristol); 2, Mr M. Rogers (Evesham); 3, Mr J. Canning (Newbury). avy. Cichlids: 1, Mr J. Canning; 2, Mr S. Wood; 3, Mr B. B. Goll (Evesham); avy. Seeded pairs: 1, Mr R. Jarvis; 2, Mr C. Whitaker; 3, Mr F. Timmins. Breeder livebearers: 1 & 2, Mr B. A. Poole; 3, Mr B. B. Goll. Breeder egglayers: 1, Mr M. Bishop; 2, Mr B. A. Poole; 3, W. B. S. Shubunkins: 1, Mr P. Mooney; 2, Mr F. Cole; 3, Mr S. Norman. Goldfish: 1, Mr Rogers; 2, Mr S. Dixon (Gloucester); 3, Mr M. C. Graham (Bristol Tropical). avy. Food or rove: 1, Mr B. B. Goll; 2 & 3, M. B. S. avy. Tropicals: 1, Mr J. Ferguson (Bath); 2, Mr C. J. Nightingale; 3, Mr M. Bishop.

MR G. W. Lupton is the new chairman of the **BRITISH KOI KEEPERS SOCIETY**. At the Society's AGM at the end of June the retiring chairman, Mr Eric Allen, was presented with a cigarette lighter as a small token of appreciation for all his excellent and untiring work for the Society during the previous 3 years. After the general meeting, a film of the recent

tour of Japan was shown by Mr R. G. Woodward, who also provided a very amusing commentary. Slides taken in Thailand and Japan were also shown by Mr & Mrs A. Danks and Mr M. Waumsley. The next General Meeting of the Society will be held during the Aquarium Show '75 in the Royal Horticultural Society's Hall, Vincent Square, London, on 26th October. Details of membership of the

BKKS may be obtained from Mr David Davis, 137 Gayfield Avenue, Brierley Hill, West Midlands, DY5 2BX.

THE Best Fish in Show award at the **SOUTH SHIELDS AS** fourth annual Open Show was won by Mr & Mrs A. R. Saunders of Stockton AS. Mr F. Myers (independent) won the Best Exhibitor in Show award and Hartlepool AS were the

## Coldwater Fishes at Middleton

MY early start to drive along the M6 from the Midlands to Lancashire proved to be well worth while. At the invitation of Kevin Smith, Publicity Officer of the Middleton and District AS, I was keeping a promise to visit their fourth open show at Middleton. My main interest was, of course, the Coldwater Classes, which occupied a central position in the Hall. Tropical entries were staged on either side of the Coldwater Section and allowed plenty of room for visitors to view the fish in reasonably uncrowded comfort.

The Coldwater Classes were divided into three sections, each again divided into various classes: 'Common Goldfish' had one class for common goldfish and comets, and another for shubunkins; 'Fancy Goldfish' had separate classes for veiltails, orandas, lionheads, moors, fantails and any other variety; the remaining 'A.O.V. Coldwater' was split into two classes, A.O.V. European and A.O.V. Asian and North American. Cards were awarded for class placings and the highest pointed fish in each section received a trophy.

Total entries numbered 573, of which around eighty were coldwater exhibits, not as many as at some shows but nevertheless, I would think, encouraging to the Show Committee — especially as the coldwater fish were of quite a good standard. (I must admit to being pleasantly surprised at the quality of some).

Visitors obviously enjoyed the Show, many following the judges from a distance around the Hall. This is a facet of northern shows that I find frustrating, for it is necessary to wait until the end of the show, when judging finishes, before the various placings can be seen. I much prefer the type of show that ensures judging is completed and placings are marked, on the tanks, before the public are admitted. This latter method also has the advantage of protecting the judges from arguments with exhibitors — unless complaints are made through the Show Committee, whose decision should be final.

This was a well-organised event with the usual subsidiary attractions and refreshment room. Best coldwater fish in the Show award was gained by a large lionhead (86 points), owned by Mr J. S. Hall of Aireborough AS. This fish, which I imagine was an imported one, well deserved the place it gained.

A possible added attraction would be the inclusion of Breeders Classes for Yearling fish (it would be too early in the year to expect much support for current season's young), and I understand this addition may be considered for next year's Show as the Society hope to encourage the expansion of the coldwater sections. In this objective I wish them every success.

F. W. ORME



Society with the most points. There were entries from 19 visiting societies and from independents, making a total of 411. Mr M. Holman (Priory) won the FBAS Championship class trophy.

Ba: 1, Mr B. Black (Fleetwood, 77); 2, Mr C. Robinson (Stanley, 71); 3, Mr L. Southall (S. Shields, 71). Bc: 1 & 2, Mr J. Page (Hall Moor, 78); 3, Mr E. Leadbetter (Fleetwood, 78). Gc: 1, Mr P. Myers (Ind., 75); 2, Mr G. Nixon (Ind., 67); 3, Mr M. Strange (Basingstoke, 67). Cr: 1, Mr D. Ryan (Stanley, 76); 2, Mr J. Foster (M. Pleasant, 75); 3, Mr J. Southall (76). Da: 1 & 2, Mr A. L. Standley (Redcar, 77, 76); 3, Mr B. Leydon (S. Shields, 76). Db: 1, Mr T. Frazer (Basingstoke, 74); 2, Mr & Mrs Sowerby (Bimbi, 73); 3, Mr & Mrs Ruffell (S. Shields, 72). Dc: 1, Mr G. Maguire (Hartlepool, 74); 2, Mr King (Redcar, 73); 3, Mr R. Atherton (Hartlepool, 73). De: 1, Mr B. Atherton (79); 2, Mr W. Kidd (Killingworth, 76); 3, Mr M. Moreland (Stockton, 75). Ea: 1 & 2, Mr B. Jackson (Redcar, 54); 3, Mr J. Ryan (Hillingham, 62). Eb: 1, Mr B. Forster (Bimbi, 86); 2, Mr R. Asherton (70); 3, Mr P. Redman (Hartlepool, 66). Ec: 1, Mr M. Noble (Redcar, 65); 2, Mr R. Sanderson (S. Shields, 63); 3, Mr J. Middlemast (Stanley, 60). Ed: 1, Mr & Mrs Saunders (Stockton, 88); 2, Mr H. Garthwaite (Hartlepool, 80); 3, Mr Wynn (Killingworth, 68). Ee: 1, Mr T. Frazer (78); 2, Mr C. Malley (M. Pleasant, 74); 3, Mr E. Leadbetter (72). Fc: 1, Mr & Mrs Saunders (71); 2, Mr P. Myers (Ind., 77); 3, Mr E. Leadbetter (69). K: 1, Mr M. Strange (87); 2, Mr A. King (S. Shields, 66); 3, Mr P. Wright (S. Shields, 65). L: 1 & 2, Mr E. Hodson (Pentrix, 84, 83); 3, Mr P. Wright (82). M: 1, Mr D. Turnbull (Bimbi, 83); 2, Mr M. Moreland (67); 3, Mr & Mrs DuRoi (Redcar, 68). Na: 1 & 2, Mr M. Moreland (80), 76); 3, Mr & Mrs Wright (S. Shields, 70). NO-M: 1, Mr M. Holman (Priory, 78); 2, Mr M. Stinson (78); 3, Mr J. Forster (M. Pleasant, 74). NO-T: 1 & 2, Mr J. Myers (55), 55); 3, Kane family (Hillingham, 54). O: 1, Mr R. T. Walton (Hartlepool, 70); 2 & 3, Mr A. S. Standley (69, 67). P: 1, Mr R. T. Walton (73); 2, Mr P. Askew (S. Shields, 66); 3, Kane family (65). Q: 1, Mr B. Jackson (68); 2, Mr M. Noble (60); 3, Mr P. Turnbull (S. Shields, 60). R: 1, Mr R. Onslow (Basingstoke, 77); 2, Mr Dudley (Hartlepool, 70); 3, Mr W. Kidd (Killingworth, 65). S: 1, Mr J. Beavers (Hartlepool, 67); 2, Mr J. Myers (Ind., 66); 3, Mr K. Noble (54). T: 1, Mr T. Frazer (80); 2, Mr J. Beavers (78); 3, Mr P. Wright (60). W: 1, Mr E. Leadbetter (68); 2, Mr H. Fotts (S. Shields, 67); 3, Mr A. E. Standley (63). X: 1, Mr Dudley (66); 2, Mr L. Osman (Stockton, 64); 3, Mr & Mrs Sowerby (M. Pleasant, 55). XB-M: 1, Mr J. X. Alder (Hartlepool, 83); 2, Mr Firth (Priory, 82); 3, Mr Goodall (Redcar, 78). Y: 1 & 2, Mr W. Walton (Priory, 82, 67); 3, Mr & Mrs Ruffell (S. Shields, 57). Aquatic reptiles: 1, Mr & Mrs Leydon (S. Shields, 71); 2, C. R. McKenna (Ind., 70); 3, Kane family, 61).

## In Brief...

... THE BLAENAU GWENT FISH CLUB, formed in March 1974 by eight friends, now has 34 members and is still gaining strength. Meetings are on alternate Tuesdays, 7.30 p.m., the Blaenau Gwent Working Mens Club, Lewis Street, Cwmtillery, Abertillery, and a varied programme is offered of slide shows, lectures, visits from and to other clubs, etc. It is planned to visit Belle Vue, Manchester, in October. Anyone interested is asked to come along. August meetings are the 5th and 19th. Secretary is Mr B. Phelps, 28 Woodland Drive, Trinant, nr Cwmlin, Mon.

... NELSON AS are in the pleasant position of having to move to new and larger meeting rooms because of the influx of new members. The Society now meets at The Civic Centre, Stanley Street, Nelson.

... PLEASE note that there is a new date for the EALING & DAS Open Show. This is now to be held on 28th September at the Northfields Community Centre, Northcroft Road, London, W.13.

... AFTER the SUFFOLK A & PA AGM the victorious mem-

bers' team that had beaten Harwich AS in an inter-club quiz 'took on' the rest of Suffolk A & PA in a general knowledge quiz but lost to the rest of the members by 61 to 31 points.

... THE new officers of HASTINGS & ST. LEONARDS AS elected at a recent Special General Meeting are listed under 'Meetings and Changes of Officers'. It is stressed that the new election in no way alters the date 21st September or venue of the Society's third Open Show where old and new friends will find a warm welcome. Enquiries should be directed to the Open Show manager, Mrs A. Adams, 17 Lower South Road, St Leonards-on-Sea.

... SOCIETY member Mr L. Menhennett lectured to fellow members of the NEW FOREST AS on the siting and building of a fish pond and the different materials that may be used. Mr Menhennett won both the Bristol shubunkin and London shubunkin classes in the table show that followed. Meetings are held on the third Monday of each month at the Community Centre, Lymington.

... COVENTRY P & AS are well pleased with their showing in the first round of the Midland Aquarist League com-

ON 17th August the NEW-CASTLE GUPPY & LIVE-BEARER SOCIETY are holding their second International Show. The German Guppy Federation will be entering fish and entries are expected from the German Livebearer Association and from the United States. All entries from overseas will be auctioned after the show and this will give livebearer enthusiasts a chance to obtain some of the more unusual varieties of livebearers as well as some good stock for either improving a current strain or to start a new strain. The Show

is being held in the British Legion Headquarters, Bestwick Road, Newcastle (benching 12.00-2.00 p.m.; judging at 2.15 p.m. prompt). Judges will be Mr L. McCourt (FGA), Mr C. Buck (FBAS), Mr K. Greenley (FBAS), Mr W. Coulan (FBAS) and Mr K. Low (FBAS) and the FBAS Championship trophy for the best single platy will be awarded. The highest pointed single fish from each class will be entered in the elimination round of the Tyne-Tees Area Association's Three Rivers Championship.

petition — they achieved the highest number of points (2, Hinkley, 3, Bedworth). Two films shown by Mr T. Sutton on keeping and breeding coldwater fish made for a successful evening's entertainment and the 60 people present found the information given most useful.

TWO slide lectures are planned by **TORBAY AS** for August. On the 5th the FBAS slide/tape show by Mr R. C. Mills on filters will be shown and on 19th August a talk with slides will be given by Mr D. Mayo on the dissection of fish. The early part of September will be taken up with preparations for the Open Show on 14th September at Torquay Town Hall. Meetings are held at St. Andrews Methodist Church School Hall, Torridge Avenue, Shiphay, Torquay, at 8.00 p.m.

THIS 27th September sees the first Open Show of the **NORTH GWENT AS**. The Show is being held at the Leisure Centre, Ebbw Vale, Gwent, at which venue there is a licensed bar, refreshment room, indoor swimming, table tennis, squash, etc. Show secretary is Mr. Ian Jones, 2 Little Rhyd, Carmelton, Ebbw Vale, Gwent.

THIRTY members of **GLOUCESTER AS** enjoyed an interesting lecture on aquarium plants native to Ceylon by Mr W. V. De Thabrew. Mr F. Timmins won the monthly table show for botias, loaches and sharks also taking second place, while Mr R. Jarvis took third.

**HIGH WYCOMBE AS** (FRAS) is now open to juniors aged 14—18 years on the recommendation of any club member. Meetings planned are: 7th August, club discussion; 21st August, Three - Counties Group competition; 4th September, talk; 18th September, Eight-a-Side competition. Further details from secretary Mr J. Bushby, 3 Hawthorne Walk, Harlemere, Berks: phone Penn 3925.

## Dates for Your Diary

2nd August, **BLACKPOOL & FYLDE AS** Open Show, Blackpool Boys' Club, Laycock Gate, off Devonshire Gate, Blackpool, 2.00 p.m. Details: Mrs. O. Barlow, 13 St Chad's Close, Poulton-le-Fylde, Lancs.

2nd-3rd August, **TOTTENHAM & DAS** Open Coldwater Show, Haringey Recreation Ground, Lordship Lane, N.22, GSGB Judges, Schedules: Mrs S. Townson, 1 Heston Court, Waterfall Road, London, N.11: phone 01-368 2091.

2nd August, **TONBRIDGE & DAS** Open Show, Details: Mr S. Feast, 19 Eastley Road, Sevenoaks, Kent, TN13 1XX: phone Sevenoaks 54938.

4th-5th August, **PORTSMOUTH AS** Open Show and Exhibition, Wesley Central Hall, Fratton Road, Portsmouth, Banching, 2nd August; judging, 3rd August; open to public, 4th-5th August; prize-giving, 5th August. Schedules: Mr J. Stillwell, 24 Salcombe Avenue, Copnor, Portsmouth, Hants, PO3 8LD.

10th August, **GRIMSBY & CLEETHORPES AS** Open Show, Memorial Hall, Cleethorpes, Schedules: Mr T. P. Walker, 53 Cheesing Walk, Grimsby, 5th Numbarside: phone Healing 7518.

14th-16th August, **MIDLAND AQUATIC FESTIVAL 75**, Bingley Hall, Broad Street, Birmingham. Details: Mr J. Wills, 120 Franklin Road, Kings Norton, Birmingham 30 (phone: 021-458 5855).

17th August, **BEDWORTH AQUARIST & POOL SOCIETY** Open Show, Nicholas Chamberlaine School, Buckingham Road, Bedworth, nr. Nuneaton, Schedules: Mr J. Salisbury, 281 Galsley Street, Attleborough, Nuneaton.

17th August, **HUDDERSFIELD TFS** Open Show, Peddock Civic Youth Centre, Beech Street, Peddock, Huddersfield. Details: Mr O. Hough, Flat 5, Sycamore Court, Sycamore Avenue, Gosler, Huddersfield: phone Huddersfield 57147.

17th August, **NEWCASTLE GUPPY & LIVEBARNER SOCIETY** Open Show, British Legion Headquarters, Belmont Road, Newcastle, Banching: noon-2.00, judging 2.15 p.m. Details: Mrs J. Renton, 128 Dunstan Tower, Garth 19, Killingworth, Newcastle-on-Tyne, NE12 0TX.

17th August, **OLDHAM & DAS** Open Show, Werneth Park, Oldham, Schedules: Mr A. E. Chadwick, 341 Broadway, Chadderton, Oldham, Lancs O19 8RN.

24th-25th August, **GREAT YARMOUTH & DAS** Tropical and Coldwater Fish Exhibition, Hooton Village Hall (on A12 between Great Yarmouth and Lowestoft).

30th August, **HOUSLOW & DAS** Open Show, Houslow Youth Centre, Cecil Road, Houslow, Schedules: Mr E. Shepherd, 9 Moulton Avenue, Houslow, Middlesex: phone 01-670 6127.

IT is with deep regret that **LINCOLN & DAS** announce the death of Mrs Thomas Dobbs of 67 Foster Street, Lincoln. She, together with her son and husband, president for a great number of years, were founder members of the Society.

6th September, **FBAS** General Assembly, 2.30 p.m., Conway Hall, Red Lion Square, Holborn, London, WC1.

7th September, **BETHNAL GREEN AS** Open Show, Bethnal Green Institute, 229 Bethnal Green Road, London, E.2, Schedules: Mrs S. Hedges, Kol Komar, 155 Ashburton Avenue, Seven Kings, Havat, Essex, IG3 9EL: phone 01-690 3239.

7th September, **BUXTON & DAS** Open Show, Pavilion Gardens, Buxton, Banching: noon-2.0 p.m. Details: Mr E. T. Shout, 18 Elizabeth Avenue, Fairbairn, Buxton, Derby, SK17 7RD.

14th September, **HOYLAKE AS** Open Show, YMCA, Market Street, Hoylake, Merseyside, Schedules: Mr D. W. Morris, 9 Pump Lane, Grassy, Wirral, Merseyside, L43 3PW.

7th September, **KILLINGWORTH AA** Open Show, Communicate, Killingworth Township, Schedules: Mr D. S. Hickman, 14 Crumstone Court, Longmeadows, Killingworth, Newcastle, NE12 0SZ.

7th September, **WELLINGBOROUGH & DAS** Open Show, Weavers Road Sports Centre, Weavers Road, Wellingborough, Northants, Show schedule: Mr D. Bitchener, 1a George Street, Wellingborough, Northants.

7th September, **BISHOPS CLEEVE AS** Open Show, The Community Centre, Brooklyn Road, St Mark's, Cheltenham, Gloucester, Schedules: Mrs J. Bishop, 36 Clarence Square, Cheltenham, Glos.

9th September, **GLOSSOP AS** Open Show, Adult Educational Centre, Talbot Street, Glossop, Schedules: Mr S. Turner, 56 Arundel Street, Glossop, Derby.

13th September, **BRISTOL AS** Coldwater Open Show, Schedules: Mr E. N. Bowden, 12 Stoneleigh Walk, Keynse, Bristol BS4 2RL: phone 753255.

14th September, **CLEVELAND AS** Open Show, Church Hall, Whoby Road, Guisborough, Cleveland, Details: Mr S. Wellford, 60 West Road, Latton, Saltburn, Cleveland.

14th September, **21st THREE COUNTIES GROUP** Open Show (to be run by Basingstoke AS, Bracknell AS, Didcot AS, High Wycombe AS and Reading AS), Reading University, 52 classes including special 8-class kribbe section. Details: Mr M. Strang, 10 Loddon Court, Neville Close, Basingstoke, RG21 3HJ: phone Basingstoke 67039.

14th September, **TORBAY AS** Open Show, Torquay Town Hall, Details: Mr E. R. Davis, 43 Haddon Road, Torquay, Devon.

21st September, **CHESTERFIELD & DAS** Open Show, Clay Cross Social Centre, Chesterfield Road, Clay Cross, Chesterfield, Derbyshire, Details: Mr P. Morton, 88 Salisbury Crescent, Newbold, Chesterfield.

21st September, **HUCKNALL & BULLWELL AS** Open Show, Details: Mr J. R. Westcott, 9 Royce Avenue, Westville, Hucknall, Notts.

27th September, **GOLDFISH SOCIETY OF GREAT BRITAIN** Open Show, Sutton Adult School, Benhill Avenue, Sutton, Surrey, Schedules: Mrs M. Dudley, 163 South Park Road, Wimbledon, London, SW19 8RX.

28th September, **NEWBURY & DAS** Open Show, The Place, Market Place, Newbury, Berks, Schedules: Mr S. Canning, 6 South End, Thatcham, Newbury, Berks.

28th September, **NORTHAMPTON & DAS** Open Show, The Drill Hall, Clare Street, Northampton, Schedules: Mrs O. Taylor, 25 Rawley Crescent, New Duston, Northampton, NN5 6PJ.

28th September, **NEW DATE, EALING & DAS** Open Show, Northfields Com-



munity Centre, Northcroft Road, London, W13.

4th October. **EAST LONDON AQUATIC & PONDKEEPERS** Open Breeders Show. Schedules: Mr M. Pearson, 42 Parkway, Ilford.

5th October. **SCUNTHORPE & DAS** Open Show. Details: Mr L. Sutt, 6 Saxby Road, Scunthorpe, S. Humberside.

11th-12th October. **BRITISH AQUARISTS' FESTIVAL**. Belle Vue, Manchester.

12th October. **VAUXHALL MOTORS AC** Open Show. Schedules: Mr A. D. Philip, 15 Hollybush Road, Luton.

24th-26th October. **THE AQUARIUM SHOW '76** at the Royal Horticultural Society's Old Hall, Vincent Square, London SW1. Presented by the Federation of British Aquarists Societies. Aquarium society fishkeeping exhibits invited. Details from the organisers.

FFM, 554 Garratt Lane, London SW17 0NY; phone 01-947 2805.

7th October. **BKKS AGM**, 84B Hall, Vincent Square, London, SW1.

26th October. **DONCASTER & DAS** Open Show. Brodsworth Miners Welfare Hall, Weifate Road, Woodlands, nr. Doncaster. Schedules: Mr A. Peasey, 20 Mile Cross, Spurborough, Doncaster, DN5 7NW, South Yorks.

2nd November. **BLACKBURN AQUARIST WATERLIFE SOCIETY** Open Show. Windsor Hall, Blackburn. Details: Mr T. Burton, 21 Henry Street, Rishton, nr. Blackburn, BB1 4JJ.

3th November. **GLOSSOP AS** Open Show. Adult Education Centre, Talbot Street, Glossop, Derbyshire. Details: Mr S. Turner, 36 Arundel Street, Glossop; phone: Glossop 4493.

3th November. **HALIFAX AS** Open Show. Forest Cottage Community Centre, Cousin Lane, Ilkley, West

Halifax. Schedules: Mr D. Shields, Cobblestones, Garnet, King Cross, Halifax; phone Halifax 05118.

22nd Nov. **GOLDFISH SOCIETY OF GREAT BRITAIN** Meeting, Conway Hall, Reg. Lion Square, Holborn, London, WC1, 2.00 p.m.

22nd November. **FUR, FEATHER & AQUARIA SHOW**. King's Hall, 39 Lower Clanton Road, London, E.5. Schedules: Mrs S. Hedges, Kol Komer, 150 Ashburton Avenue, Seven Kings, Eford, Essex, IG3 9EL; phone 01-590 3239.

30th November. **HORSFORTH AS** Open Show. New Civic Hall, Bradford Road, Stanningley, nr. Pudsey, Yorks. Details: Mr C. Corra, 10 Thrumming Grove, Leeds, LS2 8QR.

6th December. **FBAS** Annual General Meeting, 2.30 p.m., Conway Hall, Reg. Lion Square, Holborn, London, WC1.

## Classified ADVERTISEMENTS

### AQUATIC SUPPLIERS

**M.S. TROPICAL FISH** (Maurice Stray—Aquarist), 47 St Georges Street, Cheltenham. We have the finest selection of tropical marines in Gloucestershire; also a comprehensive selection of freshwater tropicals, plants, and all other aquarists' requirements. Phone 38000. Open till 6 p.m.

**AT LEAST 150 VARIETIES** tropical, marine and pond fish—for personal shoppers only. Kingfisheries, 308 Croydon Road, Beckenham, Kent. Phone 01-650 3716. Closed Wednesdays.

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**RUSTPROOFED AQUARIA**, ornamental stands, glazing cement. Equipment manufacturers: s.a.e. Westbys, Barton, Ormskirk.

**DYNAFLO MOTOR FILTER**: magnetic drive, 60 gallon per hour rate, fully guaranteed, all

### CLASSIFIED ADVERTISEMENTS

Rates: 5p per word (minimum charge 50p); Box no. 15p extra if required. Remittance with order to be sent to.

**PetFish Monthly**  
554 Garratt Lane,  
London, SW17 0NY

spares available, £18.79 post paid. C.W.O. From Keith Barraclough, Aquarist, Ltd., Hayfield Mills, Haycliffe Lane, Bradford 5. Also available at your local aquarists' shop.

### FISH FOR SALE

**COLDWATER ENTHUSIASTS: NEW TO EUROPE**. Long finned lionheads (adults), blue moors, blue orandas and other varieties of aquarium and pond fish for sale. H. G. Berger, Ilford; 01-559 0511.

### BOOKS

**FBAS Show Fish Guides** and Technical Information. Booklet nos. 1, 2, 3, and 4; 25p each post free. P.F. Publications, 554 Garratt Lane, London SW17 0NY.

**NEW. FBAS Show Rules, Constitution & Technical Information** Booklet No. 5, 25p each post free. **FBAS National Show Fish Sizes & Technical Information** Booklet No. 6, 55p each

post free. Booklet Sets Nos. 1-6, £1.50 post free. P.F. Publications, 554 Garratt Lane, London, SW17 0NY.

### MISCELLANEOUS

**BADGES**. Every society needs bright enamel badges. For best service and quality contact R. E. V. Gonn (PF) Ltd., 14-15 Frederick Street, Birmingham B1 3HE.

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