

SEPTEMBER 1971

15p

Pet Fish

monthly

The PRACTICAL FISHKEEPING MAGAZINE



Contents include:

Native Cichlids of Malawi

Pond-cleaning Time

White Worms by the Thousand

Jewel Damsels

What is 'P. kribensis'?

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Comments and Quotes

- Garden pondkeeping risks
- The toadfish arrives
- Pacific snakes and Panama

Ban on Garden Ponds?

ACCORDING to a brief report in THE TIMES last month, at an inquest into the drowning of a child the coroner for south Oxfordshire advocated that ponds should be banned from gardens because of the danger to children. No one can deny the extra feeling of tragedy involved when accidental death takes place in what should be the safety of a child's home garden, but to suggest banning ponds as a sensible course of action is to lose a sense of proportion. It is a fact that for all of us our homes prove from statistics to be the most dangerous of places, the majority of accidents and injuries occurring in their environs. To ban all the potentially hazardous aspects of home life would be one policy to remedy this but most people will prefer to recognise the risks and continue to enjoy life with electricity, gas, fires, hot water, stairs, glass doors and all other things that have been involved in damage to life and limb. But to recognise the risk is the important thing, and PFM has before now urged pondkeepers with young children or whose gardens may be visited by young children to bear this danger very much in mind. Don't imagine that it's great depth of water that constitutes the danger—infants have been drowned in ponds containing only a few inches of water and such accidents can happen very quickly. A mesh cover or rigid mesh surround to a garden pond is essential if very young children are playing near it.

A Recent Import

PHOTOGRAPHS and notes on another page of this issue concern a rather unusual 'aquarium fish' that has recently been imported into this country and apparently under false colours. It has been sold with the name 'Siamese lionhead' as a fresh-

water fish, which really it is not. It is in fact one of the toadfishes, a marine group. What is interesting is that it appears able to withstand being kept in freshwater conditions for a protracted time very well, a fact that, although this group of fishes has many members of estuarine habit, appears not to have been noted before. What is somewhat disturbing is that this fish, which can inject poison from its spines into anyone handling it, has apparently reached dealers without any warning about its nasty attributes, so that some aquarists have been finding this out the hard way. Toadfish poisons are fortunately not regarded as particularly virulent ones but it is advisable to exercise caution here because the existence of unusual individual susceptibility to venoms (even bee-stings) is always a possibility. However, for those who like the uglies, and for anyone who wants a fish that is capable of honking and grunting at its owner, this one appears to be an interesting type for the brackish water aquarium.

Heat Controls Migration

IN Pacific waters live the highly poisonous sea snakes (*Pelamis*), a survey of which has just been completed by scientists from the U.S.A. Their interest has not been an academic one. With the proposal to build a new sea-level Panama Canal people have feared that this would provide an easy route of migration for marine animals including the sea snakes from the Pacific to the Atlantic. The area the snakes would then threaten by their presence would be the Caribbean and central American beaches. From a study of the temperature requirements of *Pelamis* it has been found that the snakes die at temperatures above 93°F, and it is now suggested that by having a stretch of water in the proposed Canal kept at 95-100°F a 'heat barrier' to their migration would be made.




LETTERS

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

Seashore Aquarium

I TRIED my hand at keeping a 'seashore aquarium' with a few beadlet anemones, some barnacles attached to a rock, several winkles and two tiny shore crabs. The last are certainly comedians to human eyes, as suggested by the title to Mr Vosper's article in the August issue of PFM, especially at feeding time. I can fully endorse the note in the article about crabs being 'hard to keep properly confined', for although there was only a narrow opening at one edge of my tank's cover glass where the external filter tubes entered, one crab escaped via this route—presumably by scrabbling up between these tubes from the top of a rock. After I missed him I hunted around the floor and found the crab, rather dry and very fluffy, in a dark corner. He recovered on being returned to the water although it seemed to be quite a while before the sea water could displace the air trapped around his mouth parts so that he could submerge properly. Really close-fitting covers are obviously essential for these creatures but I find them most diverting aquarium inmates.

Exeter, Devon

R. BOLES

Hot Weather Warning

RECENTLY during a hot spell I had a bad shock when going to look at our tanks (two 36 in. by 15 in. by 15 in.) after my husband left for work. I discovered at least half of the top tank occupants were dead. It took some figuring out and this is what I discovered. Both tanks have lighting, which as we all know is important to plants, and many tropical fish like the light. Both tanks were on the same stand, one beneath the other. Only the top tank had suffered losses, but curiously not the bottom. Obviously the lighting from the bottom tank had overheated the tank directly above it. Also the lighting in the top tank had made this more serious. When the weather changed I should have realised and not left the lights on for very long periods. Two corner filters going steadily, and an extra airline, did not save our fishes.

Our fishes have always done wonderfully at what some people might consider the lowish temperatures of 68°-70°F. But with the sudden heat-wave our tank temperature had gone up far

too high too quickly (to over 80°F) for the overhead lights to be left on with safety. To save the fishes remaining I added fresh water at about 80°F to the tanks, not to make the temperature go down too quickly, and raised the glass covers and tank tops. These fishes recovered slowly as the tank temperature fell to the value they had been used to in past years.

Surely this experience does prove that if your fish have always been kept on the low temperature side and are quite happy in their tanks, when the weather does alter in the summer months it is best to leave the lights off. Our tanks are in a far wall position away from any draughts or windows and curtains are drawn on bright days to stop algae. Although lighting is required in tanks we will not now be putting our lights on for more than half-an-hour, when feeding, during hot weather.

Of course, we all learn by our mistakes but it is a great shame to lose so many fishes in such a way. I trust this will help others by reminding them to be extra careful with top lighting during hot spells.

Enfield, Middlesex

MRS A. J. HENNESSY

Tank Temperatures

I AM often surprised at the temperatures quoted in the articles by Rudolph Zukal. For example, in the July issue *Brachydanio albolineatus* are quoted as being happy in a water temperature around 72°F, and in the June issue the *Corydoras schultzei* are described as being kept in a temperature of 68°F. I always thought the temperature to aim at was 75°F in a community tank. It would be interesting to know if this is general on the Continent and, if so, whether their tank-mates have a longer life span than ours.

Wellingborough, Northants.

L. KENNEDY

The general practice on the Continent is to keep tanks at temperatures rather lower than those usually advised in this country. But there is usually quite a wide range of temperatures at which fish can be kept perfectly well; 75°F is for most fishes a happy medium and one that can safely be given to new fishkeepers as a guide.—EDITOR.

Continued on page 211



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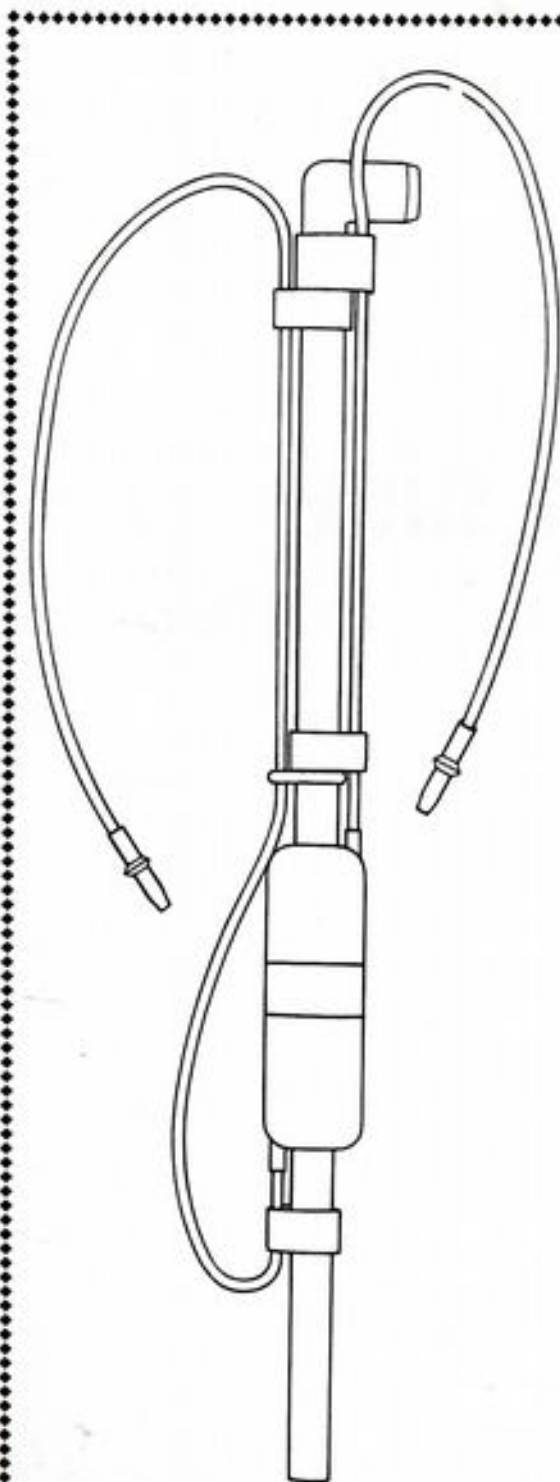
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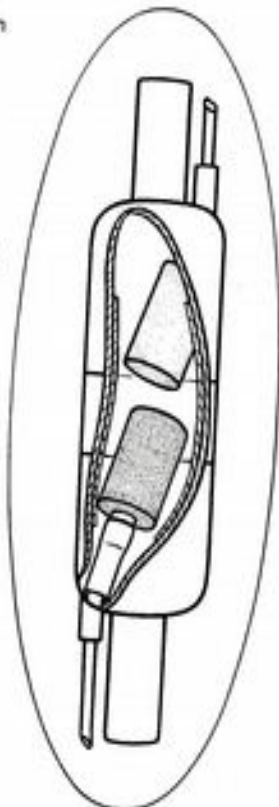
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"I saw your advertisement in PFM"



John Hutchinson

PetFish Monthly, September 1971

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LETTERS

continued from page 206

Breeders Classes

I AM sorry to read, in the August edition of PFM, the letter of complaint from Mr and Mrs S. Fagan, directed at the judges of MAAS and the show secretary of Nuneaton A.S. regarding the open show at Nuneaton in May.

It is common knowledge here in the Midlands that the green kissing gourami is now being bred in this country, the report in the February PFM having been noted, and Mr and Mrs Fagan are to be congratulated on their achievement.

MAAS judges of Breeders' Classes judge in the following manner: 20 points are allocated to each of five items, namely, size for age, colour and quality, matching (uniformity of size, shape and colour etc.), condition and deportment, difficulty of breeding. In the case of the kissing gourami 18 points would be awarded for difficulty of breeding, leaving 80 points to be used over the other items. It would seem apparent that the gouramis did not do well in these other items.

The judges of MAAS regularly hold meetings to discuss new developments and achievements on the show bench and are indeed extremely active at open shows and club table shows throughout the year, and are quite prepared to be confronted by the unusual and uncommon. It is fully accepted that someone, some time, will breed the impossible, but it will be judged on its merit as are all other exhibits.

I personally attended the Show in question and remember that there was a great deal of upset caused when part of the staging holding the large cichlid tanks was seen to be collapsing. Perhaps the show secretary overlooked the request for information about the judges' pointings in the urgency of the situation which arose. I do know that several of the judges present gave detailed accounts of the classes they had judged to exhibitors who approached them, and feel sure that the information sought was not given without some local explanation. Nevertheless, if Mr and Mrs Fagan will write to the Judges Convener MAAS (Mr D. Bennett, 74, West Avenue, Castle Bromwich, Birmingham), or to me, giving details of the complaint the matter will receive the fullest attention.

I hope that Mr and Mrs Fagan will continue to support open shows held in the MAAS area and that they have continued success in their future

breeding programme, for these are the aquarists to be encouraged.

It would be advantageous to inform readers of PFM that MAAS is pleased to receive comments on shows organised by its affiliated societies. It is only from comments openly expressed that we can improve ourselves and learn by our mistakes.

Birmingham 22A

R. ROBERTS
General Secretary,
Midland Association of
Aquarists Societies

Thermostat Leads

MY wife recently purchased a popular thermostat to replace one which had literally died of old age. On unwrapping it before fitting it into our system I noticed that the lead, which is 2 ft. long, had been cut some 9 inches from its end such that one strand had been cut through. The 'stat was taken back to the shop, where we were informed that this was the normal practice adopted by most manufacturers.

Having been involved in things electrical all my working life I would say that this practice adopted by the manufacturers is to be deprecated on the following counts:

(a) They reduce the cable length suitable for immersion to less than 15 inches.

(b) The difference between connecting the heater 9 inches from the end and at the end electrically is nil.

(c) The manufacturers give instructions on connection on which people who know little or nothing about electricity depend and who could, in view of the short length of the cable, come very close to having the connection in their aquarium water.

For safety reasons, would the manufacturers who carry on this practice cease and also save time and put up their productivity by so doing. Also they could save my time because now I have got this off my chest I am going to rejoin the cable and fit heatshrink insulating sleeving so that I do not short-circuit my system.

Sittingbourne, Kent

T. W. G. McDONALD

Warning about Sealants

WE heard last month about an experienced fishkeeper's loss of a batch of fishes, including some hard-won Malawi cichlid youngsters, by poisoning from a compound he had used to make an all-glass tank. The compound was a sealant sold for do-it-yourself home use in bathrooms and kitchens and contained a fungicide that is toxic to fishes. It is essential that only sealants sold specially for aquaria should be used in tank construction, and we hope that this notice will warn other fishkeepers.

The Mbuna

Malawi and its Native Cichlids

By D. TERVER

Laboratory and Museum of Zoology
 Aquarist Circle of Nancy, France

'MBUNA' is a name that comes to us direct from the shores of one of the great East African lakes—Malawi (formerly known as Nyassa). It refers to a group of small fishes living in the shore zone and probably serving as a food fish for people living on the lake sides.

The first attempts to acclimatise species of *Pseudotropheus* and *Labeotropheus* in Europe, which form part of the ecological grouping known as 'mbuna', began in 1956 but these attempts did not allow these very beautiful cichlids to be disseminated far amongst hobbyists. As far as I know only a few survived in public aquariums such as that at Welhemla and Stuttgart. Since the end of 1964 the firm of Aquarium Hamburg has imported, in numbers this time, several species of the Lake Malawi cichlids.

The first specimens were introduced into France thanks to B. France of the French Association of Aquarists, who, at the beginning of June 1965, flew to Hamburg and returned 48 hours later with a major collection of these very beautiful fishes. From mid-June 1965 the Museum of Zoology inherited three pairs of *Pseudotropheus auratus*, a pair of *Labeotropheus fuelleborni* and one of *L. trewavasae*, descendants of which are continually increasing at the Museum. With this article is a list of the species of the genera *Pseudotropheus* and *Labeotropheus* imported since 1964, the author and the date of the first scientific description of the species as well as a very brief description of it.

The classification of *Pseudotropheus* is still very confused—the *P. tropheus* group in particular poses many unresolved problems and the possible existence of hybrids must be taken into consideration. (Commercial names can be erroneous not only with regard to species classification but even in the genus!)

Hobbyist magazines reported these new importations. The October and November 1965 issues of the American magazine *TFH* featured a beautiful series of colour photographs, while in the November issue of *DATZ* (Germany) two important articles were devoted to them. Since then numerous other articles have appeared on the subject.

Discovered in 1616 by the Portuguese Boccato,

its boundaries delineated in 1846 by Livingstone, Lake Nyassa (Malawi) occupies, together with Lakes Victoria and Tanganyika, one part of the deep subsidence of the original rock formation that stretches across the whole of eastern Africa. The lake stretches over 580 km. from north to south—its width varies between 30 and 80 km., its surface area is 30,000 km. and it reaches a depth of 700 m. It contains more than 200 fish species, of which 80% are cichlids, but cyprinids, silurids and mormyrids are also represented.

The climate is tropical with a hot, humid season, longer (September–May) in the north and shorter (October–March) in the south, with the wettest time falling between December and February. Below 600 m. and along the shores of the lake the climate is generally hot, the mean annual temperature being between 75° and 84°F (24°–29°C). It therefore remains high even in the 'cold' and dry season.

A study in depth of an ecological community, of which the cichlids and in particular the genera *Pseudotropheus* and *Labeotropheus* occupy a large part, was published by G. Fryer in 1956 (*Rev. Zool. Bot. afr.*, vol. 53, pp. 81–91 and vol. 54, pp. 1–7). These publications give a résumé of the observations made by the author in the course of 2 years' study in a zone bordering the mouth of the river Nkata. The physicochemical data for the area have been collected in a study carried out in 1954–55 by P. B. N. Jackson, T. D. Illes, D. Harding and G. Fryer that was not actually published until 1963 (Jackson, P. B. N., Illes, T. D., Harding, D., Fryer, G. *Report on the survey of Northern lake Nyassa*. Printed and published by the Government printer, Zomba, Nyasaland). Measurements received from several stations, and in particular from the mouth of the river Nkata, between March 1954 and October 1955, corroborate the observations of Fryer with respect to the clearness of the water and the temperature, and give interesting and precise details concerning dissolved gases, details of salts and pH.

From these two studies we can draw ecological facts that will give us a better understanding of the natural living conditions of our fishes.

1. **Light.** There is great intensity of light under

Main Species of *Pseudotropheus* and *Labeotropheus* Imported into Europe Since 1964

Genus	Species	Author	Year	Sex	Mutant	Brief description
<i>Pseudotropheus</i>	<i>awato*</i>	Boulanger	1897	Male		Dark, 3 longitudinal light bands
				Female		Yellow, 3 longitudinal dark bands
	<i>elongatus*</i>	Fryer	1956	Male		Blue with dark vertical stripes
				Female		The same but paler
				?	Yellow striped	Dark stripes
				?	Yellow	Without stripes
	<i>fasciatus</i>			?	Speckled	Yellow, dark specks
				?		Blue, dark vertical stripes but fewer in number (rarely imported)
	<i>fasciatus</i>	Trenavas	1935	Male		Dark, one light longitudinal band
				Female		Grey-blue, one dark longitudinal band
	<i>minutus</i>	Fryer	1956	?		Light blue, vertical dark stripes, yellow pectorals and dorsal
				?	Speckled	Orange and black (blue dots on the orange specks)
				?	Speckled	Orange and black, without blue specks
	<i>notemfasciatus*</i>	Regan	1921	Male		Violet blue, 5-9 dark vertical stripes
				Female		Grey-yellow
<i>tropheus*</i>	Regan	1921	Male		Yellow or brown, dorsal outlined with black	
			Female		The same (numerous variations in colouring)	
			Female	Speckled	(Yellow and black)	
<i>zebra*</i>	Boulanger	1899	Male		Blue, dark vertical stripes	
			Female		Paler	
			Female	Speckled	Yellow and black	
			Male/Female	Yellow	Without speckles	
			Male/Female	Clear	Without stripes or speckles	
<i>Labeotropheus</i>	<i>fulvicornis*</i>	Ahl	1927	Male		Blue, dark vertical stripes
				Female		The same only paler
<i>tricotatus*</i>	Fryer	1956	Male/Female		Yellow speckles, ventral fins dark	
			Female		Blue, dark stripes, elongated body	
			Female	Speckled	Female paler Yellow and dark specks	

* Species which have already bred in the aquarium.

a tropical sun. Taken with the shallowness of the coastal zone where the mbuna live, and the extreme clearness of the water, there is maximum penetration of light in the depths. Conditions are also good for vegetation and growth does not come to a halt, because the temperature remains high even during the 'cold' season.

2. **Temperature.** High all the year (minimum temperature registered by Fryer during 2 years: 22.6°C; maximum 28.6°C).

3. **Salt content.** Salts of calcium are present only in fairly low amounts. The total hardness, expressed in milligrams of calcium and magnesium per litre, varies between 30 and 35 at the

surface (which corresponds to 7.5 and 8.7 hydro-metric degrees French). The silica content is equally low; it is mostly about 1.5-3 mg per litre. The waters of Lake Malawi contain very few minerals.

4. **Organic matter.** The content of this is very slight—often not detected by the authors.

5. **Dissolved gases.** The percentage of oxygen dissolved is very high (minimum registered: 88%), even going to oversaturation at certain periods (109% in October, 1954).

6. **pH.** High, subject, however, to important variations (from pH 7.5 to 9.08).

7. **Biotic factors.** The nourishment at the fishes' disposal is very rich and varied (Fryer reported up to 69,000 bloodworms to the square yard in certain parts). Vegetation, more or less abundant according to the area, has a positive influence on the numbers and distribution of the species.

The ecological grouping called mbuna that Fryer describes at the mouth of the river Nkata occupies four types of habitat:

1. A rocky shore, with rocks of various shapes and types—particularly of micaceous slate, or, though less frequently, of crystalline blocks on a substrate of stones, large gravel or sometimes of sand. The rocks are covered with algae, which is

favourable to the development of lesser organisms. It is the area our cichlids prefer.

2. A sandy shore having a structure, fauna and flora very different from the previous area. Molluscs, which were totally absent from the previous area, abound as well as crustaceans. Vegetation is represented by reeds and *Vallisneria*. The usually calm, clear waters are cloudy when the lake is agitated. Our cichlids are rare there.

3. An intermediate zone between the two previous ones, where are found fish from the first two areas as well as some species found in this area alone.

4. Finally, the last area is represented by the mouth of the river Nkata, which the author calls 'Crocodile Creek'. The bed is sandy, sometimes covered with algae, and the water is fairly cloudy.

The cichlids we are interested in are characteristic of the rocky zone stretching into the zone of *Vallisneria*. We now have at our finger-tips, thanks to these descriptions and to these invaluable studies, indicators for reconstituting in the aquarium the conditions of life required by the mbuna.

This article first appeared in AQUARIUM (France) and is reproduced by permission.

Next month—Keeping the Malawis in Aquaria

Have You Met This One?



Imported recently under the name 'Siamese lionhead', this toadfish is not a true freshwater species but is widely found in estuaries from India to Malaya and beyond. Although precise identification has not yet been made, tentatively it is thought to be *Coryzichthys trispinosus*. Poison from the spines seen in the photograph above can cause pain and an inflammatory reaction, so this fish should be handled with caution. Its appetite and capacity match the size of its mouth (the specimen shown here is about 6 in. long). Coloration is a mottling of browns, yellows and olive. Freshwater conditions do not seem to affect its behaviour but it does better in brackish or sea water.

Recent import with some unusual and interesting features



View of the toadfish from above (photographs by Cliff Harrison)



Personal COMMENT

by
ARPEE

People sometimes ring me at the office in the mistaken notion that I can advise them how to cure their pet fish of every imaginable ailment. The protestations I make that I am not an expert on anything in particular, least of all on fish diseases, are invariably ignored, and it seldom happens that the descriptions of the maladies are of any real use in suggesting an ameliorative, let alone a cure. In fact in many instances I am tempted to recommend the addition of a little gin or rum to the tank water since the victims are clearly beyond redemption and it is surely a kindly thought that their final hours might thus be made more convivial. Having said this much it would not altogether surprise me if somebody writes in to vouch for cures achieved by the use of alcohol, but apart from the properties it possesses as a preservative it probably does more for the keeper than the kept.

A week or so ago an old friend of mine reported dire trouble with his son's goldfish, which regrettably in even this enlightened age passed its time in a tiny plastic tank not much over a foot in length. It appeared to qualify immediately for the large gin treatment since it was clearly not long for this world. It had 'constipation', swim bladder trouble, and was covered in boils and tumours, to name but a few. Furthermore it had gone off its ant eggs. This frightening situation drew forth from me the usual homily on how not to treat goldfish, but I was assured that it was happy and usually took its food (sic) from its owner's fingers. We established that at any rate it didn't have tail rot, which came as a distinct comfort.

In a situation like this there is only one thing you can possibly do, apart from sending the enquirer to an expert, and that is to suggest the juiciest and most tempting meal you can think of, in the hope that even if fish are not wine bibbers by nature they may at least appreciate a final dietary orgy before they escape to what in many cases must be welcome oblivion. I therefore guessed wildly and suggested that a little semi-boiled perpetual spinach and some finely chopped young earthworms might not come amiss. The ant eggs were to be banished forthwith. My enquirer thanked me and said he would do just

this, which is what I feared, as he is a man of his word. It is after episodes of this sort that one loses touch with one's friends. They never actually confront you with the destruction of their pets and they seldom allude to the misinformation you have given them. They simply cut you dead, that's all, and this much I was prepared for.

It was with the utmost astonishment, therefore, that 3 days after this event I found a note on my blotting pad requesting me to ring this particular colleague. I knew from long experience that he was a kindly and forgiving individual, otherwise I should probably have funk'd it; it is never easy to be sympathetic and apologetic simultaneously. When his voice answered my call I detected immediately that things had not gone as predicted; and when he proudly reported that the boils and tumours had gone, that the internal functions were back to normal, that the fish was swimming normally and had improved in colour, I knew that if every future enquiry received the same answer I gave to this one, yet resulted in disaster, such would be attributed to the ineptitude of the fishkeeper, not me, since here was clear evidence that I knew all about these things.

I certainly got great pleasure from this small success story because of the people involved, but I haven't the least idea just how all those terrible symptoms cleared up so rapidly as a consequence of this simple treatment. It would quite spoil it all if some reader managed to rationalise this, so, for once, I will refrain from the customary invitation for comments.



Mr Les Dodge in his article that (eventually) promoted some discussion on the state of the coldwater hobby suggested that real coldwater fishkeepers are on the wane. He said that there can only be about sixteen left in the whole country. My guess is that what he really means is that there is a diminishing number of coldwater breeders of amateur status who are now capable of winning prizes at aquarium shows up and down the country; that this is evidenced by their non-appearance at such shows. Maybe this is so.

If it is true that the coldwater side of the hobby has shrunk because it lacks the variety of species on which it has become the custom for the tropical side to experiment, I very much doubt whether the production of some new and horrible hybrid, as Mr Dodge advocated, will do much to restore the

balance. If his argument is carried to a logical conclusion, the tropical side, too, will fold up when we have exhausted all the new species: presumably one day there will be nothing new to discover. Now if it is only new things that keep the hobby alive something seems to me to be very wrong indeed. Surely the tropical side survives on variations on well-known and well-loved themes and the novelty only occasionally makes more than the casual impression it really deserves? No one can seriously claim that the wretchedly unnatural varieties of angel will survive the next 10 years in preference to the type, but such Mr Dodge tends to suggest, and I am astonished.

Whilst I join most warmly with him in hoping for a revival in coldwater fishkeeping, and I agree, too, that the frightening show standards have taken their share of the past decline, I seriously question any suggestion that coldwater is really losing recruits as rapidly as is suggested.

Every dealer will tell you how well the coldwater trade does in the summer time, and I have little doubt that more tanks than Mr Dodge suspects are set up in the autumn with a view to bringing a little summer into the months ahead. Maybe these are only small efforts, but they often lead to bigger things. Not all flat dwellers or those without gardens are prevented from keeping coldwater fish just through lack of space alone—many of them have no desire to enter into breeding programmes.

I think it is here that Mr Dodge really misjudges

things. He seems only to see a real top-notchers as one who breeds fish to top show standards. Whilst this is one definition of a top-notchers there are many others. For my money I would as soon have a chat with a keen schoolboy who has kept some sticklebacks for two or three seasons as with some of the nobility who see every other fish as a rather differently shaped shubunkin. There is a skill in keeping common perch and gudgeon under aquarium conditions, and who last won a premier trophy for minnows? There are lots of quiet and contented coldwater fishkeepers round the country keeping quiet and contented fishes which have been taken from local waters and which have never seen a show bench. These aquarists know their fishes and if they see any fancy specimens worth a place in their collections they will buy them and give them treatment in keeping with their quality.

They don't emerge as great fishkeepers in Mr Dodge's sense because they are not breeders or showmen, but to many of their companions in the hobby they are great because they are up with their subject and willing to share it with others. Perhaps they have seen through much of the sleaziness of the competitive part of the hobby and have settled down to more serious things! It would match with an underlying feeling which has been with me through the years that the coldwater man is basically a more sensible being than those of us whose blood runs hotter. I am perfectly certain that they are quite indestructible!

What's New?

Fortified Daphnia

McLYNN's Pet Food Company (Squirrels Leap, Woodfield Lane, Ashstead, Surrey) is introducing a brand-new daphnia product: **McLynn's Fortified Daphnia**. The manufacturers state that this is not 'just another daphnia' but one with extra protein added to promote the

growth of strong, healthy fish. It has been used by McLynn's for many months on their own tropical and coldwater fishes and the fishes take it readily. It is suggested that it should be given once or twice a week as a supplementary feed. The product will be available in pet and aquarist shops from 1st October and will be unmistakably packaged in a plastic box with the lid clearly lettered in white on a blue ground. Initially one size only will be available; this ½ oz. size is for sale at the recommended price 12p.

Smart Tank Stand

THE King British (King British Aquarium Accessories Co. Ltd., Cannon Mills, Union Road, Beadford 7, Yorks.) **Knockdown Woodcraft Aquarium Stand** is a piece of furniture that even a non-fishkeeper

would be pleased to include amongst his household effects. Its slightly outward-angled legs give sturdy support re-enforced by a lower shelf, and the raised rim to the table top allows the tank to fit snugly into it. Stands to fit aquaria 24 in. by 12 in., 30 in. by 12 in., 36½ in. by 12 in. and 48 in. by 12 in. are available at prices ranging from £6.60 to £8.50.

A Conditioner for Breeders

LATEST fish food preparation to be introduced by Inter-Pet (18-22 Church Street, Dorking, Surrey) is **Instant Brine Shrimp** (freeze-dried). It is available in 4g. and 7½g. sizes. The food, with its high protein content, is offered as being particularly suitable for bringing adult pairs of fish into breeding condition.

PFM VISITS . . .

A Fishkeeping Family

By CLIFF HARRISON

VISITORS to The AQUARIUM SHOW in London in 1969 and 1970 have been greatly impressed with the originality and attention to detail found in the Society Tableaux staged by the Bracknell & D.A.S., twice winners in the section. Much of the credit for achieving first place in both years must be due to the Jordan family, prominent members of the Society. The senior members of the family, Les and Natalie Jordan, joined Bracknell in its early months some 10 years ago and since then have served almost continuously on the committee in various capacities.

Les Jordan's first love over the years has been cichlids, and he has bred most of the commoner species at one time or another. Mrs Jordan finds catfish particularly fascinating,



A family group at the home of Mr and Mrs Jordan (seated, centre front). Left, Mr and Mrs Sheldon; right, Mr and Mrs Carter. Behind Mr and Mrs Jordan is Mr John Dixon, one of their sons-in-law. All are members of the Bracknell A.S.



but ever since keeping dwarf sea-horses with considerable success some time ago, has wanted to graduate to the more colourful marine fishes. Les and Natalie recount an amusing story of their introduction to the hobby. Some 15 years ago they acquired a small gold-

The successful Japanese garden tableau entered by Bracknell A.S. at The Aquarium Show 1970, is Bracknell's entry at the Show next month (29th-31st October) going to bring off the hat trick?



Photo
CLIFF HARRISON

Mr Les Jordan with some of his awards and the Calgary Trophy for the best Tableau at The Aquarium Show—up for competition again next month

fish from a rag-and-bone man, and it lived quite happily in a salad bowl for some time. However, the fish died whilst being minded by a neighbour during the summer holidays, and the search for an identical replacement, ending successfully, entailed a 100 mile or so tour of shops in the area. Les thought that, in view of the effort involved, the fish deserved at least a proper aquarium to live in, and whilst talking to the local aquatic dealer discovered just how easy tropicals were to keep: the rest of the story is obvious, and his interest went from strength to strength.

More recently their efforts for the club have been supplemented by the skills and enthusiasm of their daughters Gill and Cheryl, together with respective husbands Maurice Carter and Andrew Sheldon, and it was this team that thought up and constructed the 'Magic Roundabout' tableau at The AQUARIUM SHOW 1969. The amount of work put into the models, each one a beautifully made replica of the B.B.C. television characters, was evident to all, and their originality of theme managed to earn their club the coveted first place award.

Last year visitors were again flocking around the Bracknell tableau—this time depicting a Japanese garden. The figures were greatly admired, with their carefully detailed faces and costumes. To ensure utmost accuracy Cheryl and Andrew Sheldon visited the Japanese Embassy in London to seek advice on

the correct styles and colours of clothing. The Society even managed to incorporate into their tableau the authentic Japanese rendering of 'Bracknell keepers of many-coloured fishes', though whether that actually resulted in any new, oriental members for the club remains uncertain. What was certain, however, was the favourable reaction of members of other societies present, and once again the Bracknell & D.A.S. members returned home weary but victorious.

Mr and Mrs Jordan's daughter Cheryl developed a liking of fishes at an early age and even beat her father into second place in a furnished aquaria competition at the age of 11. Although Gill did not originally share her sister's enthusiasm, this developed later from her husband's interest in fish-keeping, which had been instigated before their marriage by Les Jordan. Maurice Carter at that time was living nearby and would call in after school to watch television ('Les had the only set in the street, you see!'); the impressive display of tropicals surrounding him on these visits was enough to win his attention and culminated in his joining Bracknell & D.A.S. in 1966.

Mr and Mrs Jordan have another daughter, Sally, who now leaves the active participation to husband John Dixon whilst she looks after their young family. They also have a son, Bill, who is at present in the U.S.A. and who sends them regular reports of the state of the hobby in that part

of the world.

In recent years Les has been forced, for health reasons, to avoid many of the more strenuous aspects of fishkeeping that the rest of us enjoy. Undaunted by this restriction, he has devoted himself more and more to an administrative role both within his society and for the Federation of British Aquatic Societies. Les Jordan and Maurice Carter are active members of the Federation Council, Maurice also being publications secretary and a judge, and as such they can devote their energies to the benefit of the many clubs up and down the country.

They are also involved in the very successful Three-Counties group, comprising Bracknell, Basingstoke, High Wycombe, Reading and Didcot Societies, which runs such schemes as a six fish league and inter-club quiz competitions. A major current work of the whole family is the production of a monthly newsletter, the Bracknell Harlequin, which is also sent to other clubs in the area.

The next month or two will see a new flurry of activity as they prepare for the Society's annual open show on 25th September, followed in October by their tableau entered at The AQUARIUM SHOW. When I visited the family no details were forthcoming as to what they have in mind for the latter, but they are confident that those factors which contributed to their previous successes—originality and hard work—will ensure they achieve their hat-trick in 1971.

Two Country Cousins from Tropical West Africa

By MATT MOOR

Pelvicachromis pulcher: the aquarium *kribensis*

Males: Total length 3½-4 inches. Body elongate and only moderately compressed laterally, and divided almost equally into upper and lower halves by a continuous dark-grey band approximately ¼ inch wide running from the mouth to the extreme edge of the caudal fin. Upper half of the body deep olive green with a further dark-grey band down the centre of the back from immediately above the eyes to the rear base of the dorsal fin. Lower half of the body a paler shade of olive green faintly suffused with pink about the belly region. Upper half of the head above the mouth carrying two narrow dark-grey transverse bands evenly spaced, with a further narrow dark-grey transverse band at lower lip level. Iris black, bordered with bright yellow; the whole surrounded by a broader ring, deep gold above and dark grey below. Gill cover pale olive green suffused with gold and carrying a well-defined metallic spot, which is normally dark copper to black, with a bright green lower edge. Dorsal fin greatly extended to a fine point, bordered with deep red along its upper edge with a slightly wider inner border of pale blue. Remainder of the dorsal without colour except for a wedge of black occupying the rear half above the base but not continuing into the extension. Pectoral fins almost colourless except for a faint suggestion of olive green towards the base and an equally faint suggestion of pale violet towards the outer edge. Ventral fins violet with a black leading edge backed by a narrow band of brilliant blue. Anal fin violet with a black leading edge. Caudal fin violet above the central dark-grey band, and either pale olive green or pale orange below, the upper edge having a narrow deep red border with an inner and broader band of deep orange. Central rays of the caudal fin extended to a point. About 2% of the males in any one brood carry a single round black spot bordered with orange—or even more rarely several round black spots similarly bordered—in the upper half of this fin.

Females: Total length 2½-3 inches, but distinctly deeper bellied than the males. Body colours similar to those of the males, except that the dark-grey bands along the body tend to be somewhat darker. Dorsal fin, though pointed, not so greatly extended and lacking the red and blue border, this being replaced by a narrow black one; and the black wedge is usually broken down into one or more patches of indeterminate shape, or more rarely is replaced by one or two round black spots. Pectoral fins colourless. Ventral fins, though similarly edged with blue and black, pale pink rather than violet. Caudal fin rounded with the upper arc of red and orange entirely absent, these markings being replaced with flecks of gold radiating outwards along the fin rays both above and below the central dark-grey band. Rather less than 1% of the females in any one brood carry a single round black spot bordered with gold—or even more rarely two or more round black spots similarly bordered—in the upper half of this fin.

THE dwarf cichlid formerly known as *Pelmatochromis kribensis* has been for many years one of the most popular of all the smaller cichlid species for the home aquarium. This is hardly surprising, for it is extremely colourful, hardy, reasonably peaceable and normally in plentiful supply. However, the name *Pelmatochromis kribensis* is no longer correct. For not only has the specific name *kribensis* been found to be a 'junior synonym' for *pulcher*, but the ichthyological classification of many of the West African cichlids has recently been revised, the former genus *Pelmatochromis* being relegated to a sub-genus of *Tilapia* and most of the species concerned being transferred to the new genus *Pelvicachromis*. All of which must appear most confusing to the hobbyist, particularly as the old and now invalid names are likely to be used by the aquarium trade for a long time to come.

There are other confusions, too! *Pelvicachromis pulcher* is a fish with a wide distribution throughout the rivers of tropical West Africa, particularly around the Niger delta, being found not only in the freshwaters of the inland rivers but also in the brackish waters of the tidal estuaries. And, as frequently happens when a species is so widely distributed, there are several distinct forms or 'races', some of which are sold from time to time under entirely different names.

One form, for instance, is currently available under the name *subocellatus*, even though there is no doubt that this is not the fish originally described under this name by Guenther in 1871. And when it is also taken into consideration that the fish actually described by Guenther may well turn out to be yet another form of the same species, making *pulcher* merely a junior synonym for *subocellatus*, confusion becomes even worse confounded!

The form of the aquarium *kribensis*

most commonly available can be described as summarised in this article, though colours and markings vary to some extent from fish to fish even within the same brood. The descriptions given in the summary are of *adult fish, not in breeding colours and when not excited*, and are based upon the separate examination of several hundred of each sex from eight broods from different parents under colour-matching fluorescent lighting of constant density.

Almost every individual fish examined showed some variation from the norm described, some to quite a considerable extent. Furthermore the colours and markings vary both in distribution and intensity with every changing mood, sometimes moving from phase to phase so rapidly as to rival the neon signs of Piccadilly Circus!

During courtship, for instance, the pink suffusion in the belly region of the male deepens to a bright carmine, spreading throughout the lower body area from the underlip to the caudal peduncle, spilling over into the ventral and anal fins and across the upper half of the caudal fin; at the same time all the other colours on the upper half of the body and on the fins deepen and intensify, the metallic area on the gill plate flashing deep copper

and emerald green. Meanwhile, as if by magic, the normally colourless area of his dorsal fin is transformed into a gleaming metallic gold.

In her courting dress the female is thought by many to be even more spectacular than her mate, for her pink suffusion deepens to a lustrous cherry red and contracts tightly until she seems to have swallowed a round red pea! At the same time the dark-grey band along her body fades away and her flanks assume the appearance of mother-of-pearl, whilst the remainder of her body fore and aft becomes suffused with pale gold. The colourless area of her dorsal fin also becomes transformed with shining metallic gold, and the gold on her caudal fin spreads across between the fin rays.

The anger colours of both sexes are different again from their courting colours; and when they are frightened, or resting during the hours of darkness, the normal colours fade and the usual markings become overlaid by a series of dark-brown transverse bands.

Descriptions of the other forms of the aquarium kribensis which are sometimes available would fill this magazine: sufficient to say that they can all be interbred—including the forms currently available as

subocellatus—and genetically the common form appears to be dominant.

As with most cichlids, the fish goes through a number of distinct colour phases during growth, being generally less colourful when young than when fully grown. In immature fishes the olive green is barely discernible and the richer colours on the fins are absent. They will breed, however, when they are barely half grown and before the adult coloration has been achieved. In this case the carmine area on the male extends less far, though in the female the cherry red of the belly shows the same degree of contraction and intensification as in the adult. Half-grown breeding females, on the other hand, lack the gold suffusion on the body and the gold metallic area on the dorsal is confined to a narrow band below the outer black border. The speed at which the fish can be grown to full size and coloration depends upon conditions; but given a varied diet, clean water, ample space and a temperature in the upper seventies, it takes about 9 months. Older fishes are less peaceable than younger ones, particularly among their own kind.

Next month: *P. taeniatus*, and breeding the 'country cousin'.

Jobs for This Month

- As leaves blown into a pond from trees and bushes form one of the biggest sources of fouling of small ponds it's wise to take steps to keep them out at this time. With the small formal pond this is easy to do by placing over it a light wooden frame having plastic mesh tacked to it. Irregular and larger ponds are more difficult to cover but the same material can be used, stretched over stick supports temporarily laid across the pond, and anchored at the edges by bricks or pegs in the ground.

- Goldfish youngsters being reared in heated tanks should now be prepared for the cooler times ahead by progressively lowering the tank temperature over the next few weeks. First step towards this can be made by switching off the heaters by day and

having them on only at night with a reduced thermostat setting for a while. The youngsters should be completely hardened to normal cold-water tank conditions by the end of this month.

- Have a look at your pond irises and rushes. Cut off the dead and dying leaves before these flop and sink into the water. Gather any seed pods you can see—it's fun to try and raise new water plants in tanks or trays of very shallow water in the spring.

- Towards the end of the month is a good time to install a new pond or modify an old one. How about adding a raised small pond with a cascade and watercourse to the larger one? If you build such an arrangement or if you have one already remember to place vertical slabs of rock around any plants near the watercourse or they can be damaged by water flooding from the higher water during storms or long periods of heavy rain.

Pond Cleaning Time

By BRIAN FURNER

ALTHOUGH the small garden pool needs very little attention when compared with, say, the lawn—there is one rather time-consuming job I like to carry out annually. The job is the yearly clean. The clearing and cleaning of my main pool takes up most of a day; the smaller pools but a few hours.

Late September or early October is, I consider, the right time for doing the job. True, there may be an odd flower left on the water lilies, on water hawthorn and on spearwort but the rest of the plants have that summer-is-over look and almost about for attention.

Before pumping out the water the net over the pool is removed. This net prevents the local heron colony from fishing in the pool. Then the Weldmesh around the sides is unfastened and placed on one side (its function is to discourage the smallest of the children from balancing on the edge of the pool and from possibly falling in!).

Plants in planting baskets on the shelves are lifted out carefully, so that the minimum of mud drips out and discolours the water. All fishes we can see at this stage and during pumping are netted and housed temporarily in a polythene-sheet lined galvanised bath. As the water is pumped out it passes through a piece of nylon curtaining stretched over an apple box. Thus nothing is lost and a list is made such as the one I have shown for 1970.

1970 Stock-taking

Common goldfish	9
Shubunkins	4
Fantail goldfish	2
Nymphs	1
Mirror carp	1
Golden carp	3
Nishiki koi	3
Golden tench	3
Green tench	2
Common frogs	20
Great diving beetle	1

The annual listing checks on any losses among the fish not noted by floating bodies during the year and also the wild life—frogs, newts, insects and insect larvae. My frog colony is now so well established that

it is unusual not to come across at least one frog when cultivating or harvesting in the garden. The toad colony is establishing itself but we never expect to find a toad during autumn pond cleaning. Our garden newts are thin on the ground but are seen now and then in the pond in early summer.

The pumping-out leaves a residue of smelly mud and water. This has to be washed through the nylon curtain and the job takes about an hour to complete. Baskets from the deeper parts, containing water-lilies and water hawthorn, have been

taken out by then and the work of replacing lost soil and dividing and thinning plants in the baskets is under way. About half of the oxygenators like clodea, hornwort and water crowfoot is consigned to the compost heap, as is blanket weed adhering to the baskets and to the sides of the pool.

Before the pool is refilled the liner is scrubbed and washed down. Restocking with the plants then follows and finally the fishes are returned to the pool. All fry found in the main pool are transferred to steel tanks in the garden.



Wide-mesh netting across the author's main pool is to discourage local herons. The welded mesh surround is a safety measure for small children of visitors

THE INTERTIDAL AQUARIUM—4

Whelks, Winkles and Mussels

The Seashore Molluscs

By H. J. VOSPER & G. J. VOSPER

THE majority of these soft-bodied animals have the body protected and supported by a shell or shells. They include such diverse creatures as slugs and snails, mussels, chitons and cuttle-fish. The shell is formed mainly of calcium carbonate secreted by a part of the outer skin of the animal (the mantle). In the whelk and all its snail allies there is but one shell (univalves); in mussels etc. there are two valves (bivalves); in chitons there are several plates; in slugs the shell is reduced or may be entirely absent; in cuttlefish, squids etc. (cephalopods) the shell is nearly always vestigial.

Chitons are small, secretive and of very little use in aquaria. Of the univalves, the limpets are vegetarians and few tanks will have the algal spore growth required. The same applies to all the winkles and such animals as the top-shells.

The most suitable mollusc for aquaria may be the common whelk or buckie, *Buccinum undatum* L., which will feed fairly readily on molluscan flesh (being particularly fond of scallop) but will also lend itself to being persuaded to eat other flesh. Also of interest may be

the dog-whelk, *Nucella lapillus* (L.), although it appears unable to take much interest in any food other than that of living organisms like limpets, mussels and barnacles. When feeding it bores a tiny, pin-head-sized hole through the shell of its prey, though on one occasion we recorded and photographed a dog-whelk 'levering off' a moving limpet and apparently attacking the underside of its victim. We have never been able to encourage this action in aquaria.

Books usually state that dog-whelks live off either mussels or barnacles and that the form of prey brings about the banding generally found in the dog-whelk. Fairly extensive field work on our part has failed to substantiate this (the banding is, of course, at right-angles to the deposition of the dog-whelk shell).

Sea slugs are generally beautiful, being highly coloured in many cases and also somewhat extravagant in form: flowery gill processes, for example. Nevertheless they are seldom useful inhabitants of aquaria

since they are specialist feeders. The sea lemon, *Archidoris pseudoargus* (Rapp.), for example, grows to a maximum length of about 75 mm and is usually yellowish with green, brown, pink or even mauvish markings, but it seems to feed exclusively on the breadcrumb sponge, *Haliclondria panicea* (Pallas), though any reader with other experiences would be welcome to argue this point with the writers.

Bivalves are filter-feeders and although they can be used as 'biological filters' in tanks they die of starvation in a matter of days. Scallops (Pectinidae) and relations like the gaping file shell, *Lima hiem* (Gmel.), can move rapidly by swimming and are therefore entertaining but are not viable propositions in aquaria.

We have never maintained cuttlefish but colleagues state they thrive reasonably well in larger tanks kept at low temperatures: live foods are needed, including prawns and small fishes.

Meetings and Changes of Officers

BRADFORD & D. A.S. President, Mr A. Firth; vice-president, Mr J. P. Chorley; secretary, Mr A. Daugherty (60 Moore Avenue, Bradford 5; phone 215213); treasurer, Mr J. E. Crawthorn; social and P.O., Mr W. Holmes. Meetings: first and third Wednesday of each month, 7.45 p.m., at Unity Hall, Rawson Square, Bradford.

CASTLEFORD & D. A.S. New joint secretaries, Mr and Mrs J. R. Stevens, 71 Falcon Drive, Love Lane, Castleford.

DIDCOT & D. A.S. Meetings: East Research Centre on the A 24 near Abingdon Berks, on first and third Friday of month at 8.0 p.m.

GLOSSOP A.S. New secretary, Mrs M. Beasley, 0 Waterside, Hatfield, Hyde, Cheshire SK14 7BR.

Hemel Hempstead & D. A.S. Chairman, Mr A. Tuff, vice-chairman, Mr A. Dibley; secretary, Mr F. Trenwith; assistant,

Mrs M. Trenwith; treasurer, Mr G. Whitley; assistant, and librarian, Mrs M. Whitley; show secretary, Mr P. Tucker; assistant, Mr S. Collins; social secretary, Mr A. Goslett; press secretary, Mrs J. Collins (63 Pulleys Lane, Hemel Hempstead, Herts); catering officer, Mrs P. Fortune; junior secretary, Master G. Trenwith.

ILFORD & D. A. & P.S. President, Mr H. Bagger; vice-president, Mr L. Smith; chairman, Mr J. Sanders; vice-chairman, Mr L. Smith; treasurer, Mr M. Brill; assistant treasurer, Mr G. Irish; secretary, Mr R. Rush; assistant secretary, Mr J. Hatten; show secretary (tropical), Mr D. Seaman; show secretary (coldwater), Mr H. Bagger; press secretary, Mr M. Perry; librarian, Mr K. Ellis. Meetings held at the St Lawrence Church Hall, Hamilton Avenue, Berkingside.

LLANTWIT MAJOR A.S. Chairman, Mr S. Ireland; vice-chairman, Mr D. Wigg;

secretary and treasurer, Mr J. Thomson (12 Yewtree Grove, St Athan, nr Barry, Glam.); librarian, Mrs Jones; show secretary, Mr A. Ibbertson; assistant, Mr S. Nelson. Meetings: second Tuesday of month at the Lessor Hall (in the main Town Hall), Llansaw Major, at 7.30 p.m.

NORTHAMPTON & D. A.S. New secretary, Mr R. V. Taylor, 4 Malloy Walk Parklands, Northampton. Change of venue. Meetings now at The Fish Inn, Fish Street, Northampton, first Tuesday of month at 7.30 p.m.

REIGATE & REDHILL A.S. New venue. Chequers Hotel, Horley, Surrey on alternate Mondays at 8.0 p.m.

SHERWOOD A.S. Change of officers. Chairman, Mr J. Igoe; vice-chairman, Mr R. Clarke; secretary, Mr E. Hooper (51 Mansfield Road, Chapsons, Mansfield, Notts); treasurer, Mr D. Sewell, show secretary, Mr J. Igoe.

TELFORD A.S. Secretary, Mr R. Hughes, 105 Stonevale, Sutton Hall, Telford, Shrops.; P.O., Mr M. Thornycroft, 23 Orchard Close, Ketley, Telford, TF7 4HA.

Guppy Types

No. 13: The Fantail

It seems appropriate that this month's guppy is number 13 in the series, because though the fantail is one of our major guppys exhibited under the broadtail banner, it has been the subject of controversy ever since its beginnings.

It first saw the light of day at the Pet-O-Rama Show held at Madison Square Gardens, New York in 1957. A team of beautiful red fish were exhibited by the late Paul Hahnel and christened by him 'fantails', to distinguish their caudal fin from that of the then popular triangler.

Along with Chas. MacRae of London, I was fortunate to receive some of these guppys from P.H., and quickly falling under their spell we bred them and distributed their progeny to enthusiasts in Britain. The then only specialist guppy society, the Federation of Guppy Breeders' Societies, had no standard for such a fish so the forced entry of the fish into the 'Any Other Variety' class soon made them unpopular with all but the dedicated.

The Fancy Guppy Association was founded in 1960 and their first Judges' and Standards Committee, consisting of W. G. Phillips, G. Smith, C. MacRae, B. Hawkins and myself, rectified the omission of the 'fan' by agreeing upon an outline (outline A) based on the American imports.

The task of drawing the standards and publishing them was left in the hands of a FGA Radlett Section member, Terry Hale. In his enthusiasm, this artist exercised his licence and to everyone's surprise the illustration (B) appeared in the first Standards Handbook published by the FGA in October, 1961.

You either loved this new guppy or you hated it, and its opponents were quick to point out that this guppy was nothing more than a degenerate deltatail. One controversial factor that every new standard has changed, was the length of the caudal in relation to the length of the guppy's body. In that first outline it was equal to the body length. The nose edge of the tail fin was to be slightly scalloped or waved. It could appear in any basic body colour.

Writing in *TFH* (October, 1962), Dr O. M. Stoerzbach, president of



A



B



C



D



E



F

(A) Fantail shape agreed by the first FGA Judge's Committee in 1960. (B) Interpretation of (A) by over-enthusiastic artist (in first FGA Handbook, 1961). (C) Dr O. M. Stoerzbach's outline, German Guppy Association (1962). (D) FGBS fantail (Standard Handbook, 1961). (E) Modified outline to agree with current American fish (FGA, 1964; accepted by GSI in 1967). (F) Present FGA (Handbook, 1970).

the German Guppy Association (DGG), discussed twelve good and eight faulty forms of the German version of the fantail (outline C). This was confusing because the fish illustrated more resembled our British flagtail (Guppy Types no. 5, *PFM*, November 1970). I had a long exchange of correspondence with Otto on this matter but as he belonged to the school that thought our version was just a had triangler, he stuck to his guns. The DGG guppy had a caudal fin that formed an angle of 35 degrees at the body and was required to be eight-tenths of the length of the body. The dorsal fin was elongated, running almost to a point like our swordtail's.

Revising their standards in 1961, the FGBS now accepted the 'fan' but with a shape based on the German version, even to the length of the tail (though they did go a little further and require the end of the caudal to be 7/8 in. in width) (outline D).

Peace reigned for 2 years until, when visiting Manchester in 1963, Paul Hahnel made us a further gift of some of his guppys. These had now developed really chunky dorsals that hung down the side of the guppy's body, and these terminated not in the familiar rounded end but were feathered. In a further attempt at a shape common to both the New World and Britain, the FGA changed

This series has so far covered the majority of the major guppy forms since the commencement of specialist breeding in the nineteen-thirties. For those readers who have missed any of the previous titles, some back numbers are available, price 18p each to include postage, from *PETFISH MONTHLY*:

- 1 The Female (June, 1970)
- 2 The Veiltail (August, 1970)
- 3 The Robson (September, 1970)
- 4 The Deltatail (October, 1970)
- 6 The Swordtails (December, 1970)
- 7 The Pintail (February, 1971)
- 8 The Albino (March, 1971)
- 9 The Lyretail (April, 1971)
- 10 The Gold, Gold-laced, Blond and Cream (May, 1971)
- 11 The Scarftail (June, 1971)
- 12 The Speartail (July, 1971)

the shape of the 'fan' in September, 1964 (outline E), and this shape was later accepted by the joint British specialists, meeting as GSI, at Stafford in 1967. The battle seemed to be won: British guppy breeders had a common standard.

Two years later, at a judges' conference at Birmingham, a new fish from the Continent was discussed and accepted by the delegates to replace our flagtail. It was called *Fächer*, which translated means fan, and to the relief of the delegates who remembered the turbulent history of that particular three-letter word, this

fish was re-named the dovetail!

Despite its many critics, good fantails were bred. Judging this class at the 1970 International, I awarded 82 points to the best of some 30 entries—an excellent fish from the stable of Messrs. Fowles and Vinall, FGA Edmonton Section.

With an eye to our going metric, the FGA Standards Handbook published in 1970 had the measurements of the guppies in both systems. A slightly altered fantail standard (mainly in the dorsal fin) now required the tail to have a width of 23 mm. (29/32 in.) and a length

equal to the body—29 mm. (1 1/4 in.). At least in this latter measurement the wheel had made a full turn.

But the story of this much maligned and much changed fish has not ended. Claimed by those early pioneers as the greatest achievement in male broadtail form, it has lost out over the years to the delta. It still prompts contemporary breeders to write: 'In considering the males we have available I will stick my neck out and claim that the three, veils, delta and the fantail, can be produced from the same stock'.

J. K.

Jewel Damsels need Space

By EVAN MORGAN

THIS fish is rarely seen for sale in aquarists' shops in this country. The jewel damsel, *Microspathodon chrysurus*, hails from Florida and the West Indies, and I believe the few that are seen for sale are mostly the Florida fish. The colour is deep blue speckled with myriads of shining spots, and the tail is clear. It is said to become brown with age and the number of spots decreases, the tail becoming yellow.

The jewel damsel in my aquarium, in contrast, although only a juvenile, has a dark-brown body colour and very many iridescent spots, which twinkle brilliant green or sparkling blue depending how the light strikes them. Whether my fish is the species described, or whether it is merely a colour variation of the species from a different area of the world, is a matter for conjecture. It may be a different species altogether, or possibly a sub-species of *M. chrysurus*.

I have observed a yellow ochre hue becoming more and more evident in my damsel, especially under the head and around the caudal area, but I am certain that the fish is only a juvenile, for it is far too small to have adult coloration; it is about 8 cm. from head to tail but it was less than 5 cm. when I bought it a few months ago.

The jewel damsel, which apparently lives in close association with stinging coral, is a highly territorial species, even more so than many

other damsels, and I have found that whereas a humpback damsel (*Dascyllus aruanus*) will adopt a territory of perhaps one-eighth of the base area in a 48 inch aquarium the jewel damsel will take up more than half of the space. Within the invisible boundaries of this territory the jewel is fearless; in these confines he will attack a creature 20 times his own size, and the other tank mates respect his rights within his appointed sector.

A hand thrust into the water, if it is near to the jewel's coral refuge, will be set upon immediately, without fear or hesitation, and this remarkable behaviour leads me to believe that this fish would attack a prowling white-tipped shark, were one to enter the fishes' coral reef terrain, though I have serious doubts whether the jewel would have much success in fin to fin combat with such a terrifying opponent!

Although this extreme territorial behaviour is very interesting for the aquarist to observe in marine aquaria, it is also the factor that makes this species very unsuitable for inclusion in the majority of coral fish communities, since it will restrict the other fishes to a limited region of the tank's water area. The jewel itself dares to venture into the less

well defended territories of its aquarium mates, and it will continually pick on fishes with long flowing fins, like wimple fish and also on fishes smaller than itself.

At the moment I am trying to encourage a wimple butterfly fish back to life after having been set upon by my jewel damsel; its once long and gracefully flowing fins are now mere tatters, and after a particularly violent attack it has been confined to 'sick-bay', its life very much in the balance. The wimple's stomach, instead of being large and full as it once was, has a 'pinched' look, for the jewel has also been stealing the butterfly's food.

My advice to anyone who is keen to keep one of these beautiful fish is to consider it for inclusion in your marine tank only when the other inhabitants are large and robust and are capable of looking after themselves.

Jewel damsels are easy to look after; they can live in a variety of conditions, they will tolerate a range of water temperatures and, being hardy, are fairly resistant to disease. They are easily fed, and will grow at a remarkable rate when fed on white worms, pieces of peeled prawn or flaked foods.

Thoughts on Environment

By F. W. COLES

What are 'average' conditions? Need water ever be 'changed'? How tolerant are water plants? Must mollies have salt?

THE British Isles has a climate sufficiently equitable for the differences between north and south to be small enough to enable most kinds of animals to be kept with success under similar conditions wherever one lives. This applies to atmosphere-breathing animals only though, because the conditions of animals living in water and obtaining oxygen through gills vary far more drastically. Aquatic animals are not merely concerned with the ambient temperature, but are also subjected to variations in water reaction (pH), hardness and the different total dissolved solids of various waters.

Most people, wherever they live in these islands, tend to look on their own particular surroundings as being 'average' or standard, and whenever they read instructions in books or articles they assume that their own conditions are being stated. This particularly applies to novice aquarists, and the quality of the water they use is usually not considered. The book says tap water is usually suitable, so nothing needs to be done.

Water conditions in the British Isles vary considerably. They range from the extremely alkaline conditions in the chalk down areas to the equally undesirable acid conditions of the peat moors. And to most people who live in these areas, their conditions are 'usual' or average. Having furred-up kettles, being unable to obtain a lather easily with soap, or having soft acid water are all average conditions to the novice because they are everyday or 'usual' to him.

As different varieties of fishes require different kinds of water, and the lack of success that some experience in keeping them is usually due to keeping the wrong kind for their particular conditions, it is advisable for people to be more

explicit when trying to advise novices.

One often reads in print the statement that a tank has been set up, and maintained over a period of years without changing water, and very probably this is a fact. If one lives in an 'alkaline' area this can be done, because the waste products from the fishes tend to reduce the alkalinity, and make conditions more acceptable for them, but keeping a tank in this way in an 'acid' area would quickly result in conditions too severe to sustain life. Conversely, frequent water changes in an 'alkaline' area would maintain the alkalinity to the detriment of the tank occupants. The expert aquarist in an alkaline area no doubt uses rain water as much as possible, and the expert in the acid area is no doubt conversant with sodium bicarbonate, but the novice isn't.

Most plants seem to be able to tolerate a large change in pH without giving up the struggle, but some conditions in their environment will not be tolerated. The practice of placing one tank above another, without adequately shielding the base of the top tank from the lights of the one underneath, is a frequent cause of failure. Another is the use of too small a depth of gravel when using undergravel filters. Tanks can be seen where plants just will not grow because of this, and other tanks with a sufficient depth of gravel, and even with continuous filtration, will maintain a luxurious head of growth.

The question of balanced aquaria is continually arising in any discussion on environment. This is practically impossible to maintain, because the permissible variation limits are too narrow in tanks of the size usually used by aquarists. Even supposing a balance could be obtained, a week later the fishes

will have grown, the plants will have grown, but the water surface area will not, and the balance will be disturbed. What is required is a miniature expanding universe, because relativity is the prime factor.

Aquarists lucky enough to have fish rooms or fish houses, both in this country and America, realise this and the tendency is to revert to bare tanks, sans plants, sans gravel and sans lighting, with the exception of normal daylight through a window. Under these conditions a proportion of the water is changed weekly, thereby keeping the fishes waste products at a safe concentration, the mulm on the tank bottom can be seen and removed when required, and the pH can be adjusted as the new water is introduced. Fishes can be kept in good health indefinitely like this, and a saving in electricity costs results from the deletion of the lighting.

Any knowledgeable aquarist will only keep in one tank compatible varieties of fishes, and this means that besides the question of activity and aggression, or lack of it, temperature requirements must also be considered. The number of fish per tank is also important, and if sufficient tanks are available one species per tank is usually better. The considerations of temperament and temperature requirements are crucial to the unhindered growth of fishes as, of course, is lack of overcrowding. It is of considerable advantage to any aquarist with a number of tanks to be able to keep his tank water neutral in pH and soft, to facilitate changing occupants from one tank to another if desired. Fishes requiring vegetable foods in their diet can be fed them if a spare tank or container is available to grow plants, say in a greenhouse or even window bottom. It is not essential to grow them in the tank in which the fishes live.

The aquarist with one community tank is the one with the greatest problems. It is one of the perversities of human nature that they are usually attracted to the varieties of fishes that will do less well in their particular conditions. Add to this the fact that they usually try to cram in the full 57 varieties, and the high mortality rate and lack of growth amongst the occupants is easily accounted for. If only they could be persuaded to keep a small shoal of each of three compatible small fish species in the normal 3ft. tank, how much better the fishes would be, and the tank would look!

The question of using salt in tank

water often arises in some areas, and there is a conviction amongst some people that mollies cannot do without it. This is not the case, and it is always better to keep fishes requiring brackish water in specialist tanks, and keep to the freshwater types for the community, in which mollies can be kept quite happily. There is a big difference between specialist tanks for fishes with peculiar requirements, and community tanks, and this is not always appreciated.

In natural waters fishes are subject to widely differing conditions throughout the year. They live in varying temperatures and varying

water conditions; some quite drastic changes occur, even to the extent of rivers drying up completely! When it comes to breeding, these matters have to be fully considered, because some varieties simply will not spawn if kept at a steady aquarium temperature of 75° or 78°F (24° or 26°C) as seems to be standard these days.

To make a complete survey of environmental conditions would require an encyclopaedia, but the study of these conditions is a must for the serious aquarist, and besides being interesting it will provide a bonus in the form of results if applied intelligently.

Book Review

TROPICAL FISH AND AQUARIA by Leslie B. Katters. 100 pages. Line drawings and half-tone photographs. Cassell & Co. Ltd. 50p.

TO be able to claim personally that this hobby has given over 50 years of pleasure, as this author can, must surely be a powerful stimulant to a beginner wondering what tropical fishkeeping is all about. What is more, Leslie Katters has the knack of putting over his practical experience in the written word for easy assimilation. I would give this book to a beginner with every confidence that he would be guided properly on setting up, equipment, plants and fishes, feeding, tank maintenance and breeding, the book's main contents. Interesting short introductory sections to showing and 'commercial aspects' are included. As 'all-glass' aquaria are introduced in a paragraph that refers to the old moulded glass tanks and, quite properly for these, not given the author's recommendation, I would have liked to have seen a mention of the modern techniques of making your own all-glass tank with silicone sealants, for this is a truly great advance of which handy men will want to take full advantage. A paragraph in the section on aeration and filtration about undergravel filters should put an end for all time to any stories that water plants do not grow well where such filters are

used: as a drawback of the undergravel filter Leslie Katters reports that growth of roots into the filter holes makes it difficult to thin out the 'excellent' plant growth that develops. A photograph used as a frontispiece has me puzzled: some optical illusion (?) has zebra fish apparently swimming above the tank's water line, a harlequin appearing to re-enter the tank through the front glass and a gourami departing from it by the same route!

LIVEBEARING AQUARIUM FISHES by Kurt Jacobs. 459 pages. Line illustrations, plates of half-tones and colour photographs. Studio Vista Ltd. £5.25.

THIS book is intended primarily for aquarists, says the author in his Foreword, but although it cannot fail to be of interest to fishkeepers it is really for the specialist and for those who delight mainly in the tortoisities of nomenclature at that. It comes as something of a shock to find no less than 156 livebearers described as 'aquarium fishes'—the great majority of course not being available to aquarists. The guppy gets seven pages to itself, aquarium mollies (like the guppy, now under *Poecilia*) somewhat less and platys and swordtails come out best with around 50 pages. A section on the history of the discovery of livebearers is interesting, but I question the value of devoting 26 pages merely to a list of species names. A conventional subject index would have been far more useful. In fact, to quote the total of numbered pages in this book can give a false impression of its reading content:

there are about 60 pages either completely blank or bearing no more than one word, and a good many pages with just one small map or only a few lines of text. Well over 100 pages in this book could have been dispensed with and then perhaps the price could have been more advantageous to readers.

In attempting to test the use to aquarists of the list of 'popular English names' it was perhaps unfortunate that I thought first of 'Berlin' and 'Tuxedo', because these varieties are not there (and is it not rather absurd to put 'Livebearer' as a key word 15 times in such a list?). The section on breeding will hardly satisfy aquarists, let alone biologists who might seek specialised information there. Since so much laboratory work in the field of genetics has been done with live-bearing fishes I had expected to find much more about this topic in the book, if not a genetics section, but in this it is deficient. Although the literature list looks useful, there is a suspicious absence of works dated much after 1960 and the list of journals is sadly out of date. Presumably this is because it is some time since the book was first published, in Germany. Mr Jacobs' approach and emphasis of his interest in his subject is perhaps revealed by the heading to the folded chart included at the end of his book: 'The position of the live-bearing aquarium fishes within the Animal Kingdom (as at 1967)'—my italics. A valuable compilation but not as useful to aquarists as it promised to be.

ANTHONY EVANS

How to Grow White Worms by the Thousand

By SID TARRANT

(Hendon & D.A.S. and British Killifish Association)

THE best-known method of culturing white worms for fish feeding involves the use of a wooden box of earth covered with a close-fitting sheet of glass. Although I started off with this method, by experiment I have developed a different technique which, according to my results, gives more white worms with less trouble.

The main advantages gained by my procedure are that it allows greater access of worms to the food placed on the culture surface with maximum movement of air over the culture to prevent souring and excess of moistness. The container that I use in place of a wooden box is a plastic washing-up bowl (I use a round one but the shape does not really matter). This holds the mixture for the worms, which is partly covered by a small and shallower completely opaque bowl placed upside down on the surface.

This covering bowl has a few small holes in it for ventilation but it must provide the area of nearly complete darkness without which the white worms will not leave the medium to feed (and to be collected by the aquarist). By having an uncovered strip of medium completely open to the air around this inverted bowl there is plenty of air circulation over the mixture's surface. There is not so much tendency for the medium to dry out in a plastic bowl as there is in a wooden box.

For the medium I use a mixture of equal proportions of horticultural bale peat (in a lumpy state—not as fine particles), sharp sand and non-clay soil. Enough of these ingredients are mixed together to about half-fill the plastic bowl. I sterilise the mixture by putting it in an old tin, covering it with water and boiling the whole with a loose lid over it on the gas burner for about 5 minutes. Excess of water is squeezed out of the mixture after it is cool so that it is just damp when placed as a loose layer in the plastic bowl.



The author with one of the plastic bowls used in his method of culturing white worms

You will need to buy a portion of white worms to start your culture, if you do not know someone with a thriving culture who has some to spare. Add the worms to the mixture in the bowl and place their food on the surface before putting on the cover. A cool place giving 50–60°F (10° to 16°C) is the best condition to keep the bowl in. In the seventies the worms are less active and the only time I had to clear out part of my culture was after a period in the eighties when the feeding area had become mushy and foul. The worms should not be exposed to freezing conditions in winter.

As food for white worms I have tried many different items, most of which the worms will readily eat, but in my experience nothing gives results as good as brown bread moistened with water. When starting to feed a new culture I cut off the crust from the bread but there is no need to do this once the worms get going. Two slices of brown bread, broken into pieces after wetting and being squeezed to get rid of excess of water, are gone in a day in my culture.

If the bread has been given too wet at any time the culture surface can be 'dried off' by adding either crumbs of unwetted brown bread or porridge oats straight from the packet at the next feeding.

A new culture should be fed regularly, as the bread is seen to disappear, but no worms should be taken from it before about 4 weeks. There should then be enough in the colony to ensure that the reproduction of the worms keeps up with your harvesting.

There is no problem about collecting worms from an established culture. Provided that it has been undisturbed for at least an hour or so removal of the cover will reveal worms in such numbers on the surface and clustered inside the cover that they can easily be spooned up from the thick layer without contamination with bread or mixture. In this state the worms can be added directly to the aquarium.

Nothing goes wrong if the culture should be left without attention for a week or so, but developing the habit of feeding and/or looking at the worms regularly is the best way to make sure your fish never go short of white worms. If the mixture is seen to be shrinking away from the sides of the plastic bowl a small amount of water can be sprinkled on it to replace lost moisture.

If by chance food is left uneaten or mildew and moulds develop, leave the bowl in the light with the cover off for a day or two. Live

worms go down into the mixture so that you can then scrape off the top soured layer free from worms and throw it away, replacing it with fresh mixture. I keep two plastic bowls going so that in the rare event of one requiring this attention the other can continue to be used—from the two I get far more worms than I really require.

Sometimes other forms of life such as small flies or mites begin to grow in a white worm culture. These are not really a problem—they do no

harm and if they get into a fish tank with the worms I find that they, too, are eaten by my fishes.

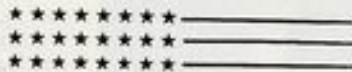
I have attempted to discover just how long white worms live under water and was surprised to find that worms placed in shallow peat water survived for 6 days and for over 14 days in tap water—both lots kept in the seventies. Presumably they cannot live so long in an aquarium if they should go into the gravel, but they do not readily do this and provided that gross excess of the

worms is not added at feeding time there should never be fouling of the tank through the use of white worms.

White worms form a clean, convenient and disease-free source of food for aquarium fishes. I have not found any disadvantage in using them regularly in my aquarium menu, where they form a good 40% of my fishes' daily food. With the culture procedure I have described there is never any shortage of this excellent live food.



TRANSATLANTIC TOPICS



By JIM KELLY

NEVER having been particularly in love with unusual forms of lighting in the aquarium I can't say I pay much attention to illumination other than the recognised tried and tested methods. I like to see unusual lighting effects kept to stately homes, park fountains and boutique window displays.

However, a breeder's report from the Greater Detroit A.S., describing how they had spawned the croaking gourami (*Trichopsis vittatus*) by the use of side lighting, I couldn't ignore.

This fish, which needs to take in atmospheric air at intervals and in its native Siam is a relentless pursuer of mosquito larvae, isn't all that easy to breed so I read the report with interest.

The side lights, two 7 watt bulbs, were placed about 1 inch from the tank in box-like holders. The heat emitted was the sole source and kept the water around 80° F (27°C).

The fish constructed small bubble nests utilising the underside of a large *Cryptocoryne affinis*. This plant, from the Malay Peninsula, is one of the most prolific of the genus and can reach a height of one foot (in this case

though it was left floating in the breeding tank). The gouramis deposited their sticky eggs in the nests under the leaves. Incubation occurred for 2-3 days and the tiny fry were fed Infusoria consisting largely of paramoecium.

Named by the natives, pla krim, these fish are supposed to make croaking sounds during the spawning act—but our U.S. breeder reports not a sound.

* * *

'It is a historical fact that anytime a minority acts as one, their goal is usually achieved. There is now a cause which requires all the aquarists of America to let their voices be heard.' Strong stuff, especially when the letter that commences with the above is signed by an impressive list of aquatic 'greats'.

For the cause of this spot of bother we have to go back to 1966, when the U.S. Congress appropriated funds to build a National Fisheries Centre and Aquarium in Washington, D.C. The plans revealed it was to be the most advanced and progressive idea of its kind.

Since then the fund has been

frozen and little more done about putting these ambitious plans into operation. Now President Nixon seems finally to have dug the grave of this project by omitting it from his 1972 Budget recommendations.

But he hadn't reckoned with the fishkeepers, who are now vigorously campaigning all concerned to write to the Capitol Building and protest. I look forward to being able to tell you all about that 'new' aquarium in Washington!

* * *

Recently I found a fellow hobbyist who actually supports my theory that the tiger barb (*Barbus tetrazona tetrazona*) can become a happy member of the community aquarium. Or should I say members? Because, like me, he believes they only become bullies when forced to a bachelor (or spinster) existence.

Purchase a hundred zebra fish and you will find 99 behaving like some well-trained group of guards; buy a hundred tigers and you will have each with its own unique personality.

My American hobbyist was very modest when he pointed out that he was no ichthyologist or even animal behaviourist. Yet his findings blew away a few of the cobwebs that shroud orthodox thinking about the tiger.

Having little use for territories, *Barbus tetrazona* do practise a fluctuating 'pecking order' amongst themselves. In some aquarium com-

Continued on opposite page

AQUARIUM CATFISHES—19

Andean Oddities

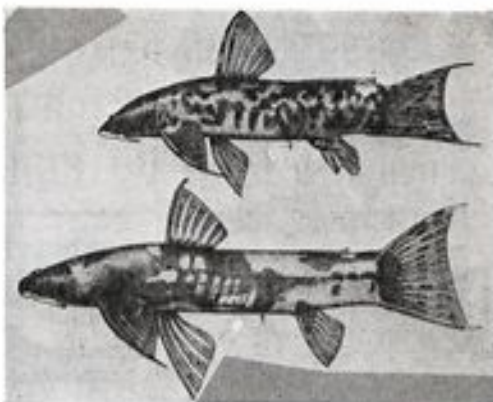
Family Astroblepidae

By **BRAZ WALKER**

In the high streams of the Andes mountains of South America lives the strange and remarkable catfish family known as Astroblepidae (*astro*—a star, *blep*—a look or glance). Although they are apparently evolutionary offshoots of the loricariid sucker-mouth catfishes, and have retained some of that family's original equipment, they chose to forsake the lowlands and have as a result developed some rather extraordinary equipment of their own, plus techniques which allow them to get the most usefulness from it. While these are not ordinarily considered as aquarium catfishes, they are included as a part of this series to acquaint the aquarist with possible importations as well as the endless diversity and adaptability of the siluriform group that we call catfishes.

The astroblepid catfishes have been described as being among the few members of the animal world which have indulged in 'reverse evolution'. Not only have they lost most of the armour-plating of their loricariid relatives, leaving the body naked and only the head armoured, but *Astroblepus* has also returned from possession of a sharply spined adipose fin to one of the more ordinary fleshy type, with sometimes a mere reminder of the past possession of the spine showing in the adipose appendage. It has been suggested that the armour was not necessary in the relatively predator-free environment of the Andean streams and as a result was lost.

While the sucker mouth is obviously a useful device in the often torrential hillstream situation,



Species of *Astroblepus* (drawings reproduced by courtesy of the Carnegie Museum, U.S.A.)

Astroblepus has developed from the ventral fins a mechanism which, in addition to allowing the fish to maintain its position in the face of the torrent, can be employed cooperatively with the sucker mouth to make forward progress. By alternate use of the two organs, not only is this possible in the stream bed, but *Astroblepus* has been observed ascending vertical walls of potholes by using the same technique.

One rather fascinating feature of the astroblepids is the fact that a special respiratory system is used. Like the 'Chinese algae-eater', *Gyrinocheilus aymonieri*, a remarkable gill slit and valve system has been devised which allows the complete respiratory cycle of inhalation and expulsion of the water to be performed through the one opening, leaving the mouth completely free for other functions.

Transatlantic Topics

continued from page 228

times this can be further subdivided into two 'orders', one for each sex. Many of their encounters are often misinterpreted by the hobbyist as 'fighting'. In actual fact these confrontations are merely ritual postures to establish 'order'.

Both of us believe that it is these encounters that have resulted in this barb being labelled as unsuitable for the community tank. It is worth remembering that the fish received its common name from the stripes on its body, not from any comparison with the ferocity displayed by this fish's four-legged counterpart.

* * *

In *RFM* for April 1971 I mentioned that the price of the golden angel was tumbling in the U.S.A. It still is!

A letter from Charles Wonderling enclosing a newspaper cutting from the *CHICAGO TRIBUNE* 16th May, showed that these delightful fish are now down to 1 dollar 29 cents, about 65 new pence!

This drop in price according to Charlie is due to the efforts of all concerned in reducing the losses when shipping fish in the States. Advanced medicines and good acclimatisation practices by dealers have paid dividends.

The AQUARIUM SHOW



Friday 29th October to Sunday 31st October
RHS Old Hall, Vincent Square, London S.W.1

● **INFORMATIVE** displays by the hobby's specialist societies will be staged. Exhibits from the London Group of the British Killifish Association, Fancy Guppy Association, Goldfish Society of Great

Britain and British Ichthyological Society are already organised and this year the Cactus and Succulent Society is marking its twenty-first anniversary by a special display at **THE AQUARIUM SHOW**.

● **JUDGING** of best Society Tableau will be by the entering societies, by the system used last year, but as a competition for visitors to **THE AQUARIUM SHOW** there will be a prize awarded to the first correct forecast of this result drawn by the organisers from entries placed in ballot boxes during the Show.

● **SHOW** schedules and entry forms for the competitive fish classes are being sent out and are also available from the show secretary Mr Gerry Greenhalf (39 Garth Close, Morden, Surrey). Final closing date for fish entries is 16th October.

● **IT'S** well worth making enquiries at your local railway station about fares to London at the time of **THE AQUARIUM SHOW**. There are attractive cheap-day return, cheap-period return or in some cases cheap week-end fares available and we've picked out just a few examples of the cheap-day return fares there are: **Birmingham**, £2.55; **Bristol**, £2.60; **Cardiff**, £3.45; **Coventry**, £2.10; **Derby**, £2.85; **Exeter**, £3.50; **Gloucester**, £2.50; **Leicester**, £2.30; **Liverpool**, £4.60; **Manchester**, £4.40; **Northampton**, £1.40; **Nottingham**, £2.85; **Oxford**, £1.25; **Plymouth**, £4.30; **Reading**, £1.00; **Shrewsbury** via **Wolverhampton**, £3.20; **Torquay**, £3.90. There are special admission rates to the **AQUARIUM SHOW** for school and club parties booked in advance, through the offices of PFM, so get your society secretary organised well in time!



BASINGSTOKE A.S. Open show was graced by a beautiful Carnival Queen, a fine day and the presence of many notable fishkeepers from all over the south of England. A record of 982 entries were benched from 34 societies (the F.B.A.S. Trophy class H had 77 exhibits of *Corydoras* and *Brochis*, the characin classes totalled 104 exhibits, with 52 entries in the pairs classes, 36 in the breeders and the first-time classes for labeos and gouramis totalled 20 and 36 respectively); but in spite of this massive turn-out the event ran close to schedule because of the club's decision to use no less than ten judges for the occasion—Mr Bob Eason, Mr C. A. T. Brown, Mr Brian Baker, Mr Jack Stillwell, Mr Dave Ellis, Mr Harry Towell, Mr E. Nicoll, Mr D. Hancock, Mr R. Matley and Mr A. P. Jeffs. The Show forms part of the local Carnival Week and considerable numbers of the general public came to view the exhibits—if the degree of interest shown was any guide, new converts to the hobby were made as well. A particular attraction was a 26-inch African snakehead owned by Mr P. Stevens, which made repeated escapes across the floor of the hall. The Ladies Cup was won by Mrs I. Strange and the Visitors cup was awarded to Kingston & D.A.S. (31 points) with Salisbury second (29) and Rochampton and Anson tying for third place. S. Mason of Rochampton won the Junior trophy. Class winners were:

Miniature aquaria, Mr B. Bissou (Basingstoke). Barbs (a) Mr T. Jones

(Weymouth). Barbs, Mr L. S. Derrick (Croydon). Characins (a), Mr C. Beets (Havant). Characins (b), Mr B. Coombes (Bournemouth). Characins, Mr G. Greenhalf (Kingston). Cichlids (a), Mr J. Batts (Ealing). Cichlids (b), Mr M. Strange (Basingstoke). Cichlids, Mr I. Strange (Basingstoke). Labyrinth, *Betta splendens*, Mr S. Appleton (Independent). Labyrinth (b), Mrs J. Pender (Bath & Bristol). Labyrinth Mr D. King (Kingston). Egg-laying tooth-carp, Mr P. Lambourne (Rochampton). Tropical cichlid, Mr G. Greenhalf. *Corydoras* and *Brochis*, Mrs J. Pender. Rasbora, Mrs G. Carter (Bracknell). Danios and tetras, Mr B. Coombes (Bournemouth). Loaches, Mr S. King. Labeos, Mr M. Uden (Reigate & Redhill). A.O.S. tropical egg-layers, Mr R. Ealey (Basingstoke); best fish in show, *Polipterus ornatipinnis*.

Guppy, male, Mr T. Butler (Anson). Guppy, female, Mr D. Baggett. Swordtail, Mr J. Hasley (Ealing). Platy, Mr A. Blake (Basingstoke). Mollie, Mr R. Warnell. A.O.S. livebearer, Mr C. Beets. Pairs, tropical egg-layers, Mr R. Wright (East Dulwich). Pairs, tropical livebearers, Mr D. Felton (Croydon).

Singletail goldfish (a), M. Ridley (Basingstoke, junior). Singletail goldfish (b), Mr D. Lens (GSGB). Twinstail goldfish, Mr D. Stokes (Havant). A.O.S. coldwater, Mr V. Voysey (Salisbury). *Centropomus*, Mr V. Voysey. Breeders, tropical egg-layers, Mr D. Haines (Gosport). Breeders, tropical livebearers, Mr P. Ginger (Uxbridge). Rooted plants, Mr K. Clough (Gosport). Cuttings, Mr G. Greenhalf.

THIS has been a busy time for **DIDCOT & D. A.S.** The club has been host to the other four clubs in the Three Counties Association for the third leg of the Quiz League, when their experts held their own against the visitors and finished the evening in second place. The second visit of the Three Counties Group was for the second leg of the Bottle League. This was judged by Mr B. Baker, the winner being Mr M. Strange of Basingstoke with a fire-mouth. Club results at this meeting were: 1, High Wycombe, 137; 2, Basingstoke, 131½; 3, Didcot, 78; 4, Bracknell, 74; 5, Reading, 61½. After a visit to Bracknell for the fourth leg of the Quiz League, placings in the competition were: 1, Reading, 100; 2, Didcot, 87; 3, High Wycombe, 80; 4, Basingstoke, 74; 5, Bracknell, 63.

As well as these activities members have enjoyed two slide and tape shows, one introducing marines and the second on cichlids. Mr. J. F. Davidson has won the table show for labyrinths and that for a.o.v. and in this a.o.v. class table show members were pleased to see two junior members, A. J. Davidson and I. Tarrant, placed in the first three.

THE support of the southern societies made the PORTSMOUTH A.S. inter-club show a very enjoyable and successful event. Members attended the show from Kingston, Basingstoke, Gosport, Havant, Bracknell, Brighton, New Forest, Southampton, Salisbury, Reigate & Redhill, Isle of Wight, Littlehampton & Bognor, Mid-Sussex and Ditchot and Reading societies were unable to attend only owing to circumstances beyond their control. Winning society was Kingston & D. A.S. with 25 points (2, Basingstoke, 22; 3, Gosport, 17; 4, Havant, 15). Winners of the 12 classes were: Barbs, Southampton; cichlids, Basingstoke; labyrinths, Kingston; characins, Havant; rasboras, danios, minnows, Kingston; livebearers, Brighton; catfish, Corydon, Basingstoke; egg-laying toothcarps, Kingston; a.o.s. tropical egg-layer, Basingstoke. Singletailed goldfish, Kingston; twintailed goldfish, Basingstoke; a.o.s. coldwater, Gosport.

THE ALFRETON & D. A.S. Open Show attracted over 500 entries from 26 societies and non-society entrants. The best in show award went to Mrs B. Cohen of Castleford for a dwarf gourami for which she received a gold pin, the J. Ammett Cup and the Ladies prize. The Society Rose Bowl was won by Castleford A.S. Class winners were:

Guppies, male, Mr Whitlam (Dukeries, section winner). Guppies, female, Mr L. Svensson (York). Platys, Mr M. Alltop (Alfreton). Swordtails, Mr B. Stabler (section winner). Mollies, Mr W. D. Gilling (Rehford). A.o.v., Mr and Mrs Hill (Nuneaton). Barbs, small, Mr J. Derrise (Dukeries). Barbs, large, Mrs B. Cohen (Castleford, section winner). Characins, small, Mr Hepinstall (Castleford). Characins, large, Mr D. Sewell (Sherwood, section winner). Killifish, Mr S. Hill (Alfreton). Minnows and danios, Mrs B. Cohen (Castleford, section winner). Sharks and foxes, Mr R. Haslow (Derby). Rasboras, Mr R. Clarke (Sherwood, section winner). Cichlids, dwarf, Mr Hepinstall (Castleford, section winner). Cichlids, large, Mrs Huberts (Independent). Angels, Mr D. Sewell (Sherwood). Catfish, Mr D. S. Sewell. Loaches, Master M. Igoe (Sherwood, section winner). Siamese fighters, Mr J. Rhodes (Southorpe). A.o.v. anabantids, Mrs B. Cohen (section winner). Class 10, Mr Hepinstall. Pairs, egg-layers, E. and S. Clowes (Castleford, section winner). Pair livebearers, Mr Hepinstall. Junior, egg-layers, Master S. Clarke (Sherwood, section winner). Junior, livebearers, Master G. Whitlam (Dukeries, section winner). Goldfish and comets, Mr Thickbroon (Castleford). Shubunkins, John and Stella,

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Championship Class Results and Forthcoming Shows Eligible for the 1971 Supreme Championship

Results Received

Class B Barbs **Corby & D. A.S.** Winner Mrs D. Cruikshank
 Class C Characins **Independent A.S.** Winner Mr G. Greenhalf
 Class Db Dwarf Cichlids **Freelance A.S.** Winner Mr M. Strange
 Class Ea Betta splendens **High Wycombe & D. A.S.** Winner Mr P. Shepherd
 Class F Egg-laying toothcarps **Tottenham A.S.** Winner Mr K. Nutt
 Class H Corydoras **Basingstoke & D.A.S.** Winner Mrs J. Punford
 Class J Rasboras **Medway A.S.** Winner Mrs D. Mathieson
 Class K Danios and W.C.M.M. **Thurrock A.S.** Winner Mr A. Kinsey
 Class N Pairs of fish **Hendon A.S.** Winner Mr P. Grosvenor
 Class R Platys **Croydon A.S.** Winner Mr A. M. Kinsey
 Class X. O-T Breeders livebearers **Yeovil & D. A.S.** Winner Mr A. Blake

Forthcoming Championship Shows

Mid-Herts. A.S.	4th & 5th September	Guppy Female	P
Wellingborough A.S.	5th September	Labyrinth	E
Brighton & Southern A.S.	12th September	Mollie	S
Havant & D. A.S.	18th September	Twintailed Goldfish	V
Bracknell A.S.	23rd September	Swordtail	Q
Torbay A.S.	26th September	Marine	Y
Reigate & Redhill A.S.	26th September	Cichlid	D
Ealing & D. A.S.	3rd October	Loach	L
Kingston/S.P.A.S.S.	16th October	A.O.S. Coldwater	W

Winners of Federation Championship Trophies in classes for single fish automatically become eligible for the Supreme Championship Trophy Competition (to be staged at The AQUARIUM SHOW '71 at the Royal Horticultural Society's Old Hall, London S.W.1, 29th 31st October).

Winner of New Perpetual Cup

There were 51 entries in the class at the GOSPORT A.S. Open Show for the Southend Perpetual Characin Cup, which was won by Mr M. Jeffery of Bournemouth A.C.

(Sheffield, section winner). Fancy goldfish, Mr R. Harrison (Independent). A.o.v. coldwater, Mr C. Hill (Nottingham). Breeders, egg-layers, Mr D. Sewell (Sherwood). Breeders, livebearers, Mr J. Igoe (Sherwood). Novice, Mr Ihndell (Thorne, section winner).

PLACINGS in the Inter-club Cup at the ROMFORD & BEACON-TREE A.S. Open Show in July were: 1, Thurrock; 2, Harlow; 3, Ilford followed by Bethnal Green, East London, Romford and Apex. Judges Mr E. R. Nicoll, Mr C. Creed and Mr W. L. Wilson awarded first places to the following out of the 270 entries:

Furnished aquaria, Mr Ken Appleyard (Thurrock). Barbs, Mrs Murdoch (Harlow). Characins, Mr Ron Kerridge (Harlow). Cichlids, Mr F. Vicker (East London).

Labyrinths, Mrs M. Tucker. Egg-laying toothcarps, Mr K. Appleyard. Tropical catfish, Mr B. L. Wight (Thurrock). Rasboras, Mr F. Vicker. Danios and minnows, Mrs Murdoch. A.o.s. tropical egg-layer, Sybil Hodges (Bethnal Green, best tropical fish in show). Swords, Mr P. O'Bryan (Thurrock). Platys, Mrs Murdoch. Mollies, Mr P. O'Bryan. A.o.s. livebearers, Mrs M. Tucker.

Singletail goldfish, Mr H. G. Berger (Ilford). Twintailed goldfish, Miss R. Berger (Ilford, best coldwater fish in show). A.o.s. coldwater, Sybil Hodges. Breeders, egg-layers, Mr D. G. Kent (Romford). Breeders, livebearers, Mr B. Read. Platys, Mr K. Appleyard. Junior, tropical, Jane and Martin Burdon (S.L.D.A.S., Certificate of Merit). Junior, coldwater, Trudy Hodges (Certificate of Merit).

THE best fish in show award at the BRISTOL T.F.C. 3-day Open Show was entered by Mr R. Watts. Mr G. Furber was the competitor awarded

the highest number of points. Class winners were as follows:

Fighters, Mrs C. King, Labyrinth, Mr G. Garber, Barbs, Mr R. Watts, *Hemul*, and *Hypn*, Mr R. Bennett, A.O.V. characins, Mr R. Chapman, Angels, Mr A. J. Ball, Dwarf cichlids, Mrs M. Butcher, A.O.V. cichlids, Mr S. Green.

Corydoras, Mr I. Littleton, A.O.V. catfish, Mr S. Green, A.O.V. danios, rasboras and minnows, Mr B. Sweeney, A.V. sharks and loaches, Mr G. Furber, A.O.V. tropical fish, Mr R. Day, Mollies, Mr S. Bethell, Swordtails, Mr C. Butcher, Platys, Mr L. Littleton.

Breeders, egglayers, Mrs C. King, Breeders, livebearers, Mr M. Samuels, Guppies, Ingotals, Mr H. Horsey, Guppies, female, Mr L. Littleton, A.V. sexed pair, Mr M. Lersway, Killifish, Mr J. Norris, A.V. egglayer (juvenile), M. Powell, A.V. livebearer (juvenile), M. Powell. Furnished aquaria, Mr R. Bennett.

WINNERS of the classes at the **FREELANCE A.S.** Open Show have now reached us and are as follows:

Barbs, Mr A. Marshall (Basingstoke, 86), Characins, Mr J. A. Pollard (Kingston, 81), Cichlids, Mr M. Strange (Basingstoke, 83), *Apostronema* etc., Mr M. Strange (84), Labyrinth, Mr G. Greenhalf (Kingston, 83), Egg-layering toothcarps, Mr D. W. Crowe (Freetown, 79), Tropical catfish, Mr and Mrs Lambourne (Rochampton, 82), Corydoras and brookies, Mr D. Mackay (Kingston, 81), Rasboras, Mr D. J. Mackay (80), Danios and minnows, Mr M. Northwell (Riverside, 79), Loach, Mr and Mrs Lambourne (Rochampton, 81), A.O.V. tropical egg-layer, Mr D. A. King (Kingston, 80).

Guppy, male, Mr P. Coyle (Walhamston, 77), Guppy, female, Mr K. Dryden (Croydon, 77), Swordtail, Mr S. Mason (Rochampton, 78), Platys, Mr K. Quince (E. Dulwich, 78), Mollie, Mr Brunchley (E. Dulwich, 80), A.O.V. livebearer, Mr R. Bowen (Independent, 77).

Singletailed goldfish, Mrs S. Hodges (81), Twintailed goldfish, Mr Adams, A.O.V. coldwater, Mrs S. Hodges (77).

Furnished aquaria, Mr D. M. Dace (Walhamston, 77), Breeders, tropical egg-layers, Mr and Mrs S. Fagan (Clapham, 81), Breeders, guppies, Mr A. J. H. Smith (Croydon, 78), Breeders, tropical livebearers, Mr S. Mason (Rochampton, 78).

DESPITE an almost mass exodus for holidays by committee members of **EALING & D. A.S.** during the summer there was still keen interest shown in matters aquatic by those members left behind. The aforesaid committee members were sorry to have missed an excellent talk on characins by Peter Bird of Mid-Herts A.S. One criticism of his talk was that he knew his subject so well that those not so familiar with the scientific names were slightly left behind struggling with the hypnesso-brycons whilst Peter had forged ahead to the hemigrammuses. Perhaps a talk on 'How Fish Get their Names' might be useful one evening. Meetings in July heard the chairman, Mr Dick Mills, talking on fish he had bred and a later meeting was devoted to club activity - making all glass tanks, experimenting with Perspex and the club badge to try and make some trophies and the manufacture of a new stand for use at table shows. Mr Frank Tomkins, chairman of the FBAS J & S Committee, addressed

the Society recently on breeding tropical fish. Schedules are now available for the Society's Open Show on the 3rd October from Mr R. Sellers, 3a Lady Margaret Road, Southall, Middlesex. The special class this year will be Rift Valley cichlids and the new Federation class for aquascapes will be included.

AT **NORTHWICH & D. A.S.** Open Show the Thorne trophy for the best fish in the show and a gold pin were awarded to Mr K. Parkes of Merseyside A.S. The show was well-supported, 375 entries from 20 different societies being benched, and other special awards were: Inter-Pet trophy for the society with most awards, Belle Vue A.S.; Hyland trophy and Benoy trophy for best fish by Northwich entrant and Northwich member gaining most awards, Mr B. Pearson; Russell-Allen trophy for best livebearer, Mr

SOCIETIES are asked to send schedules of open shows to the new joint secretaries of CASTLEFORD & D. A.S., Mr and Mrs J. B. Stevens, 72 Falcon Drive, Lee Lane, Castleford, Yorks., and it would be appreciated if societies forwarding schedules would include at least a dozen for distribution throughout Castleford's members.

and Mrs Grimshaw (Sunnybrow). Class winners were:

Guppies: Mr and Mrs Cobb (Belle Vue), Swordtails: Mr and Mrs Wells (Doncaster), Mollies: Mr and Mrs Grimshaw (Sunnybrow), Platys: Mr and Mrs Cobb (B.V.).

Barbs up to 3 1/2 in.: Mr J. Leese (Stoope), Barbs over 3 1/2 in.: Mr B. Pearson (Northwich), Characins up to 3 in.: Mr H. Williams, Characins over 3 in.: Mr R. Parkes (Merseyside), Anabantids up to 3 in.: Mr J. S. Booth (N. Staffs.), Fighters: Mr and Mrs Cobb, A.O.V. anabantids: Mr A. Lucas (Merseyside), Angels: Mr P. Danielson (Huddersfield), Dwarf cichlids: Mr and Mrs Jessop (Huddersfield), Large cichlids: Mr K. Parkes, Minnows: Mr J. S. Booth, Danios: Mr and Mrs Ross (B.V.), Rasboras: Mr and Mrs Ashton (Middleton), Sharks and flying foxes: Mr and Mrs Ashton, Small catfish: Mr R. Davies (B.V.), Large catfish: Mrs J. Shackleton (B.V.), Loaches: Mr B. Pearson, A.O.V.: Mr K. Parkes, Toothcarps: Mr R. Knowles (Northwich), Marines: Mr and Mrs Grimshaw.

Pairs, livebearers: Mr N. R. Gibson (Huddersfield), Pairs, egg-layers: Mr J. Faulkner (Merseyside), Breeders, livebearers: Mr N. R. Gibson, Breeders, egg-layers: Mr and Mrs Pearson (Sunnybrow), Common goldfish: Mr and Mrs Breatley (B.V.), Fancy goldfish: Mr and Mrs Cobb, A.O.V. coldwater: Mr and Mrs Cobb, Juniors, egg-layers: A. Davies (B.V.), Juniors, livebearers: Master P. Bates (B.V.).

BEST Fish in Show award at **STOCKTON-ON-TEES A.S.** annual Open Show was won by Mr H. Peacock of Stockton with a *P. annectens*. The best livebearer in the show was the platy entered by Mr N. Flett, also of Stockton. Class winners were:

Furnished aquaria: Mr Shanks and Mr Hogg (Mt. Pleasant), Furnished jars: Mr J. Turnbull (Edinburgh), Fighters: Mr C. W. Buck (Stockton), Labyrinth: Mr and Mrs Clemens (Stockton), A.V. large cichlid: Mr H. Peacock (Stockton), A.V. barb: Mr and Mrs Atwell (Independent), A.V. characin: Mr R. A. Walker (Houghton), A.V. platy: Mr N. Flett (Stockton), A.V. swordtail: Mr T. Southern (Peterlee), A.V. mollie: Mr L. Collins (Stockton), A.V. scavenger: Mr W. Dixon (Priory), A.V. Corydoras: Mr and Mrs Atwell (Independent), A.V. guppy: Mr A. Hobbington (Peterlee), A.V. small cichlid: Mr J. Gardner (Houghton), A.V. egg-layering toothcarp: Mr W. Hollis (Hemmo), A.V. rasbos or danios: Mr and Mrs Atwell, A.O.V.: Mr and Mrs Klav (Cleveland).

Breeding pairs, egg-layers: Mr C. Simpson (Independent), Breeding pairs, livebearers: Mr N. Flett (Stockton), Breeders, egg-layers: Mr N. Flett, Breeders, livebearers: Mr T. Southern (Peterlee), A.V. coldwater: Mr A. Young (Edinburgh), Juniors: N. Hogg (Mt. Pleasant).

MID-SUSSEX members have been enjoying a summer of varied activity. An auction offered an unusually large selection of fish and plants together with a number of aquaria complete with accessories. A family outing to the Windsor Safari Park proved to be both popular and successful and a stall held at the local Goose Fair elicited a number of enquiries from prospective new members and gave the Society good publicity. A hired slide show and tape on labyrinth fish proved very interesting; and the Society can also rely on its own members to provide an enjoyable evening, such as the open forum when the senior members answered questions from the floor on all aspects of fishkeeping, and the slide show made up of slides provided by vice chairman Mr D. Soper on a number of different livebearers and slides from other members showing recent activities of the Society. Table show winners have been: Rasboras, Mr C. West; labyrinths, Mr D. Soper; danios and minnows, Mr J. Walker. Please contact secretary Mr J. Reeve, 36 Rumbolds Lane, Haywards Heath, (phone evenings only Haywards Heath 3702) for further details of meetings.

ENTRIES at this year's **LOUGHBOROUGH & D. A.S.** Open Show were well up on last year, and Bedworth A.S. took both the Shield for the society with most points and that for the society with most entries. Best in the show award was won by Mr A. Gregory of Haden A.S. (*Betta modesta*). Class winners were:

Anabantids: Mr M. Farnon (Loughborough, thick-lip), Barbs, small: Mr B. Smith (Lucas, chequer barb), Large: Mr A. Gregory (Haden, tinfol barb), Characins, small: B. & F. Hirst (Coventry, *Epiplatys tetra*), Large: Messrs Atwood & Williams (Rubery, piranha), Cichlids, small: Mr D. Sewell (Sherwood, berni), Large: Mr A. Gregory (Haden, pike cichlid), Danios, rasboras and minnows: Mr R. Holtom (Derby Regent, White Cloud Mountain minnow), Pairs, egg-layers: Mr D. Cleaver (Rubery, *Alopius*), Labos: Mr R. Harris

(Derby Regent, Labo bicolor).

Guppies: Mr R. Holmes (Derby Regent). **Catfish:** Mr D. Sewell (Sherwood, melanota). **Pairs, livebearers:** Mr J. Igoe (Sherwood, sailfin mollies). **Breeders, livebearers:** Mr & Mrs Simpson (Bedworth, amata). **Breeders, egglayers:** B. & F. Hirst (Cwenty, clown killies). **Killies:** B. & F. Hirst (A. brand). **A.o.v. catfish and loaches:** Mr A. Gregory (Haden, *Botsia modesta*, best in show). **A.o.v. livebearers:** Mr & Mrs Balson (Bedworth, platy). **A.o.v. freshwater and marines:** Messrs Whitfield & Massey (Babery, *cuchia celi*). **A.o.v. coldwater:** Master Pratt (Bedworth, oranda).

MR K. PARKES of Merseyside A.S. received the best in the show award at **GLOSSOP A.S. Open Show**. Class winners were:

Guppies: Mr D. Harvey (Independent, 76). **Swordtails:** Mr N. R. Gibson (Huddersfield, 75). **Mollies:** Mr M. Whitlam (Scunthorpe, 77). **Platy:** Mr K. Callow (Belle Vue, 76). **Small gouramis:** Mr E. Birchwood (Oldham, 78). **A.o.v. gourami:** Mr L. Lindley (Salford, 75). **Fighters:** Mr J. R. Rhoades (Scunthorpe, 78). **Barbs, small:** R. & E. Johnson (Ashton, 75). **Large:** Mr A. Rowling (Sunnybrow, 74). **Dwarf cichlids:** Mrs Grimshaw (Sunnybrow, 74). **A.o.v. cichlids:** Mr & Mrs Wilks (Middleton, 76). **Angels:** J. W. & A. K. Jackson (B.V., 74). **Characins, small:** J. W. & A. K. Jackson (B.V., 74). **Large:** Mr K. Parkes (Merseyside, 82). **Killifish:** Mr Forester (B.K.A., 75).

Corydoras catfish: Mr R. Davies (B.V., 75). **A.o.v. catfish:** Mr L. Kaye (Top Ten, 74). **Loaches:** Mr G. Stewart (Hyde, 74). **Sharks and flying fish:** Mr M. Whitlam (Scunthorpe, 74). **Danios, rasboras and minnows:** J. & B. Dawson (Oxram, 75). **A.o.v. tropical:** Mr & Mrs Hoop (B.V., 77). **Fancy goldfish:** Master A. Kaye (Top Ten, 74). **A.o.v. goldfish:** Mr & Mrs Toyne (Sheffield, 75). **A.o.v. coldwater:** Mr J. S. Hall (Aireborough, 75). **Miso-jars:** Mr & Mrs Cobb (B.V., 77). **Pairs, egglayers:** Mr J. R. Rhoades (Scunthorpe, 75). **Pairs, livebearers:** Mr J. Igoe (Sherwood, 74). **Breeders, egg-layers:** Mr J. Higgins (Oldham, 76). **Breeders, livebearers:** J. & B. Dawson (Oxram, 75).

HOW are you up on shapes—guppy shapes, that is? At the monthly meeting of the **CENTRAL SUSSEX SECTION** of the **F.G.A.**, members were shown by chairman Mr D. Soper and secretary Mr R. Elmes, how to judge their fish and which shape class to enter them in at the monthly table shows. At the June show the first-prize winners were: Mr A. Temple (top sword); Mrs Stringer (long dorsal veil); Mr D. Soper (delta); Mr D. Soper (fantail); Mrs Stringer (colour female); Mr A. Temple (superba female); Mr D. Soper (wedge female); Mr D. Soper (natural tail); Mr D. Ransome (experimental male); Miss J. McNab (junior males); Mrs Stringer (round-tail female); Miss B. Soper (junior female); Mrs Stringer (colour male); Mr and Mrs Elmes (breeder, female); Rodney Elmes (junior breeders).

Later there was the usual auction of guppies and equipment. Further information may be obtained from secretary: Mr R. Elmes (24 Sunview Avenue, Peacehaven; phone 2534).

BEST fish in the show award at **BISHOPS CLEEVE A.S. Open**

Show was won by Mr R. Whitfield and Mr P. Massey. Class winners were:

Class 1: 50 entries. Class 2: Mr N. Furness. Class 3: Mr C. J. Rossiter. Class 4: Mr B. Whittaker. Class 5: Mr P. Greenwood. Class 6: Mr C. F. Pass. Class 7: Mr K. Attwood. Class 8: Mr Whittaker and Mr Murchin. Class 9: Mr N. Furness. Class 10: Mr R. Hoare. Class 11: Mr R. Hoare. Class 12: Mr R. Hoare. Class 13: Mr R. Hoare. Class 14: Mr R. Hoare. Class 15: Mr M. Strange. Class 16: Miss C. Bull.

Class 10: winner not named. Class 20: Mr K. Attwood. Class 21: Mr Whittaker and Mr Massey. Class 22: Mr and Mrs M. Williams. Class 23: Mr D. R. Embling. Class 24: Mr M. Sarzuela. Class 25: Mr M. Strange. Class 26: Mr C. J. Rossiter. Class 27: Ann Tattersfield.

AT BILLINGHAM A.S. first annual Open Show 246 entries were benched. Judges Mr Tate and Mr Atherton awarded best fish in the show to the flying fox entered by Mr L. Drummond, and the best exhibitor's shield was won by Mr and Mrs J. Arwell of Billingham. Club member Mr Wayne Marshal, proprietor of Billingham Pet and Garden Centre, supplied the trade stand. Class winners were:

Guppies: Mr Milner (S.T.A.S.). **Platy:** Mr Cook (Independent). **Mollies:** Mr Steel (H.P.A.S.). **Swordtails:** Mr Pickard (H.P.A.S.). **Characins, large:** Mr Frank (H.P.A.S.); small: Mr Cook (Ind.). **Cichlids, large:** Mr and Mrs Enright (Houghton); small: Mr Simpson (Ind.). **Angels:** Mr Frank (H.P.A.S.). **Barbs, large:** Mr Paterson (Billingham); small: Mr and Mrs Atwell (Billingham). **Egg-laying toothcarps, rasboras, danios and minnows:** Mr and Mrs Atwell. **Anabantids:** Mr and Mrs Paterson (Ind.). **Fighters:** Mr and Mrs Low (C.A.S.). **Catfish:** Mr and Mrs Low (C.A.S.). **A.o.v.:** Mr Drummond (W.A.S.). **Sharks and botias:** Mr Greenlee (S.T.A.S.).

Coldwater: Mr Hickford (S.T.A.S.). **Furnished jars:** Mr Sharke (M.P.A.S.). **Breeders:** Mr Walker (S.T.A.S.). **Breeding pairs, livebearers:** Mr Thomas (Ind.). **Breeders, egg-layers:** Mr Neworthy (P.A.S.). **Breeders, livebearers:** Mr Thomas (Ind.).

MR BAILEY of Sunderland judged the 107 fishes on view at the **HOUGHTON & D. A.S.** and **HETTON COUNTY A.S.** inter-society show. 40 members and visitors were present, and the best fish in the show was a red-tailed black shark exhibited by Mr J. Hellens. First places awarded were:

Furnished jars: Mr R. Apperley. **Guppies:** Mr A. Richardson. **Mollies:** Mr T. Wrightson. **Swordtails:** Mr A. Allinson. **Barbs, small:** Mr C. A. Enright; large: Mr E. Buck. **Characins, small:** Mr T. Wrightson; large: Mr J. Hellens. **Cichlids, small:** Mr C. A. Enright; large: Mr R. Allinson. **A.v. fighter:** Mr H. Leighton. **A.o.v. labyrinth:** Mr R. Apperley. **Sharks:** Mr J. Hellens. **Rasboras and danios:** Mr E. Buck. **Egg-laying toothcarps:** Mr J. Gardener.

Corydoras: Mr C. A. Enright. **Catfish and Loach:** Mr R. Allinson. **Breeding pairs, livebearers:** Mr C. A. Enright. **Breeding pairs, egg-layers:** Mr K. Wilkinson. **Breeders, egg-layers:** Mr C. A. Enright. **Breeders, livebearers:** Mr G. Moore. **A.o.v.:** Mr J. Gardener. **Coldwater:** Mr C. Muir.

MR LEWIS DOUBLEDAY, secretary of the **SOUTH WESTERN GROUP** of the **BRITISH MARINE**

STROUD & D. A.S. are holding their second Annual Convention at 3.0 p.m. on Sunday, 10th October at the Mid. Glos. Technical College, Stratford Road, Stroud. Amongst the eminent guest speakers will be Mr Roy Skipper. Details from secretary, Mrs J. Jones, 14 Erin Park, Lightpill, Stroud, Glos.

A.S. writes: 'Members of our group held a deep water rally off Berry Head, Brixham, Devon. Co-operating with the members were divers and boats from the Brixham Sub-Aqua Club. Weather conditions were far from ideal (not a dry shirt amongst us) but the outing, the first of its kind, was successful. The divers did an excellent job foraging the sea bed for specimens. These were brought to the members' boats to study, keep or return to the sea. A few of the items brought up were: sponges—*Sycon ciliatum*, *Geodia muelleri* and *Halichondria panicea*; tube worms, *Serpula vermicularis*, *Spirigrahis spallanzani* and *Sabella patonina*; several varieties of crabs including some very nice species of hermit crabs. Amongst the shellfish, the great scallop and the queen scallop; amongst the starfish were some not too plentiful feather stars. Several members in the boats fished with baited drop nets but had only limited success, producing a few gobies and wrasses; some of these were too big to keep and were returned to the sea. The divers were as enthusiastic about the expedition as the marine aquarists. Mr John Farr, who organised the divers, said that he hoped that from this little beginning more divers would co-operate with marine aquarists so that the hobby of sub-aqua diving could add an interesting branch of knowledge to their hobby.'

In Brief

... **MR KNOTT** of **ILFORD & D. A. & P.S.** has won the Society's annual home pond competition (2, Mrs Rowe, 3, Mr Grounds). Table show winners at the July meeting were: a.v. barbs, Mr M. Perry; a.v. mollie, Mr W. Rowe; a.v. catfish, Mr R. Ruth; a.v. singletailed pond fish, Mr W. Rowe. The best fish in the show was a cherry barb entered by Mr M. Perry.

... **BRADFORD & D. A.S.** recently produced the first of their new-style bulletins. Added to the improvements already made this year is the

introduction of a printed cover. Society members were grateful to Mr H. Foden for stepping in at the last minute as the speaker at their June meeting. As a professional aquarist, he gave a most interesting talk, including his views on white worms and described recent events in his shop, after which he was able to advise members on various topics. 'Hot and Cold Fishkeeping' was the title of another talk enjoyed by members.

... **WARRINGTON A.S.** regret that it has been necessary to cancel their Open Show. This was to be held on 12th September.

... **SINCE** members of **LEAMINGTON & D. A.S.** were unable to hold their July meeting at the usual venue because of the Royal Agricultural Show, they took the opportunity to visit Draycote Reservoir near Rugby. An official of the Rugby Water Board took them on a conducted tour and the lovely balmy summer weather completed the pleasure. Editor of the Society's Newsletter, reporting on his visit to New Jersey, U.S.A., writes: 'We have to report that having met up with fellow aquarists were are very agreeably surprised that we are indeed holding our own. Our Club is considerably bigger in number than the New Jersey club; they hold only one meeting per month, and we gave them many more ideas than they gave us; this they confessed to.'

... AT a recent discussion meeting on cichlids by members of **COVENTRY P. & A.S.** everyone was in general agreement that, contrary to statements in most of the literature, angel fish, especially when large, are vicious fish and should not be kept with smaller species. Winners of the table show (M.A.I., eliminator) were: livebearer broods, Barry and Frank Hirst; a.v. characina, Mr Ted Sheehy; a.v. coldwater, Mr Dave Easingwood.

... **MR ROY SKIPPER** has accepted the position of president of **HEMEL HEMPSTEAD & D. A.S.** Club members have recently enjoyed a lecture by Mrs G. Skipper on furnished aquaria.

... **RESULTS** of the inter-club show held between the member societies of the **SOUTH THAMES AQUARIST GROUP** were: 1 (joint), East Dulwich and Clapham A.S., 666; 3, Croydon, 667; 4, Freeland, 666.

... **KEIGHLEY A.S.** members took advantage of the summer weather and held their July meeting on the lawn of member Mr Coedingley. Ball games made an unusual diversion while the judging took place of the table classes. Winners were: fish of

HENDON & D. A.S. are pleased to announce that their guest speaker for this year's Congress is Mr Alec Fraser-Brunner, curator of the Carnegie Aquarium, Edinburgh Zoo. The Congress is being held at Whitefields School, Claremont Road, London, N.W.2 on 20th November at 6.0 p.m. and details and tickets can be obtained from the secretary, Mr R. J. Deacon, 88 Cotswold Gardens, London, N.W.2.

the month, breeders, 1 and 2 Mrs Gear; a.o.v., Mr J. Mosley.

... A **SMALL** shoal of piranhas in a 70-gallon all-glass aquarium provided a show-stopping centrepiece to the **BRISTOL A.S.** exhibit at the Bath and West Show at Shepton Mallett. Bristol shubunkins in a pool with

fountain and water lilies represented the coldwater side of the hobby. A variety of competitive classes, open to members, completed the exhibit. Mr Eric Wilson won best tropical fish and best in show awards with a *Tilapia mariae*, and a scaled fantail, shown by Mr S. Lloyd, won the best coldwater award.

... **TELFORD A.S.** are holding regular table shows and meetings at the Scout Hall, Hadley. 26 members attended the July meeting and were entertained by an excellent talk from Mr Ron Tench on foods and feeding. Table show winners were: barb, Mr R. Rowley, plants, Mr M. Thornycroft. For further information about the Society contact secretary Mr R. Hughes, 103 Stonedale, Sutton Hill, Telford, Salop.

Dates for Your Diary

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

4th September. **YATE & D.A.S.** 5th Open Show. Christ Church Hall, North St. Downend, Bristol. Details: Mr C. E. Stokland, 40 Burgess Close, Chipping Sodbury, Bristol BS17 2EL.

4th September. **BETHNAL GREEN A.S.** Open Show. Bethnal Green Institute, 140 Bethnal Green Road, London, E.2. Schedules: Mr S. G. Cowell, 25 Duxton Road, Leyton, London, E15 2AF.

4th September. **RHONDDA A.S.** third Open Show. Rhondda Transport Club, Park, S. Wales. Details: Mr M. Williams, 122 Top Trebanog, Trebanog, Rhondda, Glam.

4th-5th September. **MID-HERTS A.S.** International Open Show. Major trophies for all classes. Schedules: Mr C. S. A. Withers, 15 Charnwood Road, St. Albans, Herts. (Phone 52145).

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

5th September. **WEYMOUTH & D. A.S.** Open Show. The Small Sidney Hall, Weymouth, Dorset. Details: Mr T. Hatten, 53 Bownslow Street, Weymouth.

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

5th September. **COVENTRY P. & A.S.** M.A.I. Show. Foleshill Community Centre, Foleshill Road (A444), Coventry. Open classes—characina and cichlids. Booking 0670 2.30 p.m. Details: Mr S. Woodbridge, 31 Ridgeway Avenue, Coventry.

5th September. **WELLINGBOROUGH & D.A.S.** Open Show. The Dell Hall, High St, Wellingborough. Trophy for every class. Show secretary, Mr J. Phillips, 19 Burnwill Drive, Rushden, Northants.

12th-11th September. **BRISTOL A.S.** Open Show. St. Michael's Hall, Bishopston. Details: Mr S. Lloyd, 4, Curlew Close, Frenchay Park, Bristol 5. Phone 656532.

17th September. **HARWICH & D. A.S.** annual Exhibition of Tropical Fishes. The Queens Hotel, Dovercourt, Essex. 10.00 a.m. -5.00 p.m. Secretary: Mr M. Bird, 3 Macdough Cottages, Station Road, Harwich, Essex.

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

12th September. **CYMRU NATIONAL AQUARISTS' ASSOCIATION** first General Assembly. Angel Hotel, Cardiff. 4.30 p.m. Enquiries to Mr Dick Richards, 1 Sherwood, Llanwynypus, Rhondda.

14th September. **BRITISH KILLIFISH ASSOCIATION (COLLINGHAM GROUP)** third Open Show. Collingham Memorial Hall, nr Wetherby, Yorks. Details: Mr Crowther, 8 Beechwood, Church Street, Woodisford, Leeds.

15th September. **BRIGHTON & SOUTHHERN A.S.** eighth Open Show. The Marston Centre, Marston Road, Hove, Sussex. Details: Mr R. Browning, 24 Rowan Close, Portlaine, Sussex.

15th September. **NOTTINGHAM & D. A.S.** Open Show. Parish Hall, Mansfield Road, Selton, Notts (1.5 miles from both Junctions 27 and 28 on M1). Booking 12.00-2.15. Details: Mr N. KERRY, 435 Mansfield Road, Sherwood, Nottingham. Phone 68858.

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

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

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

19th September. **CLEVELAND A.S.** fourth Open Show. British Legion Hall, West Gate, Guisborough, Yorks. Schedules: Mr Todd, 24 Penland Avenue, Kirkstatham Estate, Redcar, Teesside.

18th September. **G.S.G.B.** Convention. Farrington House, Stonor Hill, Sunon, Surrey.

25th September. **BRACKNELL & D. A.S.** Open Show. Pinnerwood Community Centre, Pinnerwood Court Road, Bracknell (opposite Admiral Cunningham Hotel). Schedules from Mr L. Jordan, 62 Fernbank Place, Ascot, Berks.

25th September. **WEST CUMBERLAND A.C.** Open Show. New Civic Hall, Whitehaven.

25th September. **HUCKNALL & BULWELL A.S.** Open Show. Bulwell Youth Club, Coventry Road, Bulwell, Notts. Schedules: Mr E. Smith, 111 Longwood Drive, Daybrook, Nottingham.

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

26th September. **MIDLAND ASSOCIATION OF AQUARISTS SOCIETIES** Commemoration at Dudley Zoo.

26th September. **NORTHAMPTON & D. A.S.** Open Show. Drill Hall, Northampton. Schedules from Mr B. Edwards, 18 Dewcoote Road, Road, Northants.

26th September. **SELBY & D. A.S.** first Open Show. The Museum Hall, Park Street, Selby, Yorks. Breeding 12.30-2.30 p.m. Schedules from Mr B. Conlon, 29 Barby Road, Selby, Yorks.

26th October. **EAST LONDON A. & F.A.** 25th Open Breeders Show. (Judges, Mr C. A. T. Brown, Mr B. Baker, Mr F. Tumkine.) Schedules: Mr F. Vickers, 25 Irons Way, Romford, Essex: phone 92512.

27th October. **EALING & D. A.S.** Open Show. Northfields Community Centre, Northcroft Road, London, W.13. Details, Mr R. Sellers, 3A Lady Margaret Road, Southall, Middlesex.

28th-19th October. **BRITISH AQUARIST FESTIVAL** at Belle Vue, Manchester.

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26th October. **REIGATE & REDHILL A.S.** Open Show. Schedules from Mr J. Wood, 22 Rickman Hill, Coulsdon, Surrey. Change of date from 26th September.

26th October. **STROUD & D. A.S.** second annual Convention. Mid. Glos. Technical College, Stratford Road, Stroud, Glos, at 3.0 p.m. Details from Mrs J. Jones, 14 Erin Park, Lightpoll, Stroud.

16th October. **KINGSTON & D.A.S. & SOUTH PARK AQUATIC (STUDY) SOCIETY** combined Open Show. Territorial Army centre, Farrington House, Starecourt Hill, Sutton, Surrey. Schedules: Mr G. E. Greenhalf, 39 Garth Close, Morden, Surrey.

17th October. **SHERWOOD A.S.** Open Show. Thorsby Miners Welfare Hall, Edwinstown, Nr. Ollerton, Mansfield, Notts. Schedules from Mr J. Igoo, 25 Marples Avenue, Mansfield Woodhouse, Notts.

23rd October. **CATFORD A.S.** Open Show. Schedules from Mr J. D. Wilson, 130 Paston Crescent, Lee, London, S.E.12: 01-857 4913.

26th-31st October. **THE AQUARIUM SHOW '71.** Royal Horticultural Society Old Hall, Vincent Square, London S.W.1.

31st October. **HALIFAX A.S.** 26th Open Show. Standeven House, Broonsfield Avenue, Halifax. Details: Mr J. Grundy, 19 Tower Gardens, Wakefield Gate, Halifax.

31st October. **BUXTON & D. A.S.** first Open Show. St Thomas Moore's School, Palace Road, Buxton, Derby. Details from Mr J. A. Stradden, Roadside, 29 Dale Road, Dove Holes, Buxton, Derby.

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

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

20th November. **HENDON & D. A.S.** Annual Congress. Whitefields School, Claremont Road, London, N.W.2. Details and tickets from Mr R. J. Deacon, 88 Cotswold Gardens, London, N.W.2.

11th November. **CASTLEFORD & D. A.S.** Open Show. Castleford Secondary Boys School, Castleford, Yorks. Details: Mr Eyr, 41 Leatham Crescent, Punton, Featherstone, Yorks.

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

The HENDON CONGRESS
20 November 1971
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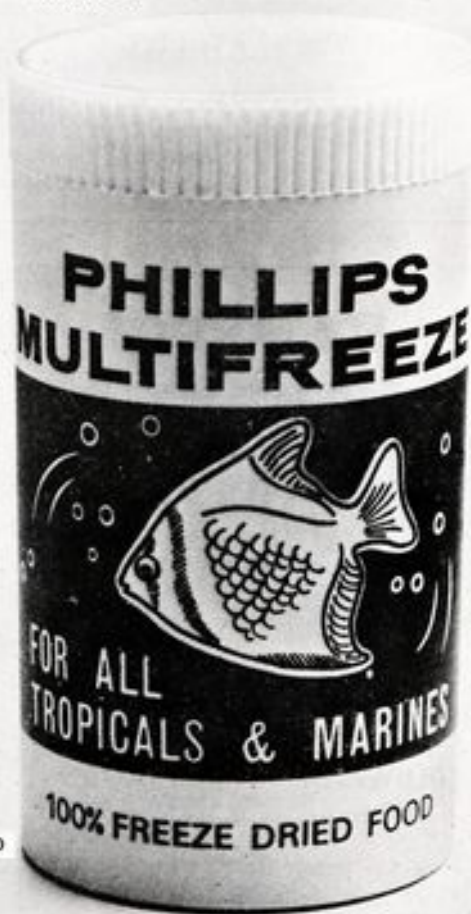
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