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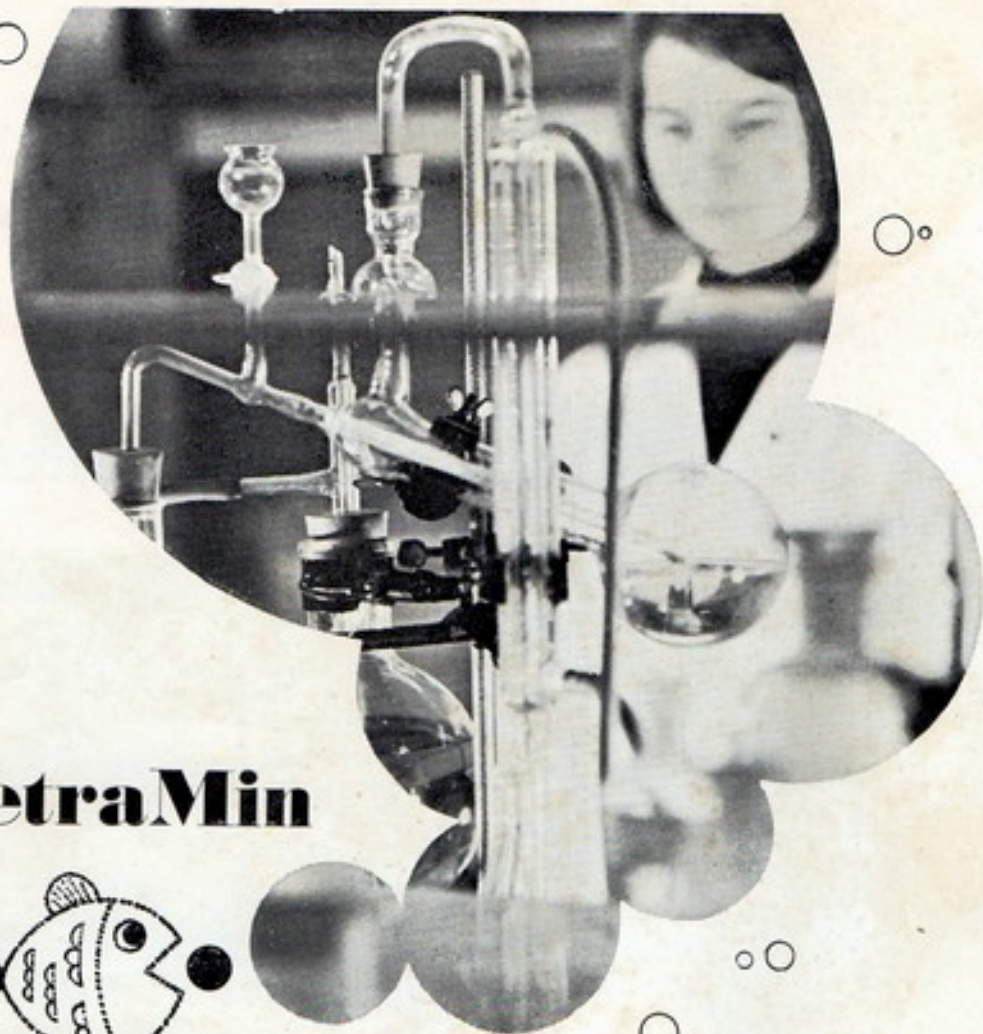
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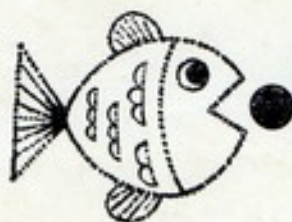
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PetFish

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Comments and Quotes

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The Aquarium Show 1968

FOR more than 12 years, since the last National Aquarium Show put on by the National Aquarists Society, there has not been in central London a public show devoted exclusively to fishkeeping. The cessation of that annual event has been a source of regret for many aquarists ever since, and it has for long seemed to us a sad omission that our hobby and its interests have not been represented on the capital's exhibition scene.

This year THE AQUARIUM SHOW, announced in last month's issue, will put this deficiency to rights. The Show is being sponsored by PETFISH MONTHLY, and staged with the co-operation of the Federation of British Aquatic Societies. It will be open to the public from the 7th to 10th November at the Royal Horticultural Society's Old Hall, which older aquarists will remember as the venue of the old 'National'. The theme of the Show will be Fishkeeping in the Home, Garden and School, to demonstrate to the public the ways and means by which this hobby is pursued by its devotees.

Societies and individual aquarists are being invited to enter for the usual competitive classes that will be arranged. However, the aim is to build up an attractive spectacle to entice non-fishkeepers as well as fishkeepers to attend, and the competitive side is not the only purpose of the Show. Competitive showing is well served by the many local society shows held annually all over the country, and experienced showmen in the hobby know that it is not only another event presented in the same way, even if it is on a larger scale, that is required to make a successful

major public presentation in London.

The Organising Committee set up by the F.B.A.S. is formed by Society members who are making the plans and will be considering ideas put forward by clubs and other interested parties. All readers of PFM also have the chance to make suggestions or to say what they would most like to see at the Show this year. Manufacturers and the aquarium trade generally are being approached to exhibit at the Show, and there is no doubt that a full display of the equipment that aquarists use will additionally stimulate interest for visitors.

This event has been asked for from within the hobby. It can only be staged with practical support from those within the hobby. The F.B.A.S. and PETFISH MONTHLY are confident that the support will be forthcoming and promise you that 7th-10th November 1968 are dates you must note and tell your friends about.

Corals on the March

ALTHOUGH most people would regard living corals to be a fixed part of the great reefs built mainly by their activities over many thousands of years, it seems that they can in fact move around. At least this is true for the scleractinian corals, which are rather like tiny sea anemones having a hard chalky exterior skeleton.

Investigations made at Lizard Island on the Great Barrier Reef and reported by Professor C. M. Yonge and Dr T. F. Goreau in NATURE show that two species of coral (*Cycloseris* and *Diaseris*) can slowly rise to the surface of a layer of mud experimentally placed above them to cover them, and they can also

Help Wanted in Research

IT has become of considerable importance to age research that we should find out more about the longevity of the various species of killifish. These are probably the shortest lived vertebrates, and as such might prove important experimental material. I am accordingly writing to enlist the support of breeders and aquarists. The genera in which we are interested are *Aphyosemion*, *Nothobranchius*, *Cynolebias* and their relations. In particular we wish to compare the survival of 'annual' and non-annual species.

All that is required from any fishkeeper who wishes to assist is that he record the date of hatching of a batch, the date of death or loss to the record (with details) of each individual in the batch, and the temperature and conditions. No interference with the fish is involved beyond counting them at intervals until all are dead. Sexes should if possible be accounted separately, and the species correctly identified. I will be happy to provide fuller instructions and record forms, and to answer questions about the research if required.

The findings will take about 2 years to come in. They will save us a great deal of labour, since we cannot ourselves keep all the available aquarium species of short-lived fish in order to determine the most suitable. I think that a project of this sort may well appeal to aquarists, and I would be most grateful if anyone willing to cooperate will get in touch with me.

M.R.C. Group on Ageing,
Dept. of Zoology,
University College London, London, W.C.1

ALEX COMFORT, M.B., D.S.C.

turn themselves up the right way if inverted. Each uses a different method to ascend through the mud: *Cycloseris* moves its tentacles to make currents of water whereas *Dianeris* ingests water until it swells enormously, which assists it to float its heavy skeleton upwards. Slow creeping movements are also reported for these corals and another species lives in association with worm-like animals whose movements pull the coral along.

Mini-tanks are Out

MINI-TANKS in the shape of the 4 inch by 4 inch show jar will be seen on open show benches as miniature furnished aquaria for the last time this year. From January, 1969 10 inch by 8 inch by 6 inch tanks will be the minimum size permitted for judging by the Federation of British Aquatic Societies show rules.

This decision, taken after a vote at the F.B.A.S. Assembly last month, was the result of complaints that displays of furnished jars were detrimental to the aim of encouraging proper furnished aquaria at shows and that such exhibits can give the public a false impression of the way in which fishes should be kept. There is no doubt that the furnished mini-tank has become very

popular and its setting up can test skill and artistic sense; for this reason it is unlikely to disappear altogether, and it also represents almost the only means of providing a furnished tank competition at a society's evening meeting.

It is right that there should be no risk of a visitor to a one-day show being misled, by the sight of fishes displayed in relatively small jars, into thinking that these are suitable permanent aquaria. Although it has been suggested that a notice could be displayed on the jars at shows to indicate the temporary nature of such exhibits, we think that this would be unsatisfactory and as harmful to a show's purpose of gaining new fishkeepers as the display without such a warning.

Hydra Finds the Fry

ALTHOUGH it is well known that *Hydra*, the tiny anemone-like creature that sometimes makes itself a nuisance in freshwater breeding tanks, can eat fish fry, it was interesting to see some new facts on *Hydra's* performance in that direction. These were given in THE PROGRESSIVE FISH CULTURIST in a study of deaths of newly hatched bluegill fry at a Michigan fish farm.

Michael D. Clady and Gerald U. Ulrikson observed that when blue-

gills (*Lepomis macrochirus*) made nests and laid eggs in these in a large tank heavily infested with *Hydra*, the nests were invaded by the polyps in thousands within a day or two. The *Hydra* appeared only in nests with eggs, and from those nests no fry subsequently emerged. The observers found that the *Hydra* quickly stung, killed and swallowed bluegill fry even when these were free-swimming and 2 weeks old. Any fry that broke away from contact with the polyps died subsequently. Eggs of the fish were not affected by the polyps before hatching.

It has not before been reported that *Hydra* will move into an area of hatching fish eggs, and the way in which the polyps 'gets the message' is not known. It is suggested that either a chemical material exuding from the hatching eggs is detected by the *Hydra* or else they become aware of slight water movements caused by the wriggling fry.

Debunking Department

SIXTEEN years ago there appeared in a week-end newspaper a set of pictures that we filed away as a perfect example of press bunkum about fishkeeping. One picture showed a white-gowned and masked figure in surgeon's cap, standing over a fish on a table bedecked with surgical instruments that could only have been the borrowed tools of a horse doctor. By his side stood a similarly attired female. 'The surgeon and an assistant treat a shu-bunkin fish for tail rot, a disease that can kill in eight days' read the caption.

We really thought we'd never see the like again, but in the SUNDAY MIRROR recently what should turn up but a picture of a masked and capped figure with surgical tool poised over a barb. Another fish surgeon! He had, the caption told us, 'just sixty seconds to complete his delicate surgery. If the fish is out of water any longer than that it will die'. We still cannot work out whether the face-masks are to protect the fish or the operator. Do these characters really dress up like this when photographers are not in the offing? If they do, then we can save such budding Ben Caseys a lot of discomfort—it's just not necessary fellers!



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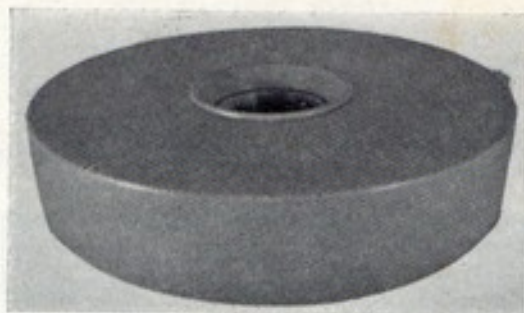
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criticisms that no new ideas come from Britain, so I am suggesting to you that you should run a 'Back Britain' campaign with the help of your readers.

My suggestion is that you ask your readers for ideas for products which would be useful in the aquarium field. They would submit these ideas to you and I promise that each of these ideas would have my personal attention and a reply. I would ask you to act as referee to be quite sure that your readers are quite fairly treated with any ideas that should be suitable for actual production.

So now you have at least one manufacturer who is making an active effort to back Britain. Now it is up to your readers to help.

Dorking, Surrey

DR J. N. CARRINGTON
Managing Director, Inter-Pet Ltd.

An invitation to readers to put forward ideas was printed last month in Comments and Quotes, and we are pleased to add Dr Carrington's personal renewal of the invitation.—
EDITOR.

Cichlids in the Canal

WHILST reading through an angling paper recently I noticed an article which may be of interest to your readers. Apparently there are cichlids living and breeding in the St Helens canal.

The fish were introduced to the canal some years ago by a local pet shop keeper who had a number of these fish which he could not sell, so the fish were put in the canal. Due to a glass works which constantly sprays hot

water into the canal the water is obviously kept at a fairly high temperature during the winter and summer. The result is that these fish are breeding in water which by no means could be described as clean, and there are now a great number of these fish in this particular stretch of the canal.

Erith, Kent

D. J. WALKER

Take it Slowly

I WAS interested in the comment of reader H. Vinal in his letter this month (PFM, March) that as a newcomer he received considerable advice, 'much of it practical and most of it sensible', and I was reminded of the best advice I received at the same stage. This was to 'take it slowly'. I've so often heard people express great disappointment at the sight of their tank when only a few weeks previously they had been wildly enthusiastic about starting the hobby. But their enthusiasm was for getting some fish in to swim about the tank and it was probably a case of 'bother the plants'.

It really does pay to prepare the 'background' properly, and to buy sufficient plants for the size of the tank. Certainly two and sixpennyworth of plants will spread in time but planted in a 2 ft. tank they will not give the impression of a lush green background. So, if it's a case of counting the pennies first, as it is for most of us, my advice would be to get just a few fish to start with and to buy more plants than might otherwise have been possible.

Nuneaton, Warks.

L. STEWART

Readers' Queries Answered



Boils

My adult angel fish has developed several boils or ulcers quite near the eye, which 'burst' every 2 or 3 days and then start to build up again. One of my books states that the ulcers should be treated with a tincture of equal parts of iodine and aconite, but I cannot obtain this prescription because aconite is on the poisons list.

The iodine and aconite remedy is rather an old-fashioned druggists' mixture, of dubious value for topical application to a fish. Ideally the fish should be treated by medicating

the water of a separate small aquarium with an antibiotic such as Terramycin, which a veterinary surgeon could supply for the payment of his usual professional fee; and in fact this substance can be used in the main aquarium without harm to the other fishes. However, a safe and efficacious treatment for many skin conditions, if a separate tank can be used, is the use of salt and it is always worth trying this first. Keeping the fish for about 10 days in water having two teaspoonsful of sea salt dissolved in every gallon could well clear up the trouble.

Discus Fish

My young discus fish, which have been thriving for weeks, have suddenly gone very dark in colour and are refusing to feed. They have been taking Tubifex worms and I notice that there are a good many alive in the gravel. Is there anything I can do?

Yes, there certainly is! It sounds very much as though uneaten Tubifex worms are causing pollution. The first thing to do is to siphon out all the gravel in the area where the worms are to be seen. (Use a wide-bore siphon tube for this job.) The gravel may well have turned black underneath owing to bacterial action and it should be washed thoroughly and boiled, or have boiling water poured over it, before being returned to the tank. These fish are very sensitive to foul water conditions, and some of the tank water must also be changed—a good third one week and the same quantity about

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THE AQUARIUM CATFISHES—2

Other Armoured Cats

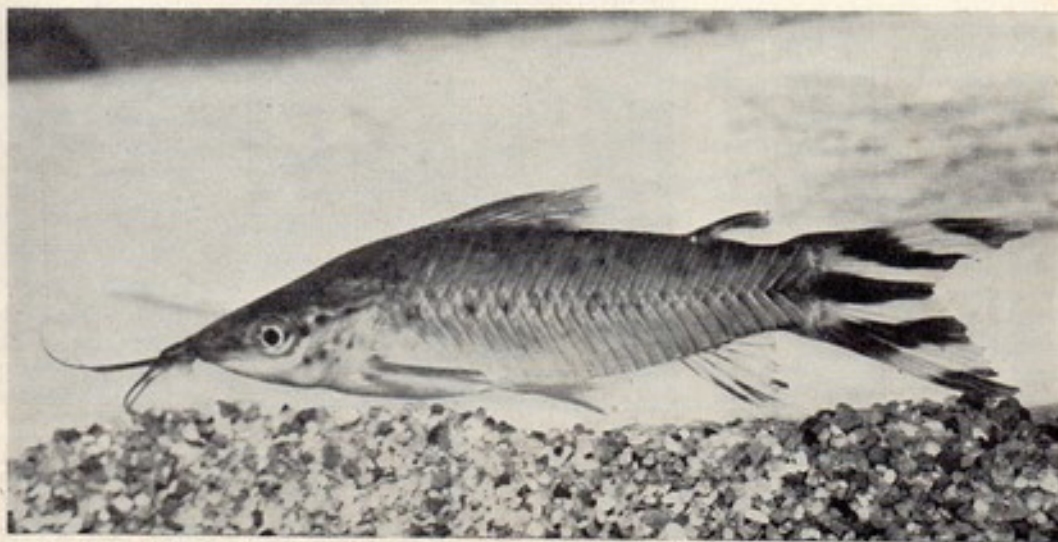
By BRAZ WALKER

ASIDE from the genus *Corydoras* and the very similar green catfish, *Brochis caeruleus*, which looks almost like a colorful and overstuffed *Corydoras aeneus*, the genera *Callichthys*, *Dianema* (sometimes referred to as *Decapogon*) and *Hoplosternum* comprise most of the remaining bulk of the catfishes of the family Callichthyidae which are of interest to the aquarist. These are for the most part larger than the *Corydoras* species and make fine show fishes for larger aquaria, while at the same time performing 'clean-up crew' duties.

Callichthys callichthys, as the name would suggest, could be considered a 'typical' armoured catfish in appearance and habit although for some aquarists it may take a bit of mental adjustment to see the similarity of form and feature which it shares with other family members such

as *Corydoras*. Especially in larger sizes, the subtlety and quaintness of these smaller brethren are gone. *Callichthys* is more hardy and rugged in appearance, less handsome than most and more retiring. Despite this there is somehow a charm to this mostly brownish and rather unspectacular creature which many of the prettier and more ordinary fishes lack.

The porthole catfish, *Dianema longibarbis*, was so named because of a lateral series of black dots adorning the sides which in combination with the streamlined form gives (with a bit of imagination) the impression of portholes along the side of a ship. Although not a particularly colorful fish, the porthole catfish is nevertheless attractive with his trim lines, nice pattern and tidy little moustache. The arrangement of the overlapping



The striped porthole catfish (*Dianema urostriatum*) is perhaps the most handsome of the callichthyid catfish. It resembles the porthole catfish but the tail of the latter fish is without the stripes and clear

armour plates is particularly noticeable and easily studied in this fish.

Certainly among the more handsome medium-sized aquarium catfishes is the striped porthole catfish from Brazil, *Dianema urostriatum*. It almost seems as if the creator decided to make a sports model of the original porthole by decorating the caudal fin or tail with alternating broad stripes of black and white. Both portholes are excellent aquarium catfishes, although the non-sports model is somewhat more available and consequently less expensive.

The 'hoplo' catfish or 'spotted callichthys', *Hoplosternum thoracatum*, is a favourite among the larger catfishes of 5 inches or so. Also known as 'spotted panzerwels' (panzer—armoured, wels—catfish), they are for the most part hardy, long lived and inoffensive. There are a number of colour variations of this fish which come from different locales and are regarded by some authorities as sub-species while others consider them distinct species. Some of these are quite handsome.

This is one of the several bubble-nest-building

callichthyids. The bubble nest is built under floating objects resembling lily pads. A number of accounts of their breeding have been published.

The callichthyids possess a supplementary air-breathing ability quite different in its mechanism from that of gouramies, snakeheads and lungfishes. It consists of the ability to 'swallow' bubbles of air at the surface, force the air into the intestinal tract and remove the oxygen through absorption by countless tiny surface blood vessels. This system is known as 'intestinal respiration' and evidence of its efficiency is found in the fact that not only can callichthyids often be found surviving in pools in which other fishes have already died from lack of oxygen or from pollution, but land excursions are also made possible if a search for greener pastures becomes advisable. Those such as *Hoplosternum* use the powerful spines of the pectoral fins to 'waddle' overland with a rather surprising rate of speed as long as the skin remains moist.

To be continued

PFM Photo COMPETITION

Photo entries for the PFM Photo Competition are rolling in fast. Selected for reproduction this month from the black and white pictures received is this photograph by Mr B. Reid of London, W.12, who receives one guinea



There are no special categories of entry for this Competition. Photographs in black and white or colour (prints or transparencies) can show your favourite fish in close-up, the interior of your aquarium, fish breeding or other fish behaviour, or your garden pond. Each entry will be judged according to photographic merit as well as for its interest to fish-keepers. Main cash prizes will be

£5 each, with subsidiary prizes of £2 each, plus a monthly chance of being paid one guinea if a picture is selected for printing in an issue of PFM appearing before final judging and announcement of results. Use the entry form from a current issue of PFM when sending your pictures and please read the Rules and Conditions for the Competition printed in the February issue of PFM.

as 3 days after the first out, because of the different temperatures at the different levels of water. Early hatched alevins will thrive at the expense of the later hatched ones, for they will have the best of the food.

With the hand-spawned eggs resting comfortably in a glass dish, it is possible to hatch them all in a matter of 4 hours, thus giving each alevin an equal chance for survival with the others.

The glass tray can be put at whatever depth of water is thought to be the most advantageous for hatching by supporting it on bricks or jam-jars to give the desired height.

Dirt and bacteria are normal hazards for hatching eggs, and under natural conditions these take a heavy toll of the eggs. In a glass dish, with pumped aerated and filtered water passing over them, the eggs are kept constantly clean and well oxygenated.

Oxygenation of the water is very important. The embryo within the egg requires a constant supply of oxygen to develop, which is one reason why fishes normally spawn in shallows.

Eggs adhering to the sides and bottom of a glass dish are in a most convenient position to be mildly sterilised in an antiseptic solution as well as to be given a good washing under a running tap to remove any flukes or other parasites which may be present from the parents.

Above all, the eggs in a dish are easily kept under observation since they are all at one level and all together, instead of being dissipated all over the place.

Hand-spawning is the answer for the man who has little time to spare, except for once or twice during the breeding season when enough eggs can be obtained to more than fill up his existing tank capacity. Most of the risks of natural spawnings are eliminated as well as the guesswork. Growing stock can be identified with their parents and valuable breeding stock should suffer less injury than in the hazards of a natural spawning.

Hand-spawning can be done by anyone except the ham-fisted. No particular skill is required, although a 'feeling' for what is happening is necessary, and this feeling will be described in the next article.

MARINE FORUM



By GERALD JENNINGS
(International Marine Study Society)

be tried on most marine infections, including the much feared marine 'white spot', which succumbs quickly to any of the following (note that when using any of these remedies ion-exchange resins should not be used as a filter medium. This also applies to freshly activated carbon or charcoal):

Quinine hydrochloride is obtainable from a chemist shop provided that the reason for its requirement is given. It is also available pre-packed for aquaria use, the best pre-packed quinine being that in tablet form as its storage life then is far greater than that of an already mixed solution. If, however, it is obtained from a chemist, you will require the following dosage: 4 grains per Imperial gallon of water,

Marine Medicine Chest

IF there's one thing more important to the mariner than the fishes themselves, it is a 'medicine chest' in case of troubles.

I suppose that most enthusiasts will already have obtained a bottle of copper sulphate solution mixed ready for use—whether this has been made up by the local chemist or purchased over your aquarist's shop counter, but what if you should acquire a new fish that cannot be treated by this elixir?

To ensure the safety of your main community aquaria I feel that it is a 'must' to keep all new purchases (including invertebrates) in a smaller quarantine tank for a period of not less than one week. Well, what does one do if some disorder should appear on the newly acquired specimens?

Several remedies can normally

be repeated daily for 6 days. Strong lighting should be decreased during treatment.

Methylene blue should be added in liquid form until the tank water is a rich shade of royal blue. This can usually be judged by eye, but if you are uncertain, the addition of 15-30 drops of 5% solution should be effective. The light should be subdued and the tank left for 7 days.

Lastly, but not least, **copper sulphate**. As the dosage of this chemical is so critical it would be best to obtain this preparation direct from a specialist marine suppliers; there are several of these at present marketing solutions of the correct strength. This chemical must not be used where contact with invertebrates or marine algae will occur. In this case, quinine is the safest of the three remedies.

A Year With Giant Hygrophila

By A. BROWN



A planted cutting (about 8 inches tall) of the plant commonly known as giant Hygrophila. Its correct scientific name is *Nomophila stricta*, and the name referred to in the article as being often applied to this plant is incorrect. As the author describes, this really can become a giant among aquarium plants, developing thick, tough stems like a garden shrub. (The photographed plant was kindly supplied by Mr D. Holliman)

ABOUT 12 months ago I purchased six small cuttings of a plant commonly called 'giant hygro', the scientific name being *Nomophila stricta*. I believe that several scientific names have been used for this plant, but *Hygrophila stricta* seems to be the one which is most widely used, and is the one I always associate with 'giant *Hygrophila*'.

Rather than place all my eggs in one basket, so to speak, I distributed the six cuttings over three tanks, planting two cuttings in each tank. Each tank was different with regard to existing plant life, fish population, temperature and lighting, which was a mixture of natural daylight and artificial light. I assume therefore that the pH and hardness values were slightly different, although I never actually checked them.

To my disappointment, and perhaps because they had had a change in water, only one cutting survived, and even that looked as though it had been visited by a plague of locusts! However, since it had sprouted a few roots, I transferred it to a fourth tank; that did the trick, even though this one received less light than any of the other three tanks. All the four tanks were well established and healthy, with luxuriant growths of mixed plants.

After several weeks, leaves from the giant *Hygrophila* began to appear above the water level, and pretty soon the stem was growing out of the water, after having cheekily found its way through a space in the aquarium top covers, and from there it progressed! Late last summer, to my great delight, the plant began to flower. There was a gay profusion of small mauve flowers, and the air around was filled with a very

pleasant fragrance. Through the dark winter months there have not been many flowers, but the growth of the plant has been almost frightening, causing one to wonder if there was ever any truth in the story of 'Jack and the Beanstalk'!

At the time of writing this article, the plant measured approximately 40 in. from the base of the stem to the topmost leaf, not including the base roots, which were hidden from view below the gravel; it had upwards of 20 branches, giving an overall diameter of 2 ft. 6 in. to 3 ft., and the main stem was approximately 1 in. thick.

Now that the days are beginning to lengthen a little, I notice that the plant flowers are increasing in number. It is interesting to note that the fragrance has stayed with the plant all through the winter, even when there have been no flowers present, and it would seem that the fragrance is getting stronger day by day. The lack of many flowers during winter points to the reduction of natural daylight and ambient temperature as having had a detrimental effect on the plant, although the growth has been amazing.

The leaves and stem which have grown above the water are different both in texture and appearance from the ones which have grown below the water surface. Above the water surface the leaves and stem are much more subtle, darker in colour and the leaves are more round in shape than those below the surface. The leaves below the water surface are particularly prone to being eaten by snails and infusorians, which seem to relish them.

Now for a word of warning! The plant is now like a small bush or tree, and is just about as strong! Naturally it needs vast amounts of food, and since it is in a 36 in. by 12 in. by 12 in. tank well stocked with fishes, it gets food in the form of waste matter from these but at the expense of the other plants in the tank. Although the other plants were thriving when the original cutting was planted, they have slowly retarded in size, and have not given off many shoots and runners simply because, I believe, all the available food has been, and is being, consumed by the giant *Hygrophila*. Before the plant was introduced, the tank had to be regularly cleared of its excess of mulm, but now the tank never needs cleaning. All the waste

matters are consumed within the tank.

According to F.N.A.S. show rules laid down in Bulletin No. 5, this plant should be exhibited in group 2—that is, three cuttings would constitute one entry. Bearing this in mind, late last show season I took three cuttings, all from above the water, with the intention of entering them in an open show, but within 10 minutes of using the knife all the cuttings wilted and went limp. They were just like rags. Obviously it would have been a waste of time to show them, so I hurriedly placed them in a tank, in the same manner that you would put flowers in a vase, with most of the leaves above the water, and departed to the show. When I returned, the cuttings had perked up, and are now well-established individual plants, all growing above the water.

From these experiences, I have drawn the following conclusions, although no doubt other aquarists who have had experience of this

plant may not agree entirely: the plant does not like a change in water, but once established it is a strong and vigorous grower, certainly the strongest plant I have known, and must be kept under strict control and out of the way of snails. It is not particular about temperature, although the ambient temperature must have an effect on the amount of flower produced. It likes reasonably strong illumination below water, and naturally as much daylight as possible above water. It needs as much food as it can consume to be in good condition. It is not suitably given to exhibiting at shows as cuttings grown above water.

In closing I would like to leave our 'show-minded' aquarist friends with the following teaser. If I had entered the three cuttings in the show as one exhibit, would the entry have been disqualified? Remember, the three cuttings had all grown out of water, and the plant class was for 'aquarium plants'.

Cleaner Wrasses

By H. R. LUBBOCK

THE role of cleaner is played in temperate seas mainly by the young of certain fishes, though this habit is generally less developed than in the tropics. Such young fishes run a certain risk, as their intended clients sometimes do not realise their intentions, and treat them as food.

On coral reefs, young fishes, a few types of goby, and various crustaceans act as cleaners, but in addition to these, wrasses of the genus *Labroides* have made a lifetime profession of cleaning other fishes. These wrasses set up a 'cleaning station' near some easily recognisable mark, such as a particularly prominent coral head, and do not move from there. The reef inhabitants then only have to come to a certain place when they feel they need a clean.

On arrival, a fish may have to wait for a while, until its turn comes: it then spreads its fins right out, to make sure the cleaner is able to

carry out a complete examination, and even allows the wrasse to enter into its mouth (if it is big enough!), to remove any parasites from its gills. The cleaner eats any parasites he can find, and thus while helping others, he feeds himself.

Marine tropicals from the coral reefs appear to need cleaning daily. This means that cleaners are a necessity in the wild. As an experiment, all the cleaners were removed from a reef; within 2 weeks nearly all the other fishes had gone, and the few that remained were ridden with disease. Cleaner wrasses, because of their importance, are therefore not eaten by any fish, and are as safe cleaning a surgeon fish as cleaning a moray eel.

Unfortunately, after some time in captivity, some of the fiercer carni-

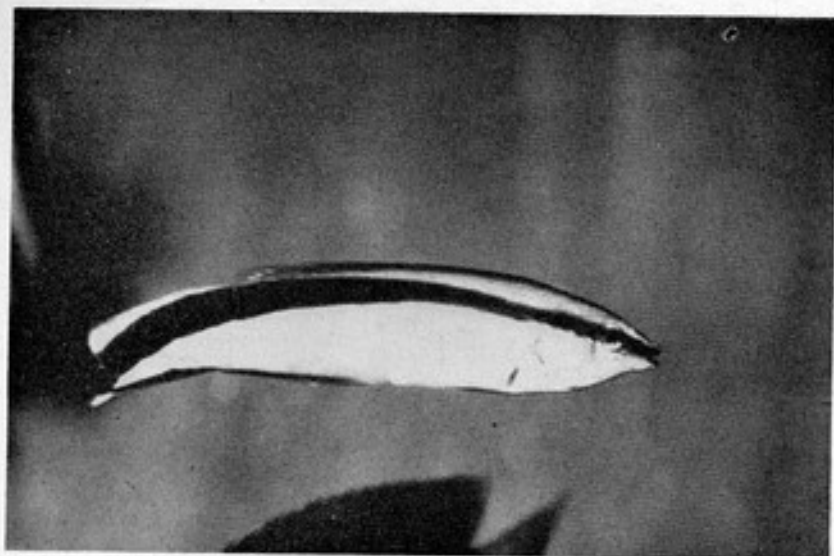


Photo:
V. PARTINGTON

Cleaner wrasse *Labroides dimidiatus*, an Indo-Pacific species

vores (e.g. *Pterois*) tend to forget what cleaners look like, and care must be taken that the newly acquired cleaner wrasse is not mistaken for the daily meal. It is, luckily, fairly rare that a cleaner is thus mistaken, and once a cleaner has been introduced, and settled down, one can be sure it will not be eaten at a later date.

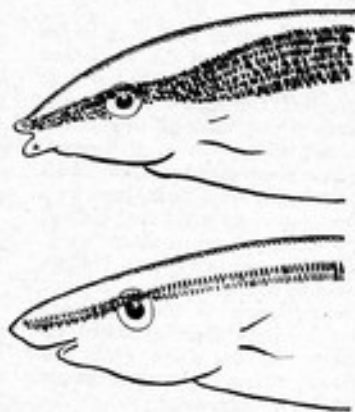
In the aquarium, one can, of course, substitute chemicals for cleaners, but the presence of a cleaner is more interesting and natural. In any case, if for some reason the cleaner fails to clean the other fishes properly, one can always revert to chemical for a quick cure. It is best to have several fishes (which must be at least the size of the cleaner, as these usually ignore small fish) in the aquarium with him, as then he can divide his attention between all the aquarium inhabitants. If there is only, say, one fish in an aquarium with a cleaner wrasse, then the cleaner is always trying to approach the same fish, to clean it, which ends in this fish getting rather irritated.

Cleaner wrasses adapt quite easily to aquarium conditions. They must be fed, as they do not ever find enough to eat by cleaning the other tank members. They will take small bits of fish, mussel etc. as well as brine shrimp nauplii. The most

commonly imported species of cleaner wrasse is *Labroides dimidiatus*. This never grows larger than 3-4 in.; a black line extends back from the snout, broadening towards the tail. The rest of the fish is a light blue, less intense towards the head.

When choosing a cleaner, the aquarist must be careful not to choose a mimic cleaner wrasse (in fact, a species of blenny: *Aspidontus* or *Ruanca* sp). This is very similar to a *Labroides*, having exactly the same coloration and shape, but differing in the position of its mouth. The mimic wrasse approaches a fish

in exactly the same manner as the real cleaner, but instead of cleaning the fish takes a large bite out of it and darts away. Consequently this is a very undesirable fish. Luckily these blennies are rather uncommon in the wild, and therefore the chances are small that one will get mixed in with a shipment of real cleaners. Still, one occasionally sees dealers who are unknowingly selling one of these 'cleaners'. All in all, the true cleaner wrasse makes a hardy, brightly coloured, fast-moving and interesting addition to the marine aquarium.



For comparison, diagrams of the head of a typical cleaner fish (top) and of a "mimic" cleaner (bottom). The genuine cleaner has a mouth at the tip of the snout whereas the mouth of the other fish is beneath the head



GUPPY

World

THE Flags are out—right out! With Britain gripped in a fever of patriotism, with Union Jacks on everything from frocks to carrier bags, with 'I'm Backing Britain' badges the in-thing, this pronouncement sounds unpatriotic, but not when you know that the flags referred to are the variety of fancy guppy.

This *Poecilia*, with something half-way between the long, narrow caudal of the scarftail and the broad, curving fin of the veils, has been a subject of controversy ever since it first appeared. Like the mythical unicorn, mermaid and Kraken of old, the flag has set men arguing as to its authenticity—was it a pure breeding variety or just an odd mutation?

At a recent Judge's Conference held in Birmingham, representatives of the Fancy Guppy Association decided against this shape as a Standard Outline and without so much as a tiny roll on the drums, the flag was hauled down and stowed away.

Its history goes right back to the early beginnings of the specialised hobby; in a past issue of *THE AQUARIUM* (U.S.A.) Dr W. T. Innes reported that he had received a number of guppies of an unusual finnage from the Aquarium Stock Company in New York, bred by a fellow American called Paul Hahnel. The Company called them 'aqua'. In Britain, the late W. G. Phillips, that early pioneer of British guppies, obtained some of these fish and after breeding them exhibited the progeny at the Cage Birds and Aquaria Show held at Olympia, London, in 1951.

A newspaper reporter asked

W.G.P. about the guppies that were causing so much attention, and was told they were nameless. Noticing that the tail fins had a beautiful stars and stripes pattern, and learning they had originally come from the States, he promptly christened them 'flagtails'. The name stuck—even if the tail pattern didn't!

Stuck until the fateful day in February, 1968, when experts relegated it to the other-than-standard types. Still, knowing the tenacity of the guppy breeder, someone, somewhere, will no doubt still keep the flag flying!

Rising in the beautiful Blue Hills, the Potomac River forms the borderline between the States of Maryland and Virginia, its high banks washing the City of Washington before it joins the sea at Chesapeake Bay.

A prominent landmark in early American history, its 400 miles of twisting and turning form the Potomac Valley, the area covered by the guppy group sponsoring this year's Eighth International Guppy Show (6th and 7th July).

If you are interested in entering some guppies in this Show, you can obtain full information and show data from secretary Eugene T. Aldridge, Potomac Valley Guppy Club, 3045 S. Buchanan Street, Arlington, Virginia, 22206, U.S.A. To whet your appetite, the show contains over 40 classes for guppies!

The Ancient Mariner and the guppy breeder seem to have a lot in common! Both have water everywhere and they both seem to be troubled as to its quality for the job on hand.

So long as we maintain fish we must pay attention to the water conditions; whether for guppies it should be hard or soft, acid or alkaline, provides enough argument to cover a couple of club meetings.

Water in Britain is usually soft in the north (including Scotland, Northern Ireland and Wales), and hard in the Midlands and south. If you are in some doubt as to the conditions prevailing in your area a letter of inquiry to the local Water Board will obtain the right information. For the do-it-yourself breeder there is always the *WATER ENGINEER'S HANDBOOK* as a reference to specified towns and areas.

From my own experience I much prefer soft water, on the acid side, for guppies. This was confirmed by a notable breeder recently who also recommended the addition of commercial water softener and sodium biphosphate at regular intervals to keep it this way, claiming that after adding these the fins of his fish showed remarkable powers of recovery.

A good tip when transferring fish from one geographical area to another, water content unknown, is to dilute the water they arrive in with water that has been conditioned by peat moss—this can be achieved by adding the moss to a commercial outside filter and running the water through this for a few days before introducing the new arrivals.

The better weather (ever the optimist), means that supplies of *Daphnia* in local pools should become more plentiful.

Keeping these creatures alive once you have them home seems to present a problem judging by the amount of mail we receive on the subject.

Feeding them can be anything from creamed yeast to foul-smelling, so-called infusoria cultures.

Want a cheap, clean and easy to apply food for the *Daphnia* culture? Look no further than the liquid fry foods sold by 'Liquify' of Dorking.

Using the tube with the Green Label, I just add a few drops to the tank containing the *Daphnia* every other day—they seem to like it and the water remains sweet and clean.

PETER UNWIN

For the Community Aquarium

The Scissor- tail



(*Rasbora
trilineata*)

OUR hobby has been singularly well served in the way of descriptive nomenclature. We could have found ourselves asking for 'black and white striped danios' or 'gobies with a black dorsal'. Instead we have 'zebra' danios and 'rhino horn' gobies and all the other pleasing names that so exactly bring to mind some distinctive feature of the species in question. Along with 'cardinals', 'tigers', 'neons' and 'X-rays', few names are more apt than the common name given to the *Rasbora trilineata*—the scissortail. This exactly describes the appearance of the fish when swimming. Other fishes also spread and retract their caudal fin but the colouring and shape of the *Rasbora trilineata* are such that, when swimming, it resembles nothing so much as a long slim pair of scissors.

The long, silvery body of the fish is largely transparent with a slight greenish gold tinge over its back. One thin black horizontal line runs from just behind the gill to the base of the tail and another appears just above the anal. The fins are faintly golden, but it is the caudal fin that is the fish's most notable feature. Divided into two lobes, the tail bears two oblique black marks edged with white which, when the tail is flicked in and out, bring to mind the movement of a pair of scissors.

In its native waters of Malaya, Sumatra and Borneo, the scissortail is not at all uncommon and has been reported to grow to a size of 7 to 9 in., but a maximum of about 3 in. is more usual in the home aquarium. This might seem, perhaps, to be quite a sizeable fish for a community tank and since it is a very active swimmer it does appreciate a swimming length of no less than 24 in.; but for all the length it can achieve it is not a heavy-bodied fish and it is very peaceful.

A soft acid water suits its requirements most closely, but it is quite hardy and does not demand that conditions should be too exact. Swimming in mid-water, it is also usually to be seen well to the front of the tank. It will take all types of food, but a feed of *Daphnia* provides it with the opportunity for some fast exercise. The females are heavier-bodied than the males and slightly longer.

FISHES FOR THE PONDKEEPER TO ENJOY

Orfe in the Pond



First of a series of articles in which it is intended to describe a number of fishes, their habits and environment, suitable for the aquarist to keep in an outdoor pond

THERE is plenty of choice for the pondkeeper, other than the ubiquitous goldfish, and some aquarists who are already committed to the hobby in other ways may feel that something other than the goldfish has more appeal for them.

The first we shall discuss is the golden orfe (*Idus idus*). It is a cultivated variety of the European silver orfe, or ide as it is also known. A wonderful fish indeed—long and slim and torpedo shaped, it flashes through the water like lightning. It is a surface-dwelling species, and one which is easy to see even if the water has gone cloudy or green. The colour of the orfe is a delicate salmon pink rather than true gold or orange, shading to silver on the belly, and the tips of the fins, especially the caudal, are tinged with red. Patches of black also occur to a greater

By R. M. WHITTINGTON

or lesser degree; these are not detrimental to the appearance of a pond-dwelling fish, but on the show bench clear colours are required, without any suggestion of black.

The golden orfe is a hardy species, and is certainly fit to dwell outdoors all the year round. It winters extremely well, and is more resistant to attacks of the fungus disease to which the goldfish is prone in late winter and early spring. It requires a higher percentage of dissolved

oxygen in the water than goldfish and other species to be described later on; in fact a maximum temperature of 60-65° F (15-18° C) suits it the best. For this reason, and also as it will grow 18 inches to 2 feet in length, I do not regard it as suitable for a very small pond, unless the owner is content with two or three fish only as his total stock. However, if we take a surface area of 6 square feet per individual fish as a working formula, a pond 8 ft. by 8 ft. (which is not really large) will take ten to a dozen fishes, and they will thrive. I do not say they will grow to maximum size, but in a couple of seasons will be as large as herrings, ever present in a shoal near or upon the surface snatching insects, and will be a great source of pleasure to their owner.

As to feeding, the orfe is not particular. Worms, garden insects as available, Bemax or proprietary pond pellets will keep them happy. The last-named have not been on the market for many years, and being made of dried meal they form a satisfactory basic diet. They repay for soaking before use. These items form a satisfactory diet for any of the fishes we shall discuss in the series.

For breeding, a large pond is recommended by those with practical experience. The fish are sexed in a similar manner to goldfish, and follow the same spawning habits. Any eggs found upon water plants should be removed from the pond to be hatched and reared separately.

In this article, I should like to sound a note of warning about the number of diseased and damaged fishes on sale to the public. Time and time again have I seen the fish ready for the unwary or innocent to buy bearing heavy infestations of white spot or fungus disease, or in the last stage of life through severe bacterial or parasitic infections, or bearing signs of damage due to careless handling. If these were puppies with distemper, or cats with feline enteritis, the public would be up in arms, and interested welfare associations could prosecute. However, just because they are fish, no one seems to care. Make your choice prudently, and avoid like the plague those that appear unhealthy or deformed.

I recommend a Dettol bath for the fish as soon as you get them home (equal temperatures, then 1 minute only in 1 teaspoon of Dettol to 1 gallon of water), to remove any gill or skin flukes, and then a couple of weeks' quarantine in a spare tank or polythene bowl before you put them into your pond. Should any disease break out meanwhile, extend the quarantine by 2 weeks after you have pronounced them as cured. Water plants, marginals and lilies should also have a disinfectant bath and a good wash under running water before being put into use.

I spent a day last autumn helping to clear a 45,000 gallon pond where precautions had not been taken initially, and I went over some 50 fish, removing several leeches from each one!

What's New?

For the Water Garden

NEWS from Highlands Water Gardens, Rickmansworth, Herts., of an addition to their pump range really heralds the coming of the pond season. Their **Sealion** submersible pump gives an exceptional performance for its type in the bigger pool and provides simultaneously a fountain spray and an impressive waterfall. The bigger of the two models has a maximum head of 26 ft.; at a head of 14 ft., for instance, it gives an output of 1250 gallons per hour. This model (C) is priced at £37 10s 0d (each has a cast aluminium case) and the smaller model of the two (A), is priced at £29 10s 0d.

The firm's WATER-GARDENING MANUAL contains many practical hints on pool construction and maintenance and this year the information service is extended with a new series of Information Leaflets. These, like the MANUAL, are free and post free and give advice on a range of subjects from curing green water to pond predators, the pond in winter and newts, frogs and toads.

Clubs will be interested to learn that a set of 100 colour slides (35 mm.), accompanied by a script to be read as a running commentary, is available now from this firm. The slides cover the design, construction and stocking of garden pools with comments on pumps, fountains and waterfalls. A nominal charge of 15s covers postal and administrative costs. Early booking is advisable and alternative dates should be given.

Freeze-dried Worms

THOMAS'S of Halifax are distributing freeze-fried tubifex in this country under the brand name **Magic Worms**. The plastic container bearing the Petcraft symbol contains 5 grams of these worms in



The fountain-only form of this new Sealion submersible pump has an 85-hole jet that can produce a four-tier pattern of spray 8 ft. high and 7 ft. in diameter

compressed cubes from Taiwan, China, and retails at 3s 3d. The analysis of food content shows a minimum of 55% of crude protein. It is not necessary to refrigerate this food to keep it and the screw-top container ensures that it will stay dry.

Petfish Monthly's Guide to Aquarium HEATING

By CLIFF HARRISON



A random selection of heaters and heater-thermostats of various makes. Left to right: Mariner heater-thermostat, Prezet-Matic heater-thermostat, Rena heater, Es-Es heater, Inter-Pet Combined heater-thermostat

THE very existence of our fishes depends on the aquarium being maintained at a fairly even temperature around the mid-seventies, but how much attention do we really pay to the heating system unless, one morning, we discover that the heater or thermostat has 'mysteriously' packed up during the night? The air turns blue as the bodies are netted out, and one would think that some lesson would have been learned from the tragedy: but no, a cheap replacement is obtained for the faulty instrument and all is forgotten again until, one cold night . . .

A little forethought and care in selecting the equipment can prevent such a wasteful and expensive loss of fish. Although your local aquatic dealer probably carries a wide selection of heaters and thermostats, his best-selling lines are almost certainly his cheapest: whilst these can give very good service doing the job for which they are intended, the expenditure of a few extra shillings on the basic equipment could pay dividends in terms of versatility, convenience, superior performance and less-frequent replacement. In certain cases, too, careful planning can reduce considerably the cost of any future expansion of the hobby—such as running a number of tanks from a single thermostat.

Heaters

The wattage of the heater or heaters used will depend on both the size of the tank and the temperature of the surrounding air. The Table given is a guide to what will be the minimum required for a normal living-room, which, though warm during the day, is likely to cool down

rapidly in the early hours of a winter morning. The heat-loss from the tank may be considerably reduced by insulation of the back and sides with expanded polystyrene or cork sheeting; although in these circumstances a reduction in heater wattage might be justified, there would be no real advantage in doing so.

Aquarium size (inches)	Heater(s) required (watts)
18 x 12 x 12	1 x 100
24 x 15 x 12	1 x 150 or 2 x 75
30 x 15 x 12	2 x 100
36 x 15 x 12	2 x 125
48 x 15 x 15	2 x 150

For tanks of 24 in. and longer, the use of two heaters is strongly recommended for the following reasons:

(i) Two heaters will maintain a more even distribution of heat in a large tank.

(ii) Should one heater fail, the other will keep the temperature sufficiently high to prevent fatalities amongst the occupants. Since a 24 in. tank can often contain over £5 worth of fish, the additional cost of 7s 6d or so would seem a good form of insurance.

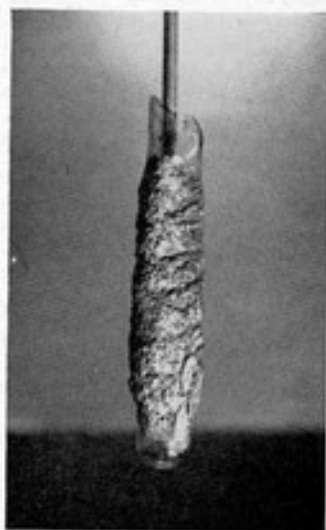
(iii) The working life of two smaller heaters is likely to be longer than that of a single large one: the additional expense is to some extent therefore offset.

The simplest, cheapest and most popular heaters are those consisting of a heating element wound into a ceramic core, encased in a heatproof glass test-tube, and sealed at the end with a rubber bung; a length of electrical cable passes through the centre of this bung, and is connected to the element inside. These heaters offer very good value at about 7s 6d to 12s 6d each, and should prove satisfactory for the requirements of the average hobbyist.

Amongst those aquarists with large tanks, the pencil-type heaters have been increasing in popularity of late: although similar in internal design to the afore-mentioned heaters, the glass tube is longer and more slender—indeed, resembling a pencil. **Rena**, the French company, offer models up to 200 watts at 10s 9d, and many aquarists consider that the advantages (superior heat distribution and longer element life) justify the extra cost involved.

A Neglected Heater

Believe it or not, this is (or was) a heater tube. The encrustation on its outer surface is 'scale'—salts from hard water that have built up over a long period through local boiling. This deposit causes overheating of the tube and will cause it to break. It pays to take heaters out of the aquarium periodically and examine them for scale formation. Scrape off any traces that are seen before the deposit accumulates to the extent shown here, and avoid trouble later on.



For those who want their heating completely hidden, the **Es-Es** under-gravel heater might be considered: the element itself is encased in narrow, flexible p.v.c. tubing (about 5 feet in length), which is buried under about 2 in. of gravel. The electric cable comes up one corner of the tank, but is easily hidden by judicious planting of *Vallisneria* or *Sagittaria*. Whilst these under-gravel heaters are often used in breeding tanks (fry will often sit on a glass heater tube with fatal results), their popularity for community tanks has waned over the years. This is probably due to their incorrect siting causing some stunting of plant growth because of excessive heat on the plant roots, but if the element is correctly placed in the front half of the tank, leaving the back for the plants, no problem arises. Since the gravel tends to retain the heat, insulation of the back and sides is strongly recommended if large fluctuations in temperature are to be avoided.

One item typical of the American desire for compactness is the combined heater-thermostat, combining both units in a single glass tube. In common with many aquarists, I have had serious doubts about the efficiency of a thermostat operating in such close proximity to the heat-source. However, well-known British makes have stood the test of time and there are fully submersible models that do not have to be kept in an upright position. Although it

is advisable to operate any heater in a horizontal position—to obtain optimum heat distribution, a recent PFM test showed excellent results achieved with a Uni-Pet **Mariner** heater-thermostat (35s 6d) operating in a vertical position in a tank. The **Mariner** has become especially popular amongst tropical marine enthusiasts since all exposed parts, being either glass or p.v.c., cannot corrode: although this model is submersible, the temperature is easily adjusted by manipulating the control through the soft, flexible p.v.c. covering on the top of the instrument.

Thermostats

Rather more care is required when selecting a thermostat, since many aquarists forget that each model is built to carry a maximum safe load of heater wattage. (This load is often expressed in amps—if your mains supply is at 250 volts, then 1 amp = 250 watts, 2 amps = 500 watts etc.) If this load is exceeded, the result is likely to be a rapid wear or fusion together of the contact points, and consequent failure of the unit: it will be seen therefore that it is a false economy to make a small thermostat try to do the work of a large one. Reputable thermostats will have the loading clearly stated on the box or guarantee, and this recommendation by the manufacturer should never be exceeded.



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The vast majority of thermostats work on the bi-metallic strip principle, and the lower-priced models are those contained in a glass test-tube. Costing around 10s each, or 12s 6d with a neon indicator light, they normally have a maximum loading of 1 amp. One disadvantage of these is that to adjust the temperature setting to suit any special circumstances, such as in a breeding tank, the instrument has to be taken out of its tube and the whole circuit has to be unplugged; however, provided the aquarist is not likely to require frequent changes of temperature, these thermostats are normally trouble-free and have the added advantage of being completely water-tight.

Larger capacity models are available which have an external temperature adjustment control (situated at the top of the instrument), but these models are not completely submersible, and the head of the thermostat should be kept at least 1 inch above water level: more recent refinements include the fitting of snap-on plastic caps to prevent damage being caused by condensation, and accidental alteration of the temperature setting.

For use with large aquaria, or where a number of tanks of similar size are to be run off a single thermostat, the outside fitting models are particularly recommended. With this design a flat metal plate on the instrument is secured firmly against the outside of the glass of the aquarium, and the temperature of

the water is sensed through both the glass and metal. **Constat** offer two models for aquaria use, the smaller, at 25s, will take 500 watts, and the larger (36s) 2000 watts, of heaters. Temperature adjustments are very easily made, and outside-fitting thermostats are likely to have a longer working life than most of the other designs: in this latter respect, **Constat** models have a particularly enviable record for reliability.

In conclusion, where the hobbyist wishes to heat tanks individually, he would do well to note the following points:

(i) If possible, insulate the back and sides of aquaria with expanded polystyrene or cork sheeting: this will reduce heating costs and help protect the occupants during a power failure.

(ii) Electrical connections should be made with the proper screw-connectors available from electrical shops; use plastic insulation tape in preference to the black bitumen variety.

(iii) Replace equipment if its reliability is suspect. Heaters ought to be replaced every 2 years, cheap thermostats every 3-4 years. If in doubt, consult your local dealer.

Space Heating

To cover space heating fully would require a complete article in itself, and would be an unnecessary duplication of the excellent articles on the subject that have

appeared in past issues of *PFM*. As a general rule, if a hobbyist is in a position to devote a room or shed solely to fishkeeping, then space heating can offer him many advantages. Insulation of the inside walls and windows is essential if this system is to prove economical, and the most satisfactory results will be achieved when the fish room is literally bursting at the seams with tanks. This is for two reasons:

(i) The greater the volume of water, the more evenly will the temperature be maintained.

(ii) Whether the room contains two or 200 tanks, heating costs will be the same; it is therefore advisable to make the maximum use of space available.

The two most common methods of space-heating considered by hobbyists are electricity and paraffin, though very large establishments may rely on solid-fuel boilers. Electricity is trouble-free (tubular heaters or fan-heaters are normally used), but can be rather expensive and is prone to power-cuts in winter. Paraffin stoves of the blue-flame type are far more economical, but they do tend to leave a slight 'film' on the surface of the water; whilst this film is not harmful to most fish and is easily dispersed by gentle aeration, it may present problems to a breeder wishing to raise the fry of gouramis and other labyrinths.

(For further information on space-heating see articles in *PFM*: December, 1966; October, 1967).

SCIENTIFIC NAMES OF FISHES — 7

By H. J. VOSPER

How to Pronounce Them

MOST scientific names are derived from Latin or Greek, a few from other languages, yet all are latinised and conform to Latin rules of grammatical construction. Similarly the pronunciation of the resulting latinised words conforms to the rules, yet it is not to be forgotten that Latin is a 'dead' lan-

guage, even though certain institutions have retained an active Latin speech for ritual purposes.

However, clues to pronunciation may be gained from these latter sources, and other guides are available through Greek, of which language there is a form spoken under certain circumstances which

may well have at least a traditional link with its origins. However, from corruptions, from the doubtless numerous dialects bred within the wide geographical regions and time

Continued on page 24

PRACTICAL

JOTTINGS

By F. N. GHADIALLY,
M.D., Ph.D., D.Sc.

FULLNESS of body in a female egglayer is a well-known indication that the fish is ready to spawn.

While a certain degree of plumpness is a good sign, an unusually bloated female indicates an egg-bound fish. Many novices are easily taken in by the distended appearance; they imagine that the fish is full of eggs and are perplexed when they fail to obtain a spawning.

The accompanying photograph shows an egg-bound female zebra fish. When all attempts to make her spawn had failed the fish was killed and dissected. The ovaries were found to be distended by a large number of dead, chalky white eggs.

Egg-binding

The exact cause of this condition is not known but it is feasible that it is produced by some obstruction in the oviduct (the tube which leads eggs from the ovary to the exterior). In such a fish, eggs would be retained for too long a period and would ultimately become necrotic (dead).

Another possible sequence of events is that a female fish which has been kept away from the male for too long a period retains her eggs, which ultimately die and the fish becomes egg-bound. The dead eggs may liquefy and ultimately produce a cyst. However, it must be noted that many females (e.g. fighters) will drop their eggs

even in the absence of the male, or two females may go through a mock spawning (e.g. angels).

It appears to me that it is not a good practice to keep the sexes separated for long periods of time. It is, of course, a good idea to separate the sexes for a week or two before spawning, but at the end of this period they should be brought together in the breeding tank.

If facilities for spawning are not available, or if you change your mind and decide not to breed with them, then do not keep the fish separated for months on end. Bring them together and part them again for a pre-spawning separation at a later date when you again decide to breed from them.

I breed many species of fishes every year and it sometimes happens that I may separate a pair but find that at the end of 2 weeks no spawning tank is available as all tanks are occupied by other fishes. If, at the end of a month, I find that I still cannot give the pair room I bring them together in the conditioning tanks and lose the spawning rather than risk the female becoming egg-bound.

I have also observed that when fishes that have been separated for 2 or 3 months are brought together, they deliver a large number of useless eggs that never hatch out. This is why I have now made a rule not to keep the sexes separate for more than a month at the most.

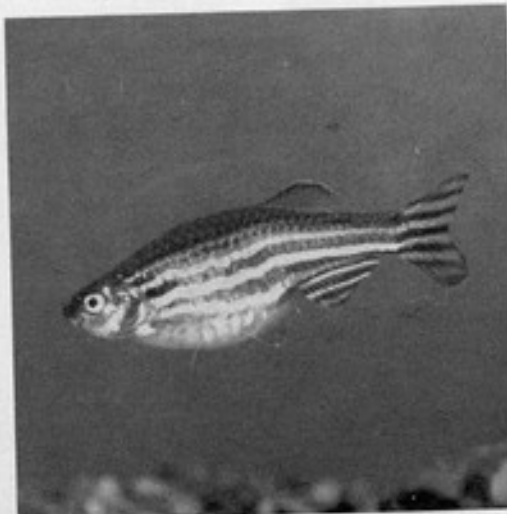
Dropsy Causes Swelling

When a fish suffers from dropsy its appearance may lead the uninitiated to imagine that it is filling up with eggs. However, as the disease advances and the scales begin to stand out, the condition can be diagnosed quite easily. Dropsy implies the collection of fluid in the peritoneal cavity.

However, fluid collects not only in the peritoneal cavity but also in other parts as the disease advances. It is this collection of fluid (often termed oedema) in the skin tissues which makes the scales stand out, and not the distension of the abdomen by the fluid collecting in the peritoneal cavity.

That distension of the abdominal wall by itself is not sufficient to cause scale protrusion is obvious when we consider that abdominal distension from other causes, such as filling up with eggs or young, does not cause the scales to project.

The lesson to be learnt then is quite plain; do not be deceived by a plump female fish, the number of eggs she may lay at the next spawning will not necessarily be proportional to her size. There are other things that can cause fullness in fish besides eggs.



Female zebra fish with abdomen swollen by the retained eggs inside her. The scales do not appear raised as they do when swelling is due to 'dropsy'



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a week later. A worm feeder should be used when feeding *Tubifex*; these worms bury themselves quickly if not eaten and, for this reason, white worm is often preferred as a food because the white worms do not burrow into gravel under water.

Dried Shrimp

In my local aquatic stores recently I was surprised to find that one manufacturer was offering a large drum of dried shrimp for sixpence, whilst another wanted over 2 shillings for what seemed a smaller amount. Any ideas, please?

The cheaper priced product was probably the whole shrimp ground up; this would include the hard shells. The smaller and dearer drum would be only the shrimp meat. Though the former is suitable for larger fishes, don't feed it to fish below a harlequin in size; the tiny pieces of shell often stick in their small throats and they choke.

Not a Catfish

Recently I came across the name *Coris julis*. Is this just an abbreviation of the familiar *Corydoras julis*? The text that followed didn't fit this aquarium catfish.

No wonder you were puzzled, because *Coris julis* is a separate species of tropical fish not even distantly related to the catfish. *C. julis* is a very colourful member of the labroids family, found in the southern and eastern Mediterranean, growing to about 5 inches. Most of the species caught seemed to be females and gave rise to some interesting findings last year by prominent ichthyologists, who finally decided that this fish was hermaphroditic, having both male and female organs. This wrasse lives mainly on the bottom, crunching and eating with relish the small crustaceans it finds there, using the strong jaws and good teeth it is provided with.

Loss of Colour

I set up an aquarium some time ago and introduced quite a number of

small fishes and plants. For some weeks everything seemed to be fine but recently they have gone off their food and spend considerable time at the surface; also they have lost most of their colour. What went wrong?

Always regard persistent loss of colour in your fishes as a sign that things are wrong. Since you introduced your fishes to this aquarium they will have grown quite considerably and I suspect that though your tank was large enough for them when they were quite small, now they have grown this is no longer the case. You don't mention whether you use aeration. This would certainly alleviate their plight. Siphon off about a third of the water and replace with fresh. Not eating isn't necessarily a sign that things are wrong, the scientists call this condition anorexia, and it is very common in certain species. In future when stocking a tank always allow room for the fish to grow. Check that you aren't overfeeding, by gently stirring the gravel; if it is sweet and clean, then this doesn't seem to be the case. If the gravel is foul cut down on the amount of food you are giving.

How to Pronounce Them

Continued from page 22

span of Roman sway, we have to decide how to pronounce these often awe-inspiring words.

It is little to be wondered at that some features are considered to be largely matters of opinion, for instance should one stick to the soft 'g' (pronounced like a 'j') or to the hard (as the writer was originally taught)?

Some of the more common points should probably be treated as follows:

- c—hard, as in 'creep'
- ch—guttural, as in the Scottish form of 'loch'; soft and long, as 'sh' in 'fish'
- g—generally hard, as in 'great'; may be used soft, as in 'geology'
- gn—as 'n' only
- j—as 'y' in 'year'
- k—hard, as in 'kitchen'

- ph—as 'f' in 'fish'
- pt—generally (i.e. as an initial) as 't' only
- v—generally as 'w' in 'water'
- x—generally as 'z' in 'zoo'
- y—short, as 'i' in 'pit'; long, as 'ee' in 'feed'
- a—short, as in 'hat'; long, as in 'arm' (never as in 'male')
- e—short, as in 'bet', long, as in 'veil' (never as in 'feed')
- i—short, as in 'fit'; long, as 'ee' in 'feed' (never as in 'hide')
- o—generally as in 'got'
- u—generally as in 'futile'

With these points in mind it is possible to consider the diphthongs or unions between vowels:

- ae—'a' as in 'arm' plus 'e' as in 'bet' gives 'eye'
- au—'a' as in 'arm' plus 'y' as in 'futile' gives 'ow' (as in 'cow')

oe—'o' as in 'hot' plus 'e' as in 'bet' gives 'oy' (as in 'boy')

Every syllable, whether of one letter or more (and 'e' is never silent), is pronounced separately, with the heaviest accent falling on either the last syllable but one (penultimate), if the sound is long, or the last syllable but two (antepenultimate) if the penultimate is short. The last (or ultimate) syllable never receives emphasis.

Note that in composite words, consisting of a conjunction between two or more single words, the accent falls according to the rule in each of the separate words. Hence:

Aequidens latifrons = EYE - kwi - dens LA(t) - ti - frons.

There will always be a certain amount of controversy about pronunciation, and owing to the way in which some terms are built up from several originals, the true syllabic structure may be difficult to ascertain.

This series concludes with Part 8 in next month's issue.



Personal COMMENT by ARPEE

I READ, recently, in the 'For Sale' column of the local newspaper, an advertisement offering several large tanks and contents, together with associated equipment. It ended with the words: 'giving up hobby!'. Such was the defiance implied by this latter phrase that I wonder how many potential buyers were put off by the thought that they, too, might have to throw their hands in for reasons similar to those which gave rise to the hoped-for sale.

There are many quite unsurmountable reasons for giving up a hobby, but I am quite sure that there are altogether far too many people who give up, rather reluctantly, because some problem seems to have got the better of them, and who might have remained enthusiasts for years if only a little more thought had been given to fundamentals before the final decision was taken. I suppose that the biggest menace is the 'enthusiast', who talks, thinks and almost acts fish all or most of the time. Within a year or two of beginning indiscriminate collecting of everything buyable he palls of the whole lot, and this is where the local club often gets some good pickings. In many ways people like this are no great loss to the hobby because they are such caricatures of the worst in most of us and are generally hopeless bores with it.

It is the average sort of aquarist—and that is most of us—with a deep liking for the underwater world in all its many aspects whose leaving the hobby for the wrong reason is most regrettable. I therefore address myself to those who may be getting a bit jaded with things with the suggestion that this is quite a normal feature of fishkeeping—just one of the ups and downs of the hobby—and that chance bad luck may unwittingly have entered into the situation which was thought to be well under control.

The first symptoms of things going amiss are dying fishes or plants or both. The least comprehended bit of aquarium chemistry I know is that of the build-up of dissolved salts in old water. Many an aquarist has left the hobby because, suddenly, his whole world has gone wrong: plants, fishes, everything, have begun to do the unaccountable, and none of the book cures will work. Often they even make things worse. The reasons might well lie in the fact that he has dutifully topped up his tanks for years but never changed the water. 'Change the water?', he may say. 'I thought it was a thing of the past to change the water in a balanced aquarium!' Here we have a half truth, as the word 'normally' has to precede every rule in the fishkeeper's book.

It is quite true that to change the water in a normally set-up tank will do more harm than good if it is done in

one go, but if it is changed, a quarter at a time, over the period of a month or so, nothing but good can come of it (normally!). This is because the water in old tanks is usually overcharged almost to danger point with dissolved salts which need dilution to render them acceptable to the tank inmates. The water gets like this because water has evaporated away, gradually, over a long period, leaving behind, in the remaining water, an ever-increasing quantity of dissolved salts. If you doubt this, warm some water and keep adding sugar to it until it will no longer dissolve. Remove the undissolved grains and look at the liquid; it is probably as clear as the water in your tank or mine. Then allow the solution to cool and the resultant formation of wonderful crystals will give you some idea of what can be cloaked by invisibility, and although the difference in concentrations forms an absurd comparison the experiment is worthwhile as a simple object lesson.

Topping up your tank is a highly dangerous thing, and you should cease the habit now in favour of draining off a quarter of the contents every time the surface has dropped beyond your level of liking. I know perfectly well that this advice will go unheeded from most readers, but if I have got you a bit worried, that will be something. Bad luck (call it mismanagement or ill-judgement, if you like!) will sometimes get the better of any of us.



I have little doubt that not all readers will approve of my using the names of people and products in this column from time to time for fear that I may in some way have an interest (or the opposite) in the subject of my remarks. I will make it quite clear that as my job precludes me from having external alignments, I can reassure those who may have misgivings. I sincerely hope I shall not unfairly offend anyone in the trade but equally I seek no favours. In sum, bearing in mind that the trade takes most of the knocks, I would very much hope that the comments set out in this column will in some way bridge the gap between the buyer and the seller, to the eventual benefit of both.



The readers' letters in the February issue were certainly stimulating and I am still aching from the leathering I got from Mr Andrews of Bournemouth, who was rather more annoyed than he need have been because my bull got into his trophy shop and dislodged one or two precious bits and pieces. I think he was a little hasty: I have, like all of us, to accept the hobby as it is in its broadest ramifications, and this suits me perfectly because it contains the near-perfect and the imperfect and every possible shade of opinion. Dull stuff it would be if all thought alike, and the interplay of opinion within and



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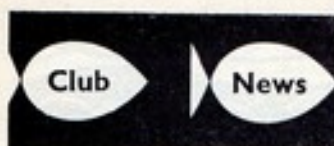
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HOUNSLOW & D. A.S. Convention attracted a large and enthusiastic audience, all eager to hear the entertaining and instructive talk by the Convention speaker, Mr Jim Kelly. Mr Kelly spoke on fishkeeping in America, with particular reference to Florida, and illustrated the talk not only with a record number of 200 slides but with a musical selection previously taped to fit in with the action.

Altogether, the society have enjoyed a most successful year. The annual dinner and dance was attended by some 150 members and guests who all had a thoroughly enjoyable time, thanks to the hard work of social secretary Mr Bob Nelhams. Trophies were presented at the dinner by guest of honour Mr Jim Kelly.

In view of the fact that over 600 entries were received at last year's open show, and since the club fully intend to improve upon this figure, a separate sub-committee has been elected to assist the show secretary, composed of Mr Peter Cairn, Mr Stephen Ind and Mr Brian Stygall. The show is being held on the 14th September at the Youth Centre, Cecil Road, Hounslow; the hall is very spacious and comfortable, situated immediately opposite Hounslow Bus Station, and with ample car parking facilities.

Results of recent competitive table shows, which are attracting quite good entries although some members still seem a little shy to try their luck, have been:

Labyrinth: 1, Mrs Rona Brewer (kissing gossami); 2, Mr Chris Bunce (thick-lip gossami); 3, Mr Brian Stygall (three-spot gossami). Characins: 1 and 3, Mr John Thorne (*N. anomala*); 2, Mrs Rona Brewer (*A. anostomus*). Cichlids: 1, Mrs Ann Smith (Jack Dempsey); 2, Mr Frank Smith (brown acara); 3, Mrs Rona Brewer (*Nannacara anomala*). A.O.V.: 1 and 3, Mr Brian Stygall (*A. australe* and *R. mila*); 2, Mr John Thorne (*Parachanna buchholz*).

Officers elected for the current year are: chairman, Mr John Thorne; secretary, Mr Derek Woodward (16 Ellerdine Road, Hounslow, Middlesex); show secretary, Mr Herbert Pratt; press secretary, Mr Barry Abbott; librarian, Mr Eric Sheppard; public relations officer, Mr Ray Scurry; social secretary, Mr Bob Nelhams; committee, Mr John White, Mrs Celia Woodward.

New members and visitors are always welcome at the society's

regular meetings which are held on alternate Wednesdays at Isleworth Community Centre, Clifton Road, Isleworth, Middlesex.

A CHALLENGING year lies ahead for **GUILDFORD A.S.** as a result of decisions taken at their general meeting held in February. The publication of a monthly newsletter is to be inaugurated. This will be edited by the chairman, aided by the secretary, and will help to keep members aware of some of the many club activities planned, such as an outing for members, wives and family to a local beauty spot; members will also be spurred on with up-to-date reports of the results of a recruiting drive for new members, with a prize for the club member to introduce most newcomers to the society. It was also decided that this year the club's silver cups will be awarded at table shows within the club itself.

Among officers elected at the meeting were: chairman, Mr P. Lee and secretary, Mr T. Walker (67 Applegarth Avenue, Guildford, Surrey). Mr D. Aylott who has served the society for 7 years as chairman, was made president and became an honorary life-member.

AT the annual general meeting of **WITHAM & D. A.S.** the officials remained unchanged. Mr D. Malton is chairman, Mr D. K. Willett vice-chairman and the secretary is Mr D. Walls (9 The Avenue, Witham, Essex). The society has had a very successful year with quite an influx of new members during recent months. This has been partly due, it is thought, to the publicity received by the club when it exhibited at a Hobbies and Leisure Exhibition put on by the local Council and Rotary Club at which the townsfolk were able to see the

various clubs and societies in Witham. The club meets on the second Wednesday of each month at the clubroom of The Albert, Chipping Hill, Witham, and new members or visitors from other societies will be warmly welcomed.

The annual Home Aquaria competition was won by Mr Bob Baldwin, with Mr Don Walls the runner-up. The shield for the member gaining most points in the monthly show was won by Mr John Warren. During the year members have exhibited at several open shows with no little success and the society has also been successful in two inter-club quizzes. Mr A. V. Gall, the show secretary, of 26 Riverview, Braintree, Essex, will be very glad to receive details of open shows being held by clubs within a reasonable travelling distance of Witham.

DUDLEY & D.A.S. members are much occupied at present with putting into operation their plans for the Tropical Fish Exhibition they have been asked to stage in the Dudley Art Gallery from 13th May to 1st June. Their first exhibition was a huge success and a sub-committee (chairman, Mr B. Jewkes) has been formed to ensure that all the many details connected with this second one receive attention. Three prizes are to be given for the three best tanks on display, and the first prize will include a new trophy that the president, Mr C. F. Grave, is presenting to the society from Ansell's Brewery to be awarded annually for the best decorative aquarium. The visiting public at the exhibition will be asked to vote for the best 'set-up'.

By a unanimous vote at a recent committee meeting, Mr John Vickery was made an honorary member of the society for 1 year in recognition of his 5 years as chairman.



Mr Jim Kelly (right) was the speaker at this year's Hounslow & D.A.S. evening Convention. He projected over 200 slides during his talk

COVENTRY POOL & AQUARIUM SOCIETY held its annual general meeting on the evening after the winter's worst blizzard so that there were a good few members missing from the gathering, but those who had dug out in time managed to get through a vast amount of club business. One of the pleasantest tasks of the evening was taking the decision to make Mr and Mrs Workman life members of the Society as a token of the appreciation felt by members for all the work they have put in over the years.

Officers for the year are: chairman, Mr Ted Sheehy; vice-chairman, Mr Bernard Bromfield; secretary, Mr John Grant (26 Cecily Road, Coventry); treasurer, Mr Dick Thomas; assistant secretary, Mr Bernard Mann; auditor, Mr Mick Bradbury; newsletter editor, Mr Bernard Mann; show secretary, Mr Eric Leggett; assistant show secretary, Mr Tom Grant; committee members, Mr Frank Hallett, Mr David Easingwood; librarians, Mr and Mrs Tom Manning.

Results of the 1967 trophy competitions were:

Hogarth Cup (highest points in all classes): 1, Mr T. Grant (125 pts); 2, Mr E. Leggett (98); 3, Mr E. Sheehy (83). Stone Cup (highest points in tropical classes): 1, Mr E. Leggett (90); 2, Mr E. Sheehy (88); 3, Mr T. Grant (76). Essam Bowl (highest points, breeders egglayers): 1, Mr E. Leggett (22); 2, Mr T. Grant (16); Mr T. Luckman (11). Society Cup (breeders livebearers): 1, Mr R. Scally (39); 2, Mr T. Grant (23); 3, Mr V. Hyett (20). Clarke plaque (best fish of the year): Mr T. Grant (Schubert barb, 85). Home aquaria competitions. Tropical (Court plaque): 1, Mr T. Grant (22); 2, Mr D. Thomas (16); 3, Mr B. Scally (10). Coldwater (Society Cup): 1, Mr B. Bromfield (22); 2, Mrs T. Manning (16). Bradbury Cup (highest points in coldwater classes): 1, Mr C. Bates (11); 2, Mrs Manning (6); 3, Mr B. Bromfield (8). Best member of the year, Mr T. Sheehy.

AT the February meeting of **NEWPORT A.S.**, the second 'leg' of the inter-club table show with **BARRY A.S.** was held, resulting in a win for the home society. Individual results were: egglayers: 1, Mr W. Chapman (Newport); 2, Mrs V. Tippins (Barry); 3, Mr A. Ibbertson (Barry). Livebearers: 1, Mr A. Ibbertson (Barry); 2, Mr D. C. Bishop (Newport); 3, Mr H. Walker (Newport).

The response to their recent request in *PFM* for secretaries of clubs within travelling distance to contact them has enabled the Society to arrange a number of inter-clubs shows for the following months: 28th March, against **CARDIFF A.S.**; 10 April with **CHELTENHAM** and later in the year with **BRISTOL T.F.C.** Membership of the Society is now at its highest ever, and further details are available from Mr I. G. Phillips, 34

STANDARD reference letters for classes at all open shows would be a great boon to fish judges. This was suggested in the *F.B.A.S. Judging and Standards Committee's* report given at the Federation's Assembly in March. The Committee has drafted a complete letter code for use in this way and will later be seeking its acceptance. Examples from the code are: *A, furnished aquaria (AA would denote society tropical furnished, AB society coldwater furnished and so on); E, labyrinth fishes (EA for Siamese fighters).* The use of numbers rather than letters for the tanks within each class is a further detail in the proposed standardisation of labelling of exhibits at shows.

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THE SHOW SECRETARY'S report to members of **BLACKPOOL & FYLDE A.S.** at their annual general meeting underlined the very successful year that the club had enjoyed. The open show had attracted a record number of entries for a one-day show. A second place in the stand section had been awarded at the B.A.F.; Mr J. Taylor won a double with the Cussons Challenge trophy and the Walter Smith shield for furnished aquaria and Mr C. Jones attained a second for furnished marine class. The club's float in the Round Table Carnival Procession, representing a water garden complete with five real mermaids, had been a huge success.

The Chairman's report included details of the club's dinner dance at which 111 members and friends saw the presentation of the annual trophies. Mr J. Cunliffe was very successful and achieved three trophies—the Singleton trophy for single fish, the Robinson trophy for pairs and the Legge trophy for breeders. Mr C. Jones won the Simmons trophy for the fish of the year, Mr F. Baker the Cardwell trophy for fighters and Mrs B. Marsden the home furnished-aquaria trophy. Mr F. Woodward gained the most points at open shows and won the Beardsall trophy. In the junior section, Master D. Clark won the Singleton, Robinson and Legge trophies.

In memory of the late Mrs Hadley, who was a stalwart member of the Society for many years and will always be remembered for the incalculable amount of work she

did for the club, the members of the Ladies Committee had presented the top table with three name plates of polished wood carrying in white letters the designations 'Chairman', 'Secretary' and 'Treasurer'.

Officers elected to serve for 1968 are: president, Mr Clifford Cross; vice-presidents, Mr V. Fletcher, Mr G. N. Hadley and Mr J. E. Etherington; chairman, Mr J. E. Taylor; vice-chairman, Mr C. Jones; secretary, Mr L. G. Howard (56 Stamford Avenue, Blackpool; phone 42676); asst. secretary, Mr A. Marsden; treasurer, Mr W. K. Pearson; technical advisor, Mr Ray Legge. Executive committee members, Mr E. Crowther, Mr T. Cunliffe, Mr L. Howlett, Mr A. Marsden, Mr B. Simmons and Mr F. C. Willmin. The show committee comprises Mr J. Cross, Mr T. Cunliffe, Mr D. Fish, Mr L. Howlett, Mr C. Jones, Mr B. Littler, Mr A. Marsden, Mr B. Simmons, Mr F. C. Willmin. Mr L. Howlett is the librarian and B. Little publicity officer.

The club meets on the second and fourth Wednesday of each month at the Veevers Arms Hotel on Cookson Street and newcomers will be made very welcome.

150 MEMBERS and friends of **HARLOW A.S.** attending the annual social and dance saw the club's trophies for the year presented to the following: Breeders cup, Mr H. Vinnall. Home furnished aquarium cup, Mr B. Dalsbury (2, Mr F. Daley); 3, Mr M. Panton; 4, Mr P. Burton). Black widow cup, Mr R. Kerridge (2, Mr P. Wheeler); 3, Mr A. Day; 4, Mr J. Ratcliff). Fighters cup, Mr J. Duncan (2, Mr M. Panton); 3, Mr J. Duncan). The result of the table show trophy competition was a tie between novice and senior class winners so Mr P. Burton and Mr M. Panton shared trophies (2, Mr G. Lorwill, novice; Mr J. Soanes, senior; 3, Mr S. Morgan, novice; Mr J. Duncan, senior).

The committee elected at the annual general meeting is: chairman, Mr J. Soanes; vice-chairman, Mr G. Lorwill; secretary, Mr J. Duncan (28 Long House, Bush Fair, Harlow); treasurer, Mrs V. Duncan; show secretary, Mr R. Kerridge; auditor, Mr J. Shine; committee; Mr and Mrs B. Salsbury, Mr P. Burton, Mr S. Morgan, Mr F. Daley, Mr E. Sharrett, Mr J. Jarvis.

Because of the increase in the number of members, the club has had to find new headquarters and since the beginning of March meetings are now held at the Tye Green Community Centre.

YORK & D. A.S. have suffered a sad loss in the death of club member and editor, Mr A. E. J. Simons, whose enthusiasm, skill and hard-work, together with that of Mrs Simons, has resulted in the excellence of York's club magazine, Lateral Lines.

A SLIDE-TAPE lecture, hired from the F.G.A. and with a commentary from Mr Jim Kelly, is to be given at the **BRIGHTON & SOUTHERN A.S.** meeting on 10th April. This is but one of the meetings arranged for the coming season that are held over the Prince George, Trafalgar Street, Brighton on Wednesday fortnightly. Officers guiding the fortunes of the club during the next 12 months will be: chairman, Mr J. Pelham; secretary, Mr B. Shelton (45 Coventry Street, Brighton); treasurer, Miss P. M. Carr; open show secretary, Mr R. Browning (34 Rowan Close, Portslade, Sussex); club competition secretary, Mr V. Aldis; committee, Mr T. Croucher (P.R.O.) and Mr J. Kail. Members heard reports at the annual general meeting of a very successful year that had showed greatly improved membership and attendance at meetings, increased numbers at the table shows, a successful open show and a strong financial position.

At the annual prize-giving trophies were awarded as follows: club competition championship, Mr D. J. Soper; Ladies trophy, Mrs P. Ainsworth; Dave Harris trophy, Mr T. J. Croucher; home furnished aquaria competition: A, Mr L. Ainsworth and B, Mr B. Dilley; Fish of the Year cup, Mr E. Cummins; the Dora Bryan trophy, Mr T. J. Croucher.

ILFORD & D. A. & P.S. are always ready to seize any opportunity to create interest in the hobby in Ilford and surrounding districts. Their task is aided by the go-ahead Redbridge Arts Council,

Another sad loss to the fishkeeping world is the death of Mr George Bulleyment of NOTTINGHAM & D. A.S. Mr Bulleyment's efforts on behalf of the society were evidenced in many spheres; in open shows, as Breeder's Section leader, in maintaining the local hospital tank, in duplicating the bulletin and meeting reports his enthusiasm was felt and will be greatly missed.



Photo: GRAVESEND & DARTFORD REPORTER LTD.

Winner of the Grand Slam Trophy, Mr Brian Harvey, is seen receiving his prize from Mr Mortlock, Headmaster of Swayne Primary School, Swanscombe, with Mr R. Bird (show secretary) in the background, at the North Kent Aquarist Society's annual prizegiving and social evening held in Gravesend

who are staging the Redbridge Exhibition at Redbridge Town Hall, High Road, Ilford from Wednesday 1st May to Saturday, 4th May inclusive (admission free, 12 noon-9.30 p.m. and all day Saturday). As part of the Arts & Crafts section, the Society are displaying 12 illuminated aquaria with tropical fish, two large furnished aquaria and a carboy table lamp. All interested fishkeepers will be very welcome.

The society also recently took part in a forum, arranged by the Arts Council, when representatives of the individual societies outlined their Clubs' activities. President Mr Vic Price spoke on fishkeeping and was able to illustrate his talk with some excellent coloured slides of furnished aquaria taken by Ilford Photographic Society and loaned by show secretary, Mr Harry Berger.

Club meetings have not been neglected. Mr Pye of Romford presented a very informative programme on tropical and coldwater plants, illustrated with coloured slides, and new members in particular found the lecture most helpful. An auction of fish and plants and a talk with slides on coldwater fish and garden pools are planned for April and May. Meetings are held on the second Monday of each month at 8.0 p.m. and Mr R. Ruth, the secretary, 13 Dunkeld Road, Dagenham, will be very pleased to supply further details.

In Brief . . .

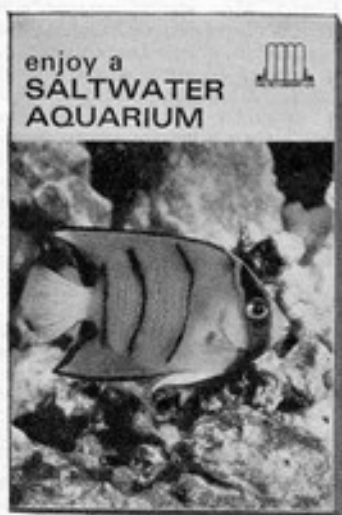
... MEMBERS of **BOURNEMOUTH A.C.** greatly enjoyed the slide show presented to them by Mr R. Matley of coloured photographs that he had taken over a period of years. The table show of the month was judged by Mr J. V. Jeffery with the following results: swordtails: 1, Mr R. Travers; 2, Mr B. Poole; 3, Mr Waddilove. Breeders class, owner bred pairs: 1, Mr Hagg (angels); 2, Mr Brewer (dwarf gouramis); 3, Mr Coombes (White Cloud minnows).

... THE NEW headquarters of **CLAPHAM A.S.**—Friendship House, Springfield Methodist Church, 200 Wandsworth Road, Vauxhall, London, S.W.8 are proving very satisfactory and meetings there are now in full swing. A coming attraction, however, will take members out of the club room on a visit behind the scenes at London Zoo Aquarium. New members are always welcome and should contact the secretary, Mr M. J. Denbow, 26 Tillotson Court, Lansdowne Green, S.W.8, for further information.

Continued on page 32

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"I saw your advertisement in PFM"

In Brief . . .

Continued from page 30

... THE NEW committee for 1968 of **CRAWLEY COLLEGE A.S.** is: chairman, Mr D. Wade; secretary, Mrs J. H. Partridge (93 Worth Road, Pound Hill, Crawley, Sussex); treasurer, Mr R. Partridge; show secretary, Mr N. Woodhams; assistant show secretary and Press officer, Mr C. T. Elmer; committee members, Mr C. Holt and Mr D. Evans.

... OFFICERS and committee elected at the annual general meeting by members of **BRADFORD & D. A.S.** are: president, Mr D. Carr; vice-president, Mr G. Goodison; secretary, Mr W. L. Haley (13 The Oval, Allerton Road, Bradford 8, Yorks); treasurer, Mr R. Winterburn; social and publicity officer, Mr J. Hodgkinson; committee, Mr B. Shepherd, Mr G. Carrington, Mr A. Rudd, Mr H. Greenwood, Mr B. Kenningham, Mr J. E. Cawthra, Mr H. Fletcher. Meetings are held on the first and third Wednesday in every month at the Unity Hall, Rawson Square, Bradford, where new members will find a warm welcome.

... THE TALK and slide show given by Mr Dennis Carr of Bradford to **SWILLINGTON A.S.** proved most enjoyable and informative. The table show, for platys, was won by Master Paul Stringer, with Mrs S. Batty taking second and third places. Mr Paul Reynolds has been awarded the President's trophy for gaining most points at open table shows during 1967. The quarterly table show plaque has been awarded to Mr Gordon Nash, and the Ladies trophy for characins to Master Paul Stringer (2, Mr T. Ball; 3, Master M. Emmett).

... AT the annual general meeting of **PORTSMOUTH A.S.**, Mr J. Stillwell was elected chairman, Mrs L. A. Howard secretary (10B Moneyfields Avenue, Copnor, Portsmouth, Hants.); treasurer, Mr G. Marks; show secretary (elected September '67) Mr W. Ryder; committee, Miss W. Ryder, Mrs J. C. I. Stillwell, Mr J. Smith, Mr V. Hunt, Mr H. Armitage and Mr Whyllie.

... SO enthusiastic are members of the new **BRENT A.S.** that they have decided to hold meetings every Tuesday in future. Plans are now

nearing completion for the club's new purpose-built Centre, which it is hoped will be ready in about 9 months' time. The society should then have really excellent facilities. Recent table show results have been: Danios, rasboras and minnows: 1 and 2, Mr C. Swinburne; 3, Mr M. O'Connell; 4, Mr P. Shrimpton. Catfish: 1 and 2, Mr T. D. Smith; 3, Mr R. Fox; 4, Mr M. O'Connell. Best in show, Mr T. D. Smith. Cichlids: 1 and 3, Mr R. Fox; 2, Mr C. Swinburne; 4, Mr J. Lane. Toothcarps: 1, Mr R. Fox; 2, Mr C. Eltringham; 3, Mr P. Shrimpton; 4, Mr D. Bevan. Best in show, Mr R. Fox. With only one more competition to take place for the Denis Smith Challenge trophy, there is very little between the highest points holders: Mr C. Swinburne 21, Mr P. Shrimpton 18, Mr R. Fox 17.

INTERNATIONAL relations were not improved recently when Mr Dave Ellis, chairman of the British Killifish Association, had returned to him from Russia 200 killie eggs sent by him to that country. The eggs had been sent at the request of a Russian killie enthusiast and were dispatched with a British Ministry of Agriculture clearance certificate, but Mr Ellis's frustration was completed by having to pay 13s 6d when the returned package was delivered to him!

... **WALTHAMSTOW & D. A.S.** members elected Mr D. Goodbody as chairman at their recent annual general meeting. Other officers elected were: vice-chairman, Mr K. Hobson; treasurer, Mr D. Goldsworthy; secretary, Mr B. Mather (18 Albion Terrace, Sewardstone Road, Chingford, London, E.4); show secretary, Mr T. Needham; committee, Mr C. Scott and Mr F. Smith. The society meets at 8 p.m. on the first Friday and the third Wednesday in each month at Winns Avenue School, London, E.17 (near the Police station). An active programme is being prepared by the committee to cover all aspects of the hobby, including tropical and coldwater fish, aquatic plants, pondkeeping, foods, etc., and new members will be warmly welcomed.

... THE BREEDING of Siamese fighters no longer remains a mystery to members of **SWILLINGTON A.S.** after the interesting lecture they heard recently by Mr L.

Greenall of Tadcaster. Winners of the table show at this meeting were: Guppies: 1, Mr G. Binks; 2, Mr and Mrs M. Linden; 3, Mr G. Nash. Novice: 1 and 3, Mr M. and Mr J. Linden; 2, Mr and Mrs M. Linden.

... **HORSFORTH A.S.** members battled through thick snow and cold to attend the February meeting, but 40 'survivors' made it and very much enjoyed the slide show presented by chairman Mr Ray Hampson of last year's B.A.F., showing some of the fine fishes and set-ups that were on view and the impressive array of trophies that were being competed for. The specified class at the table show was for furnished jars and won by Mr Bowland (2, Mr A. Jobbings; 3, Mr S. Elstrub). A.o.v. adult results were: 1, Mr Bowland; 2, Mrs Hall; 3, Mr B. Beaton. Junior a.o.v.: 1, P. Kirby; 2, P. Dickinson; 3, D. Bancroft.

... THE COMMITTEE elected by **MID-HERTS A.S.** at their annual general meeting is: chairman, Mr T. Timms; vice-chairman, Mr T. Mahoney; secretary, Mr T. Summers; asst. secretary, Mr T. Hawley; treasurer, Mr B. Davison; show secretary, Mr C. Withers; asst. show secretary, Mr L. Weller; news letter editor and public relations, Mr D. V. Larder (42, Old Park Road, Hitchin, Herts). Mr P. Bird was made an honorary member.

At the table show judged by Mr Cannon results were: barbs: 1, Mr B. Davison (86 pts); 2, Mr Summers (85); 3, Mr R. Savage (84). A.o.v. tropicals: 1, Mr C. Withers (84); 2, Mr B. Rummy (83); 3, Mr B. Davison (82). Best fish in show was the albino tiger barb belonging to Mr B. Davison.

... MEMBERS of **YATE & D. A.S.** thoroughly enjoyed the talk given by Mr L. Nightingale, chairman of Keynsham A.S. Speaking on 'Keeping your fish healthy', Mr Nightingale gave advice on every conceivable pitfall the amateur can fall into and the ways of avoiding them. Results of the table show for labyrinths and fighters were: Open class: 1, Mr F. Brown; 2, Mr M. Calway; 3 and 4, Mr P. Wright. Novice class: 1, 3 and 4, Mr M. Calway; 2, Mr A. J. Evans.

... COLOUR slides were used by Mr J. Morris when he lectured to **ENFIELD & D.A.S.** on fish houses and home furnished aquaria and club members found the talk most informative. Mr D. Watts won the table show for barbs, which Mr Morris judged (2, Mr B. E. Bird; 3 and 4, Mr T. Mann).

... A CERTAIN amount of guilt may perhaps be felt in the northern part of the country at the words of the secretary of ELLESMERE PORT T.F.S. who stated at the club's annual general meeting that the main discouragement to his work was the inability of other clubs and organisations to reply to his letters. Officers elected were: chairman, Mr J. Bowyer; secretary, Mr R. Peers (32 Brownlow Road, New Ferry, Wirral, Cheshire); treasurer, Mrs Kershaw; show secretary Mr R. Futrel. Club finances are in good shape and the interesting programme fixed for the year should attract new members. Mrs Kershaw won the breeder's trophy for 1967 and the trophy for the most points throughout the year went to Mr J. Bowyer. Meetings are held on alternate Mondays at the Woodlands Hotel, Whitby and a welcome awaits all newcomers.

... AT the BRISTOL A.S. monthly meeting in February, life-member Mr Sydney Davis gave a most authoritative talk to fellow members on pond and river fishes. Each of 36 native species was briefly described and then Mr Davis went on to give his preferences and experience with them in the fishhouse and on the show bench. Table show results were: coldwater plant: 1, Mr R. Berry; 2, Miss H. Morgan; 3, Mr J. Phillips; 4, Mr S. Savage. Tropical plant: 1, 2 and 3, Miss H. Morgan.

... ANNUAL awards were presented to the following YORK & D. A.S. members at their dinner and

social by retiring chairman, Mr H. G. Sutton: Open class, Daultry cup: Mr G. Pygott (2, Mr M. H. Cooper; 3, Mrs H. Simons and Mr D. Reynolds). Novice class plaque: Mr P. Carey (2, Mr B. Plows; 3, Mr P. Bratley). Junior class plaque: Master R. Thiel. Editor's cup and plaque for the best article submitted to the Newsletter, Mr G. B. Hawksby.

... OFFICERS elected by NORTH KENT A.S. members at their annual general meeting are: chairman, Mr R. Bird; secretary, Mr B. Harvey (60 Sharpleet Drive, Knights Place, Strood); treasurer, Mr C. Hunter; asst. secretary/press officer, Mrs B. Hunter; show secretary, Mr T. Flint; asst. show secretary, Mr C. Wood; librarian/social secretary, Mr B. Bloss; committee member, Mr P. Wills. Meetings are held on Tuesdays, fortnightly, at Swayne Primary School, Swanscombe Street, Swanscombe, Kent and visitors can be assured of a warm welcome.

... MR R. EDNEY is the chairman of CAMBRIDGE & D. A.S. for the coming year. Vice-chairman, Mr R. Bett; joint secretaries, Mr K. Able (5 Cherry Close, Milton, Cambridge) and L. Georgeson (16 Leys Road, Cambridge); treasurer, Mr P. Sanderson; show secretary, Mr D. Dant; show committee, Mr P. Rivett, Mr W. Isgrove, Mr L. Georgeson, Mr Eales; general committee, Mr Sharpe, Mr Freeman, Mr Eales, Mr Arbon, Mr Radford, Mr Isgrove; librarian, Mr Startop.

Badge of the Month



THE design of the YORK & D. A.S. badge was the winning entry in a competition run by the Society to find a new emblem. Almost all the members voted it into first place and as a result this badge was struck. The design was one of several submitted by Mr M. L. Smith, and it was brought into use in March, 1967. When the club visited The Hague in the spring of last year, the Dutch hobbyists were very keen to relieve York members of their badge in exchange for the Dutch Federation badge, so it is fair to say that the badge of the York and District Aquarists' Society is now being worn on both sides of the North Sea.

Dates for Your Diary

5th April. BELLE VUE A.S. Open Show. Switchgear and Cowens Social Club, Manchester.

6th April. GOLDFISH SOCIETY OF GREAT BRITAIN quarterly meeting. Details from secretary Mr W. L. Wilson, 57 Constable Gardens, Edgware, Middlesex.

7th April. VALLEY A.S. third Open Show. Civic Hall, Ramsbottom. Schedules from Mrs M. Thompson, 83 Summerseat Lane, Holcombe Brook, Via Bury, Lancs.

7th April. STOCKSBRIDGE & D. A.S. first Open Show. Victory Club, Manchester Road, Stocksbridge, Nr. Sheffield.

14th April. NELSON A.S. Open Show. Nelson Civic Hall, 2 p.m. Enquiries to Mr B. Tate, phone BLY 21050.

20th April. THURROCK A. S. First Open Show. Gipsy Lane, Grays, Essex. Benching 10 a.m.—1.30 p.m. Schedules and entry forms from Mr D. C. M. Durrant, 22 Kingsman Road, Stanford-le-Hope, Essex.

21st April. STOCKTON-ON-TEES A.S. third Annual Show. St Joseph's Church Hall, Norton. Schedules from Mr J. Chamberlain, 15 Tarring Street, Stockton-on-Tees. Phone 64173.

21st April. SHEFFIELD & D. A.S. eighth Open Show. Meersbrook Vestry Hall, Meersbrook Park Road, Sheffield 8.

27th April. WINCHESTER A.S. 1st Open Show. Schedules available from show secretary Mr R. Hatchett, 234a High Street, Eastleigh, Hants.

28th April. YORK & D. A.S. Open Show. The Railway Institute, Queen Street, York (near station). Benching 12.30—2.0 p.m. Schedules from Mr M. H. Cooper, 2 Hawthorn Spinney, Brockfield Park, Huntington, York.

28th April. OSRAM A.S. Open Show. Osram Recreation Hall, Refuge Street, Shaw, Oldham, Lancs. Benching 12 noon—2 p.m. Schedules from Mr J. E. Shore, 53 Refuge Street, Shaw, Oldham, Lancs.

4th May. FREELANCE A.S. third Open Show. London College of Printing, Elephant and Castle, London, S.E.1. Benching 1—2.45 p.m. Details and forms from Mr A. Howes, 26 Rubens Street, Catford, London, S.E.6.

4th May. TROWBRIDGE & D. A.S. Open Show.

5th May. DERBY REGENT A.S. Open Show. Railway Institute (opposite Derby Midland Railway Station). Schedules from Mr E. Hazeldine, 57 Tewksbury Avenue, Chaddesden, Derby.

12th May. ASSOCIATION OF YORKSHIRE AQUARIST SOCIETIES. Open Show. The College of Technology, Leeds, Yorks.

12th May. WORKSOP A. & Z.S. Open Show.

18th May. BRIDGEND & D. A.S. first open Show.

18th May. READING & D. A.S. first Open Show. All Saints Hall, Downshire Square, Reading. Schedules from B. Grant, 20 Dover Street, Reading, Berks.

18th May. KINGSTON & D. A.S. Open Show. St. Luke's Social Centre, Elm Road, Kingston, Surrey. Schedules from Mr G. E. Greenhall, 39 Garth Close, Morden, Surrey.

19th May. MERSEYSIDE A.S. Open Show. Montrose Athletic & Social Club 5 Richmond Terrace, Liverpool 6.

19th May. NORTH WARWICKSHIRE A.S. First Open Show. The Settlement, Kingstanding Road, Kingstanding, Birmingham 22C. Schedules from Mr K. Brigham, 12 Burnhal Road, Kingstanding, Birmingham 22A.

8th June. **LLANTWIT MAJOR A.S.** Open Show. Schedules early May. from Mr J. Sanders, 26 Sandfield Road, Aberkenfig, Bridgend, Glam.

8th June. **CATFORD A.S.** Open Show. Details from Mr K. Owen, 195 Langley Way, West Wickham, Kent.

13th-16th June. **NATIONAL FURNISHED AQUARIUM EXHIBITION** at St. George's Hall, Bradford 1. Entry open to all.

15th June. **YEOVIL & D. A.S.** first Open Show. Grass Royal School, Yeovil. Details from show secretary Mrs. T. Gillard, 42 Crofton Avenue, Yeovil.

15th June. **THREE COUNTIES** annual Open Show (hosts **BRACKNELL & D. A.S.**) Victoria Hall, Bracknell, Berks. Show secretary, Mr Ken Phillips, 40 Pondmoor Road, Bracknell, Berks.

16th June. **LYTHAM A.S.** Open Show. Lowther Pavilion, Lowther Gardens, Lytham, Lancs.

16th June. **BRIGHTON & SOUTHERN A.S.** Open Show. Marston Centre, Marston Road, Hove, Sussex. Schedules from Mr R. Browning, 34 Rowan Close, Portslade, Sussex.

16th June. **SWILLINGTON, A.S.** third Open Show. Schedules available later.

22nd June **UXBRIDGE & D. A.S.** Open Show. Meadow School, Royal Lane, Hillingdon, Uxbridge. Schedules from Mr N. V. Lee, 46 Airedale Road, Ealing, London, W.5.

23rd June. **CAMBRIDGE & D. A.S.** Open Show. The Guildhall, Cambridge.

23rd June. **BRADFORD & D. A.S.** Open Show. The Textile Hall, Bradford.

23rd June. **ALFRETON & D. A.S.** Open Show. George Hotel, Chesterfield Road, Alfreton. Schedules from Mr S. Hill, 35 South Street, Riddings, Derbys.

27th-29th June. **BRISTOL T.F.C.** Open Show.

7th July. **CHILTENHAM & D. A.S.** Open Show. Ambulance Headquarters Hall, 86 Gloucester Road, Cheltenham.

13th July. **BASINGSTOKE & D. A.S.** annual Open Show. Carnival Hall, Basingstoke. Benching up till 11 a.m. Open to public after 2.0 p.m. Schedules from show secretary, Mr A. Marshall, 61 Pitman Close, Basingstoke, Hants.

13th July. **GOLDFISH SOCIETY OF GREAT BRITAIN** quarterly meeting. Details from secretary Mr W. L. Wilson, 57 Constable Gardens, Edgware, Middlesex.

13th-14th July. **ROMFORD & BEACONREE A.S.** Open Show (Dagen-

ham Town Show). Enquiries to Mr J. M. R. Fyne, 3 Ashvale Drive, Cranham, Essex (phone Upminster 28435).

14th July. **BOURNEMOUTH A.C.** Open Show. Kinson Community Centre, Felhams Park, Kinson. Show schedules and entry forms after 1st. May from show secretary Mr J. V. Jeffery, 30 Basemar Avenue, Southbourne, Bournemouth.

14th July. **MEDWAY A.S.** Open Show. St John Fisher School, Chatham, Kent.

27th July. **CROYDON A.S.** Open Show. Stanley Halls, South Norwood, London, S.E.25. Schedules from Mr D. T. Smith, 26 Cumberland Road, Woodside, London, S.E.25.

3rd-10th August. **PORTSMOUTH A.S.** Open Show. Portsmouth Community Centre, Twyford Avenue. Schedules available from show secretary Mr W. Ryder, 493 Commercial Road, Portsmouth.

11th August. **RAINWORTH & D. A.S.** Open Show. Showroom of E. Taylor & Sons (Southwell) Ltd., West End Garage, Southwell, Notts. Benching 12 noon-2.30 p.m.

THE AQUARIUM SHOW

7th-10th November. At the RHS Old Hall, Vincent Square, London S.W.1. Availability of schedules will be announced.

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Continued on page 36

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RULES AND REGULATIONS

1. Judged to F.N.A.S. and F.B.A.S. rules.
2. Judges' decision will be final.
3. Entries accepted up to May 10th at 25/-.
4. Late entries accepted up to June 1st at 35/- and no entries will be accepted after June 1st.
5. Any competitor may enter any number of entries and win any number of prizes.
6. No aquarium will be dismantled under any circumstance before 6 p.m. on the final day.
7. All aquarium water will be removed by the management.
8. Any persons employed, related, or in any way connected with the organisers are exempt from entering the competition.
9. Whilst the utmost care will be taken, the organisers cannot be held responsible for loss of, or damage to, any property or livestock deposited in the exhibition hall prior to and throughout the duration of the exhibition.

10. The organisers reserve the right to refuse any exhibition entry.
11. The Hall will be open to competitors from 10.0 a.m. to 8.0 p.m. on Saturday and Sunday, June 8th and 9th, for the purpose of preparing exhibits.
12. Standard lighting will be provided by the organisers, comprising 2/40W lamps or 2/25W lamps; no alternatives will be permitted.
13. No competitor will be allowed in the Hall whilst judging is taking place.
14. Judging will take place on Monday and Tuesday, June 10th and 11th.
15. Any unforeseen circumstance will be dealt with by the organisers, at their discretion.
16. Each entrant will receive his numbers and final instructions by June 1st.
17. If required, a form will be available authorising the show committee to feed the competitors' fish during the show. This is purely optional.
18. All entry forms must be accompanied by entry fee(s).

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