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Comments and Quotes

○ Relations of aquarists with the trade
○ Poisonous plankton

Hobbyists and the Trade

AN article in one of the pet trade papers recently had some hard things to say about aquarium society members and their relations with dealers. Here is an example:

'Every retailer is bound to meet the customer who to my mind is perhaps the most trying of all. I mean the individual who bounces into your shop, points out all the things that are wrong—and if your tanks contain even one faulty fish, be sure he will find it—declares he has bred many fish, belongs to this, that and the other clubs, and generally endeavours to blind all and sundry with pseudo science. After annoying everyone present he comes up to you and asks if you would care to buy his surplus fish.'

Mr. L. B. Katters, veteran aquarist, writing in the PET TRADE JOURNAL, said that in his experience fishes offered for sale to dealers by club members were never of the size described nor available in the number promised at the time the deal was made. Runts were what the dealer was expected to take after most of the best fish had been sold to other club members.

Those ('usually members of club') who 'sell fish from their homes and in some cases even advertise in the local papers' were also under attack, as were 'club shops' that sell apparatus and other aquatic stock below normal prices. About the latter, Mr Katters says: 'This practice has led to the downfall of many clubs and while it attracts a certain type of member, the genuine, serious aquarist sees this as a shabby trick against the very people who devote their time and money to advance the hobby by procuring new species and making the many other things available for those who need them'.

Club members—you have been indicted. How say you—guilty or not guilty?

The Poisonous Red Tide

THE HAVOC caused to marine and bird life from oil slicks and detergent has rightly aroused fierce indignation against Man's carelessness. However, as is so often the case, Nature itself can produce even more devastating results without any aid from Man. It is the marine and bird life on the north-east coast of Britain, from Scarborough to Dunbar at the mouth of the Firth of Forth that has recently 'under fire' from the production of a poison from tiny one-celled plants called dinoflagellates.

Under normal conditions, dinoflagellates, from one species of which this poison is a natural product, occur in small numbers as members of plankton. From time to time, however, in the spring, some combination of conditions in the climate or in the sea causes the dinoflagellate population to 'explode' into growth. Although this phenomenon is rare in European waters, the condition has long been known along the coasts of California, Florida, Peru, Japan and south-west Africa as the 'red-tides' that occur periodically in the spring and cause immense havoc to the fish population and other marine life in the areas. And this, to a minor extent, is the condition that scientists of the Ministry of Agriculture and Fisheries believe has occurred in the seas off the north-east coast of Britain.
Mussels from the Farne Islands have been found to contain 39,000 units of a poison that has effects similar to those of nerve gases used for chemical warfare. 400 units of which alone can affect human beings. Huge numbers of dead plankton-eating fish, such as sand eels and flounders, have been washed ashore and sand-eel eating birds, such as shags and terns, have been badly affected. Puffins and ducks as well as the majority of the shags on the Farne Islands have died as a result of feeding from this contaminated food.

The oscar has recovered so far, but for 2 days he was very queer, not eating even his favourite food—snails. I dosed the tank with neomycin sulphate and sulphathiazole (0.5 g), believing some type of infection to the stomach and bowels had occurred. All this is supposition, of course, as no post mortem was carried out at the time. If any of your readers have had the same experience, I would like very much to hear from them.

London, N.8

F. J. H. MORGAN

Coldwater Comment

I READ with interest the dealer's letter (P.F.M., June) concerning clearing white spot from coldwater fishes. I have kept fish for a few years now; at one time all my pond and tank fish (golden orfe, tench, Briton shubunkins and London shubunkins and goldfish) were severely infected with the disease.

These I cured without any losses. A few months ago I bought a pair of fantails, knowing they had white spot, and immediately put my cure into effect (which took 4 weeks). Within 12 hours of the treatment ending, and being placed in a large set-up tank, they swam to the surface and the problem was solved.

I am now busy feeding the result—500 (after severe culling, average body length 1 inch, partly coloured, healthy, ever-hungry) 12 week old fantails.

My advice to dealers with this problem is to give a fairer price to coldwater home-bred specialists and breeders. In return they will be buying good, disease-free fish ready for immediate sale—thus saving on a cure and unwanted deaths.

P.F.M. with its wide circulation could do a lot towards educating the public on keeping coldwater fish (the colours and attraction are as great as tropica) instead of dismissing them as 'merely goldfish-bowl owners'. I have four ponds and a dozen fairly sized tanks. Am I a real fishkeeper or just pretending?

Dagenham, Essex

(Mrs) M. MOORE

Our apologies for the comment in P.F.M. June that apparently was open to misconstruction! What was intended to be conveyed was that, as far as people who are trying to become real fishkeepers are concerned (as opposed to those who are quite content merely to keep a goldfish in a bowl), the volume of trade from the tropical side of the hobby is very much greater than that from the coldwater side. We
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LETTERS

Continued from page 190

have the utmost admiration for coldwater fish enthusiasts, and believe that in many respects they have to meet greater challenges to fishkeeping skill than do tropical hobbyists.—

EDITOR.

Too Soon

I HAVE been a keen reader of Guppy World for many months and in awe of Peter Urwin’s apparent aberration in suggesting (PFM, July) that guppies should be mated at puberty (usually 4 to 6 weeks after birth). I agree that the ‘hereditary material’ is available from this early age, and that the male can be capable of transferring his share, but the female is definitely not ready to produce good quality offspring until much later. In my opinion females should not be mated until they are 9 months old, and I save my males until the same age, when they are fully developed, and it is possible to select parents which are not just good, but are the best available.

As for his comment on extra food and wasted electricity, does Mr Urwin suggest that the males should be ‘disposed of’ as soon as breeding is complete? We keep our pets because we like them, not in order to flood the market with runts, which I am sure would soon happen if all breeders, of any kind of fish, followed his idea.

Tonbridge, Kent

IAIN T. MATHERSON

Thanks for Help

I WOULD like to take the opportunity, through your columns, of thanking all the members of the Bradford & District Aquarist Society for the many voluntary hours worked by them at the recent National Furnished Aquarium Exhibition towards the furtherance of the fish-keeping hobby. It was only with this kind of help and effort that the Exhibition could be run with such a high degree of precision, and I feel that this should be an example and encouragement to other societies, fish-keepers and dealers that to work in harmony as we did can only lead to a much wider extension of the hobby to the mutual benefit of each and everyone of us. Thank you, gentlemen, for a very good job well done.

Bradford, Yorks.

KEITH BARRACLOUGH

Banning the Koi

M Y copies of PFM have been arriving regularly and I would like to add my thanks for a fine magazine. One thing I would like to bring to your notice. You have published several articles on Koi carp (Cypinus carpio). Our Society has been approached by the Harbour & Marine to support them in having this fish banned here in Queensland. As you are no doubt aware, this fish, given the right conditions, grows to 20-30 lbs in weight and spawns many thousands of eggs at a time.

This invariably leads to the destruction of all native fish. While this might be a good food fish in Asian countries, the practice of people putting surplus aquarium stock in local streams and dams only succeeds in the loss of most of the local fish. I have written to the Premier of Queensland. He has replied that he has written to the controlling Australian body to ask that this fish should be banned in Australia.

Queensland, Australia
K. E. MCCALL
Hon. secretary, The Aquarium & Terrarium Society of Queensland

Hopping Hatchets

ON reading ‘Personal Comment’ in May’s PFM, I thought I would write and tell Arpee of my experiences with the hatchet fish. Although he will probably know all I am going to say, somebody might find some information in this.

If you keep this interesting fish you need a tank cover, as I found out. I cleaned my tank one Saturday and it was on the following Monday I realised my tank was minus one hatchet. I looked all over the tank but could not find the missing fish. Finally, looking down the small space at the back of the tank between the wall, sure enough there was my hatchet! Soon afterwards I lost the other hatchet fish, although this time not by his acrobatics but probably through loneliness as the fish was healthy and not very old.

These fish do indeed eat greenly—very greedily, but I found they did not accept dry food. Houseflies also were accepted with great relish—in fact, one book I read said they were essential. My hatchets occasionally swim a couple of inches below the surface of the water.

I find Arpee’s column very interesting and the best regular article.

Glasgow, E.3

ROBERT ALLAN

Tinfoil Data Wanted

I WAS recently given four tinfoil barbs, because they were outgrowing their welcome in a friend’s tank. I have ploughed through many aquatic magazines and books, without success, in an effort to find the correct diet, temperature etc. with which to maintain 100% fitness. I have been told, verbally, by a reputable dealer that they will eat virtually anything and I have indeed been feeding them on dog-meat, lettuce, maggots, potato, egg, peas etc., but can find no expert confirmation.

These fish are finding their way into dealer’s tanks more and more, and an article in your magazine would, I’m sure, be very illuminating to a great many aquarists who like myself are working in the gloom.

P. F. S. PETERS
Secretary, Ellesmere Port T.F.S.

Our experience is that these fish are not difficult to keep and that they grow surprisingly quickly on almost any food. There must be many aquarists who are successfully maintaining them. A readers’ symposium might be interesting. Let us have your comments and details of successful keeping of tinfoil barbs and any discrepancies of your particular fish and we will publish the information.

—EDITOR.
NATIVE to India, Siam and the Malay Archipelago, this species usually occurs in ditches rich in aquatic plants in water of a clear light brown colour; they grow to about 3 in. in length. Reaching rather less than this size in the aquarium tank, these fish can look quite drab if tank conditions are not right, but in good conditions, and when being put out to breed, the sparkling green-blue dots or splashes covering them give them a jewelled effect.

The parents of the half-grown croaking gouramis at present gracing my tanks were conditioned over a few weeks on small red Daphnia, small Cyclops, brine shrimp and micro worms. I had some difficulty in sexing these fish until the female started to deepen in the belly region and then, under a strong light, the eggs could actually be seen. With their red-edged fins outspread both fish looked really beautiful; but, of course, the great attraction about this species is that, when everywhere is quiet, the fish can be heard to croak. My wife is really amused by this when I’ve gone to work and she goes into the fish house and hears them croaking away to each other.

A small tank of about 2 gallons capacity will be sufficient for breeding purposes, but in fact I have used a shallow tray-shaped, plastic container 18 in. by 14 in. by 4½ in. high. This provided a good surface area for the fry. I went through my usual procedure, disinfected the tank with potassium permanganate, and placed it in a position with not too much light. On the bottom was used a thin layer of well-washed dark sand. A few Cryptocoryne were spaced out through the centre of the tank, with a clump of fine Fontinalis at each end. Near the front I arranged small bunches of Java moss; I also floated in the tank a selection of surface plants such as bladderswort, Riccia, duckweed and small plantlets of Indian fern and lettuce plant. Water hardness was about 8 DH, the pH value neutral and the temperature varied between 74° and 78°F (23-25°C). A little salt was added to the tank water.

The breeding pair were put into the tank at night and it was a few days before they settled in. Then things began to move and the first signs of spawning could be seen. I saw the fish circling round each other with fins outspread, displaying their beautiful colours; at regular intervals could be heard that familiar croak. I presumed that the conditions were just right for them. The spawning that followed was very interesting and surprising. The male built a small bubble nest under the Cryptocoryne leaves (which was rather difficult to see). While I was watching the fish spawning they were away from the nest towards the back of the tank.

They spawned in the same manner as fighters with one difference—instead of spawning near the surface
At the time of spawning the male encircles the body of the female with his own body and turns her belly uppermost beneath the bubble nest. The eggs are extruded and fertilized as they emerge from the female.

On the third day after spawning, the embryos could be seen hanging beneath the bubble nest. It was on the sixth day that the fry became free-swimming.

The female was taken out after a few days and the male left to tend the young, which he did with precision and was a good parent. Never once did I see male or female eat any of their young. The male seemed to have a problem at first in collecting his family together. Every now and again he would round them up like cattle and keep them in a shoal. On the tenth day the male was removed. The spawning numbered about 200 at a rough estimate.

At this stage the fry were taking brine shrimp and the yolk of an egg; some of the bigger ones were able to take micro worms. Baby croakers are very tiny at birth and at a week old seem to be a chocolate brown in colour. When they have had a good feed on brine shrimp their...
bellies look red against the chocolate brown. Even at this size they are a pleasing sight to see in a shoal. They are steady growers but I found out that they start to shoot up suddenly after 5 or 6 weeks.

Up to ½ in. or just over, this species seems to be drab and colourless, apart from light-brown dashes which appear on the flanks or body. When they are ½ in. they begin to show first signs of colour—a faint tint of a green sheen. When conditioning these fish before spawning, I was never able to be certain of the sex until the female was fattening in depth with eggs showing in the belly, as all the fins of both sexes are short and pointed and the fish had the same coloration throughout. When adult, the croaking gourami has a beautiful green iris round the eye.

This fish is not a great favourite in this country, owing, I think, to its being rarely seen in the pet shops. However, we do see sub-species now and again, though these never seem to have much colour because of the small size at which we purchase them. However, when kept in a thickly planted tank with other small members of the family, two or three dozen look very pleasing and add a difference to the tank. They are very peaceful and, as I've found out over the years, quite hardy. And for an aquarist who likes a fish with a difference, these little fellows create some very interesting sights and some very amusing noises.

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Transatlantic TOPICS

Hailing from South and Central America, the family of catfish under the family name of Pimelodidae, has provided many species to grace the tanks of aquarists everywhere. One in particular has been seen quite a lot on the British scene of late—the albino Clarias.

These pink-bodied, red-eyed 'cats' can grow quite large and any would-be purchaser, attracted by the small specimens seen in the dealer's tanks, should be warned they can grow up to a foot in length during their first year.

In his natural surroundings this 'cat' often leaves the water for long periods in search of food, usually during the hours of darkness, so if you keep one in the confines of a shallow tank, see that it is well covered or you may come down one morning to find him moseying around on the floor. Large specimens will even dislodge the average glass cover by the sheer force of their leap, so see to it that the glass is weighted down.

In captivity they become quite tame and will soon take tasty morsels from the fingers of their owners, a favourite delicacy being freeze-dried tubifex.

* * *

Whenever aquarist 'buffs' collect and the word 'tank scavenger' is
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* * *

Whenever aquarist ‘buffs’ collect and the word ‘tank scavenger’ is
broached almost everyone immediately thinks of the catfish family, but a newcomer is catching on fast over there and rapidly ousted the cats from popularity—*Trimetes maculosus*, the flounder.

At first glance they appear rather like what everyone thinks a flounder should look like. The species suitable for the tropical set-up resembles a grey-brown to dark-brown leaf, splotted with irregular dark patches; underneath it is coloured white to yellow.

Nicknamed the 'hoggacher' in the U.S.A., it grows to 6 inches in the wild but rarely exceeds 3 inches in captivity. Living in shallow, brackish water at the river mouths it occasionally ascends the rivers to freshwater. It can be identified at a glance by its rounded nose.

Specimens have been available in Britain under the name of simply 'flounder' or 'aeroplane fish'. If you have been overfeeding with Tubifex worms then this is the fish to rid your tanks of these wrigglers. It is nocturnal in habit and spends most of its time either under or on the surface of the gravel. Harmless to even the smallest tank occupants.

** **

Modern advertising, constantly assailing our eyes and ears, our senses afloat with their 'message' have made us realise that there is no such a state as 'perfect!' No sooner do manufacturers produce one item than they are adding something new and claiming it is now even better, bigger and brighter—the New World is no exception to this onslaught.

Now we find that there is a bigger shrimp, our ever-beloved 'giant', fully three-quarters of an inch long and called 'Opossum'. These shrimp are being introduced to Californian waters to provide good food for trout; the Department of Fish and Game claim that larger fish can be expected on this new diet supplied by the Waterton Lake National Park, Alberta, Canada.

Attempts at the start of the year to introduce a similar shrimp from Whiskeytown Lake to Lake Merced, San Francisco, failed when the creatures failed to survive in the waters of northern California. I would be very interested to try some of these shrimp on my puppies. They go mad for the ordinary variety!

First birthday greetings and congratulations to editors Gerald F. Currier and Cleveland Smith, and the staff of ANCHOR, now entering their second year of publication.

Regular readers of this column know this magazine to be the voice of the San Francisco Aquarium Society, now in its forty-fifth year, second successor to the AQUARIUM JOURNAL.

Holding their meetings at Steinhardt Aquarium, the Society's activities are a big draw, just how large was indicated by the attendance figures for their last Aquarium Show—75,000!

** **

In the July issue of *VFA* I credited the breeder of the red-tail black shark to an American when in actual fact the article mentioned was a reprint from the Horshorh A.S. Bulletin—Len is as British as roast beef and Yorkshire pudding.

Seeing as Columbus was credited with discovering America, despite the fact he never set foot on the mainland, perhaps Len Morris, who grew up there in Horshorh, Yorkshire, will forgive me my sins and accept my apology.

Not wishing to be the cause of a second Battle of the Roses, I hereby throw the bouquet for breeding sharks to Britain, and to Mr. Morrill. I say sharks in the plural because a letter from Roy Hampton tells me Len has also had success with the red-finned shark (Labeo erythrus). My face is as red as their fins!

** **

The art of keeping fish has its funny side and just how, was proved recently when Ron Klots (Chicago), writing in the society magazine *Aquatika* described the antics of his hermit crabs (*Eupagurus*).

Ron's aquaria contained two Atlantic anomones, two starfish, a pair of seahorses and the 'three stooges': a trio of hermit crabs, appropriately christened Harvey, Herman and Homer.

Members of the Crustacea, they are found in both freshwater and marine, and usually inhabit an empty mollusc shell, which is both home and armour; no housing problem for these boys, when they grow too big they just move into a larger container.

Our aquarist had thoughtfully provided a goodly assortment of shells so the 'stooges' could take their pick, but that wasn't good enough for Homer. He insisted on trying to squeeze his posterior down the airlift tube—and succeeded, only to be sent soaring to the surface of the water like some Polaris missile the minute the pump was switched on.

Real gone on the 'protection' business, Harvey decided that if he could persuade one of the anemone to stick to his shell it would provide a first line of defence and an early warning system, the stinging tentacles of this creature being much respected by possible enemies.

Alas! His attempts at persuasion ended when the anemone just collapsed on top of him, the only part of his anatomy to escape being his little beadly eyes, which peered out imploringly from beneath a huge, jelly-like mass.

Not to be outdone, the third member of our team, Herman, decided that was the life of a cowboy for him and latched on to one of the sea horses. Resenting its rider, the *Hippocampus* tried to unplug the crab and Herman's efforts, though worthy of any rodeo prize, were in vain and he, too, ended when he joined Homer at the other side of the aquarium.

With such entertainment, who needs T.V.? May I respectfully suggest that the next show organised by the I.M.S.S. includes a tank of 'hermit crabs'. Herman's hermits have been drawing the crowds for quite some time!

** **

Plastic plants? You either like them or hate 'em! I became enthused over their use after visiting the States and seeing the wonderful way the American hobbyists make use of them to decorate their aquaria.

Apart from the cries of 'not natural', raised by the back-to-Nature adherents, I can see several distinct advantages in plastic.

The beginner can successfully plant his tank without any skill and in the knowledge it won't become a jungle in a few weeks; plastic plants do discourage the production of snails in the aquarium; if you haven't green fingers with the living plants, plastic ones work out much cheaper and, finally, should disease strike, the plants are easily disinfected.

To those hobbyists with marine
tanks who are thinking of using these
plants remember that the plastic is
supported by a steel wire and in the
presence of a salty tank will corrode,
setting up harmful toxins. Don’t
desperately, all you have to do is to seal
the end of each stem with an
aquarium sealer suitable for marine
conditions.

* * *

A Californian aquatic trader hit
on this idea of drumming up new
sales. As his customers leave the
shop they write their name on the
sales receipt and pop it into a gold- 
fish bowl placed near the door.
Every week a ticket is drawn out and a
tank given as a prize. If any British
shop-owners think this a good idea let
me warn you it is illegal.

What’s New?

When Snails Become Pests

FOR the aquarist who has given up
the battle to keep down the snail
population in his tanks a new
remedy from Inter-Pet offers to look
after the problem. Snail-Away
is the name of the product, a liquid
supplied in a 60 cubic centimetre
polythene bottle to be used at the
doze of one drop per gallon. ‘The
snails will drop to the bottom and
should be removed within a few hours’
say the directions. The
remedy can be used with fishes and
plants in the aquarium although it is
suggested that half the aquarium
water can be changed when the
snails are siphoned out. As snail
eggs are apparently unaffected
the treatment may need to be repeated
after about a month. Snail-Away
costs 45 8d a bottle.

Range of Remedies

AN entire range of Aquatic Aids
is being marketed by Sherley’s.
There are nine separate remedies,
from general tank disinfectants to
cures for specific diseases such as
white spot and fin rot. Each remedy
is supplied together with a 48-page
small booklet entitled ‘The care,
ailments and treatment of aquarium
fish’, which gives some useful
advice on fish diseases.

Tank ‘Vacuum’ Cleaner

A NEW aquarium cleaner of the
type that operates from the air
pump is the Hobby Delta Vacuum
Cleaner. Sediment from the aqua-
rium is drawn up into a flat tri-
angular container by means of an
air-lift. The clear plastic container
holds the sediment as it is lifted into
it. Both the air-lift tube and the
‘vacuum’ tube slide into cylinders at
each side of the container. Extension
pieces allow adjustment of length to
work in deeper aquaria. The instru-
ment is easily cleaned by sliding out
the cleaner tube and holding the case
under the household tap. The action
of the cleaner is effective but gentle
enough not to remove the aquarium
gavel. Distributed by Inter-Pet, the
cleaner is priced 255 6d.

Plastic Aquarium

LATEST’ product designed to make
the fish tank an acceptable addition
for the modern home is a moulded
plastic aquarium complete with lid
and base manufactured by Li-Lo. Its
capacity is 2 gallons. The shape of
the Li-Lo Fish Aquarium (12 in.
by 8 in. by 8 in. high) and the ivory-
 coloured base and lid, of strong
impact styrene, make it an attractive
sight when set up. Price is in the
region of 23s.

Fungus in Pond Fish

FUNGUS in pond fish is a regularly
recurring problem, particularly com-
mon in spring and early summer, and
usually recommended forms of
treatment involve catching the affect-
ed fish and applying salt or other
remedies in a tank. The advent of a
remedy that does away with the need
to remove fish from the pond should
be of special interest to pond-
keepers. Pon-Tox is one of the latest
additions to the Inter-Pet range of
remedies, and it can be added to the
pond to cure fungus. The polythene
container holds 60 cubic centi-
metres of the liquid remedy, which
will treat 450 litres or 100 gallons of
pond water, at a cost of 48 8d. A
larger size (15l) is also available.
Colourful Carp
from Japan

By C. D. ROE

NISHIKI-KOI, the coloured carp of Japan, are probably the result of crossings of various mutations of closely related species of carp, and not the hi-goi alone. Even today there is quite a variation in the shape of body and we find metallic, matt and nacreous fish just as we do in our fancy goldfish.

The more usual colour varieties are single colours, double colours and even tricolour in the metallic fish, the commonest being gold or brown and gold, red, and red and white. Pure white fish are relatively scarce. Among the less common colours are chrome yellow, slate blue and mottled fish, white bodies with blue or red and blue patterns, blue fish with white, yellow and orange patterns.

One group of varieties resemble the mirror carp in having large glittering scales on the side of the body and these can be on a matt or so-called scaleless fish, or on a normal metallic fish in the complete range of colours. One of the most beautiful of these is a forget-me-not blue fish with brilliant red sides and sometimes brilliant red pectoral fins with a row of large dark blue scales along the dorsal line. The Japanese name for this colour variety is Doitsu-Matsuba-Ogon.

Another beautiful variety is one that has the appearance of smooth shining old gold with a brilliant glistening dorsal line and pectoral fins, and large shining mirror scales on the side of the body. The Japanese name for this fish is Doitsu-Hariwake.

In all there must be over 30 completely distinct colour combinations in these beautiful fish. To see a pond with
A beautiful variety of Koi is the Hариwake shown on the right. A brilliant metallic effect like that of smooth and shining old gold is given by the scales of this variety.

20 or 30 of these large imposing carp, up to 24 inches long, is indeed a spectacle. Some pictures of various pattern arrangements appear with this article.

Japanese carp become very tame and will readily feed from the hand, and in a good pond should double their weight each year. They are heavy feeders, but have the great advantage of being very fond of algae, including the various blanket weeds.

The price of Nishiki-Koi ranges from what the Japanese refer to as 'junk' carp or the throw-outs, at a few pence each for small fish, to a prize specimen of 24 inches which can be quoted as high as $1,000 U.S.

The good colours available at the higher prices are, of course, only a very small percentage of a breeder's output. Breeders of fancy goldfish will appreciate how one has to breed enormous quantities of fish to get a few good ones. Even in colour strains it is quite difficult to find a pleasing arrangement of pattern with the colours clearly defined and it is quite obvious that few of the really superb specimens are ever parted with by the breeders until they are mature fish and will command a good price.
LIVING organisms are fundamentally alike whether one buzzes round a banana or the other eats it, but unlike many of his fellow creatures, man stands alone in his need for change, his urge for something new. Guppy breeders are no exception and following this rule may inadvertently have added yet another creature to that growing list of vanishing animals—the red guppy.

Way back in 1956 when Charles E. Vessel of New York received a gold medal for his red, broad-tailed guppies, through to the post-war years of the Hahnel fantails, this fish has held pride of place on the breeders’ palette; perhaps the difficulties encountered in producing a good self red were responsible for its popularity. Good reds were proof of your prowess as a breeder in the then up and coming facet of the aquarium hobby.

Towards this end self colours were crossed indiscriminately with blacks and blues and the red disappeared under a welter of multi-colours, half blacks, cobra and leopard. Have you seen any good reds lately?

To breed for colour we must have a good understanding of the way the various pigments function; some are dominant and will blot out other colours.

Too many breeders think colouration is merely a matter of the right pigments being present, and seeing a green guppy claim that it must contain green pigment. This is a denial of certain basic truths, that green is usually a combination of black (melanophores) and yellow (xanthophores); there is no such a thing as a green guppy pigment!

Those who did attempt to produce red colour found that the good red males they had obtained when crossed with their own females resulted in a paler colour, and subsequent broods reduced this to a ‘whiter shade of pale’ when compared with their original forebears. It took them a long time to realise that it was the combination of both the male and female in the original stock that resulted in the original breeder’s success and, by obtaining but one of these fish, their own failure.

By PETER UNWIN

To produce good red guppies requires the fulfilment of three factors: two are covered by the absence of those pigments that obscure the red-forming erythrophores. Don’t breed with fish displaying dark colours or having large amounts of the reflecting iridocytes (guanaphores); the third requires that the erythrophores are dense and evenly distributed.

Use the best red males you can obtain and the female strain that produced them. Females showing yellow coloration are better than nothing. If you can only get hold of a male, avoid like the plague guppies displaying multi-colours on fins or body.

The fading away of good golden guppies, too, may give us a clue about the disappearing reds. Was it the coincidence that early breeders had a strain of golds somewhere in their fish house, or is it just that half the western world considers the word ‘red’ has nasty connotations unless it is coupled with white and blue?

Beer and guppies don’t go down well together, though I must admit the same doesn’t follow for beer and breeders at club meetings, yet it was due to that brown English beverage that guppy lore was enhanced.

Profits derived from the sales of Carlsbad Beer helped to found the Carlsbad Foundation, which financed the work of two Danish biologists Schmidt and Winge and enabled them to study the inheritance of guppies. The results of their efforts are now spread throughout the more scientific papers and books of this world. Surely, a cause worthy of our raised glasses?

Have you ever stopped your aquarium up with freshly drawn water and, after the tank has settled, have you been disturbed to see small worm-like creatures near the surface—tiny things that swim in a most peculiar manner? You have in your tank an invasion of the large family of bristle worms, Naididae, comprising 31 genera covering 90 species in Great Britain.

They are harmless to your fish and though the odd guppy will take one into his mouth they usually spit them out and don’t find them suitable as food. They are introduced into your tank via the usual channels of water, plants or live food. Disappearing quicker than a five pound note in the spring sales, they come and go mysteriously and shouldn’t cause the aquarist any more qualms, least of all the readers of this column.

Far be it from me to propose a retrograde step, when talking about guppy breeding, but it would certainly be one answer to that perennial question: ‘where do we go from here?’

The past few years have seen great emphasis on the loosely termed ‘broad-tailed’ varieties of Poecilia reticulata; both bodies and fins have been getting bigger, but there must be an end? There is a right shape for everything that moves in water, determined by the laid-down principles and laws of hydrodynamics.

If we are reaching the limit of size, what then do we breeders do? The
answer is a simple one—though size is fast approaching the man-made standards, no guppy bred has yet reached this summit in the other factors of colour, shape and above all condition and carriage; let us develop these qualities, then. Better still, let us take that step into the past, and concentrate more on the 'short-tail' varieties so numerous in the post-war period. Production and improvement of such varieties as pintail, swordtail, roundtail etc. would not only stimulate fresh interest, but would balance the various displays of guppies up and down the country, where at present the broadtails predominate.

We have the standard outlines for these fish agreeable to both specialist guppy groups. Let us 'bend-backwards' if necessary in improving them.

I freely admit that this column has in the past been less than fair to the livebearer fan. This was not on account of any antipathy; I might possess for the livebearer group of fishes, as such does not exist, but because any serious intentions to keep any of the several varieties are subject to certain quite firm understandings. I suppose that most beginners are initially attracted by the most obvious apparent attractions of the guppy, the platy, the swordtail and the mollie, which are all commonly regarded as easy to keep and to breed. Furthermore, the varieties listed possess a colour range that will satisfy the most ardent colour maniac. Yet very many aquarists seem, after a few months' experience, to turn away from the livebearers, and to cultivate the more 'difficult' (sic) varieties amongst the egglayers.

Of all groups of fishes I therefore think that this is the most deserving of discriminatory thought before working out any stocking programme. It is often said that it is the sign of maturity in an aquarist when he turns his back on the egglayers and takes up the study of livebearers separately and in a specialist fashion. I won't dispute this; to have done so probably indicates that a lot of homework has been devoted to the genetics, and for the first year or so of the new thinking the aquarist sees Mendelian factors swimming around in his tanks rather than Saflina or cofertails. If you get as involved as this it may well mean graduation to the fish house, which is so far outside my experience, or the annexation of part of one's dwelling for similar purposes, and so far as I am concerned, this is equally remote.

I believe, though, that there is an intermediate state of specialization, which can be carried out by the owner of only a few indoor tanks, that will not only give him acceptable breeding results, but provide him with interesting 'watching' as well. It should be stated at the outset that the livebearer aquarist has to be a tougher specimen than the egglayer enthusiast. The innumerable offspring which a pair of livebearers can produce in 6 months is quite terrifying, and unless you have a firm policy about what you are going to do with them, you will soon be in trouble. The simplest way is to dispose of unwanted fry to the likes of growing angels or other cichlids, but most inhabitants of community tanks will soon see off any which you choose to introduce. Once you decide that you do this before the fry have reached any sort of size. It is quite interesting to note how some small fish can get away with it, even in the presence of monsters—this is a case of speed versus bulk, and the former usually wins. The situation therefore has to be carefully watched, otherwise you will simply be transferring an embarrassing problem from one tank to another, wherein it will insidiously grow to unmanageable proportions!

Perhaps you cannot face feeding fry to larger fish. What then? Do not underestimate the size of this problem. It is one of the main reasons for such rapidly waning interest on the part of the beginner, so my advice to the kind-hearted is to give livebearers a miss until you have got more used to some of the less obvious nastinesses of Nature.

A point about keeping livebearers on which there should be a predetermined policy is that of how much space should be allocated to the breeding and rearing operations. This is a fairly simple matter of arithmetic, but if one remembers that a pair of platys might be expected to throw some 400–500 young in the course of a year, each of which takes about 4 months to reach saleable size, the resolution of the space problem itself becomes a matter of some concern, and the spare tank I have always urged on readers for quarantine or experimental purposes soon gets taken over for more or less permanent occupation as rearing quarters. Undoubtedly, if you have only limited space it is advisable to spend a lot of money on a really first-class pair of fish and to treat them to the luxury of a large tank as you can afford, and as many varieties will not modest their young you can let them grow up with their parents. Two or three rearing tanks will be necessary for bringing on the rapidly growing fry, and to segregate any particularly good fish from which you may decide to breed.

Extensive line-breeding would be a bit tight in these confines, but even so, the strictest control over the quality and number of the best fry, together with their segregation from less desirable stock, would enable you to examine some of the possibilities of more scientific methods of producing good fish, and if you have the patience and the willpower I know that the rewards can be as satisfying as any other activity in the hobby.

The rapid attainment of maturity on the part of most livebearers makes experimental breeding a matter of quick returns, but nothing but the best will do to start with, so there is really very little possibility that a chance visit to your dealer will enable you to make other than a
INTERNATIONAL SCENE
Czechoslovakian Symposium for Aquarists

EARLIER this summer aquarium-keepers from all over the continent gathered at the Julius Fucik Park, Hradec Králové in Czechoslovakia for a two days' Symposium for aquarists. This was organised by the Committee for Aquarists and Terraristolists of the Czechoslovak Union of Small Animal Keepers. Great Britain was represented by Mr and Mrs Thomas Horeman.

On the first day, after a morning session in which matters concerning the organisation of the Czechoslovak Union were discussed, those attending separated into two sections, one with the aquarium theme 'New Discoveries in Fish Breeding and Cultivation of Aquarium Flora' and the other for vivarium-keepers on 'Acclimatization of Terrestrial Animals'. Both sections continued with talks and projected slides by eminent people from Czechoslovakia, Hungary, Vienna and East and West Berlin.

Subjects discussed in the aquarists' section included aspects of genetics in aquarium fish breeding (Dr J. Vacek), influence of light, heat and nutrition on aquarium plant growth (Ing. K. Rataj), new discoveries in breeding peocelidi fishes (D. Kaden), breeding dwarf cichlids (J. Ponec), aquatic plants in their tropical habitats (Dr J. Schulze) and environment of the fish (Dr S. Frank). Some brilliant examples of fish photography were shown in a talk given by Mr Roda Zuzal, some of whose articles and photographs are appearing in Pflanzen. MONTHLY.

Dr J. Schulze of West Berlin, an authority on aquatic plants, illustrated his talk with slides that were taken on a recent expedition to Brazil, in which he had been accompanied by Mr Horeman. This tour resulted in the discovery of several new species of Echinodorus. Brazil was also represented at the Symposium by Mr and Mrs W. Schwarz of Manaus, accompanied by Herr H. Bleker (Frankfurt).

Mr Horeman, who with Mrs Horeman was the guest of Mr Karel Rataj, was asked to give his assessments at the Symposium on the influence of Gro-Lux lighting on aquatic plants, and this led to a lively discussion on this topic. Mr Rataj, a leading authority on Echinodorus species, is in charge of the Research Centre for the Ecology of Water Plants (a division of the Czechoslovak Academy of Sciences Botanical Institute), which was visited by a party from the Symposium. Mr Horeman reported that he considered the Research Centre to be one of the finest centres for aquatic botanical study in the world. The plants and projects to be seen there are a proof of Mr Rataj's technical ability. By means of a new technique he has devised, Mr Rataj has been able to facilitate the identification of various species of Echinodorus.

As well as the more formal part of...
the Symposium opportunity was given for social gatherings of those attending, such as the dinner at the close of the Symposium. It is obvious that there is a very enthusiastic following of aquarium-keeping in Czechoslovakia and it is to be hoped that further links will develop between aquarists there and in Britain now that there have been some liberalising changes within the country.

Denmark’s International Killifish Show

DENMARK’S oldest and largest aquarium club, the Copenhagen Aquarium Society, under the patronage of HRH Prince Knud of Denmark, is arranging this year’s annual Copenhagen Aquarium Show. The Show opens on 30th August at the Royal Horticultural Society’s Exhibition Hall in Copenhagen, and will close 8th September.

The Copenhagen Aquarium Society intends to make this a memorable occasion by including an International Killifish Show, inviting killifish fans from all over the world to participate, in co-operation with the group Copenhagen Killies, and the Society has succeeded in persuading the world renowned killifish expert, Colonel J. J. Scheel, to undertake the important task of judging the entries.

Prizes will be awarded in the following classes: 1, Aplocheilus and Pathomphalus, 2, Notobranchius, 3, Aplocheilus and Rinelina, 4, Epiplatys, 5, Procatopodinae and Lamprichthyinae, 6, Other Old World rivulini, 7, Rivulina, 8, Cymolebias, Cymoocheilus and Simplicichthys, 9, Austrofundulus, Rocioaia and Petrochilus, 10, Other New World rivulini, 11, Breeder’s Class: bred within 6 months (minimum six fish).

There will be a special award for the best fish in the Show. All participants will receive a diploma showing the placing and points obtained in the class, and a special diploma will be given to the rarer fish.

The greatest care will be taken of the fish, and any special instructions given by the owners will be carefully followed. Copenhagen tap water has a hardness of 16–18 DH, and is neutral. A minimum of one pair must be entered, and in the breeder’s class variety of form. It should never be allowed to dry out, as it is very sensitive and disintegrates rapidly.

I still have a number of pieces in a display tank which were put there last June, and apart from a growth of algae over the filters, they are still as good as they were then. I was astonished at the quantity of freshwater shrimp (Gammarus) which emerged from the clumps when I gave them a preliminary washing, and as they were said by my book to live for only a few hours in captivity I returned them quickly to their native water. Some of the root went into a tank containing adult angels, A. ramorum and a couple of Gosticulus, and I was even more surprised a few weeks ago, when transferring some riccia from it to another tank, to see a shrimp dart out from the floating plant and rapidly conceal itself beneath a rock. How the ottos had failed to disturb it, and how the other fishes had failed to eat it over a period of about 9 months, I shall never know; certainly the general living conditions in the tank could hardly be compared with those in the local culvert. Perhaps we had a very individual and perceptive Gammarus, who, more readily than most, was prepared to exchange the local ditch and an English winter for something more exotic.
An All-Glass Breeding Trap

As a result of reading a letter from Mr. R. N. Goodall in the February issue of FISH AND FRESHWATER FISH, expounding the merits and demerits of two types of adhesive for the purpose of joining pieces of glass together, I decided to act upon his opinion concerning Araldite and make the breeding trap I have been anxious to make for years but have never been able to find an adhesive that met with my requirements and not be injurious to plants or fish.

Being old-fashioned in my ideas, I could not believe that the adhesive was as good as it was claimed to be, so, following the directions on the packet, I joined two pieces of glass together. The join did not please me because the adhesive showed as a dark grey join. As usual, I was in a hurry to see if it had the strength to hold the two pieces of glass together, and as the makers claimed that heat would do the job quicker and stronger I placed the glass in the cooker at 100°F for about 1½ hours. When I took it out of the cooker I was surprised to see that the joint was perfectly clear, and in that short time it was so welded together that the great force I used to separate the two pieces only broke the glass on either side of the join. This cancelled all my fears about the adhesive’s strength, so I started to cut the glass ready for the trap.

I first made a drawing on a large sheet of paper of one of the ends, as shown in the diagram; only one was needed as the two ends would be identical. I cut the glass to form two legs, to enable the trap to stand more firmly in the sand and yet not damage the roots of too many plants. I cut the glass with the drawing used as a template. The next item was cutting the glass fillets; these (A) were half-inch strips of 32
ounce glass, 7 inches long. After this I took the sharp edges off the glass I had cut, by holding the glass under water or a running tap and rubbing the edges with either a coarse file or a piece of carborundum without any damage to glass or fingers. Again using the template to work from I placed the fillets in position, after treating them with Araldite according to the instructions, and placed them in the cooker but with Regulo at 1 for 1 hour. Meanwhile I cut the glass for the sides (these measured 17 in. by 9½ in.).

When the ends were cold I applied a thin coating of Araldite to the fillets and also to the ends of the side glasses. Help was now needed to hold the ends while fitting the sides. A piece of 32 ounce glass was placed in the slot running the length of the trap between the sides to keep an opening of about ¼ in. When the trap was assembled it was bound with cellulose tape to hold the glasses in position whilst setting; the trap was then placed in the cooker at Regulo 1 and given the heat treatment for 1½ hours.

When the trap had cooled enough to handle I was really surprised to find how solid and strong it was. I was anxious now to test it, so the next day I lowered it into a thickly planted tank. All it did to the plants was to push them aside so that they grew up the sides of the glass. I then dropped the level of the water to about 1 inch below the sides of the trap, to stop the fish from jumping over into the tank. In the trap I placed a gravid young female platy and four others, not gravid.

She had her young 4 days later, and at the count 2 weeks afterwards there were 37 young. I consider that this was good, as she was only young herself. There was plenty of room to feed the fish and the young separately and they soon found that fine food came through the slot in the trap.

The fish were taken out of the trap and replaced by another female. She was to spend at least 4 or 5 weeks in the trap to see what the reactions would be after a long spell in isolation. When she has her young they will drop through the slot and join the others in the tank; this could go on until the aquarium had its full complement of fish. The trap could then be taken out and placed in another aquarium from which all fish have been removed, there being no need to remove plants as no damage is done to them beyond pushing them to one side, and they continue to grow. I mention this because my tanks are very thickly planted, although in future I will have an aquarium only lightly planted so that I can see what is happening.

There is plenty of room in the trap of the size described for three or four females without fear of losing the young. In fact, if the female delivers her young in mid-water they will be through the slot before the other fish can reach them. I have since made another all-glass trap for a smaller aquarium (18 in. by 10 in. by 10 in.). This type of trap can be made to fit any size of aquarium, even a 14 in. by 8 in. by 8 in. for line breeding and observation of young at birth, without plants to interfere with vision.

## Points for Pond Clarity

When the types of fish to be put in an ornamental pond are considered, the emphasis is usually placed upon those that will show up the best to provide the greatest enjoyment. By and large, cultivated varieties are the ones that will do this. If we leave out the various varieties of goldfish altogether, and those already discussed in the present series, we are left with the golden rudd, the well-known hagi carp, and the newer varieties of Japanese coloured carp—Nikishi Kei.

If an aquarist is interested in native and foreign fishes generally, and normally keeps them in tanks, he should note that all of them will enjoy and greatly benefit from some time in the open air. It is right and proper to let such fishes spend a few weeks or months in a pond, even if one never sees them. For example, if one is interested in breeding the bitterling (Rhodeus amarus), the adult fish will come into condition better, and stronger fry will result, after an autumn and winter spent in the open.

Similar remarks apply to our native fishes; the point here to watch is not to put predatory species like the perch, pike or even chub with one’s best golden orfe or young goldfish. The North American catfish (Ameiurus nebulosus) also wants watching, both indoors and out, and American sunfish and basses are others of a predatory nature when they are over 2 inches or so in length.

If you are one of the lucky aquarists whose pond keeps crystal clear all the summer, perhaps with the aid of a pump and waterfall arrangement, by all means try a shoal of minnows, common rudd, or any other variety that takes your fancy. Free-swimming algae which gives rise to ‘green water’ are discouraged if a gentle but perpetual current of water is present. However, if bottom feeders such as carp or tench are put in the pond, their constant rooting about may result in cloudy water after all. This can be overcome to a certain extent by a layer of ⅜ inch washed gravel on the bottom, with the lilies and other plants being grown in baskets also with a gravel layer. Marginal plants can be in shelves or pockets at the edge, and with the aid of a pump and waterfall, perhaps with a filter hidden away somewhere, reasonably clear water should result.

The filter could be a plastic bucket with a few holes...
Semi-Natural?

Yes—it can be done!

After experimenting with layouts for the best results with natural and semi-natural marine aquariums over the last couple of years, I have found, as indeed have quite a few others who have tried, that one can establish highly successful set-ups of this nature with virtually no further attention being required after commencement. For the enthusiastic marinist contemplating a tank where in fact he can keep and grow marine algae ('seaweeds') and invertebrates, besides his fishes, the description of the set-up below may be of some interest.

It was 'started' in October 1967 and at present is still running smoothly. No water changes have yet been made, although trace element solution (both Wiegandts and Rila) has been regularly added according to instructions.

The tank, 56 in. by 15 in. by 10 in., is nylon-coated. It is situated above an unused fireplace in a very dimly lit room. The inside seams of the tank were originally sealed with Bostik outdoor adhesive, but since application this has, in some places, come away from the glass. Filtration is by means of sub-gravel filters of the whole-plate design. The outlet tubes to the sub-gravel filters have been modified as shown to increase the flow rate. The original air-pipe connections have been cut away.

The base, and also of course the filter medium, is ordinary aquarium gravel approximately 1½ in. in depth. An earlier set-up had incorporated a similar idea with silver sand used over a nylon floss layer instead of gravel. This was found, however, to have the disadvantage that the sand eventually matted down and restricted the flow. Although gravel is not perhaps quite so aesthetically pleasing as sand, since it works well why should it not be used?

The water was originally made up from synthetic salts but when I stocked the tank with some of its odder occupants I intentionally drained off one-third of the 'synthetic' water and added natural untreated seawater in its place. This I did, as we will see later, about 2 months before the addition of any fish.

Having set the tank up, checked that the temperature was fluctuating only between 68° and 72°F (20°-22°C; unlike most of my tanks where, I must admit, temperatures rise with the illumination!), and that the filters were operating freely, I took random choice of a few rocks and added these to give a base for the algae I hoped to grow. At the next

By GERALD JENNINGS
(International Marine Study Society)

A Hykro base filter was modified by the incorporation of a diffuser air-lift into the vertical tube. The plate is buried beneath a layer of aquarium gravel.
earliest opportunity I went to one of
my favourite "hunting-grounds" on
the South Coast, Blackrock—an area
of chalk cliffs to the east of Brighton,
to obtain a few seaweeds to start
with.
Red, green and even small brown
laminaria were chosen, the main
technique in their collection being
that they were carefully chiselled
from the chalk sub-strata and left
with their bases intact. These
should be very carefully packed in
trunks to avoid damage by crushing.
Next, small chalk blocks containing
an assortment of tube worms were
carefully collected by the same
method; and lastly, four minute
anemones (Actinia equina) and about
1 gallon of natural seawater (that at
least this once this gallon was
full of microscopic life).

These, the first batch of occupants,
were introduced some 7 days after
the tank was set up. Within one
week it became apparent that one
3 in. daylight white tube illuminated
for 8-10 hours each day was not
producing enough light for the algae.
So this tube was replaced by a
grow-lux (3 ft.) and another 18 in.
tube. These were both left on, and
are still left on, some 15-18 hours
each day. All the seaweeds inten-
tionally introduced are doing very
well indeed now, and, in addition to
the above, several new types have
appeared on the scene.

Colours of growths in the tank at
present are fantastically varied,
ranging from one almost translucent
whitish one, through the reds and
browns, to the brilliant green of
Enteromorpha—by far the most
prolific one as far as growth is
concerned. The laminaria, to my
extreme surprise, are doing quite
well; these, like most of the brown
algae, do not usually thrive in tank
conditions at all well.

The tube worms and anemones
settled down quite well, as did
several small barnacles and winkles
(about \( \frac{1}{2} \) in.), which were in-
advertently introduced with the
rocks.

My expectations in respect of the
infusion of natural seawater were
exceeded many times over: hundreds
of minute shellfish, shrimps and
copepod forms are now present,
together with a few isopods. The
abundance of these animals did not
appear for at least 4 weeks after the
introduction of the other stock, and,
judging from their growth rate, it can
only be assumed that they were
either present in the natural water or
on the rocks themselves—the latter
is, I feel, unlikely as most of the
identified species that have occurred
so far are those with pelagic juvenile
developments.

After this outburst of natural life
in my tank, I was loath to add any
fish in case the conditions were in
any way altered. But after some 8
weeks I conceded defeat and added
the first fish, a Pholis gunnellus
(about 4 in. in length (and
\( \frac{1}{2} \) in. wide, for those unfamiliar
with the "nine-eyes")).

He settled down very well, so on
to phase three of the experiment.
Would he be able to survive without
the addition of any food? At first I
poured a few brine shrimp eggs into
the water—more for the vast and
growing colonies of filter-feeders
than for him—but he seemed quite
content, finding enough food in the
tank for his needs, and so this feeding
was discontinued.

The next step, I felt, was the one
we have been leading up to—through-
out this article—the addition of a
colony of tropical marines to the tank.

I must admit I was extremely
careful about the choice of species,
too—no mollusc-crunching, algae-
eating terrors were going to wreck
my successful semi-natural aquarium.

I had, at the time, in other aquaria
several puffers, one Thalassoma
lunare wrasse and one butter hamlet
from the West Indies. Knowing that
all of these, with the possible
exception of the hamlet, were
inclined to eat molluscs (in the last
thing I wanted!), I purchased two
small clowns A. percula from a local
retailer and added these to the tank
with several small anemones (Actinia
equina) in the hope that these would
make the clowns feel more "at home".

Although the clowns, at the time
I am writing this article, are doing well,
they have as yet not even so much as
looked at the anemones. I do not
intend to add any more fish just yet
as I am sure that overcrowding could
endanger the success of the whole
experiment.

To date, no iron-exchange resins,
carbonisers, or even copper sulphate
have been used in this tank. A weekly
nitrate check showed the level to be
well into the safety zone and all
seems well.

Points for Pond Clarity

Continued from page 266

punched in the bottom, and filled with broken clinker or
1 inch ballast; this would not be too difficult to hide in a
waterfall arrangement, perhaps at the point of water
entry. This system is handy for the Koi carp, as they are
well-known bottom grubbers, and even though brilliantly
coloured, they will only be seen at feeding times.

This problem of water-clarity is important to the pond-
keeper who wants to derive maximum pleasure from his
hobby and I hope the above suggestions will be of some
help. Certainly, the correct use of plants, submerged,
floating and marginal, is of great assistance. For example,
it may be that medium to tall marginals, iris, reeds and
the like, will fit in best to the south, and can help to
provide shade, and well-established water lilies will cover
a great part of the surface with their leaves.

A healthy growth of submerged plants is also impor-
tant, as not only do these assist in keeping down free-
swimming algae but form a valuable addition to the
fishes' diet, as well as providing breeding grounds for
insects and other small forms of water life, which in turn
are preyed upon by the fishes. They also help to shelter
any fry which may hatch out after a natural spawning. I
find that plants which grow well for me do not for other
aquarists and vice versa, and I am therefore unwilling to
make firm recommendations. It is really a matter of
experimenting to see which plants suit one's conditions
the best.

However, if the following plants are tried initially, I
think that one or more will settle down and grow
abundantly: Lagarosiphon major (Elkhorn) Myriophy-
llum, Canadian pondweed ('anacharis') or hornwort
(Ceratophyllum).
Additional Natural Live Foods

With the advent of the warmer months live food should be available in increasing quantities. Creatures such as Daphnia, Cyclops and mosquito larvae form excellent items of diet for our fishes and every effort should be made to see that they get a fair amount of these foods during the next few months. The best way of collecting them is with a net made of fine muslin or, better still, organdie or nylon; one about 10 inches in diameter and fitted to a long pole is ideal for the purpose. These creatures are usually found in small rather foul collections of water containing no fishes, e.g. duck or cattle ponds.

Besides Daphnia, such areas of water contain mosquito larvae, Cyclops, bloodworms, ghost larva (glassworms) etc., which are all good fish foods. However, these creatures are sometimes accompanied by others not so desirable, or even actively destructive, to life in the aquarium. Learn to distinguish between these friends and foes by referring to their photographs in books and, in the meanwhile, do not offer as food to fish any living creatures whose identity, habits and character you are uncertain about.

Daphnia, the water flea, as seen under a microscope

The following are, by popular verdict, members of the 'rogues' gallery', though, as a matter of fact, none are no more than a slight nuisance: dragonfly larvae, diving beetles (Dytiscus), water scorpions, water boatmen, leeches, planarians, Hydra and fish lice (Argulus). It is a wise plan to examine samples of the catch of live food in a shallow enamelled pan in a fairly bright light. With experience most of the trouble-makers can then readily be spotted and, if they are present, some of the larger ones, if not too numerous, are easily removed. This does not completely eliminate all risk involved but the residual danger is indeed a very small one and most consider it worth taking in view of the great enjoyment and benefit that fishes derive from natural live foods.

Many aquarists do not collect their own Daphnia but get them from other fishkeepers in the district. This involves a further small but real risk, for outbreaks of white spot, velvet and other infectious diseases can be produced by contamination of the water containing these live foods. We all know that any wet object can transfer parasites from an infected to a healthy tank and it is common knowledge that wet hands and nets have often caused havoc at societies' shows by transferring parasites from one tank to many others.

The sensible aquarist goes to great lengths to quarantine fish and plants before introducing them to a healthy tank but he rarely stops to ponder that a jarful of Daphnia can also introduce these diseases into his tank. Daphnia, Tubifex etc. do not suffer from these diseases, nor do they act as intermediate hosts for them, and cannot thus be held directly responsible—it is the contamination of water which accompanies them that is to blame.

Complete Safety Impossible

It is easy to blame the other person for misfortunes but let us be rational about the position; he cannot foresee in which tank white spot may occur. With velvet disease, in its early stages not even the most well-informed and vigilant aquarist would suspect anything was wrong with the fish, so difficult is the disease to see when in its preliminary stages of development.

Our reliable distributors take many precautions, such as using different nets for each tank, washing hands frequently etc., and this, of course, lessens the danger but by no means completely eliminates it. It is usually impracticable to quarantine live food, or treat it with chemicals to make it safe, hence it would appear that live food in the wet state carries with it a certain amount of unavoidable risk, but most aquarists consider it worth while.

Aqua-tip

HOW many hobbyists use an undergravel filter in conjunction with a carbon filter cartridge? And how many of us throw these cartridges away after their 30 hours of usefulness is ended?

It is, however, a simple task to hackaw the top off and exchange the carbon for fresh, or even to exchange it for peat, then to heat a spoon and melt the two parts together again (cheaper than using a safe adhesive) and, hey presto! a water softener.

M. BARRETT
Features of the Aquarium

1. Coarse gravel, grey Welsh stone (flat piece, left front), cork bark background. Rasbora heteromorpha (harlequins) and R. hengeli (12). Vallisneria (V), Cabomba (C), Cryptocoryne affinis (A), hair grass (H), large Cryptocoryne sp. (X). Entry by Mr and Mrs G. Binks.

2. Fine shingle with fine sand ‘stripe’ in foreground, stratified granite (high at left, flat piece off centre left and low at right). Australian rainbows (9). Water wisteria (S), ‘dwarf sagittaria’ (M), Bocopa (B), Ludwigia (L), ambulax (A). Entry by Mr J. E. Taylor.

3. Mixed pebbles and fine gravel, Cumberland slate type of stone (flat pieces forming steps). Rasbora heteromorpha (harlequins), Vallisneria (V), Alternanthera sessilis (red) (R), Cabomba (C), Ludwigia (L), ‘dwarf sagittaria’ (M), Cryptocoryne affinis (A), large Cryptocoryne sp. (X). Entry by Mr D. Shields and Mr M. Stray.
One of the headings under which a furnished aquarium in a competition class is assessed is 'Permanency'. Because of this, the viewer of winning tank who is looking for ideas or guidance in setting up an attractive furnished aquarium at home can feel sure that what he sees can safely be used as a model. The show furnished aquarium is not (or at least the winning examples are not) for display on the day only.

Everything put into the aquarium when the furnishing is done has to be considered for its effect not merely at the time but in the future as well. Unless you are prepared to wreck your design at an early stage of its life it would be unwise, for example, to plant a young Amazon sword plant right in the centre foreground of a tank. In a few months it could be dominating the scene and blocking your view. Likewise, to put rapidly growing and lengthy plants in front of a rock formation that you have spent hours arranging with care would be another example of failure to plan for the future.

Although rockwork is not essential in the furnished aquarium it is unusual for it to be omitted (all of the show winners pictured with this article included rockwork). Apart from the obvious attractions of the

Coarse gravel, brown waterworn stone (left piece retained deep bank of gravel; flat piece on right used to overhang a lower piece to give slight cave effect). Mixed characters including large bleeding heart tetras. Water wisteria (S), Colombo (C), Vallisneria (V), Echinodorus radicans (E), Hygrophila (G). Amazon sword (Z). Entry by Mr S. Hill

Photographs by BARRY PENGILLEY

Right: winning marine tank entry by Mr P. Moorhouse. Mixed corals and sea fans. Domino damsels
colours and contours of rocks there is the practical advantage that rockwork is used to create and support banks of gravel and shelved planting pockets. It can also be used to separate (without revealing its purpose) gravels of different types or special planting composts if these are employed. Thus where a fine-grain gravel is found to give best growth of a plant or plants this medium can be banked behind a rock to allow the plants to grow there, whereas in the visible area in front of the rock small pebbles or other selected larger type of gravel or colour of gravel could be used.

In small tanks it is easy for rocks to assume too great an emphasis in the final picture. This is not good technique because each rock means less water for the fish. A proper balance must be kept. There is also a matter of balance between rock and base medium to be considered. These two should harmonise or blend together. A method often used is to arrange smooth chippings from the rock in a layer on top of the gravel. The aquarium placed seventh at the Bradford show presented a most harmonious appearance of the base in this way, the light grey stone formation being accompanied by tiny pieces of the stone on silver sand.

Sometimes a contrast of gravels or gravel and sand in the form of a 'strand' or 'stream' gives a pleasing and not unnatural effect, although under the 'permanency' consideration it seems unlikely that in a small aquarium the usual maintenance procedures would allow this arrangement to persist for long. The tank placed fifth in the selection shown here had small dark-grey pebbles with a central foreground patch of fine light-coloured sand, and the tank in second place showed a diagonal stripe of sand from the centre foreground set in a fine shingle base.

Individual shapes of the rocks available (free from sharp edges, because these are not found in water-worn stones and practically are disadvantageous since they can tear nets) will usually suggest and determine their precise arrangement in the aquarium. Symmetrical arrangements are displeasing. The creation of 'avenues' or 'mini-canvans', diagonally to the viewing position, can give an impression of greater dimensions to the tank than the actual front to back measurement. This effect can be formed with rocks, rocks and plants or with plants alone, of course.

Rocks are not the only furnishing employed in the examples shown with these notes. Pieces of cork bark are also used (number one winner had a piece placed centrally at the back; the tank placed sixth—not pictured—had bark covering the entire back glass of the tank). Prolonged soaking of new bark is necessary before it is used or the water will become discoloured. Branches free from bark that have been obtained from natural waters are sometimes used in furnished tanks with effect (beaches often yield material suitably prepared through long immersion in the sea).

Perhaps it is with the selection and arrangement of plants that the greatest skill is demanded from the aqua-scraper. There are the contrasts of shades of green and reds to be considered, the form of growth of the plants—whether they form clumps or 'bunches' naturally or whether they grow separately, their behaviour in relation to light sources and their ultimate heights. From the long-term point of view it is of no use planting pinched-out tips of Ludwigia or Cabomba to provide a low bank of greenery. If low foreground plants are required then small species such as the 'dwarf sagittaria' must be used or the whole picture will be thrown out of balance when the plants begin to grow in their natural way. Just as with placing of rocks, symmetry in planting does not usually produce a good effect, although in fact in the tank placed first in the Bradford show massive clumps of Cabomba dominated both left and right ends. However, the symmetry was not complete, as the plan of the arrangement shows. Although in the second winning tank water wisteria was used at both ends the plants were beautifully banked and placed in relation to rocks of differing heights in a way that gave no impression of symmetry at all. The third winner was completely devoid of symmetry of planting and the general excellence of this tank almost certainly would have gained it a much better placing but for the poor quality harlequins it contained.

The last note emphasises that the whole purpose of the furnished tank is to house and display fish and that they, too, will influence the viewer's impression of the complete picture. A shoal of a single species carefully selected is perhaps the easiest way to be certain that there is no clash. The second and third
winners at Bradford were single species tanks and the first tank contained only two species so closely alike as to appear almost identical (Rasbora heteromorpha and R. hengeli).

However, the use of a single species should not be over-emphasised for anyone hankering after a decorative home aquarium; the mixed community tank is obviously the most popular form. But for competition purposes, it has to be remembered that where species are mixed they should be of the same family or from the same natural geographical location. Apart from these matters, the usual practical points for successful community-making require to be observed, such as parity of adult sizes, equanimity of temperaments and general suitability for community life.

The features of the furnished aquaria discussed here have not been presented with the competition aspect first in mind. Prize-winning tanks, obviously enough, have lessons for anyone who is out to improve his aquascaping, and the winners at the Bradford show used as examples have plenty of value to offer.

**National Furnished Aquarium Show**

SPACE in the main display area of the hall in Bradford proved barely adequate for the crowds who arrived to see the exhibition of furnished aquaria organised by Keith Barraclough with the assistance of Bradford & D. A.S. Brightly lighted stainless steel tanks, 96 of them, displayed a variety of aquascaping techniques, although the number of entrants demanding serious consideration from the judges (Mr A. G. Jessop, Mr B. Pengilley, Mr G. Reid and Mr G. Skinner), did not make their task a particularly onerous one. Photographs of the winning tanks are shown on another page.

Round the sides of the hall were trade exhibits and on the stand of Petfish Monthly our 'man in the north' Jim Kelly was kept busy answering queries on fishkeeping. Specially popular with the visitors were two exhibits staged by KB Tropical Fish: a tank of piranhas and a highly colourful tank of marines that included some scorpion fish. Large notices proclaimed the horrors of the denizens of both these tanks, but this appeared only to enhance their attraction for the public. Presentation of the awards to the winning aquascapers on the last day of the Show was made by Mr Anthony Evans, Editor of FPM.

**Results**

The best aquarium exhibit in the Show was judged to be the tank...
PFM Photo COMPETITION

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 June issue.
TO facilitate the organisation of their Christmas social, which have become increasingly popular recently, CROYDON A.S. have moved their annual general meeting from October to the first half of the year. Mr. C. Licence is chairman, Mr. A. Bovis vice-chairman and minutes secretary; secretary, Mr. D. Crowley (180 Harrington Road, South Norwood, S.E.25) assistant secretary, Mr. A. Smith; show secretary, Mr. D. Smith; treasurer, Mr. C. Chabot; assistant show secretaries, Miss F. Spencer and Mr. C. Chaboliom; committee, Mr. H. Wood, Mr. P. Trask, Mr. R. Thatcher.

Meetings are well attended and membership is steadily increasing. Members have recently enjoyed very worthwhile lectures from Mr. J. Morrice and Mr. K. W. Caton at inter-club shows with Regate & Redhill, East Dulwich and Freelance have produced a high standard of entries. Visitors are welcome to attend club meetings held on the second and fourth Thursdays in the month at the Victory Club, 227 Selhurst Road, South Norwood, London, S.E.25 (2 minutes from Norwood Junction). Meetings start at 8.0 p.m.

MR ROBERT McDONALD, the secretary of NEWTOWNABBEY A.S., has sent us an interesting account of this newly formed club in Northern Ireland. Mr. McDonald wrote: 'Our Society was formed with four members in March—now we have 26, with another four waiting to be admitted. We have adapted the aquaria at our Bellevue Zoo and we have a rotas system for our members so that on Sunday mornings we get an equal number going to the Zoo. There is always plenty to do there, washing gravel, transferring fish etc. and we have an entirely free hand from the Corporation committee.'

Dr. Gracey, curator of the Zoo, is our president; vice-president is Mr. Barrett, leader of our Zoo's community and from whom we have the use of a hall for our fortnightly meetings. Mr. S. Surgen is chairman, Mr. B. McClean vice-chairman. I am secretary (11 Doonebog Drive, Rathcoole, Newtownabbey, N.1); treasurer, Mr. R. Fulton; show secretary, Mr. N. Patterson; assistant show secretary; Mr. J. Lamb; committee secretary, Mr. J. Killem; librarian, Mr. R. Doherty. Our first table show was a great success and we await the results of our home aquarium competition from judge Mr. J. Laughton.

'We have received great help from the members of ST. ANNES SOCIETY OF AQUARISTS—(I was secretary of this Society before moving to where I am living now) and they have provided us with speakers and slides, judges and some very good advice. We look to the future when we will be admitted to the Irish Federation of Aquarists and all our trouble will have been worthwhile when one of our members takes a first prize at an open show.'

A TALK given by two members of SWINDELL'S WIGG W. Emmett and Mr. G. Binks—on fish house construction proved so interesting and stimulated so many requests for further information from fellow members that the talk had to be concluded at the following meeting. Mr. K. Bateman of Leeds gave a most interesting lecture on ichthyology behaviour, and Mr. W. Emmett provided another evening's entertainment in the form of a taped quiz.

Results of recent table shows have been as follows. Carp and minnows: 1, Mr. P. Reynolds; 2 and 3, Mr. J. and Mr. M. Lindon, Mollies: 1 and 2, Mr. F. Cummings; 3, Mrs. S. Batty. The first term of the quarterly plaque has been won by Mr. J. and Mr. M. Lindon (2, Paul Reynolds; 3, Mr. G. P. Nash). The placings for the Committee plaque for the lady-member gaining most points at society table shows are as present: Mrs. Batty 17; Mrs. Stringer 9; Mrs. Emmett 8.

AT THE General Assembly of the P.B.A.S. held in June it was announced that 1968 will be a record year for affiliations. Thirty societies have even affiliated since the previous Assembly 3 months ago. So many new affiliations are in process of being arranged that the revision of the Directory of P.B.A.S. clubs has had to be postponed until a deadline could be set so that the supplement to the Directory did not have to be prepared before the Directory itself was printed. The new Judges and Speakers list will shortly be printed and there is available an information leaflet on coldwater classes at Open Shows. Write to Mr. S. Money (44 Comiston Road, London, N.10) for information about the new publications.

THE DERBY REGENT A.S. open show again attracted a record number of entries. Derby aquariums were well represented among the 373 competitors that were unable to collect a single first award. It is hoped that there will be an effort to rectify this next year. Award winners were as follows:

Guppies: 1. Mr. Heron (Bedworth); 2. Mr. G. Goodyear (Bedworth); 3. Mr. Young (Birmingham).
Platt's: 1. Mr. Shout (Coventry); 2. Mr. Dalles (Bedworth); 3. Mr. Jerreis (Derby).
Danios, rasboras: 1. Mr. P. Parriot (Birkenhead); 2. Mrs. Dalles (Bedworth); 3. Mr. L. L. Hunt (Burton); Mrs. Bruns (Birmingham).
Aq. barbs: 1. Mr. Hill (Alfreton); 2. Mrs. Barrows (Birmingham); 3. Mr. Jerram (Derby).
Chichilds: 1. Mr. Bruns (Northampton); 2. Mr. Vessey (Leicester); 3. Mr. G. Poole (Alfreton).
Angelfish: 1. Mr. K. C. D. Catford; 2. Mr. Barrows (Bedworth); 3. Mr. W. Leith (North Staffs).
Aq. barbs: 1. Mr. J. L. N. Jackson (Alfreton); 2. Mrs. Dalles (Bedworth); 3. Mr. G. G. Poole (Alfreton).

Ladder (Huddersfield): 1. Mr. K. D. Parkinson (Huddersfield); 2. Mr. Simpson (Bedworth);
Aq. barbs: 1. Mr. Kaye (Huddersfield); 2. Mrs. L. T. Wood (Bedworth); 3. Mrs. Lemsley (Alfreton); 3. Mrs. J. D. Kinloch (Bedworth).

Aq. barbs: 1. Mrs. A. T. Whitfield (Bedworth); 2. Mrs. J. D. Kinloch (Bedworth); 3. Mrs. L. T. Wood (Bedworth).

Mrs. C. P. L. J. Woodley (Alfreton); 2. Mrs. J. D. Kinloch (Bedworth); 3. Mrs. L. T. Wood (Bedworth).

Mr. K. J. H. Ali (Alfreton); 2. Mr. J. R. T. Andrews (Leicester); 3. Mr. G. G. Poole (Alfreton).

Mr. C. D. Parkyn (Alfreton); 2. Mr. J. R. T. Andrews (Leicester); 3. Mr. G. G. Poole (Alfreton).

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Mr. K. J. H. Ali (Alfreton); 2. Mr. J. R. T. Andrews (Leicester); 3. Mr. G. G. Poole (Alfreton).

Mr. J. M. Skinner of Wakefield judged the exhibits, and while judging was in progress, secretary Mr. G. E. Walker gave a most
interesting talk on the history of fishkeeping.

The following evening that members, guests and aquarists from other societies thoroughly enjoyed was the slide show presented by Mr John Willett of Bellingham. Mr John Willett of Bellingham read the first prize of £1.00 and a F.A. Wiggard (Lancash.) to date on the 8th June. Judges Dr C. W. Cole of Birmingham, Mr John Wheeler of Bradford-on-Avon and Mr Colin Lewis of Newport had over 400 entries from which to choose the winning fishes and there were eight furnished aquaria. The results were: 1st, Shubunkin: Mr P. A. Player of Cardiff was judged the best fish in the show and won his owner the gold-plated pin for the champion of champion award and a plaque for the best eelgeyling fish. To Mr Garnett of Cardiff went the plaque for the best livebearer and the Mr and Mrs Stee Cronce Cup. Mr R. E. Wiggard received the Ami Cup for the best furnished aquaria. Master F. Rowlands was awarded the cup for the best junior exhibit. Mrs Parsons of Cardiff received the plaque for the highest points in the show. Class results were as follows:

SIAMAN LARGEST: 1 and 2, Mr D. F. King (Bristol); 3, Mr. I. Gordon (Llanrwst); 4, Mr A. T. Davison (Cardiff); 5, Mr. N. Gregory (Bristol); 6, Mr B. R. Heding (Cardiff); Cichlids: 1 and 2, Mr A. Hoberston; 3, Mr M. Turner (Newport); 4, Mr A. M. H. (Beth); 5, Mr A. Rogers (Llanrwst); 6, Mr N. D. C. B. (Wolverhampton); Livebearers: 1 and 2, Mr W. Chapman (Bristol); 3, and 4, Mr B. G. Gudgey. Guppy: Long tail: 1, Mr P. F. Garnett (Cardiff); 2, Mr M. Phillips (Cardiff); Guppy: Short tail: 1, Mr D. Songhurst; 2, Mr M. Imperial (Cardiff); 3, Mr P. A. Lloyd (Bristol); 4, Mr S.B. (Cardiff); 5, Mr S. R. W. Wiggard; 6, Mr A. Rogers; 7, Mr S. R. Wiggard; 8, Mr G. Stee Cronce; 9, Mr G. J. Steer (Bristol); 10, Mr H. F. J. (Bristol); 11, Mr G. J. Steer (Bristol); 12, Mr A. Rogers; 13, Mr M. Turner (Newport); 14, Mr J. Steen (Bristol); 15, Mr S. P. N. (Cardiff); 16, Mr S. N. Wilson; 17, Mr J. J. Southam; 18, Mr A. Southam; 19, Mr W. Chapman. Cichlids: 1, Mr P. C. O. (Cardiff); 2, Mr B. C. O. (Cardiff); 3, Mr F. W. Brown (Bristol); 4, Mr P. C. O. (Cardiff); 5, Mr F. W. Brown (Bristol); 6, Mr F. W. Brown (Bristol).

THE COUNCIL of the FEDERATION OF BRITISH AQUATIC SOCIETIES have announced an award of a Certificate of Merit and a life Vice-Presidency to Mr F. C. Katsiriz in recognition of the invaluable assistance he has given to the Federation. We are sure that the many aquarists who have had the pleasure of listening to Mr Katsiriz's lectures and learning from his vast store of knowledge particularly in connection with aquatic plants will be very glad to learn that his great contribution to our hobby has been recognised in this way.

THORNE A.S. open show results are as follows:

Best exhibit: Mr Bradford (Sheffield); Livebearers: 1. Mr Dennis (Workop); 2. Mr Gardner (Aireborough); 3. Mr Benbow (Birmingham). Cichlids: 1. Mr Smith (Bradford); 2. Mr William (Sheffield); 3. Mr Robinson (Aireborough). Egglaying Cichlids: 1. Mr Gray (Bradford); 2. Mr Smith (Bradford); 3. Mr Robinson (Aireborough). Rainbowfish: 1. Mr H. H. (Bradford); 2. Mr S. Holmes (Birmingham); 3. Mr F. J. (Bradford); 4. Mr C. R. (Birmingham); 5. Mr F. J. (Bradford); 6. Mr F. J. (Bradford).

Anabantoids: 1. Mr Dennis (Workop); 2. Mr Brown (Huddersfield); 3. Mr and Mrs Howard (Barnsley); Siamese Fighting Fishes: 1 and 2, Mr Fineble (Southport); 3. Mr Jones (Cardiff); 4. Mr S. Holmes (Birmingham); 5. Mr G. F. B. (Bradford); 6. Mr S. Holmes (Birmingham).

The third INTERNATIONAL GUPPY SHOW held by the FANCY GUPPY ASSOCIATION in Manchester in June produced another colorful display of 120 guppies from several countries including entries from Germany and Austria. Best single fish in the show was awarded to Mr Fowles & Vinall with a very nice male delta. Best opposite sex was won by Mr W. Holmes with a highly coloured roundtail female and the best breeders exhibit was won by Mr Victor Partington with four large black deltas. Further results were as follows:


Resp: 1 and 2. Mr D. Crane; 3. Mr G. V. Rees (Lancash.); 4. Mr M. Delenghoro; 5. Mr H. G. Green (Lancashire); 6. Mr R. R. (Birmingham); 7. Mr M. Delenghoro; 8. Mr R. R. (Birmingham); 9. Mr R. R. (Birmingham); 10. Mr M. Delenghoro; 11. Mr R. R. (Birmingham); 12. Mr M. Delenghoro.


So far as is known the meeting of the C o u n c i l of M a r i n e & A c q u a t i c S o c i e t i e s was held at the Marine Boat Club, Blyth, on 13 April. The meeting was well attended and a number of papers were read. The next meeting will be held at the Marine Boat Club, Blyth, on 13 April.
THE ACTIVITIES of members of Bristol A.S. have been widespread in recent months. Mr L. Emery has lectured at Wells and Yate societies and Mr Thomas at Trowbridge. Member Mr F. Brown exhibited at the Llantrisant Major show and secured a first card. Mr G. Stone and Mr P. Greenhill were invited by the local branch of the R.S.P.C.A. to judge the fish classes in their show and 24 members and friends are journeying to Hampton Court on a social outing.

Past outings and shows were the subject of a very enjoyable slide show that president Mr J. Savage presented to club members in June. Particularly interesting were the slides of the recent return match with the G.S.G.B. The all-tropical table show at this meeting was judged by Mr G. Stone and Mrs P. Kimber and awards were made as follows: Labyrinthina: 1 and 3, Mr F. Brown; 2, Miss H. Morgan. Cichlids: 1, Miss H. Morgan; 2 and 3, Mr F. Brown.

DESPITE the fact that there were four further open shows on the same day, WORKSHOP A. & Z.S. open show attracted 332 entries from 20 societies and eight 'unattached' aquarists. The best fish in show was a magnificent loach entered by Mr W. Parkin of Huddersfield. The following list of prizewinners follows.

Steamer, 1, Mrs D. Chester (Creswell); 2, Mr G. Jones (Peelepool); 3, Mr F. Milla (Mersymides); 1 and 2, Mr D. Wright (Almeley); 3, Mr B. Hill (Almeley); ovaries, 1 and 3, Mr D. Wright (Almeley); 2, Mr B. Hill (Almeley); ovaries, 1 and 2, Mr D. Wright (Almeley); 3, Mr B. Hill (Almeley); 1, Mr P. Wileman (Buckingham); 2, Mr A. G. Forbes (Peelepool); 3, Mr G. Jones (Peelepool); air-breathers, 1 (section winner) F. & H. Stone (Huddersfield); 2, Mr L. Kears (Top Ten); 3, Mr D. Gough (Almeley); 1, Miss D. Holroyd (Almeley); 2, Miss H. Morgan (Almeley); 3, Mr A. G. Forbes (Peelepool); 1, Mr D. Gough (Almeley); 2, Miss H. Morgan (Almeley); 3, Mr A. G. Forbes (Peelepool).

Workshop members would like to thank all who visited the show and the judges, Mr C. Walker, Mr A. Linsey, Mr G. Silson and Mr A. Deskin for the excellent way they performed their task.

RUGBY & D. A.S. members have been giving keen support to table shows recently and league positions for the Rugby A.S. cup to date are: Herbert Cup, tropical: Mr R. Day (450 pts); Mr. and Mrs Thomas (405); Mr D. Green (349). Bennett plaque, juniors: Q. Wills (451); C. Locke (451); D. Boul (319). Pleasure Cup, breeders: Mr H. Harris (100); Mr D. Green (130). Bedford Cup, coldwater; B. Malin (306). Club members have also acquired a great deal of new information from a number of informative lectures Mr E. Leggett spoke on the use of hormones in feeding and spawning fish and a very animated discussion arose as to the value of such 'artificial' aids in fishkeeping. One speaker, Mr F. Randall, after his talk on the production of improved livebearers, guaranteed a club member that if he followed all the instructions given during the talk he would have the best breeders team in the area in 18 months to 2 years. The programme for another evening was an aquatic version of 'Many a Slip', supplied by Mr J. Grant of Coventry P. & A.S. and this provided a most amusing meeting.

Badge of the Month

NOW 18 months old, RUNNYMEDE A.S. has a membership of around 40 aquarists drawn from Staines and the surrounding area. The club badge is a red-tailed black shark. The Society meets on the second and fourth Tuesday of each month at the Community Centre, Ashford, Middlesex. Secretary is Mr P. Cai, 1 Munster Road, Ashford.
AT a time when the fish show calendar is filled with something like two open shows each weekend the organisers of SOUTHAMPTON A.S. open show were able to congratulate themselves on having chosen the date successfully, judging from the entries received from as far afield as Poole, Portsmouth and Basingstoke. Judges were Mr Matley and Mr Coombes from Bourne-mouth and Mr Stillwell from Portsmouth. Prizes were presented by Mr J. Gilbert, who has held a number of offices during his 19 years as a club member. The diploma for the best fish in the show went to Mr I. P. Perman of Gosport for a Texas cichlid, but the 'home team' were very pleased to retain nine first awards out of the 23 classes. Detailed results were as follows:

Female guppy: 1, Mr D. Gifford; 2, Mr D. Jones; 3, Mr C. Spinks. Male guppy: 1 and 2, Mr B. Pool; 2, Mr F. Cook. Livebearers: 1, Mr B. Brown; 2, Mr C. Goddard; 3, Mr S. Cook. Platy: 1, Mr I. Russell; 2 and 3, Mr D. Gifford. Characins: 1, Mr J. Jeffries; 2, Mr I. P. Perman; 3, Mr D. Gifford. Barb: 1, Mr B. Brown; 2 and 3, Mr I. P. Perman. Danios, microwas and ramos: 1, Mr F. Harding; 2, Mr D. Jones; 3, Mr I. Russell. Tetras: 1, Mr J. Jeffries; 2, Mr J. Burns, Ladbristly; 3, Mr B. Pool. E. Poole; 2, Mr S. Cook. Cichlid: 1 and 2, Mr K. Clapham, Clichla and bush: 1, Mr I. P. Perman; 2, Mr A. Wilson. Warmwater: 1 and 2, Mr H. Armitage; 3, Mr J. Perman. Platy: 1, Mr V. Vessey; 2, Mr V. Hunt; 3, Mr D. Gifford. Tropical breeders: 1, Mr J. Jeffries; 2 and 3, Mr D. Gifford; 2, Mr B. Pool.

Common goldfish: 1, Mr V. Vessey; 2, Mr L. Manshet; 3, Mr J. Jeffries. Shubunkin: 1, Mr J. Jeffries; 2, Mr V. Vessey. Fantail: 1, Mr W. H. Small; 2, Mr G. J. Vessey. Foist: 1, Mr V. Vessey; 2, Mr H. Vessey. Cichlid: 1, Mr A. Wilson; 2, Mr R. Pool or river fish: 1 and 2, Mr V. Vessey. Cichlid breeding: 1, Mr K. Clapham; 2, Mr J. Jeffries.

Other award winners: Portsmouth. Coldwater furnishing aquaria: Portsmouth. Individual tropical furnishing: 1, Mrs J. Jones; 2, Mr L. Hastings; 3, Mrs Gibb. Coldwater furnishing: Mrs Gibb.

WHEN club members Mr Terry Walker, Mr Peter Lee and Mr Dick Aylott gave short talks on various aspects of fish keeping it was to fellow members of GUILDFORD & D.A.S. an interesting and lively discussion followed and during which many informative and controversial views were aired. The lectures were on tiger barbs, breeding in general and breeding attempts with Betta splendens respectively, and all the speakers stressed the importance of correctly conditioning prospective pairs before mating attempts were made. One item that caused a good deal of discussion was the advisability of keeping rainwater in old oak beer barrels; some members suggested that the acid content of the water could be affected by the beer-

imregnated wood, whilst others felt this was of no consequence. However, lining the barrel with polythene was considered to be the solution for the sceptics.

GUILDFORD & D.A.S. is one of the oldest clubs of its kind in the country. Originally founded about 1935 as the West Surrey Pond-keepers and Aquarist’s Club, the name was changed to the present one in September 1955. Meetings are held on the second Wednesday in every month at the Guildford Trades and Labour Club, The Mount, Guildford and the secretary (at Appleghar Avenue, Park Barn, Guildford, Surrey) will be very pleased to supply any further details.

ONCE MORE HORSFORTH A.S. is on the march. On a lovely Sunday in June, 20 members, each sponsored by one of the Society’s non-walkers, set out to walk the 14 miles to “Surprise View”; and so enjoyable (and lucrative for the Society) was the exercise that over half of the 20 walkers completed the round trip. A less exacting activity was the viewing of a slide show called “The American Scene”. With chairman Mr Ray Hampson behind the slide projector, the slides shown illustrated the way hobbyists in the States set up their tanks for shows and club members were very impressed to hear that fellow enthusiasts in America think nothing of travelling over 100 miles to these shows taking tanks, fishes and even their own water with them. Twelve new members were also present to enjoy the show. Table show results were: specified class: 1, Mr W. Audsley; 2, Mr Auber; 2, Mr A. J. Jubbins. A.O.V.: 1, Mr M. Barber; 2, Mr C. Tate; 3, Mr K. Shaw. Junior A.O.V.: 1 and 3, D. Shaw; 2, D. C. Peck.

LOUGHBOROUGH & D. A.S. held their first open show on Sunday, 9th June. Over 300 fishes were entered in the 16 classes and there was a good attendance of visitors. Particularly commendable were the successes of local members, in view of the high standard of entries and the fact that club members have only just started competitive showing. Class results were as follows:

Guppies: 1, Mr Underwood (Leamington); 2, Mrs Weston (Bedworth); 3, Mr Glover (Bedworth). Livebearers: 1, Mr Everitt (South Staffs); 2, Mr Worth (Nuneaton); 3, Mr Sheeley (Coventry). Danios, micros and ramos: 1, Mr Jones and Mr Delves (Bedworth); 2, Mr Wright (Alfords); 3, Mr Wragg (Alfords). Bubbas: 1, Mr H. Armitage; 2, Mr H. Armitage (Loughborough); 3, Mr Sheeley (Coventry). Cichlids: 1, Mr Everitt (South Staffs); 2, Mr E. Smith (Bedworth); 3, Mr H. Armitage (Bedworth). Characins: 1, Mr Chapman (Loughborough); 2, Mr Sheeley (Coventry); 3, Mr Allen (Notttingham). Fighting: 1, Mr Kaye (Top Ten); 2, Mr Wragg (Alfords). Aphanius: 1, Mr I. Perman (Top Ten); 2, Mr D. Gifford; 3, Mr I. Perman. Tropical breeders: 1, Mr D. Gifford; 2, Mr B. Pool. Tropical breeders livebearers: 1, Mr I. Perman; 2, Mr D. Gifford; 3, Mr B. Pool.

Common goldfish: 1, Mr V. Vessey; 2, Mr L. Manshet; 3, Mr J. Jeffries. Shubunkin: 1, Mr J. Jeffries; 2, Mr V. Vessey. Fantail: 1, Mr W. H. Small; 2, Mr G. J. Vessey. Foist: 1, Mr V. Vessey; 2, Mr H. Vessey. Cichlid: 1, Mr A. Wilson; 2, Mr R. Pool or river fish: 1 and 2, Mr V. Vessey. Cichlid breeding: 1, Mr K. Clapham; 2, Mr J. Jeffries.


MR JIM KELLY is again giving a series of twelve lectures, illustrated with slides, film and practical demonstrations, by which is hoped to bring the deeper issues and facets of the hobby to the practising aquarist. Sponsored by the Association of Manchester & District Aquarist Societies, the lectures start on Monday, 9th September 1968 at The Museum, Werneth Park Study Centre, Manchester Road, Oldham, Lancashire and will be held on Mondays at 8:00 p.m. This lecture course starts with the history of aquatics and the growth of the hobby and societies and covers an enormous amount of ground. Lectures will cover aquaria, breeding, feeding, diseases, microscopy, preserving specimens, autotomy etc. Hobbyists need no recommendation of Mr Kelly’s skill as a lecturer. The numbers for the course are restricted and last year’s course proved their popularity. Application should be made to Mr W. T. Kelly, Secretary, A.M.D.A.S., 31 Siddlesey Street, Liverpool 17. The fee for the twelve two-hours lectures is 15s. od. During its brief history of 14 months, the Society has staged a varied series of events and at the recent open show and conversation at the Town Hall, lectures, slide shows and table shows are all regular features of the Society’s meetings and the success of the recent interclub show with Leicester A.S. has added a further interest to the Society’s list of activities. Secretary Mr F. Hopewell (61 Morley Street, Loughborough; phone 3360) will be pleased to supply further information to prospective new members.
PFM REPORTER visited the BRIGHTON & SOUTHERN A.S. open show in June and was impressed to find that, despite the weather, aquarists had travelled considerable distances to represent their own clubs. It was obvious that a great deal of planning had been put into the event: the show programme and the well-spaced exhibits were two particularly pleasing features.

Detailed results were as follows:

Furnished aquaria: 1, Mr E. Nicoll (Thurrock); 2, Mr R. Page (Thurrock); 3, Mrs D. Jones (Brighton). A.S.: 1, Mr B. Young (Brighton & Redhill); 2, Mr R. Page (Thurrock); 3, Mr E. Nicoll (Thurrock). A. S.: Rosehill: 1, Mr R. Page (Thurrock); 2, Mr E. Nicoll (Thurrock); 3, Mrs G. Nicoll (Brighton & Redhill). A.S.: Rosehill: 1, Mr R. Page (Thurrock); 2, Mr E. Nicoll (Thurrock); 3, Mrs G. Nicoll (Brighton & Redhill). A.S.: Rockfish: 1, Mr R. Page (Thurrock); 2, Mr E. Nicoll (Thurrock); 3, Mrs G. Nicoll (Brighton & Redhill). A.S.: corals: 1, Mrs G. Nicoll (Brighton & Redhill); 2, Mr H. Armstrong (Portsmouth); 3, Mr E. Nicoll (Thurrock). A.V. fish: 1, Mr C. J. Searle (Bexhill); 2, Mrs A. Davis (Brighton); 3, Mrs M. G. Nicoll (Brighton & Redhill).

The INTER-CLUB competition between EALING A.S. & BRENT A.S. has now been completed. At Ealing, a very good lecture was given by Mr K. Nutt. The exhibits were judged by Mr H. Towell and the result was a win for Brent with 32 points to 23. The return match held at Brent was judged by Mr Roy Biggs as follows:

Chichilla: 1, Mr J. R. Reaymond (Brent); 2, Mr J. M. H. B. (Brent); 3, Mr C.睃 (Brent). A.S.: tigerfish: 1, Mr E. Nicoll (Thurrock); 2, Mr R. Page (Thurrock); 3, Mrs G. Nicoll (Brighton). A.S.: needlefish: 1, Mr R. Page (Thurrock); 2, Mrs G. Nicoll (Brighton); 3, Mr E. Nicoll (Thurrock). A.S.: Goby: 1, Mr J. H. A. (Brent); 2, Mr E. Nicoll (Thurrock); 3, Mr R. Page (Thurrock). A.S.: Goby: 1, Mr J. H. A. (Brent); 2, Mr E. Nicoll (Thurrock); 3, Mr R. Page (Thurrock). A.S.: Corals: 1, Mr E. Nicoll (Thurrock); 2, Mr R. Page (Thurrock); 3, Mrs G. Nicoll (Brighton & Redhill). A.S.: Goby: 1, Mr J. H. A. (Brent); 2, Mr E. Nicoll (Thurrock); 3, Mr R. Page (Thurrock).

Scores for this round were Brent 35 Ealing 20, and the trophy was awarded to Brent with an overall score of 67. Members feel that the support both these clubs are receiving is well merited.

Mr G. E. Walker, secretary of AIREBOROUGH & D. A.S., announces with regret that tape booklets formerly distributed by the Society are no longer available.

Aquarium in the Casualty Department of Wanstead Hospital (London) that was set up and maintained by members of Walthamstow & D. A.S. Theatre Sister Stott is wife of a club member.

In their inaugural year is very heartening. This competition alone was attended by about 120 people and has done a great deal to strengthen the ties between the two clubs. It is agreed that this will become a permanent annual fixture.

Brent members are having great success at open shows. At Hendon they took no less than 19 awards (including seven firsts) and enjoyed other successes at Thurrock, Kingston, Brighton and Uxbridge. Other activities have included a visit to the Aquarium at the London Zoo and a visit from Mr Bert Senior of the London Zoo Hospital.

Member the following week to discuss in detail the species seen at the Zoo.

FISHKEEPERS from a wide area visited the YEOVIL & D. A.S. open show. Thirteen societies exhibited, including clubs as cardiff and Portsmouth and 339 entries were received. Judges included Mr J. Morrice of London, Mr Mathew of Bournemouth and Mr S. Langdon, president of the club, and the host Society were very pleased to find that the standard of their fishes won them 9 of the 30 trophies awarded. There were: goldfish, Mrs T. Gillard; shubunkin, 3 in., Mr S. Langdon; shubunkin, 5 in., Mr S. Langdon; Fantasies, Mr V. Collins; a.o. pond, fry, Mr V. Collins; Mollies, Mr N. Steiner; Breeder, Mrs T. Gillard; male guppies, Mr K. Blake. The best fish in show was exhibited by a Yeovil club member. Mr T. Collins and other trophies were won as follows: Cardiff, 8, Salisbury, 4, Newton Abbott, 3, Weymouth, 2, Marrocco, 1, Bridgewater, 1, South Petherton, 1.

18 MEMBERS of the BIRMINGHAM SECTION of the F.G.A. bunched 97 entries at their fourth meeting, and champion Mr Malcolm Delingpole maintained his reputation by taking a considerable number of prizes including best in show, best opposite sex and best breeders. Visitors from Southport and Manchester helped to make the meeting a great success as did Mr Ted Gallagher's two-hour talk on fish feeding. Mr Gallagher had learned himself with just about every live food imaginable to illustrate his excellent talk and his story about his giant diving beetle was very popular.
LLOTS OF ADVICE was given to members of NOTTINGHAM & D. A.S. who wished to enter competitive furnished aquaria classes when Mr Inman lectured to them on this subject. Mr Inman emphasised the importance of choosing suitable rocks and gravel of arranging and re-arranging these to get the best possible effect. Plants and fish should originate from the same region and plants gain in effect when arranged in groups with the crowns visible. Shoals of fish are preferable to individual specimens and the lecturer suggested that lights should be left on as long as possible before judging takes place to get the plants looking their best. Mr Inman was assisted by Mr Wood in this talk. Mr K. Binns was awarded first, second and third places in the table for livebearers (except guppies).

RESULTS OF THE THREE COUNTIES SHOW, Hosts being BRACKNELL & D. A.S., were the following:

Best fish in show, Mr M. Davies. Highest average points, Mrs W. Jordan. Best breeding specimen, Mr A. Harris: 1st, Mr P. Vickers; 2nd, Mr W. C. Price; 3rd, Mr D. V. Wood. Best plants, Mr A. Harris: 1st, Mr P. Vickers; 2nd, Mr W. C. Price; 3rd, Mr D. V. Wood. Best aquarium, Mr W. C. Price. Best all round entry, Mr W. C. Price.

LITERATURE:

RESULTS OF THE MERSEYSEIDE A.S. Show, at which Mr B. Pengeley and Mr C. Walker were judges, are as follows:

Best fish in show award went to Mr G. Harwood (Huddersfield). Merseyside A.S. Tank Show was held at the showroom on the 4th June and playing week was 1st June (25 points). 1st, Huddersfield (30); 2nd, Huyton (25); 3rd, Burton (20)

Guppies: 1st, Mr B. Hilton (Stoneyford); 2nd, Mr W. J. Drury (Saltford); 3rd, Mr P. Woodhead (Blackpool); 4th, Mr F. Bridge (Dulwich); 5th, Mr J. G. Bridge (Two Trees); 6th, Mr and Mrs Bounce (Huddersfield); 7th, Mr J. W. Johnson (Southport); 8th, Mr N. Peterson (Merseyside); 9th, Mr and Mrs Gurney (Southport); 10th, Mr and Mrs Bounce (Huddersfield); 11th, Mr P. Woodhead (Blackpool); 12th, Mr Bridge (Dulwich); 13th, Mr T. E. Gorran (Gorran); 14th, Mr P. E. Porter (Top Ten); 15th, Mr P. G. Harwood (Blackpool); 16th, Mr J. G. Bridge (Two Trees); 17th, Mr and Mrs Bounce (Huddersfield); 18th, Mr J. W. Johnson (Southport); 19th, Mr N. Peterson (Merseyside); 20th, Mr and Mrs Gurney (Southport); 21st, Mr P. Woodhead (Blackpool); 22nd, Mr Bridge (Dulwich)

Labeos and sharks: 1st, Mr B. Seabright (Barnes); 2nd, Mr F. Mollon (Merseyside); 3rd, Mr A. Evans (Top Ten); 4th, Mr W. Parkinson (Huddersfield); 5th, Mr A. Quinn (Valley); 6th, Mr and Mrs Wells (Saltford); 7th, Mr R. Constance (Merseyside); 8th, Mr A. Evans (Top Ten); 9th, Mr J. E. Lindon (Merseyside); 10th, Mr J. Watson (Burnham); 11th, Mr J. E. Lindon (Merseyside); 12th, Mr R. Constance (Merseyside); 13th, Mr J. Watson (Burnham)

Small fish: 1st, Mr A. Evans (Top Ten); 2nd, Mr R. Constance (Merseyside); 3rd, Mr J. E. Lindon (Merseyside); 4th, Mr J. Watson (Burnham); 5th, Mr Mollon (Merseyside); 6th, Mr R. Constance (Merseyside)

COMMUNICATIONS:

THE NUMBER OF VISITORS TO UXBORDGE & D. A.S. open show was heavily restricted, because of the terrible weather experienced on that day. Those who were unable to attend missed a very pleasant occasion and some interesting entries. Held in a bright, modern school building, entries were staged at eye level, and the furnished aquaria display was very skilled. Mrs M. J. Nicholl received the award for the best fish in show with a C. julii (70 points) and the club whose members achieved the greatest number of points was Verulam A.S. (no mean feat for a new Society whose numbers total seven at present).

Club furnished aquarium: a) Ealing & D. A.S.; b) A. V. C. (tropical); c) A. V. C. (general); d) A. V. C. (general); e) A. V. C. (general); f) A. V. C. (general); g) A. V. C. (general).

NEW BOOKS:

In Brief...

PETERBOROUGH FISHERMAN'S ASSOCIATION held its first general meeting on the 4th June. The president, Mr R. Burrell and Mr David Jones of Corby A.S. talk on furnishing an aquarium and the plant of the month, Indian fern. The club will meet on the first Tuesday of every month. A permanent venue has yet to be found but the secretary, Mr R. E. Scott, will be pleased to notify prospective members of the location of the next meeting if they will contact him at 87 Thorpe Lea Road, Peterborough.
The Aquarium Show in LONDON

AT the last meeting of THE AQUARIUM SHOW Committee plans for the displays to be organised by the specialist societies were reviewed. The Goldfish Society of Great Britain’s exhibit is to include a water-garden tableau, plus a display of the fancy goldfish that, for many, will be the focal point of the event. The British Killifish Association will be featuring the very best and widest variety of killifish ever seen on this side of the Atlantic, numbering several hundred, which will include varieties never before seen in this country. The Association is also flying the flag for Mr A. Robbins, a leading authority from Ireland, to judge the toothcarp class in the show. The Fancy Guppy Association and the Federation of Guppy Breeders’ Societies are combining their efforts to produce a display of furnished aquaria featuring some of the finest and most colourful guppies seen outside their own competitions. The Committee have been very impressed by the great interest and enthusiasm shown by hobbyists everywhere, and THE AQUARIUM SHOW promises to be the most exciting ‘aquatic’ event in London for many years. The Aquarium Society Tableaux section is certain to be a sphere of major interest with keen competition between the entering clubs for the PFM Trophy for the best exhibit assessed by public ballot. Leading traders and manufacturers have taken exhibit space, too, and you can be certain of discovering some eye-openers on their stands.

Three senior stewards have been appointed—Mr Dave Ellis, Mr Tom Glass and Mr Len Smith—who will be responsible to Show Manager

Judges appointed for The Aquarium Show are: F.B.A.S. judges, Mr C. A. T. Brown, Mr R. Matley, Mr J. Stillwell, Mr H. Towell, Mr R. S. Wigg, F.F.A.S. and F.B.A. judge, Mr A. Robbins, F.G.B.S., F.G.A. and G.S.G.B. judges will also be involved. Among the Challenge trophies for award are the Pengilly trophy, the Bughton trophy, the PFM trophy (for best Society Tableau) and others yet to be allocated titles.

Mr Cliff Harrison for all aspects of stewarding and benching of exhibits. If you are likely to have some time to spare during the week of THE AQUARIUM SHOW (before and during the open days—7th to 10th November), your services as a steward would be greatly appreciated: offers of assistance should be addressed to the Show Manager, PetFish Publications, 554 Garratt Lane, London, S.W.17.

...DUNDEE A.S. table show results. The Scotch Trophy, guppies and rasboras were: guppies: 1, Pat Strachan; 2, Brian Hill; 3, G. Yule. Junior: 1 and 2, G. Yule. Rasboras: 1, 2 and 3, F. McNaughton.

...LOCAL government economies have brought great disappointment to ROEHAMPTON A.S. Invited to organise the aquatic section of the local Borough Show the delighted members were to stage their first open show with full financial backing. One of the economies of the newly constituted borough council, however, is the decision not to hold the Borough Show and Roehampton A.S. show plans are buried with it.

...RESULTS of the first annual contest held between EALING & D. A.S. (the hosts) and BRENT A.S. were: cats (ex. Corydoras): 1, Mr B. Nakin (E); 2 and 3, Mr T. D. Smith (B). Characins: 1, 2 and 3, Mr T. D. Smith (B). Barbs: 1, Mr R. Savage (B); 2, Mr T. D. Smith (B); 3, Mr C. Swinburn (B). Guppies: 1 and 2, Mr R. Savage (B); 3, Mr J. Raymond (B). While the judging took place Mr D. Nutt of Brentwich A.S. gave an extremely interesting talk on the breeding of Siamese fighters and lampros.

...TABLE SHOW results from DUDLEY & D. A.S. for May and June are the following:

Barbs, novice: 1, Mr J. Ball; 2, Mr C. Quinlan; 3, Mr B. Jenkins, Dudley, etc.; novice: 1, Mr J. Ball; 2, Mr G. J. Holgate, Dudley, etc.; 3, Mr F. Dickens, Dudley, etc.; Barbs, experienced: 1 and 3, Mrs J. Croft; 2, Mr J. Vickers, Dudley, etc.; experienced: 1, Mr D. Ball; 2, Mrs J. Croft; 3, Mr B. Jenkins, Dudley, etc.;

Hemigrammus, novice: 1, Mr H. Simons (10); 2, Mrs J. Croft; 3, Mr T. Gregory, Charlecote, experienced: 1 and 2, Mr D. Ball; 3, Mr T. Gregory.

...AT the inter-society competition between DERBY REGENCY A.S., BURTON-ON-TRENT and NOTTINGHAM & D. A.S. the silver rose bowl Challenge trophy was won by Derby Regent with 51 points. Last year’s holders, Nottingham, came second with 42 points and Burton in third place gained 27 points.

...LEADING points positions in the YORK & D. A.S. table shows competition were: cat, Mr M. H. Cooper (27 pts); guppy, Mr G. Pygott (22); D. A.S. Reynolds (11); Mrs H. Simmons (10). Novice class: Mr P. Waddington (13); Mr A. Hargreaves (12); Mr D. Hockley (12); Mr P. Maud (12). Junior class: Master P. Carey (48); Master R. Thiel (43); Master A. Machin (12); Master P. Loughran (5).

...FOLLOWING a suggestion made by Mr A. Jessopp at a previous meeting, the committee of TONBRIDGE & D. A.S. provided a small selection of tetras for judgement by fellow club members. They provoked some very interesting and instructive comments. The Society’s first table show, for a.v. livebearers, was won by Mr T. D. Amos; 2, Mr J. Bellingham; 3, Mrs I. T. Mathiessen; 4, Mrs J. Bellingham.

...OFFICERS of BURTON & D. A.S. are: chairman, Mr R. Walker; vice-chairman, Mr J. Sharratt; secretary, Mr G. Degg (189 Hawfield Lane, Winski, Burton-on-Trent); social secretary, Mr A.
Hunt, equipment officer, Mr G. Jackson, show secretary, Mr G. Mose; treasurer, Mr R. Pointon, newsletter editor, Mr B. Forman, public relations officer, Mr J. Sharratt.

... THE SHOWING of the slide show on killifish at the June meeting of BLACKWATER A.S. was definitely ‘by courtesy of the chairman’. Owing to a set of unforeseen circumstances, Mr E. Gee had to make a mad dash cross-country to obtain a projector. The table show was judged by the very knowledgeable Mr G. Yallop, club member and proprietor of the local aquarium shop. Mr D. G. Kempen won the first award for catfish and loaches (2, Master Waldock; 3, Mr R. Davis). New members are very welcome and now need pay only half the annual subscription.

... SECRETARY of HEYWOOD & D. A.S. is Mr T. E. Davies (Pets Corner, 31 Rochdale Road East, Heywood, Lancs.).

... STRoud & D. A.S. are holding their first open show on 23rd August at the Archway School, Paghamhill, Stroud, Glos. (Please see Dates for your Diary for details.)

... NEW SECRETARY to WARRington A.S. is Mr Arthur Addison, 5 Hewitt Street, Latchford, Warrington, to whom all correspondence and requests for information about the Society should be addressed.

THE death of Mr Bill Kemp, on the 31st May, came as a great shock to all who knew him. I dedicate these few words to his memory.

Bill and I had known each other for about 20 years. I first met him at a National Show and my first impression of him was that he was a dedicated aquarist. His knowledge of fish at that time was extensive. Tropical fish after the war were hard to get so Bill started collecting native coldwater fish; but as soon as restrictions were lifted his fish house had the new inmates. We discussed many things and the help he gave me in rearing livebearers was a turning point to my interest in this hobby.

Up to the time of his death, Bill still had a very good deep red strain of platy, which were greatly sought for by aquarists. He would never force you to accept any of his ideas but ask you to try it and one soon learnt to respect his knowledge. It was in 1952 that he was made an ASLAS judge. His role of importance was soon established in going around the clubs judging the shows. His fairness in assessing each fish was acclaimed by all. Many has been the time he was called out to help a club whose judge had been unable to turn up. His lecture on ‘Fish-keeping applying the basic principles’ was heard by many and I’m sure helped so many up-and-coming import Hereticebras were his was a turning point to my interest in this hobby.

In the aquarist field have not only lost a dedicated member but a very dear friend. We shall all miss his quiet unflustered manner. So long Bill, we shall always remember you and our sympathy goes out in no small way to your wife and family.

FREDRIC G. GLYNN

Dates for Your Diary

1st August, Batty & D. A.S. Open Show, Batty & Son Ltd., 1 Victoria Rd, Southend-on-Sea.

2nd August, CHESTER A.S. Open Show, Clwydian House, Pant-y-Parc, Wrexham, Clwyd. Shows from Mr W. Moseley. Sales from Mr G. Moseley.

2nd August, Blackwater A.S. Open Show, Blackwater House, Blackwater, England. Shows from Mr J. G. Davis. Sales from Mr R. Davis.

2nd August, BOTTENHAM & D. A.S. Open Show (coldwater), Buntingford, Herts.

3rd August, GORTON & OPENSHEWS Open Show.

3rd August, RAINWORTH & D. A.S. Open Show, Goldings, 1-4 Welbeck Rd, Southwell, Notts. Postage: 12 noon – 5.30 p.m.

4th-15th August, MIDLAND OPEN SHOW, Bingham Hall, Broad Street, Birmingham 1. Details from Mr J. Winters, 136 Franklin Road, Kings Norton, Birmingham 35.

24th August, ROCHEDE & D. A.S. Open Show, Hamer Working-men’s Club, Halesowen Road, Rishworth.

24th August, HARLOW A.S. second Open Show. (Harlow Town, Harlow, Essex. Details from Mr J. B. Denton, 113 Little Heath, Harlow, Essex.)

1st September, Salford A.S. Open Show, Red Rose Hotel, Cross Lane, Salford, Lancs. Film show and judging, plus Sales from Mr. J. G. McKee. 34 Worsley Road, Swinton, Salford.

7th September, BETHNAL GREEN A.S. Open Show. Details from Mr Len Smith, 2-2A Ely Road, Halloway, London, N.17.

7th September, HIGH WYCOMBE A.S. Open Show.

7th September, YATE & D. A.S. second Open Show, Christchurch School, North Street, Downend, Bristol. Shows from Mr E. J. Green, 44A North Street, Downend, Bristol.

7th-8th September, NOTTINGHAM & D. A.S. National Open Show, Dell Hill, Triumph Hall, Nottingham, Shows from Mrs. H. J. Smith, 39 Avonbury Close, Nottingham.

8th September, WARRington A.S. Open Show, St. Benedict’s Youth Club (Bull Hall), Orford Lane, Warrington. Shows from Mr J. Frary, 84 Western Drive, Gleadthorpe, Cardiff.

21st September, DEWSBURY & D. A.S. Open Show. Further Education Centre, Park Road, Batley, Yorks. Information from Mr G. Whitley, 17 Lower Hall High town, Liversedge, Yorks.
22nd September. BIRMINGHAM SECTION, F.G.A., Open Show. Globe Farm Community Centre, Globe Farm Road, Smethwick, Birmingham 35. Show secretary, Mr. P. C. W. Jones, 383 Stockfield Road, Yardley, Birmingham.

23rd September. STONE A.S. Open Show. Walton Community Centre, Walton, near Stone, Staffs. Bidding 12.00 noon - 5.30 p.m. Schedules from Mr. K. Harvey, 61 St Vincent Rd, Walton, Stone.

25th/26th September. BRISTOL A.S. Open Show. The Royal York Hall, Clarence Road, Bristol. Schedules from Mr. B. Berry, 44 Fosseway Crescent, Downend, Bristol.


9th October. CHEL TENHAM & D.A.S., Open Show. Cheltenham Headquarters Hall, 86 Gloucester Road, Cheltenham.

9th/10th October. BRITISH AQUARIST FESTIVAL at Belle Vue Gardens, Manchester.

3rd November. MIKENDEN T.F.S. Open Show. Mikenden Community Centre, Leigh Lane, Mikenden, Halifax, Yorks.

4th November. GOLDFISHERS SOCIETY OF GREAT BRITAIN at Lloyds Hall, Reading, Berks.

5th November. CANARY & FLOWER SHOW, Royal Horse Showground, Newmarket, Suffolk.


THE AQUARIUM SHOW
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2nd November, THE HACKNEY SHOW. Details from Mr. L. J. Storey, 2, Merry Road, Holloway, London N.18.

2nd December. AIRERBOURNE & D.A.S. seventh Open Show. The Towns Hall, Golders Green. Vouchers held by Mr. G. E. Walker, 2 West End Terrace, Guelph, Ont.


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