

SOUTHEND LEIGH & DISTRICT
AQUARIST SOCIETY



QUARTERLY
MAGAZINE
1964

SOUTHEND AQUARIST HISTORY

SLADAS JOURNAL For 1964/5



<http://www.southendaquarist.co.uk/>

Southend, Leigh and District Aquarist Society was formed as far back as 1935, prior to World War II it was known as Southend Aquarist Society. We have only been able to trace the Society back that far. But it is possible it existed before that date but we have so far been unable to find any documentary evidence.

At the out break of World War II the Society had to be disbanded as the Southend area became a militarised area as it lies on the Thames estuary offered a direct route to London for any invading enemy. With the whole area under military control it became impracticable to hold our meetings as movement was severely restricted especially after dark. In addition many of our members were conscripted into the armed forces. Imagine trying to explain to a sentry that the box that you were carrying so carefully under your coat was just a jar of tropical fishes!

After the hostilities four members of the old committee met and reformed the Society and decided to call it Southend, Leigh and District Aquarist Society. The first Monthly Journal was published in 1948 under the editorship of Edgar C. Day. In 1948 Edgar was also the club secretary .The Journal was then published for a number of years, It was resurrected in the early 1960`s by Howard .Preston.

Howard, incidentally was one of the first English aquarists to travel to Mexico to collect livebearing fishes in the 1960`s. He first flew to New York and thence by traveled by Greyhound bus all the way to Mexico City where he and Chris Lyons hired a car to explore for fish.

The Journal was then published in either a bi-monthly or quarterly form until the 1980`s.

This issue, is part of our program for preserving our society history for posterity .

It is hoped that in the future more issues will be made available but not all issues are still in existence although we do understand that Volume one has been scanned by the British Library.

Although today the Society no longer publishes a Journal the Society is one of only two clubs remaining in Essex if one includes Ilford club in what is now Greater London. The Society is still able to hold an annual show every May with entrants from as far as Port Talbot in Wales & Corby in Northamptonshire.

SLADAS members visit other clubs shows to return with prizes in many instances.

Anyone with any information about the history of Southend, Leigh & District Aquarist Society - particularly 1n the 1940`s and 1950`s and also pre-war in the 1930`s when the club was known as **Southend Aquarist Society** is invited to contact Peter Capon at:-

<mailto:petercaponcapq3t@supanet.com>

**THE SOUTHEND, LEIGH AND DISTRICT AQUARIST SOCIETY
QUARTERLY MAGAZINE**

No. 5 -. April, 1964,

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We are happy to exchange publications with any other Society here or overseas

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The views expressed herein are not necessarily those of the Society or the Editor

PRESIDENTS LETTER

Dear Readers

Once more we have left behind us another dreary winter, and summer is about to spring upon us in all its sweltering fury (I hope). I have been doing the rounds of the ponds I know. They are nicely filled with water, and the *Daphnia* prospect looks decidedly good.

It was very gratifying to see a nice full house at the Bring and Buy. The £6 - 7 - 6d. raised for Club funds must have been an all round sales record; thanks to everybody who brought and bought.

I have noticed a growing interest among our members in the Egglaying Tooth Carps, and the Slide Show and Talk that Len Willis obtained from the U.S.A. should prove very useful.

I have set up for myself an 18" x 10" x 10" tank just for these beauties. A friend was able to supply me with some lime-free gravel, and water that I put through my softener came out at 10-20 p.p.m. and slightly acid. In these conditions my *Aphyosemion australe* and *A. bivittatum* are looking their best. I hope to acquire some more of this type of fish when we visit McInerney's next month.

If anybody is interested in setting up a soft water tank, I would fix them up with soft water.

All the best and happy *Daphnia* hunting.

A.J. Mason (President)

FROM THE EDITOR.

Dear Readers,

This issue marks the first anniversary of the Journal since it was revived on a quarterly basis. I think we can look back on the last 12 months as a period of gaining – or rather, regaining - experience in this field. We have still to decide on such matters as the most suitable page size, but I think that as regards the clarity of the reproduction there has been a great improvement - if any readers possess a copy of the April, 1963 issue they will appreciate this. The quality and quantity of our articles is largely in the hands of Club members, and will remain so, but I believe it has been very good. However, may I again give a reminder that anything YOU can write will be very welcome, and it would make life much easier for the Editor if all such copy is ready 3 or 4 weeks before we roll off the presses, rather than just a few days before.

There can be little doubt that the Club is enjoying quite a successful period at the moment, and I hope that this trend can be maintained. We now have over 50 members on the books, and the attendance at the last meeting was very high. Unfortunately there will be no Town Show this year, but surely the Club should be prepared to put on a show of its own, both to publicise the hobby and for the competitive interests of the members- This is a matter on which the Committee has been divided, but it is my view that the Club cannot afford NOT to hold a show, I am pleased to report that it has been decided to approach the Municipal College with a view to staging a show there on 6th, 7th & 8th August- Details will be worked out if and when we are successful in obtaining a suitable hall. I feel most strongly however that if this should come to nothing, vigorous attempts should be made to see how else a show can be arranged.

During the recent Easter holiday I had the good fortune to be in South Devon, and I took the opportunity to visit the aquarium at Paignton Zoo. Although there is an additional 6d charge for the Aquarium (plus 4/- at the Zoo entrance) the whole is probably worth a visit by any aquarist who happens to be in the area. The Zoo is situated on the Totnes road., about 1 mile from the town centre.

On entering the Aquaric and Reptile House, one first walks down a 70 yard passage past displays of numerous tropical plants, culminating in an excellent show of cacti. There were, at Easter, some 3 dozen fish species on view, mostly very good, including large Cichlids in glorious colour, Archer Fish, and a fascinating display of Mudskippers. Tanks were well planted, with Cryptocorynes much in evidence. There were also many reptiles and amphibians, some of large size.

J.H. Preston (EDITOR).

CLUB NEWS

Meeting, Tuesday January 21st; The persistent dense fog kept many away although members came in from as far as Wickford and Chelmsford. We waited until 8.45, when 15 had turned up, and then divided into 2 teams for the quiz;-

Team A Messrs Bennett, Bonner, Cheswright, Martin,
Ollett, Wilson and Preston.

Team B. Messrs Barker, Brown, Dersley, Machin, P.Mason,
Holmes and Perrott.

The President acted as quizmaster, and after a tense, hard- fought (!) battle, Team A were winners by 12½ points to 8.

A halt was called for tea (our thanks to Ron Brown.) and during the break the Barb table show was judged by Dave Cheswright and Dave Perrott-

Young Peter Mason drew the raffle, and won it himself, the prize being two unidentified *Rasboras*. Unfortunately there were only four entries for the Table Show, but it was decided nevertheless to award all 4 prize cards - see next page,

Barb Table Show

- 1.. No. 4 Tiger Barb..... ..Mr. M. Willis..(90 points).
- 2.- No.3 Rosy Barb.....Mr. B. Martin..(84 points).
- 3.- No.2 Schuberti Barb..Peter Mason...(75 points).
- 4.- No.1 Tiger Barb..... .Mr. P.. Machin..(60 points).

After a brief general discussion, the meeting finished 20 minutes after the restart, at 10.10 p.m.

Meeting, Tuesday, 4th February The President opened the meeting at 8.30 p.m. and welcomed the 21 members present, including the 2 newcomers. After various announcements, he handed over to Michael Willis for the Slide Show and Talk on Barbs and Characins.

Slides of many Barb varieties were shown, and it was stated that the breeding of many of these fishes (which mostly originated from Asia, Ceylon and the Middle East) was not particularly difficult. A general method was to use a water depth of not more than 6" in the breeding tank, with nylon wool mops, or suitable plants, to receive the eggs. The size of tank used would depend on the size of the adult fish and perhaps on the size of the spawning expected it was advisable to remove the parents after the spawning had taken place.

The Characins, mainly from the American continent and especially the Amazon region, were a different matter as regards breeding. Many of them required "special", i.e. soft, water. Many fry were lost when their water became polluted by infusoria or bacteria, and sometimes this trouble could be minimised by keeping the tank dark. Quite often the eggs never hatched, but disappeared or turned white. Jim Wylie suggested that it was a good plan to keep breeding stock in soft water. Slides showing a large number of these colourful fishes preceded the breeding discussion.

The refreshment break came during the Characin Talk, and Norman Sellers won the raffle - a collection of plants, including Cabomba, Spatterdock, Sagittaria and Amazon Sword. The last 10 minutes of the meeting were occupied by general questions from members, which together with further reminders and announcements about future Club activities took us to the close at 10*30 p.m.

Meeting, Tuesday, 18th February: It was rather late before a proper start could be made the tardy arrival of Table Show entries being partly responsible, though it was good to see a considerable number of fish brought up. The two Dave's - Cheswright and Perrott - spoke in turn on Characin breeding, dealing in some detail with Bloodfins, Flame Fish and Neons. Fry feeding and iniusoria, were also discussed at some length, and then the subject of water came up. It was

stated that the softness of the water was more important than its pH value when breeding this group of fishes - indeed too acid water could even harm them. Dave Perrott mentioned some Glowlight Tetras he had bred, using rain water.

Tea was ready at 9.20 p.m., and the talk was adjourned for half an hour. The table show results were announced:-

CHARACIN TABLE SHOW

- 1.- No. 14 Spotted Headstander. .Mr. B. Dunn-..... (81 points)
- 2.- No, 8 Penguin Fish.....Mr. D. Perrott.(80 points).
- 3.- No. 3a Cardinal Tetra..... .Mr. J. Mason... (78 points)
- 4.- No. 7 *Anostomus Anostomus*. .Mr. R. Dersley. (77 points)

Total no. of entries - 12. Judge - Mr. H. J. Willis.

JUNIOR SECTION

1. No. 3 *Copeina arnoldi*.....Harvey Holmes«.(79 points)
2. No, 5 *Nannostomus anomalus* .Harvey Holmes».(75 points)
3. No. 4 Neon Tetra..... .Harvey Holmes. •'(73 points)
4. No. 2 Black Widow.....Martin Wilson.. C?2 points)

Total no. of entries - 4. Judge - Mr. M. J. Willis.

Junior member Ian Stewart won the raffle for 2 Pencil Fish (*Nannostomus marginatus*). President Johnny Mason gave a number of reminders about future meetings and other activities and then Davo Perrott continued his talk. A discussion about water softening followed, and the meeting closed at 10.35 p.m.
29 members had attended.

Meeting, Tuesday 3rd March; It had been necessary to reshuffle the Programme card around, and the Discus Slide Show took place at this meeting. The President started the meeting at 8.30 p.m. with 19 present. Michael Willis gave the Slide Show and Talk on Discus, which was rather short but excellent in quality. He said that when *Symphysodon discus* was first introduced into Britain in 1933 the price was £16 per fish. Up to the present time, only 2 people in Britain had bred the fish, hence they were still rather scarce and highly priced. Mr. R. Skipper of Hendon was successful in 1956, when his fish spawned on Sword Plant leaves, not on slate or flowerpots as are normally used by breeders in the U.S.A. Mr. Skipper-used water of hardness 4-5 Clarks and pH 6.4; the temperature was 77 deg. F. It was discovered that the young fishes fed from a secretion from the skin of the parents but after 3 to 5 weeks they took Grindal worm and, later, small Daphnia. With this diet, the young fishes grew to ¾" in 38 days and 1½" after 10 weeks, when they were also eating White Worm and Gnat Larvae.

A 25 minute break followed, during which refreshments were served. John Paterson won the raffle, 2 *Nannacara anomala* (Golden-eyed Dwarf Cichlids). It had been decided that a junior member would come on to the Committee to represent the junior section of the Club, and the election took place at this meeting. Clive Bennett was voted in, and after a discussion about the outing on May 31st, the meeting closed at 10.30.

Meeting . Tuesday 17th March The meeting did not start much before 8.40 p.m., but there was a good attendance of 27.

Michael Willis talked on Fish House aquarium plants and on plant growth generally. He recommended a fairly coarse gravel as a growing medium and said that great care was needed with fertilizers such as peat etc. There had been many reports of plant growth being badly affected by the use of undergravel filters, but experiences with these were very varied. Perhaps the trouble only arose when the filters were used to excess.

Howard Preston was asked about the plant growth in his tanks, and he stated that, for a 24" x 12" x 12" tank, his lighting was provided by 2 25watt lamps burning for about 14 hours daily. Plant growth resulting from this was mostly very satisfactory? Indian Fern, Ambulia, Twisted Vallisneria and many others doing well. A minimum amount of sunlight reached a few of his tanks at times. Some plant types, e.g. Dwarf Rush and Aponogetons, were discussed individually by Michael Willis and the members.

There was an interval of 30 minutes before the Table Show results were announced.

LABYRINTH TABLS SHOW

1.- No. 8 Thick-lipped Gourami. Mr. R- Brown..(?4 points).

2.- No. 9 Leeri Gourami. Mr. R. Brown.. (72 points).

3.- No. 10 Blue Gourami..... ..Mr. B. Dunn... (70 points).

4.- No. 6 Blue Siamese 3Figh.ter.Mr. J. Mason.. (58 points).

Total no. of entries - 9 Judge (both sections)- Mr. D. G. Perrott.

JUNIOR SECTION

1.- No. 5 Cambodia S. Fighter.....Peter Mason...(65 points).

2.- No. 7 Blue Siamese Fighter. Mart in Wilson. (64 points).

Total no. of entries - 2«

Prize cards were distributed to the winners and Brian Martin won the raffle - a collection of aquarium plants. The meeting closed at about 10.20 p.m.

Meeting Tuesday 7th April Before the meeting started at 8.25 pm • f the President showed what he thought about the Editor's Guppies by pouring one down the sink ! However, this may of course have been an accident1. The Bring and Buy Sale was a great success; 34- lots of fish, plant and equipment were disposed of, fetching a total of £6 - 7 - 6d. for Club funds. The attendance of 37 was easily the highest since the Editor began keeping records in January, 1963, and Dave Perrot had quite a harassing time displaying the fish and collecting the cash.

After a half-hour break the raffle was drawn for two Grindal Worm cultures; one was won by John Paterson, and the other by Michael Willis, but Michael had already donated it to the Club, so it was auctioned to Mr. King. Members put a few general questions to the President, and then for the last 20 minutes up to 10.20 p.m. Howard Preston and Michael Willis spoke rather briefly on llvebearers

BREEDING EXPERIENCES WITH THE CAPE LOPEZ LYRSTAIL

by Harvey Holmes.

I purchased my first pair of Lyretails (*Aphyosemion australe*) on 24th February this year with the intention of eventually breeding them. They were youngsters but the male was brilliantly coloured with well developed fins. I placed the pair in a 14" x 8" x 8" tank containing ¼ distilled water and ¾ of old tank water, the base medium being a thin layer of boiled German peat. This set up I hoped would give suitably soft, acid water; the temperature was maintained near 72 deg F, Spawning medium was Riccia and a white nylon mop. The fishes settled down well and were fed Grindal Worm and chopped Tubifex.

1 week after setting up, I found the first 3 eggs, they were stuck to the Riccia, round and perfectly transparent. I removed them by hand into a plastic dish, with some methylene blue added to the water in this. Between the 2nd and 10th March I found a further 65 eggs, the numbers increasing most days? and on 2 occasions I was lucky enough to watch the spawning taking place. The male joined the female by the selected spawning plant after first chasing her. The pair pressed together forming a slight S shape with their bodies. With fins outspread they vibrated quite violently, the male bent his anal fin across the female's vent and a single egg was laid. The adults did not seem to eat the eggs once laid.

The eggs were kept in 2 plastic containers, the 24 eggs found up to 5th March in one, and the 41 found 7th - 10th in a smaller one. I stopped using methylene blue. The first 4 fry hatched on 11th March - this was sooner than expected and the only food available was finely chopped Grindal Worm. I set up 2 Brine Shrimp hatcheries, so when another 8 hatched on 14th March I was able to supply Shrimp to all the fry.

About 4 hatched each day up to March 18th, and then 20 on 22nd March. The fry were kept for a time in two plastic containers floated in the main tank.

At the time of writing (mid-April) I have about 45 young Lyretails (several have probably been eaten by their older Brothers and sisters). They were being fed on Brine Shrimp, Micro Worm and some chopped Grindal Worm.

On the 14th April I had set them up in a 14" x 8" x 8" tank. Growth is quite rapid and the Lyretails are feeding well.. Brine Shrimp feeding has been stopped and Grindal Worm feeding has been increased. At an age of about 37 days they are just colouring and it is possible to sex some of the more advanced specimens. With luck they should be of breeding size in about 1½ months..

THE WILHELMA STUTTGART

by N. Sellers.

Part 2.

The tanks in the Aquarium hold some 5000 gallons of sea water, hence the virtual impossibility of importing even a small proportion of its requirements particularly when one has to consider the density of the water in the respective oceans from which the fish are derived. These oceans may be the North Sea, the Mediterranean, the Red Sea or further afield the Indian Ocean and strange as it may seem the salt concentration varies considerably from one to another. It is obvious therefore that the water must be prepared artificially and in this connection it should be unnecessary to mention that it is quite erroneous to think that by simply adding a specific quantity of /cooking salt to a given volume of tap water one has a balanced seawater. Most of us have tasted seawater at one time or another and have noted that not only does it taste "salt" but also "bitter". Clearly then seawater must contain other ingredients apart from salt. If seawater is evaporated, a quantity of powder discernible as three separate layers remains the lower of which is gypsum, the centre salt, and the top layer trace elements. We might be tempted to consider the possibility of redissolving these salts to make seawater, but are then faced with the peculiar fact that try as we will the gypsum will not redissolve. The only method remaining is to produce seawater artificially from chemical salts; with modern methods of chemical analysis, this has been successfully achieved at the Wilhelma,

A further difficulty arose at the Aquarium with regard to feeding. Freshwater creatures rapidly die in salt water, and most of the food used today consists of mussels, which are less fattening than fish-flesh, and shrimps. This food is obtained from the North Sea, being conveyed live in glass containers. A very valuable food is Brine shrimp, and daphnia, garden worms, small freshwater fish, lettuce leaves, algae and numerous other creatures and plants are fed, some of which are reared at the zoo. Great care has to be taken not to overfeed, and uneaten food remains have to be removed in order to prevent fouling of the water.

An indication of the success the Wilhelma has had in keeping marine fishes is th[^]the length of time that the specimens have thrived there. The greater part of the collection has been in the Aquarium for over six years without signs of deficiency diseases or weakening with age.

We might think that the bright colourings of the marine tropicals would expose them to predators in the ocean depths, but this is clearly not so when we consider their natural surroundings, which in themselves are almost equally as colourful,

as the fish who frequent them. The colourings therefore, act as a protective camouflage matching the colourful rocks and coral. These infinite shades of colouring, variations in shape and strange behaviour patterns have to be seen to be believed,

The flesh of the Leopard Trigger fish (*Balistes conspicillum*) is very poisonous and to eat it often leads to death, those surviving being blinded for a time with reversal of heat and cold sensations, whereby an ice-cream, seems to burn the tongue and a hot shower gives a feeling of intense cold.

A striking feature is the rapidity with which wounds heal in marine fishes. This is probably natural, as they frequent regions of sharp coral in nature and no doubt receive numerous injuries. Growth of fishes to adult size is often astonishingly rapid.

The *Amphiprion* species present an interesting behaviour pattern in that they are able to live unharmed in intimate association with particular species of large sea anemones, taking shelter therein in times of danger and sharing the prey after leading it into the stunning tentacles.

The water in the tropical marine tanks is kept at a constant 24 to 26 deg. C. (80 deg. F.).

The following are a few examples of the marine tropicals to be seen at the Wilhelma. Almost without exception these originate from the Indo-Pacific Ocean.

Pomacanthus imperator - a flat, triangular shaped fish with alternate yellow and mauve lateral stripes covering the body, the head having vertical blue and pink stripes.

Acanthurus lineatus - alternate yellow, blue and green lateral stripes on the body becoming oblique on the head, fins yellow with blue edgings.

Pelor didactylum - its stumpy fat body covered with a gravel coloured fur-like coat. It has a large mouth and stubby fins and tail,

Blue Damsel (*Pomacentrus spec.*) - a pretty little fish; blue with yellow tail.

Rhinecanthus rectangulus (. trigger fish) - it has a brown and cream triangular pattern covering its body..

Balistes vetula (trigger fish) - body gold in colour with diagonal or vertical markings in blue on heady tail and fins,

Canthigaster margaritatus (spotted ball-fish) - this is spherical in shape, with green, orange and white stripes covering the upper part of the body, the lower half having an orange not pattern on a white background. The nose is pointed.

Pomacanthus paru - a black fish covered with white flecks, with yellow and blue markings on the fins. When I visited the aquarium-, these fishes were "being cleaned by a number of *Fissilabrus dimidiatus*, silver fishes with black and blue tails. Here again we have an association between members of different species operating to a mutual benefit - the larger fish protecting the smaller, and the smaller performing a service of benefit to the larger, namely removing body parasites» in return.

Arothron reticulatus - with its peculiar box shaped body, white in colouring with a brown net patterning. Its eyes are blue..

Pterois volitans (scorpion fish) - this has a terrifying appearance, a large mouth, and poisonous spines which can cause paralysis if handled. The colour is white and reddish-brown with black spots on the fins»

To anyone fortunate enough to be able to pay a visit to Germany I would without hesitation recommend a visit to this unique collection. The zoo also possesses, as previously mentioned, an excellently stocked Tropical House, and the extensive and luxurious layout of the gardens, ponds and animal enclosures give enjoyment to all members of the family whatever their ages may be.

THE END.

GENETICS

by G. Hedger.

Part 2.

In the last article I discussed the Dominant and Recessive factors, and I understand that some readers did not quite follow the symbols P, F1 and F2. I will try to explain them.

P The parental generation, in our case the original

Tall plant and Short plant.

F1 - First filial generation, the offspring of the parental generation.

F2 - Second filial generation, the offspring of the F1 bred together (i.e. brother to sister)

Sex .Linkage

It will be seen from the last article that all chromosomes are carried in pairs, except in the gametes (sex cells) which only contain one of each pair. Following the act of mating a sperm enters the egg-cell, and the half sets of chromosomes in sperm and ovum come together in pairs, and the compound cell becomes the first cell of the new individual.

We will now look at the way in which the sex of the offspring is determined.

The Sex Chromosome - This is a special chromosome which determines sex: the male has two of these chromosomes - the X chromosomes. The female has only one X chromosome, and one that is different that pairs with it, and this is known as the Y chromosome. As a result of this arrangement and the fact that the gametes receive one or other of each pair of chromosomes, half the female gametes contain an X chromosome, and the other half contain a Y chromosome, while all the male sperm contains an X chromosome. It will be seen from this that in any spawning the expectations are 50% males and 50% females. The female may be regarded as the parent which determines the sex of the offspring according to whether she passes on an X or a Y chromosome.

It is known that all factors (genes) responsible for colour, etc., are carried on the chromosomes, and if any of these are carried on the sex chromosome they are known as sex-linked. Although I have not heard of a sex-linked characteristic in Platies before, your Editor, Mr. H. Preston, has bred some Yellow Moon Platies which may prove to sex-linked.

He crossed a male Red Platy with a Yellow Moon female; all the young were Red Moons. He then paired a Red Moon male, one of the offspring from the above spawning, to a yellow Moon female, and the result was all the young males were Red Moons and all the females were Yellow Moons. Before I explain how this can be a possible recessive sex- linked factor, we must disregard the Moon factor, which may be a normal autosomal dominant factor, and I will discuss how to prove or disprove this later in this article.

We are, at this stage, only interested in the Red and Yellow

factor, and we think the factor for Yellow is sex-linked. I will use the symbol § to represent the sex-linked factor carried on the X chromosome.

Red Male (non sex-linked) XX	Yellow Female (sex-linked) XY
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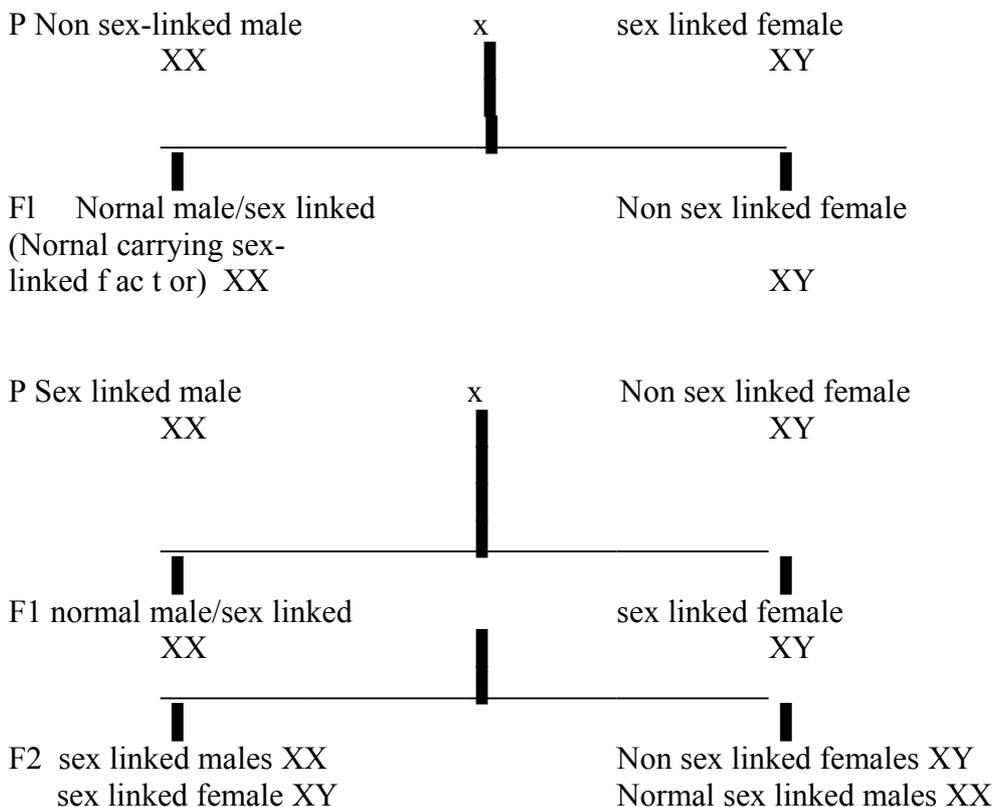
It will be seen from this that all males in the offspring will be XX and all females will be XY - in other words» all the males will be red but will be carrying the Yellow sex-linked factor, and all the Females will be normal Red.

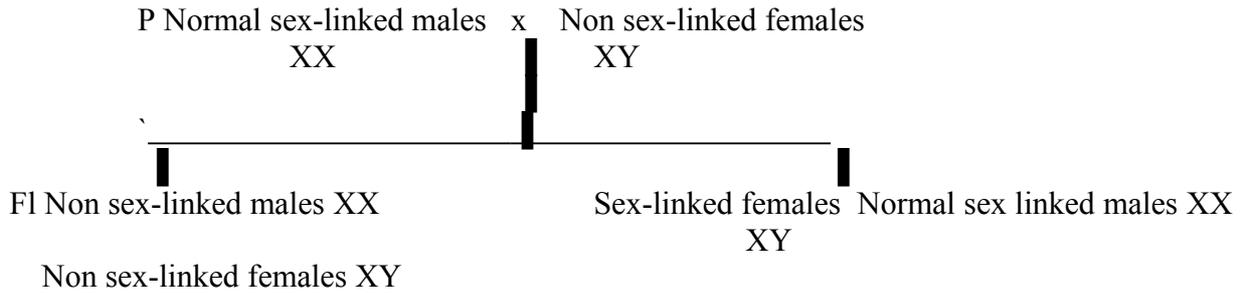
The next pairing was a Yellow sex-linked male, to a Red female from the above mating, that is a sex-linked male to a non sex-linked female-

Yellow Male XX	Red Female XY
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It will be seen from this mating that in the offspring all the males will be XX i.e. normal Red but carrying the sex-linked factor, and all the females would be sex-linked, i.e. Yellow,

Although it would be foolish to say that the Yellow factor is definitely sex-linked on the result of one spawning, further research should be carried out with the offspring. To help in this, a table of expectations from sex-linked stock is given below;





As the factor for Moon may be a normal autosomal dominant , I suggest that this be proved, or otherwise, by using the method discussed in the first article, using the Moon factor as T and the non-Moon factor as t.

TO BE CONTINUED.

WORLD OF THE AQUARIST

Elsewhere in this issue reference is made to the Egg laying Tooth Carps. There is no doubt that interest in these does provide a strong bond with other aquarists. The writer was pleased to receive a letter with some colour transparencies from a fellow fish-keeper in northern U.S.A. - resident fairly near the Great Lakes, which form part of the Canadian Border. Our friend corresponds with aquarists in 11 different countries. For his Tooth Carps he uses tanks from 1 gallon to 30 gallons , and finds the smaller species do very well in the 1 gallon size. Blue Gularis on the other hand need at least a 5 gallon tank. Daphnia is a seasonable food obtainable there only during Spring and early Summer.

Another friend in Karlsruhe, Germany, 'tells me that his Club members get their water from wells or other sources in the nearby Black Forest. This water has a hardness of 1 D.H. and a pH of 6.5. He himself collects and stores rain water which he finds is about 2 D.H. (against his tap water of 16 D.H = 9 deg. Clarks) and then reduces its pH by adding rainwater which has been steeped in peat. He is anxious to breed again Egg laying Tooth Carps and Dwarf Cichlids. One of the Club members specialises in Dwarf Cichlids, including *Pelmatochronis taeniatus*, *P. klugei*, *P. annectens*, etc. The latest import is *P "subocellatus"* which is said to rival *P. kribensis* in colour. This new fish has the red colour like the red neon from mouth to caudal fin, with 2 golden stripes.

Live food is highly valued and members drive more than 17 miles to collect Daphnia, Cyclops, and particularly Gnat larvae. Nevertheless they frequently have to depend on Tubifex and Enchytraes.

L. E. Willis

THE EGG-LAYING TOOTH CARPS

These, often referred to as the Annual Fishes comprise some of the most colourful and interesting fishes available to the aquarist. Many of them are never in regular supply because of the difficulty in collecting them, and since they are not found in large numbers, it means that when offered commercially they have to be fairly highly priced.

More than 80 different species are being kept by aquarists. Probably the most popular genus is the Aphyosemions, but there are another 18 or 20 groups – *Nothobranchius*, *Rivulus*, etc, which have their devotees. All the species grow, colour and nature quickly, but it is unusual to keep adults much over a year. The species may be conserved however by collection and hatching of the eggs - these fish are ready breeders and spawn on plants or substitute Nylon Mops or in the button layering of the tank (sand or peat). A 16" x 8" x 8" or 18" x 10" x 10" tank is quite suitable for keeping a few of these Tooth Carps and it may be set up in furnished style if desired. Hardness of the water should be brought down to something like 6 deg. Clarks and temperature should be moderate, say 68 - 72 deg. F. I have found that frequent high temperatures can prove fatal.

A favourite food is Daphnia. Tubifex, as a regular diet, is not recommended, but grindal worm is all right. The Tooth Carps will accept dried food,

The American Killifish Association is devoted entirely to the propagation, research and interests of the Egg-laying Tooth Carps and has a membership approaching 500 . There are members in Hawaii, Canada, Austria, Venezuela, Sweden, Japan, the Netherlands, Great Britain and of course throughout the U.S.A.

Eggs of this group of fishes have a hatching period of from 8 days to some weeks, according to the species, and this enables them to be sent in small insulated containers via Air Mail to any part of the world, from member to member. Annual membership of the A.K.A., with Quarterly Notes, Monthly Newsletter and Directory Address of members, is £5.

The Slide/Tape show this month, obtained from America from the A.K.A., will deal more fully with these intriguing fishes.

L. E. W.

FISH SHED HEATING BY TUBULAR ELECTRIC HEATERS

by D. M. Cheswright

I

My fish shed came into use in February, 1962. Its exterior measurements are 8' x 6', with the roof sloping from 7' at the back to 6' at the front. It is sectionally built of ship-lap timber on a wooden frame, and stands on a concrete base some 9" thick to which it is "sealed" by fillets of cement inside and outside. The interior is lined with 1" thick fibre board, and the space between this and the timber is stuffed with a variety of materials which happened to be available to provide some sort of insulation.

The roof is double-glazed with 24 oz. glass. The heat loss would be lessened by the use of more modern material for insulation and the use of plate glass on the roof.

I decided to use electricity for heating for the following reasons:-

- 1). It is easily controlled with a thermostat.
- 2). It is cleaner than paraffin and should cause no trouble once installed. There is the possibility of power cuts, and heater and thermostat breakdowns, but in my 2 years of use I have suffered only power cuts which have been few and, luckily, short, I keep a paraffin heater available but have to date used it only once in the shed.
- 3). It needs no attention apart from a regular inspection of the wiring and fuses and checking that the thermostat contacts are clean. Electricity is ideal if one is forced to be away for any length of time.

Tubular heaters were chosen as being most suited for spreading the heat round the shed. I have not tried fan-heaters but feel that such an even spread of heat might not be obtainable, although I understand that they are used with success. Tubular heaters are standardised at 60 watts per foot length and I installed 21' (1260 watts) consisting of 2' x 7', front and back, 1' x 3' at the door end and a 1' x 4' at the other end of the shed. The heaters are fitted about 9" from the inside walls and 1' above the floor, they must not be fitted too close to the walls or they will scorch the insulation material and there would be a risk of fire, A greenhouse thermostat controls the heaters and this is hung some 2' below the roof by the side of the door. In this position the cold air entering when the door is opened immediately affects the thermostat.

The heating, lighting and air pump current is metered in the shed and the running costs for the 2 years have averaged 9/- per week to January, 1963 and 9/6 per week to January, 1964 - ranging from 3/6 in the hottest to £1 in the coldest week. This is equivalent to some 5 gallons of paraffin per week, on average.

My electricity is paid for on the "Day and Night Rate", which is available on request from the Electricity Board, and which allows 10 hours each night during which period the cost is 0.82 d. instead of 1½d. per unit - and which saves money in the house as well as the fish shed !

FURTHER NAMES AND ADDRESSES OF CLUB MEMBERS

Mr G F. T. King, 40 Woodlands Road, Hockley, Essex.

Mr. R. F. Dersley, 18 Grove Road, Shoeburyness, Southend-on-Sea, Essex.

Mr. B. Andrews, 33 The Dale, Thundersley, Essex.

Mr. A. S. Forster, 20 Wick Chase, Thorpe Bay, Southend-on-Sea, Essex.

Mr. & Mrs. W. R. Norris» 14 Northumberland Crescent, Southend-on-Sea, Essex.

Miss W. Iles, 43 Arcadian Gardens, Hadleigh, Essex,

Mr. J. G. T. Hearne, 93 Swan Lane, Wickford, Essex,

Mr, V. C. Pickett, 2 Whitehall Road, Great Wakering, Southend-on-Sea, Essex.

Mr. C. Barker, 27a Shakespeare Drive, Southend-on-Sea, Essex.

Mr. R. Machin, 5 Eastwood Boulevard, West cliff-on-Sea, Essex.

Mr. J. H. Preston, 79 Leigh Road, Leigh-on-Sea, Essex.

Mr. N. Sellers, 69 Bruce Grove, Shotgate, Wickford, Essex.

Mr. B. Martin, 48 Grove Road, Shoeburyness, Southend-on-Sea, Essex,

Mr. M. J. Willis, I7 Arundel Gardens, West cliff-on-Sea, Essex

Mr. L.E. Willis, I7 Arundel Gardens, West cliff-on-Sea, Essex

Mr, R. Brown, 8? High Street, Shoeburyness, S out h end-on-Sea, Essex.

Mr. H. C. Holmes, 95 Norwich Avenue, Southend-on-Sea, Essex.

Mr. A, J. Mason, 8 Philpott Avenue, Southend-on-Sea, Essex.

Mr. D» G. Perrott, 12 Johnson Close, Rochford, Essex.

GRINDAL WORMS

by M.J. Willis.

A poet may have said that now April's here we start to think of feeding our fishes on food from our local ponds. However I doubt that anybody ever said that, but we do try to vary the diet of our fishes at this time of the year. Live food does help us do that and an excellent all round protein is Grindal Worm.

I believe I am correct in saying that this worm was first developed in Sweden by a Mrs. Grindal some years ago» Although a prolific breeder and a hardy creature, the Grindal ' Worm does need a certain amount of attention to obtain the best results from a culture.

The ideal medium for rearing these worms is a not too acid peat. Other media may do, but this one allows the worms ;to work easily. The best container is a shallow tray 3" inches deep, how long and how wide is up to you, and would depend on where the culture was to be kept. A cover, consisting of a sheet of glass, should rest on the surface of the peat. This serves the double purpose of keeping the moisture in the peat and getting the worms on the glass, to be wiped off with a paint brush for feeding. The peat is best sterilised first with boiling water and allowed to cool, using the medium in a moist but not wet state. After the worms have been introduced, the culture should be kept in a warm place, ideally 60 to 70 deg. F. It need not be protected from the light as with a White Worm culture. Grindal Worm is about $\frac{1}{4}$ of the size of a White Worm and much more vigorous. Should the culture overheat, the worms will fuse into a stinking mass. For feeding the worms, it is possible to buy a food, which being specially prepared for the purpose, should give excellent results. Mr. Howard Preston, who has had a good deal of experience with Grindal, uses milk powder as used for human babies. He suggests a feed once or twice daily, sprinkling the food powder evenly and thinly over the surface of the peat. Bugs and small flies are readily attracted to the peat surface and it is very necessary to keep these to a minimum.

Often the bugs can be discouraged by frequently turning over the culture medium with a fork or similar implement. Anybody who has had the experience of thousands of tiny flies coming from the Grindal will not want to have it again.

As the worms are very active the peat quickly becomes stale. Depending on the size of the culture, I would suggest taking down and setting up the culture again every 3 or 4 weeks.

You will be well rewarded by keeping these worms, for your fishes will enjoy and thrive on this readily available food.

ON SWORDTAILS

by J.H. Preston

The writer has been corresponding for some time with Mr. Carlos F, Reichard, of Aguadilla, Puerto Rico. Carlos is fortunate in that . making a short journey into the interior of the island, he is able to catch Sword tails from certain of the streams. These Sword tails have been living "wild" in Puerto Rico since they were introduced by the government in the late 1930s. A few details about them may be of interest.

The stream in which Carlos caught several dozen Swords was quite narrow and up to about 3 foot deep. The water was fast flowing and crystal clear, the temperature probably being quite low as the area usually had air temperatures near 60 to 70 deg. F. There was little vegetation apart from algae covered stones on the sandy or gravelly bottom of the stream, and "umbrella palm" (a type of plant usually found in swampy or wet places) overrunning the banks right down to the water's edge. Other fishes were also present, possibly Gambusias. The Sword tails could be caught quite easily with the hands by driving them into a corner. It would appear that coloured varieties other than the original wild Green Mexican strains found their way into Puerto Rico, for Reds, Blues, Greens, Yellow, Orange and various multicoloured types have been found. They take well to aquarium life, producing broods of up to 70 youngsters. These .fishes are most active, particularly the Males, which have "swords" as long as or longer than- their bodies. Carlos quotes their size as over 2 inches. this is perhaps smaller than might be expected with semi-wild Swordtails, but it is possible the colony in this stream were all close relatives, inbreeding being partly responsible.

Readers who were present at our Club meeting on 19th November last year may remember the young Berlin Swordtails brought for discussion by our Secretary, Vie Pickett. These fishes, it will be recalled, had odd-shaped tails. The Berlin strain is well known for its tendency to fin deformity; which can be attributed to a cancerous condition caused by excessive development of the black pigment cells. All varieties of Swordtail hybrids (except, perhaps the Wagtails) which have some black colouration are very liable to develop this complaint, though it is seldom fatal in the early stages. Generally speaking, the blacker the fish, the more likely is the trouble. With this in mind, it may be useful to remember that a cross between a partly black fish and a non-black (e.g. red) Swordtail is very likely to result in offspring which have an increased and harmful proportion of black pigment. In one brood which I produced from such, a cross, 98% of the young Berlin fry had seriously affected finnage and had to be destroyed.

I feel that the time has come for breeders to pay more attention to developing a long straight "sword", as is still found in the Swordtails of Puerto Rico. Frequent crosses with the platies have played havoc with the sword length.

Let us have Swordtails worthy of the name !

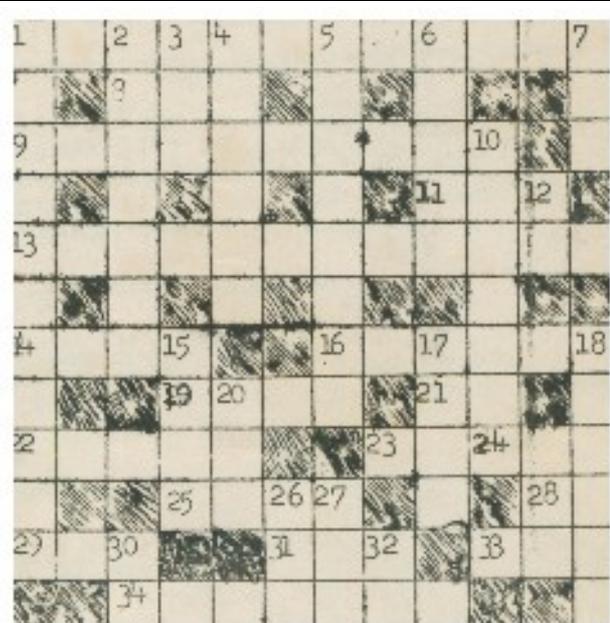
S.L.A.D.A.S. CROSSWORD No. 3

Across:

- I. A lack of certain livebearers in the tank (2,10).
- 8. This may be dug in the travel by your cichlids (3). -
- 9. Small, colourful characins (4,6).
- 11. An edge or border (3).
- 13. Devon market town about 10 miles east of Exeter (6,2,4).
- 14. Rise and fall of the sea (4)
- 16. Species of *Hyphessobrycon* (6)
- 19. Fishes of snake-like appearance (4)
- 21. Could mean since or because (2)
- 22. A type of livebearer of which there are many varieties (5)
- 23. The colour of most healthy aquatic plants (5)
- 25. Prefix meaning half (4)
- 28. Abbreviation for Great Eastern (1,1)
- 29. Cunning (3)
- 31. A vessel for making tea, or a base (3)
- 33. A tetra species (3)
- 34. Fast growing aquatic plants (7)

Down

- 1, A characin genus (11)
- 2, A common pattern on fishes (7)
- 3, What you may do if you buy a raffle ticket at the next meeting
- 4, Furry aquatic fish eating animals (6)
- 5, A water beetle which may prey on fishes (8)
- 6, Notice of danger (5)
- 7, Broad tract of water (3)
- 10, Fighting fish (7)
- 12, Abbreviation of title of courtesy to a man (2)
- 15, More of 19 across (4)
- 17, Any common fish may be so described (4)
- 18, Specific name of the neon tetra ((6)
- 20, Organ of sight (3)
- 24, The self (3)
- 26, A common sight on Southend's foreshore (3)
- 27, What the editor feels when he doesn't receive your article (3)
- 30, An old English word (2)
- 32, An inversion (2)



Solution to No. 2 Crossword: Across- 1, Swordtail, 9, Rarer; 10 Eels. 11, Liar, 12, TT, 13, Near; 14, Rag; 16, At; 17, Seas; 19, Ibcrus; 21, Stan, 22, Tets; 23, i.e., 26, Eos; 28, In; 31, Bladderwort; 34, See; 35, So, 36, Sagittaria.

Downs- I, Siluridae; 2, Orange, 3, Rare; 4, Dr; 5, Tetras; 6, Art; 7, Lebistes; 8, Elegans, 15, A.B.; 18, Eat. 20, Roe; 21, St; 23, Isles; 24, Aid; 25, Boeotia; 27, O.B.E; 28, Nest; 30, Roar; 32, Dig; 33, Rot..

PUZZLE CORNER

How did you get on with the jumbled-up fish names in the last issue? The solutions are given below.

- 1...Corydoras hastatus (Dwarf Catfish).
- 2...Rasbora elegans (Yellow or Elegant Rasbora).
- 3...Gambusia affinis (Gambusia or Mosquito fish).
- 4...Limia ornata (Ornate Limia).
- 5...Epiplatys chaperi (Fire-mouth Panchax).
- 6...Lebistes reticulatus (the Guppy).

Now here are six more for you to solve:-

1. Do boy in rare chair (11,5).
2. 'More mice fuse ham grill (11,9)
3. Mr. Giles' Siam chair gum (11,8).
4. Alas, Roy zips tie (7,7).
5. Punish cut coal dust (8,9)
6. Beer is in sea lagoon (9,8)

All these fishes are egg-laying tropicals. Answers next time.

OUTING, MAY 31st; This will be to McLynn's Aquarium, Ewhurst, Surrey, with the possibility of a call at another aquatic establishment en route. Final details have still to be arranged, and announcements will be made at Club meetings.

Fare will be 12/6d for adults and 7/6d for juniors.

ANNUAL DINNER AND DANCE; It is likely that this will take place on Saturday, November 14th, at the Road House, which is situated near the Eastwood Road/Blenheim Chase junction. More details will be announced later.

The **DAGENHAM TOWN SHOW** will take place this year on 4th and 5th July; there are 22 classes in the Aquarist section (all open). A limited number of schedules and entry forms are available from Club President, Mr. A. J. Mason, if any members are interested in exhibiting.

ATTENDANCES UP at the Club meetings. During the first six meetings of 1963, the average number of persons attending each meeting was 18.2. During the same period this year, the figure was 22.3 (Wonder who the 0.3 was?).

And on that encouraging note, we come to the end of this issue.

THE SOUTHEND, LEIGH AND DISTRICT AQUARIST SOCIETY

(Founded 1938)

QUARTERLY MAGAZINE

No, 6 - July, 1964.

The Society meets at 8.00 p.m. on the first and third Tuesday in each month at:-

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We are happy to exchange publications with any other Society here or overseas-
Permission is given to reprint any article provided credit is given the author and S.L.A.D.A.S.
The views expressed herein are not necessarily those of the Society or the Editor.

However it has since come to our notice that we will be able to stage a small show on the Pier Head on September 5th and 6th, in conjunction with the Budgerigar Society. This could be an answer to all our show problems. But listen to the pessimists; "It's too late to organise it's we haven't any tanks";, or "The Pier Head is too hard to get to". It is my belief that if a few of the keen members got together, such a show could be organised and staged in a week or two, if necessary. I feel that it will be a tragedy for the Club if this show is not allowed to take place. Its future will be discussed at our meeting on Tuesday, 21st July.

J. H. Preston EDITOR.

HOW TO SPEND A WEEK'S HOLIDAY RELAXING IN YOUR BACK GARDEN

I decided that I would take a week's holiday over Whitsun. I wanted to enlarge my garden pond and concrete it: it had been standing empty for nearly four weeks owing to the polythene sheeting leaking all over the place, and my friend next door had been complaining about his pond being a bit overcrowded with my fish.

I decided to order the ballast and cement to arrive on the Whit Saturday morning at 9 a.m., and I also ordered 12 hours of dry; sunny weather. By a miracle, Saturday morning dawned bright and sunny, so armed with a good shovel I waited to do battle with a yard of ballast and a bag of cement.

When the materials finally did arrive it was nearly time to knock off for lunch, which was, I thought, a very good start. However I noticed that clouds had started to build up so I canceled my dinner and get cracking.

Six hours later, with a hand full of blisters and an aching back, I had finished. Praying that the pond would hold water, I retired to the kitchen for a well earned tea, dinner and early supper

I gave the cement a full week to dry out, and then gave it a good coat of Aquaseal waterproof paint, which I left to completely dry for three days. Meanwhile during the week while I was waiting for the cement to dry out, my wife decided it was a good time to lino-tile the kitchen floor.

I also wanted to give my 3 ft. tank a complete turnout as it had been set up for over three years. Time was now pressing. Two days, and I had finished the floor, another for the tank, and the rest of my time was my own !

I then filled the pond, and allowed it to stand for a day. After this I spent a very pleasant 4 or 5 hours chasing my fish round and round my neighbour's very, very green pond. So ended a very pleasant week relaxing on holiday In my back garden !

A. J. Mason PRESIDENT

CLUB NEWS

Meeting, Tuesday., .April 21st .; The President opened the meeting at 8.25 and welcomed those present, who numbered 31 plus 2 visitors from the Romford club. Len Willis introduced the tape talk and slide show obtained from the American Killifish Association, but first said a few words about his own Killies and showed slides of them» The A.K.A. commentary was given by Mr. A- J- Klee, who said that the Egglaying Tooth Carps were found in most parts of the world except Australia and there were two main types; the plant breeders and the soil breeders. Peat moss could be used for soil breeders. A "large" killie was one about 4 to 5 inches. One species, *Aphyosemion bivittatum*, had been line bred. The hatching period for the eggs could be up to 2 to 3 months with some species and occasionally even up to 7 months. In the fishes natural habitat, the eggs often hatched within a few hours of rain. Len added that many of the killies were short lived fishes.

Mr, Mason gave a reminder about the outing on May 31st .

Mr. B. Dunn donated a large Indian Fern which was auctioned, and fetched 3/9d for Club funds. There was an adjournment for tea at 9.25 p.m.

A pair of *chaperi* Panchax was raffled, and Mr. J. Compton of Romford won them. The President gave two Blue Gouramies to the Club; these were sold for 2s/6d.

The meeting closed at 10.10 p.m. after announcements about the following meeting and about the Dagenham Town Show.

Meeting, Tuesday, May 5th ; This was the Livebearers Table Show, which had been postponed from the previous meeting. 39 members and friends attended, and the entry for the show was also high, totalling 52 fishes. This meant that the quiz did not get under way until 8.40 p.m. Just for the record, Team B beat Team A by 17 points to 12, and the losers made the tea. Michael Willis was quiz master, and use was made of the epidiascope, which certainly brightened up the proceedings (except for the table show judges I).

During the tea interval, the raffle was drawn; Mr. Swan won the first prize of two Simpson Swordtails, and Mr. Picket won the second prize of four Moon Platies.

Michael Willis gave two Grindal Worm cultures (with food) to the Club, and these were auctioned, fetching 8s/3d

A session of questions and answers on various fishkeeping problems followed, and finally the table show results were announced. (See next page).

LIVEBEARERS TABLE SHOW;

PLATIES

- 1.- No. 3 VariatusMr. J.H. Preston (89 points)
 - 2.- No. 47 Lemon Wagtail.....Mr. M. J. Willis..(83 points)
 - 3.- No. 48 Red Wagtail.....Mr. M. J. Willis..(82 points)
 - 4.- No. 33 Marigold, o.....Mr. D. Cbeswright (81 points)
- Total no. of entries - 11 Judge - Mr. D. A. Booth.

GUPPIES

- 1.- No. 34 Red Triangletall.....Mr. A. Saunders...(95 points)
 - 2.-No. 23 Green Lace.....Mr. G. T. King....(90 points)
 - 3.-. No. 26 Scarftail,.....Mr. E. Swan.....(87 points)
 - 4.- No. 31 Veiltail.....Mr. D. Cheswright (88 points)
- Total no. of entries - 13 Judge Mr. D. Perrott.

SWORDTAILS

- 1- No. 40 Red-Eyed Red female.....Mr. D. G. Perrott.(92 points)
 - 2.-No. 49 Albino female.....Mr. J. Wylie ..,(91 points)
 - 3.- No. 41 Red-Eyed Red male.....,Mr D, G. Perrott.(87 points)
 - 4.- No. 38 RedMr. R. Brown.....(80 points,)
- Total no. of entries - 12 Judge - Mr. D. A. Booth

MOLLIES

1. No. 37 Velifera (male).....Mr. B. Martin.....(90 points)
 - 2.- No. 46 Black Sailfin.....Mr. R. F. Dersley.(75 points)
 - 3.- No. 15 Velifera (male).....Mr. D. Plappert... (68 points)
 - 4.- No. 50 Black Sailfin.....Mr. B. Dunn.....(60 points)
- Total no. of entries - 8 Judge - Mr. D. G, Perrott

JUNIOR SECTION

- 1.- No. 8 Tuxedo Platy.....David Groves.....»(90 points)
- 2.- No. 45 Lace Guppy.....John Paterson.....(75 points)
- 3.- No. 36 Golden Veiltail Guppy.....Harvey Holmes..... (63 points)
- 4.- No. 29 Green Swordtail.....Martin Wilson.....(56 points)

Total no. of entries - 8 Judges- Mr. D. G. Perrott and Mr. D. A. Booth,

The winners of each class were judged together by Michael Willis, who decided that the Best Fish in Show was Brian Martin's Velifera Molly.

Meeting, Tuesday May 19th ; The coldwater side of the Club is almost non-existent these days, a fact which is reflected annually on the Coldwater Evening when there are few entries for the Table Show and many members stay at home.

Still we did better this year than on the corresponding evening last year. Last year, 18 attended and there was 1 entry, this year, 20 attended and there were 3 entries.

The meeting started with Mr. A. J. Mason giving a talk on his experiences with his garden pond, very recently converted from polythene to concrete. Everybody enjoyed hearing how a hedgehog fell in the original pool, causing hundreds of leaks, and there was another diversion when it was stated that an ideal way to keep the lawn trimmed was to get two Guinea Pigs. But this talk was most interesting, and there was much to be learnt from it. Some topics covered were treating the concrete to prevent the lime harming the pond inhabitants,

plants and planting, and fish-catching hazards such as cats, herons and owls.

The pond talk was followed by one on coldwater aquaria. A tank at least 2 to 3 feet in length was recommended. Frequent water changes were not considered good and a filter must be used. 4 fish of 2 to 3 inches in length were ample for a 2 foot tank, and would allow space for growth. Electric light was more reliable than daylight, and the range of plants was wide: Hornwort and Elodea were mentioned as two good types.

Goldfish bowls were highly undesirable as homes for fishes even though the odd specimen survived for years in such containers. It was emphasised that coldwater "furnished" tanks were much harder to keep than tropical ones,

There was the usual break for tea. John Paterson won the raffle for 3 Bronze Catfish.

Results of the **COLDWATER TABLE SHOW** were:-

1.- No. 2 Common Goldfish..Mr. .D. M Cheswright(70'points)

2.- No. 1 Common Goldfish.....Mrs. P. C. Swan..»..(69 points)

3.- No. 3 Rudd.....Mr. A. J* Mason.....(6? points)

Number of entries - 3 Judge - Mr. M. J. Willis.

Three more Bronze Catfish were auctioned for club funds and fetched 4/-.

Some pond creatures , including Water Tigers, Glass Worms and Freshwater Shrimps, were passed round and discussed briefly. The meeting ended at 10.30 p.m.

Outing , Sunday May 31st This will not go down as the Club' s most successful outing. There were many empty seats on the coach, and a few members were not over impressed with the quality or variety of fish available for sale. The weather also played its part. But most people enjoyed the trip, and found something of interest.

We left Southend in fine, warm weather, and reached Kent via the Dartford tunnel. The first stop was at the Kingfisheries at Beckenham, and several purchases were made there.

The journey continued through the pretty Surrey countryside, until we reached the village of Ockley where we stopped for a picnic lunch, in stifling heat.

An hour later, we departed for the last few miles of our journey. But the sky had darkened ominously, and thunder growled in the distance. The storm broke overhead just as we arrived at McLynn' s Aquarium at Ewhurst, and there was a dash for the shelter of the fish house.

We spent some time in the fish house, and later made our purchases. By this time the rain had eased sufficiently for us to go outside and look around the large garden at the pond and other points of interest.

The time came for us to leave, so we said our farewells to Mr. McInerny and boarded the coach for the return journey. This was the signal for a further deterioration in the weather. Lightning flickered overhead, and the rain grew heavier.

We met up with traffic returning from the south coast, and delays followed. Rain began to burst through the coach roof on to some the rear seats. The storm culminated in a tremendous cloudburst near South Holmwood: water lay inches deep on the roads, and traffic lights failed. The conditions were so bad that it took us 1½ hours to reach Epsom.

But beyond Epsom we ran into clearer road conditions, and progress was much better. Once again we traveled via the Dartford Tunnel, Then a fast run up the London Road, and we returned to a relatively dry, and cool, Southend shortly before 9 p.m. It had been an interesting day.

Meeting Tuesday, June 2nd ; 26 attended. Michael Willis opened the meeting at 8.20 p.m., and then started his talk on Live foods. Tubifex, White Worms, Grindal Worms, Micro worms, Brine Shrimp, and one or two others were covered, and then it was the turn of Clive Bonnett and Harvey Holmes to give their talk on Pond Life. Clive and Harvey, with the help of the epidiascope gave an excellent lecture, starting by describing the smallest pond creatures - Euglena and Amoeba - and working up to the largest - the fishes, amphibians, etc. It is a pity that this talk had to be so rushed, but time was running out.

The tea followed, and then the President made announcements about the following meeting and about the book "All About Tropical Fish" which had been obtained for the Library the charge for borrowing this book is 1s/6d per period..

There was a general discussion on fishkeeping, and some questions on fishkeeping problems were answered.,

Ron Brown won the raffle prize, a worm culture and some aquarium plants

Some fancy Guppies were donated to the Club by Vic Picket!, these were auctioned for 4/-.

Finally there was a talk about the outing on the previous Sunday, and the meeting finished at 10-35 p.m.

Meeting Tuesday, June, 16th ; There was a full house at second meeting in June ; 30 of our member of our members, 10 visitors

from Thurrock Aquarist Club, and our old friend Ivan Cotgrove who had been invited to come along and judge the Inter-Club Table Show. There was also a mammoth entry for the Table Show of 56 fishes. Up to the tea interval there was a discussion between Southend and Thurrock members which mainly centered around Tooth Carps and other egg-laying tropicals.

There was a break. Of 20 minutes for refreshments, and then the raffle was drawn then the raffle was drawn. The prize of two heaters and an outside thermostat was won by Mr K. Macfarlane of the Thurrock club.

Some time was taken up with various announcements, and after these there was a discussion with Thurrock members

about their Home Furnished Aquaria Competition.

Lastly, the Table Show Results were announced.

INTER-CLUB TABLE SHOW;

MOLLIES

- 1- -Velifera..... Mr. B. Martin..... (Southend). (90 points)
- 2...Black Sailfin.Mir. Durrant..... (Thurrock). (77 points)
- 3...Velifera..... Mr. B. Clements...(Southend).(70 points)

RASBORAS, DAN 10S & W. C- M. M

- 1...Harlequin.....Mr. A. J- Mason...(Southend)..(93 points)
 - 2...White Cloud..... Mr. Nicholls.....(Thurrock) (90 points)
 - 3...Giant Danio.....Mr. Nicholls.....(Thurrock) (73 points)
- Number of entries - 11

PLATIES

- 1...Tuxedo.....David Groves.....(Southend)...(87 points)
 - 2...Moon..... Mr. Sowells.....(Thurrock)...(77 points)
 - 3...Red Wagtail... ..Mr. D. G. Perrott.(Southend). (73 points)
- Number of entries - 16

SIAMESE FIGHTERS

- 1...Red..... Mr. B. Martin.....(Southend)...(87 points)
 - 2...Blue.....Mr. Durrant.....(Thurrock)...(77 points)...
 - 3...Cambodia.....Peter Mason.....(Southend)...(70 points)
- Number of entries - 7

BARBS

- 1...Zebra BarbMr. G. Pryor.....(Southend)...(90 points).
 - 2...Schuberti..... Mr. Prescott.....(Thurrock)...(87 points).
 - 3...Tinfoil.....Mr. Nicoll.....(Thurrock)...(83 points)
- Number of entries - 18

This resulted in a convincing win for Southend by 18 points to 12. Mr. Cotgrove was thanked for his work in judging the exhibits. Southend will make a return visit to Thurrock early in October. Meeting, Tuesday July 7th The main event of the evening was an auction sale. There was an attendance of 28, which might have been a little higher but for the bus strike affecting the

(please turn to page 21)

A NOTE ON THE JUNIOR SECTION

Recently a Junior section of the Club was formed, the idea being that it would encourage younger people in the Club. The Annual Subscription for Juniors (i.e. up to the age of 18) was agreed at 5/- this would entitle the member to attend all meetings and receive all the other benefits of membership.

All outings will be at a reduced price.

At table shows» there will be a separate class for Juniors. There will be no entry fee but prize cards will be awarded. However any Junior member may enter fish in the adult section if they wish but the usual entry fee will have to be paid. No one fish may be entered in both sections of the same table show.

Any queries any Junior member has can be answered by myself or any adult member of the Committee,

Clive Bennett»

MAINLY FOR THE 'HERRBERTS' !

by C. Bennett

In most Aquarist shops locally at this time of year there are a number of reptiles and amphibians for sale. In general these are hardy animals, which don't need heat and don't need feeding every day. Several reptiles and amphibians can also be captured from the surrounding countryside.

Amphibians well known to most people are the newts the smooth, great crested and the rarer palmate. These are easily kept, and not difficult to capture - Harvey Holmes and I have spent many a happy and exciting time in this /pursuit. A fairly large aquarium is needed - I use one about 18" x 10" x 10" - as they are quite active, and they need some rocks for them to get out of the water onto. I feed my newts on Tubifex and chopped garden worms, the latter being much preferred. Newts will breed quite readily. Salamanders are closely related and need similar conditions, but more "dry land".

Frogs and toads are also fairly easily kept. They need a large enclosure about three feet long, and if kept in the garden they help to keep down flies and other pests. They are also easily bred if kept in spacious surroundings, the tadpoles eating blanket weed at first and later on, when the legs appear, pieces of meat (This also applies to newts).

Next to be considered are the Reptiles. These require drier surroundings and they are fond of a peat or sand bottom layer in their vivarium.

Snakes are a huge group of animals ranging in size from the 40 ft. long Anaconda down to the ribbon snakes at 12 inches in length. There are three English snake species; the Grass Snake, the Smooth Snake and the poisonous Adder.

Grass Snakes are harmless and easily tamed. They eat earthworms and newts but their favourite foods are frogs and toads. The one disadvantage of Grass Snakes is that wild specimens give off a foul smelling liquid.

Smooth Snakes are the rarest English variety. They grow to about 2 feet long and they have reddish to olive-brown smooth scales. They like dry, open land, and are not fond of water. When Smooth Snakes are first captured they bite, but they are harmless and soon tamed. Food is mainly lizards, but some mammals and other creatures are also taken. They give birth to between 2 and 16 young.

The Adder is the most striking English snake, and this also attains a length of about 2 feet. Adders are of stouter build and the tail is short. Females are brownish-red, the males are blacker with markings more sharply defined. There is a zig-zag line along the back, and also a V or X shaped marking on the head. The eyes have vertical convex pupils.

Adders are timid and shy snake. If cornered they will curl up and strike; it is well known that their bite is poisonous (10 mg. dry weight is lethal) but few humans die of it.

favourite foods of Adders are small mammals, birds eggs, nestlings and amphibians. 5 to 20 young are born from July to September. They usually refuse to feed in captivity and rarely live for long, but there have been records of them surviving for 2 years in outdoor repillaries.

There are 3 English varieties of lizards. The Common lizard grows to about 6 inches and is a brownish colour; the underside is yellow or orange, speckled with black in the female. These lizards like dry areas and enjoy basking in the sun. They eat insect larvae, spiders and wood lice. Easy to keep in captivity, and often breed, having 7 to 9 young in July or August. Common Lizards are quite often captured in the Southend area.

The Sand Lizard is found mainly in Dorset, Hampshire, Surrey and Kent; this species grows to about 8 inches. The males are grey-brown and in the breeding season have green underparts; the females are brownish-grey and have brown, white centred eye spots, and green spots on the underside.

Sand Lizards food is similar to that of the Common Lizard.

The third English lizard is an elongated legless type, +commonly known as the Slow Worm. This grows to about 18 inches in length and its appearance is such that it is often mistaken for a snake. Usually the colouration is brown above and black with cream markings beneath. Slow Worms will breed in captivity and the babies are an attractive metallic bluish colour, nicely marked. These lizards eat worms but mainly slugs. They need loose soil so that they can burrow.

There are usually a few imported lizards, amphibians and snakes available, but although these require similar living conditions, they may need more sun and some heat.

Finally a word of warning. If lizards are held by the tail it will drop off I They are very easily broken - it is a protection device for the lizards, to enable them to escape from enemies. Broken tails regenerate with time but are always shorter

BREEDING THE APHYOSEMION.VEXILIFERA

by A. J. Mason

During the Club's recent visit to McInerny's, Ewhurst I purchased two pairs of these very attractive tooth carps. Their colouring was even better than that of the well known Lyretail (*A- australe*).

When bought, the fish were about $\frac{3}{4}$ inch long, the males slightly smaller. I had already prepared a small all glass tank in anticipation; this was 12" x 8" x 8" filled with clean rain water about 2 weeks old. The pH was neutral (7.0) and the softness was 20 p.p.m. - approximately $1\frac{1}{2}$ deg .clarks.

I placed a couple of nylon wool mops in the tank so they were lying on the bottom, and the fish soon settled down. They were fed on a diet of daphnia and grindal worm which was taken with relish.

The fish were left undisturbed except for feeding, for 10. days. After this period I inspected the mops for eggs but there were none. So I removed one of the males and three days later I again looked for eggs. This time I found about 10 eggs all clustered together in one of the mops, and it would seem that all these eggs were laid in one session; there were none in the other mop.

I used the same hatching procedure that I have used with other *Aphyosemion* species in the past that is, using

a small perspex butter dish with a lid, half filling it with water from the breeding tank and adding a very small amount of Methylene Blue - just enough to tint the water. With a sharp pair of scissors I snipped the egg still attached to the wool, into the dish, not touching them with my hands. I replaced the lid on the dish and floated it in the breeding tank, covering the same with a piece of black cloth to keep out the light.

After a week I then inspected the mops for more eggs, but there were none. I also inspected the eggs in the dish, and these contained two little black dots and had little tails starting to poke out of the sides. When I examined the dish the following day I had 8 very tiny fry swimming very actively about which I carefully caught with a teaspoon and transferred to an 18" x 10 1/2" x 10" tank containing old rain water.

As the fry were so tiny I decided to feed them on liquid fry food for the first three days, after which I supplemented it with a few newly hatched Brine Shrimp. I watched the fry through a magnifying glass and they literally tore the Brine Shrimp to pieces.

At the time of writing they are nearly two weeks old and about 1/2 inch long and very lively.

I have since examined the mops for more eggs but have so far failed to find any, and it would seem that these fish may not be very prolific breeders.

The following article is reprinted from the News Bulletin of the Northeastern Indiana Aquarium Society, March 1964

A TOPIC FOR THOUGHT

By Mack Fehman, proprietor of "The Tropiquarium"

What does the future hold for the tropical fish hobbyist? What will be the next most popular fish for the aquarium. Where will these fish come from? Will there be a ready and plentiful supply of these fish? Will they be reasonably priced? Or - - will they sell at a premium? Why all these questions?

Being a "dyed in the wool" hobbyist you get a great amount of pleasure, enjoyment and entertainment from watching your piscatorial friends- You greatly enjoy working with them and they help you pass many happy and profitable (education-wise) hours/. Probably most of them is what is termed the common fish. Yes, you have a few of the higher priced rarer fish which are your pride and joy. Good - but - how are you

taking care of them? Are you trying to spawn them? Are you doing your very best to keep them HEALTHY, HAPPY AND CONTENTED? If so, then you do not have too much to worry about. However, if you think "Oh well, if I lose one I can always get another", you had best stop and think seriously. Why? Because, in the days to come there is a great chance that many of these fish will be in a very scarce supply,

Here is the reason. Most of these beautiful and more expensive fish are imported. Many are of the so-called "hard to spawn in captivity" varieties. This dealer is in constant and close contact with many of the importers, breeders, fish-farmers and hatchery owners all over the United States. You would be surprised at the "headaches" they have trying to get many species.

World conditions today are such that many of the tropical coastal countries and tropical isles are gaining independence. A good many of these are swinging over to the communist bloc. Will these countries and islands shut off the import of tropical fish to the United States? Talk to the importers and fish-farmers and, while they will not come right out and say, you will note an underlying current of uneasiness, concern and worry about the situation. Call the importers to place an order and see how many species of fish that were always available and in ready supply are not available now.

If your dealer does not have a good variety of fish he can not make money to keep his store open. If the dealer is not in business where will you get your fish? Don't blame your dealer for not having certain kinds of fish. Don't blame the importer for not getting them into the country. Maybe he cannot get them.

If you have any of the imports, please realise how very valuable they may soon become. How about trying extra hard to spawn some of them. How about giving them just a little extra attention, just a little better variety of food, just a little better conditions and surroundings..

You may say some things "could not happen here". Well - there are several things that have happened here and many more that can and will happen unless each of us in his or her own small way makes an honest effort to see that it doesn't. Think it over.

PEN PALS GALORE

by Clive Bennett.

Just recently I have had the good fortune to discover a new branch of our hobby. I had written a letter to the "Tropical Fish Hobbyist" Hail Call section and happened to

write at the bottom that I would like some Pen Pals. Well, my letter was printed and the response was quite overwhelming.

It appears that in the northern parts of the U. S. A. they get their magazine a month early, so I was quite unprepared for the stack of letters that came through the door in two's and three's every morning.

I now have about 20 U. S. A. and Canadian Pen Pals and they are all very keen to write and exchange news, views and information on the hobby. Of these Pen Pals, about a quarter are about to start marine fish keeping, although none have actually started yet. This aspect of the hobby appears to be catching on fast over there. Two or three of them belong to aquarist societies. Surprisingly even the few beginners over there know a lot about the hobby; most, however, have six or more tanks and all have bred fish (most of them egglayers). They are all keen on exchanging fish and eggs, plants and equipment, and I hope to take part in an exchange that will send some of my lyretail eggs to the U, S. A. then to Africa, from where I will be receiving via the U. S. A. some *Nothobranchius* eggs,.

Each pen pal has a fish they particularly want to breed; they vary from Zebra Danios to Tilapias and Jewel Cichlids, and this side of the hobby seems to be the most rewarding and interesting to them. No one I have written to is satisfied with their set up, they all want more tanks and equipment. It seems as though the one tank aquarist is now non-existent.

I have started to exchange our club magazine for some U. S. ones, which seem to be of the same make up as ours and contain lots of useful tips.

Writing to a pen pal is to me anyway a good way of opening a field of new knowledge. It is a most enjoyable and interesting pastime, costing only a few pence a time and making friends all over North America.

WORLD OF THE AQUARIST

It is a sign of the times that an entry of Neons in a Breeders Class at a nearby Open Show, has just gone unplaced to give way to *Bedotia geayi*. Many would still like to breed *Hyphessobrycon. innesi* but they are no longer the problem fish they were. The position is still vastly different with its companion the Cardinal Tetra - *Cheirodon axelrodi*. Two of our members had some initial success with Cardinals a year or two ago, but, even the professional breeders here can register only fitful results.

Referring to these two fish, my friend and correspondent in Germany has some interesting comments. They are

fortunate in sometimes having as speaker the well-known Herr Roloff, many of whose articles we have read here. He is one of the famous breeders of Neons in Germany and underlined the dangers of the dreaded Neon disease (*Plistophora*) which at present is far too common and prevalent, at least abroad, and which will spread to the ovaries and the eggs and for which there is still no known cure. *Plistophora* is brought in principally by the wild Neons and may take some time before showing and spreading, particularly to other Characins.

Wild Neons are caught mainly around Iquitos, more than 1000 miles up the Amazon from Manaus. Herr Roloff says that Cardinals in their natural waters are never infected by *Plistophora* and can only contract it from diseased fish.

Cardinals are caught in the upper reaches of the Rio Negro (a north-western river joining the Amazon at Manaus), where temperatures are higher than at Iquitos. Hardness of water is under 1 D. H. ($\frac{1}{2}$ deg. C;arks), and pH is under 5.0.

So as an initial step towards breeding *Cheirodon axelrodi*, I should say keep them away from Neons even if apparently healthy. We should be interested to have comments from readers here or abroad on any current success with Cardinals.

We are now receiving regularly (amongst others) the monthly journal of Aqua-Chat» from the Newcastle Aquarium Society of Australia and we send greetings to them from England, and also to our friends with the Northeastern Indiana Aquarium Society, U.S.A The Newcastle Society recently held their first Table Show for Australian native fish.. All they have to do is to take up a net, hop in the car and go out to one of the many creeks and water holes surrounding the district, and scoop. They come up with Monodactylids, "Blue Eyes", Compressus, Glass Fish and many more. To stock an aquarium with good fish, they don't have to buy them but can go out and catch 'em !

L. E- W.

GENETICS by G. Hedger
Part 3 - LINEBREEDING

In my first article I said "the quality of livebearers was poor, and that only by line breeding can any longstanding improvement be made. I think that the reasons for this poor quality are twofold. One is that the dealer in the main is only interested in multi-coloured fishes that appeal to the eye, and thus sell easily to the general public. Secondly the aquarist must accept most of the blame the feeling is that Livebearers are for beginners only, and that once a person has been in the hobby for a year or so, the poor

livebearer becomes just another bread and butter fish, bred in quantity, but with no thought to quality, and with the excuse that "I only breed then to pay for the heating".

If this way of thinking is continued it will not be many years before all of the popular varieties will be so poor, that should anyone remember, and tell of the size and colour they were in days gone by, it will be classed as a fisherman's tale. Fighters were once a good even colour, Tiger and Nigger Barbs were three times as large as present day ones, and of a colour now only depicted in colour plates.

I have also seen Angels so big that their dorsal fin would be out of the water if they were kept in a 12 inch deep tank. I know that it is the person who breeds the more difficult species that is classed as the successful Aquarist, but this is not enough: not only must they be bred, but quality must be maintained, and if possible improved upon. It is my opinion that it is harder to fix a strain of good class fish of any variety, than it is to breed some of the so called difficult species, but at the same time it is something a beginner can do if he puts his mind to it.

Many aquarists blame inbreeding for the poor quality of present day stock, and, to some, indiscriminate inbreeding and line breeding (controlled inbreeding) are one and the same thing. To these critics I say that a system of line-breeding is used by the breeders of cattle, pigs, poultry, pigeons, etc., and if one is still doubtful one has only to look at cattle. The Herd Book for Aberdeen Angus was closed in 1862, and the Herd Book for the Hereford was closed in 18835 both are only open to the progeny of registered stock;

Also the Jersey was bred on the island of Jersey and kept free of foreign blood for over 500 years. This indicates the degree of inbreeding practiced over this period. The same applies to the Guernsey which has been inbred for several hundred years.

Establishing a Strain

The development of breeding lines within a family is an essential part of any inbreeding programme. There are several ways to plan such a programme, but I will confine myself to a simple and straightforward system which is used in several forms of livestock breeding.

First you must have a clear mental picture of what is required, and once having made the decision to inbreed there must be no half measures in this decision. The system is concerned with mating together related stock, with a view to implanting, emphasizing and fixing desirable features in breeding stock.

We must have reasonably good stock to start with, it is no good going to a dealer and buying half a dozen of whatever he may at that moment have for sale; I would sooner spend a few months going to shops, and contacting breeders

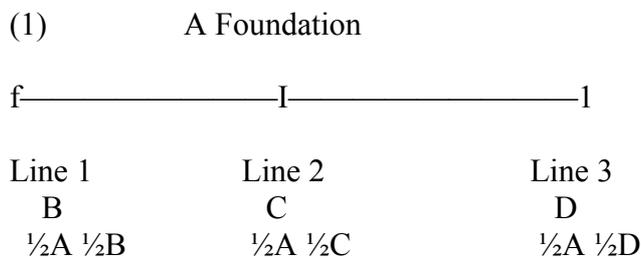
Why start with rubbish which will take years to improve, when with a little effort one can obtain reasonable stock, and save several years' hard work. To start with we will need two males, one the largest you can buy, and the other as large as possible, but with colour being the main factor. Also we will need six females, once again the best we can obtain, but I would place more importance in the males than the females since we are going to use the males as the foundation of our strain. If possible all should be unrelated. If we use females that are related we might introduce right away all sorts of defects not visible in the fish.

We will assume that we have managed to obtain two males that are sufficiently good for our purpose, and six reasonable females. Our object is to wrap up the excellence of the males in three lines descended directly from each of them, so to start with we will need six breeding tanks. Each male must then be mated to three females. The young from each pairing must be kept in separate tanks, and as soon as they are old enough the males must be separated from the females. It will be seen from this that a system of marking tanks must be used, and that at least a dozen are needed but at this stage they need not be large ones.

From those first six matings we must keep the best three males and the best three females from each spawning.

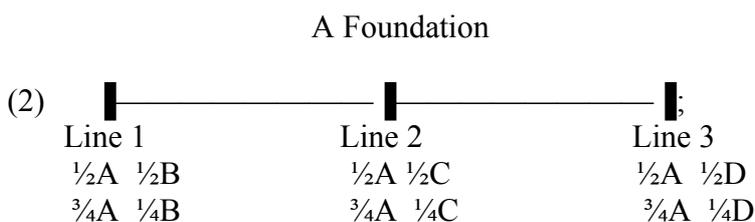
If the remainder of the young can be sold, and with a bit of luck you may cover the cost of the original eight. At this stage we are not actually inbreeding, but getting the pieces into position. We are producing young each of which carries the desirable qualities of the sire in his or her make up. I shall now show how these family lines can be developed.

It will be easier to follow the mating systems with diagrams. Diagram 1 shows the mating of our foundation sire with three stock dams.



Each offspring carries 50% foundation blood.

We must now concentrate this foundation blood. There are several ways, and one of the best is a back cross father to daughter.

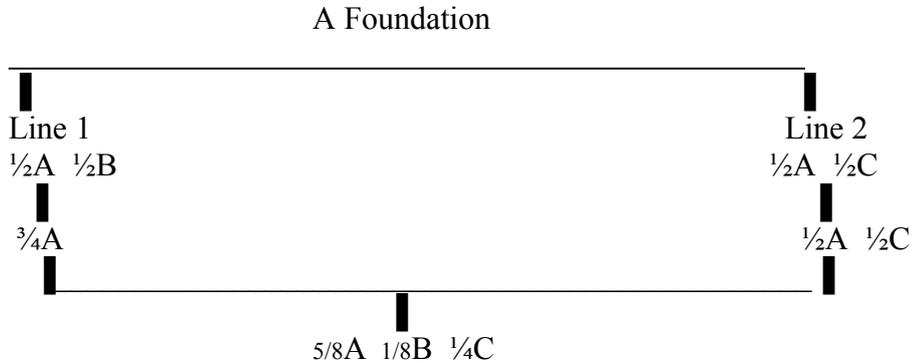


Each offspring carries 75% foundation blood.

From this mating we find that we have a high proportion of young which approach the original sire.

Another useful mating is with a fish as produced by diagram 2, with another previous generation from another line.

(3)

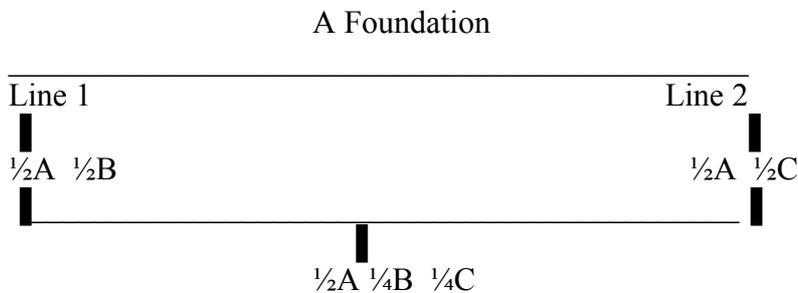


Each offspring carries 62.5% foundation blood.

This is useful mating if you find that one line lacks something, i.e., one line may be producing size, but not good finnage, Line two may have produced several fishes with very good finnage; as they will already carry 50% foundation blood we can expect to maintain quality, and emphasise finnage.

Inbreeding can apart from improving quality, also bring out any undesirable recessive characteristic that was not visible in the original stock, and a good mating to bring these to the surface before they become disseminated through the stock is shown in diagram 4.

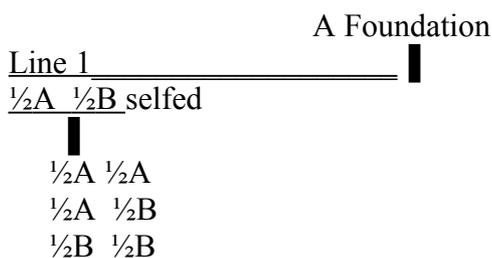
(4)



50% of offspring bear character of foundation, remainder diverse types.

I do not like the mating brother to sister, except when one is linebreeding with only one pair. I think this mating is too close, and also the mating only produces 25% offspring resembling the sire, and 75% various types.

(5)



If mating (5) is used, I recommend that the offspring be out crossed.

If one follows this system of linebreeding with two sires, one will have several lines, some lines producing fish of outstanding size, and others of outstanding colour.

When these are breeding to a true likeness, the lines can be combined together, once again using the system of inbreeding to fix the good points in each; and provided we go no closer than half brother to half sister, and occasionally a back- cross father to daughter, we should have no trouble^ and should produce some good fishes.

If linebreeding is carried out with care, it is possible to produce fish all of a likeness in size and colour, but in the process of achieving this, a percentage of the young will be of poor quality, the reason being that in bringing together the good points, we will also bring together the bad points in a percentage of the offspring. On no account must this rubbish be used for further breeding — rubbish only produces rubbish. But if we follow the practice of only pairing the best fish produced together, then we will reach the stage when we can produce spawning after spawning of good size, good colour, in fact better quality fishes than they had in the old days.

THE END

PUZZLE CORNER

Below are the solutions to last issue's fishy anagrams

- ! Brachydanio rerio (Zebra Danio).
- 2 Hemigrammus ocellifer (Beacon Fish)
3. Hemigrammus gracilis (Glowlight Tetra).
4. Oryzias latipes (Medaka).
5. Chilodus punctatus (Spotted Headstander).
6. Neolebias ansorgei.

Here are yet another six of these crazy, mixed up fish As usual, the un-jumbled names will be published next time.

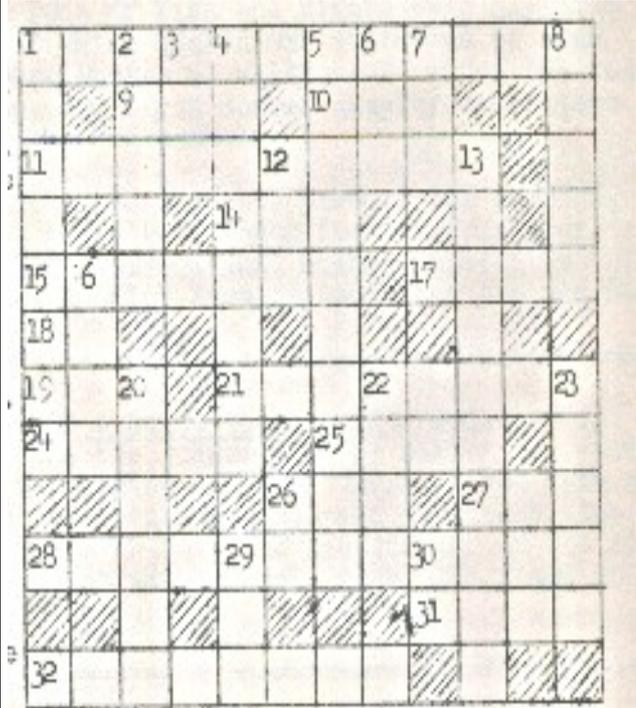
1. Paul, he coils line at us (11,8).
2. I haul Police Days (11, 4).
3. I can in a old rope (7,7)-
4. I must harm Mr. Smog in gear (11,10).
5. Dare lie till drips (9,7).
6. Colin boils Italy beet (10,9).

To make it easier (?) for you, I will reveal that three of these fishes are characins, and three are egg-laying tooth carps.

S.L.A.D.A.S. CROSSWORD No. 4

Across

- 1.. A species of Mollienisia (12).
- 2..
- 3.. 9...Organ of hearing (3)
- 10..See 9 across. The other one of the pair
- 11..Genus of half beaks (10)
- 14..Place to sleep on (3)
- 15..To quarantine (7)
- 17..A specific name of the Glass fish (4)
- 18..Move (2)
- 19..Sick (3)
- 21..a variety of goldfish
- 24..A proverb or wise saying (3)
- 25...Homes of wild animals, perhaps (4)
- 27...To make mistakes
- 26..The plant which Mendel used for his experiments (3)
- 27..To make mistakes (3)



- 28..This could be a newly discovered tetra (4,8)
- 31..To mix up in the main (4)
- 32..Neolebias -----(8)

DOWN

- 1...A swamp plant often used in aquaria (8)
- 2...A species of barb (5)
- 3...Are you a reader of this journal (1,2)
- 4...Likely (8)
- 5...For this one you require a coldwater aquarium plant (4,8)
- 6...A container sometimes used for carrying fish or daphnia (3)
- 7...If you do this you may complete the crossword (3)
- 8...A type of cichlid (5)
- 12..Obtain (3)
- 13..Sounds like a corydoras from Thailand (7,3)
- 16..You may find the dealer has done this to the fish you wanted (4)
- 20..Former generic name of *Badis badis* (6)
- 22..Close to (4)
- 23..A *Rivulus* species from near Rio de Janeiro (5)
- 26..Scale for measuring the acidity of water (2)
- 29..A motor vehicle (3)
- 30..An answer (2)

Solution to No. 3 Crossword: Across;- 19 No swordtails, 8 Pit 9} Neon tetras; 11 Rim; 13, Ottery St. Mary; 14 Tide, 16 Ulreyi; 19 Eels; 21, As; 22, Molly, 23, Green; 25, Semi, 28 G.E.0, 29 Sly; 31 Urn; 33 Eos; 34, Elodeas.

Downs- 1 Nannostomus; 2 Spotted, 3, Win 4, Otters; 5, Dytiscus; 6, Alarm; 7 Sea; 10 Siamese 12, Mr 15 Eels, 17, Rare; 18, Innesi; 20 Eye; 24 Ego, 26 Mud, 27, Ire, 30, Ye; 32, Na

CLUB NEWS (Continued from page 8)

area at the time. 63 lots of fish and plants were disposed of for £8 - 6 - Od, of which 18s/5d was allocated to club funds. Auctioneers were Messrs M. Willis and, after the tea interval A.J, Mason, and Bryan Bonner displayed the lots to members and collected the cash.

The auction took up the greater part of the evening , but before the close, names were taken for the Home Aquaria Competition and the September outing. Members were also told of the possibility of the Club Show on September 5th and 6th.

THE HOME FURNISHED AQUARIA COMPETITION; Judging will begin in a few days, and the judges will be making two visits to your home within the coming weeks. However if you have not entered yet, entries will still be accepted up to the time of the meeting on July 21st. There is no restriction on the size of your tank, and a member with a small tank will stand an equal chance of winning.

OUTING, SUNDAY, SEPTEMBER 27th ; This will be to the London Zoo. The fare will be approximately 10s/6d for adults and 5s/6d for juniors (including admission to the Zoo, but there will be an additional charge for the aquarium. If you have not yet booked your seat, please contact any Committee member as soon as possible.

ATTENDANCES UP AGAIN !! The average number of persons at our meetings in April, May and June was 30, this was an increase of 7.7 on meetings in the first three months of the year, and an increase of 3.7 on meetings in April, May and June of 1963.

SUCCESS FOR SOUTHEND MEMBERS AT THE DAGENHAM TOWN SHOW-, Dave Perrott took 1st and 2nd awards in the Breeders' Class with *Bedotia gaeyi* and Flame Tetras, and also Very Highly Commended with a Red-Eyed Red Swordtail. Johnny Mason's veteran Harlequin won its class, but unfortunately the shock seems to have been too much for it as it has now passed away I

TELEPHONE NUMBERS New telephone number of our Hon. Secretary, Vic Picket!, is Great Watering 233.

Telephone number of Dave Cheswright, Hon. Treasurer, is SHOTGATE 3850.

COMPETITION FOR THE SOUTHCHURCH CUP

The Southchurch Cup is awarded annually to the member gaining the highest number of points in Table Shows, and at present is held by Dave Perrott. This year's programme of Table Shows is now at the halfway stage, so it may be interesting to see the state of the competition. Four points are awarded for a 1st, three for a 2nd, two for a 3rd and one for a 4th.

	1st	2nd	3rd	4th	Points
B Martin	3	1	0	0	15
D. G. Perrott	1	1	2	0	11
li- J. Will is	1	1	1	0	9
A- J. Mason	1	0	2	1	9
R. Brown	1	1	0	1	8
B. Dunn	1	0	1	1	1
D. M.. Cheswright	1	0	0	2	0
D. Groves	1	0	0	0	4
J. H. Preston	1	0	0	0	4
G» Pry or	1	0	0	0	4
A- Saunders	1	0	0	0	4
R- Dersley	0	1	0	1	4
P. Mason	0	0	2	0	4
G. F. T King	0	1	0	0	3
Mrs. P-.C. Swan	0	1	0	0	3
J. Wylie	0	1	0	0	3
B- Clements	0	0	1	0	2
D. Plappert	0	0	1	0	2
E . Swan	0	0	1	0	2
R. Machin	0	0	0	1	1

FURTHER NAMES AMD ADDRESSES OF CLUB MEMBERS

Mr. B M- Clements, "Dellhaze", Little Watering Road, Little Wakering, Southend-on-Sea, Essex.

Mr. D. Plappert, 29 Browning Avenue, Southend-on-Sea, Essex.

Mr. J. Paterson, 12 Elm Road, Shoeburyness, Southend-on-Sea, Essex

John Paterson (Junior).

Mr. W. Groves 10 Maldon Road, Southend-on-Sea, Essex

David Groves (Junior) .

Paul Marks (Junior), 23 First Avenue, Westcliff-on-Sea, Essex. Southend 43636

Mr. J. Bowman, 9 Colchester Close, Southend-on-Sea, Essex.

Ian Stewart (Junior); 41, Lonsdale road, Southend-on-Sea., Essex,

THE SOUTHEND, LEIGH AND DISTRICT AQUARIUM SOCIETY
(Founded 1938)

QUARTERLY MAGAZINE

No. 7 - October, 1964

The Society meets at 8.00 p.m. on the first and third Tuesday in each month
at

THE LIBERAL HALL
Clarence Road,
Southend-on-Sea}
Essex.

We are happy to exchange publications with any other Society here or overseas.
Permission is given to reprint any article provided credit is given the author and S.L.A.D.A.S.
The views expressed herein are not necessarily those of the Society or the Editor.

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EDITORIAL

The Pier Head show was called off, and the main reason was that no beer crates were available. Sounds ridiculous. seeing that there were over 4 weeks in which to find some or a suitable substitute.

But, by way of compensation, the display at Leigh St Clements Hall is now definitely "on". Space will restrict us to about 3 dozen tanks (5 24" x 12", 12 18" x 10" and about 18 smaller sizes) and the suggestion is that all the tanks should contain some gravel and plant in addition to the fish. This should make a much better display for the visiting public and seems a first rate idea.

Other proposals for this "show" do not seem so sensible. Some of the organisers want to make this display entirely non-competitive. They argue that competitive furnished aquaria would place too great a strain on members fish and plants especially as the Home Furnished competition is still in progress; also that the setting up of competitive tanks would create chaos because of the limited space and time available at St. Clements Hall on setting-up night. Apparently any thoughts of competitive fish classes in the smaller tanks can be ruled out without further consideration.

So the attitude now, as it has been all along, is that this show, if it has to take place, must be kept as small insignificant and uninteresting to members as is possible. Well, if that's what the organisers want, we might as well stay home (it is Guy Fawkes night) and let off our fireworks and leave our fish undisturbed.

But we all know in our hearts that minimising this would be wrong and that it is the same attitude that could eventually spread and sound the death knell for the Club Statistics show that in the U.S.A., once annual shows are eliminated, the club soon dies, and I have no reason to doubt ---that this could also be true in our country.

It will not be easy, for time is against us, but in the limited space available at St. Clements Hall, we must stage the best show the Club has put on for many years. And let members compete for some at least of those cups and shields, symbols of the Club's more glorious days, that now spend their days gathering grime.

Remember, if you aim at the noon, you'll shoot higher than a church steeple.

J. H. Preston,

EDITOR.

PRESIDENTS LETTER

Dear Readers,

On the 6th and 7th of November we hold our show In conjunction with the Leigh-on-Sea Horticultural Society, and still there is a lot to be done in the way of arranging the tank layout. It is hoped that all will turn to and give a hand.

We have been very lucky to have been offered the free use of tanks from the Romford Club. These will have to be collected and returned, and although this transport has already been arranged, some tanks will probably need slight attention, such as sealing and the like.

I will be asking for (mugs) names of members who wish to participate in the show at the next meeting (tonight).

The Zoo outing was a great success this year and I believe we even made a slight profit.

Don't forget that the Annual Dinner and Dance will take place in mid-November. I hope to have more details available at this next meeting.

To close with, an interesting incident which has just taken place in one of my tanks. I went to give a tank of some 50 young Fighters, aged about 3 months, their evening meal of Tubifex. I noticed that all these fighters were crowded in one half of the tank. Also in with them I had put one adult male Tiger Barb, a male chequer Barb, a male *Stoliczka* Barb and a pair of *Nannacara anomala* (Golden-eyed Dwarf Cichlids), so I started to investigate.

The male *anomala* I found literally cowering under the heater, several bits of fins were missing from the Barbs, and her ladyship the female *anomala* was guarding a quite large spawning carefully placed on a leaf of a Sword Plant-
She was viciously keeping all comers at bay, and it will be interesting to see how she makes out if and when the eggs hatch.

Yours sincerely,
A..J.. Mason (President)

CLUB NEWS

Meeting, Tuesday, July 21st 22 members attended, and the meeting got under way by 8.30 p.m., but most of the evening was devoted to discussing various future Club activities, First items on the agenda were the September Zoo outing and then the Home Furnished Aquaria competition. These having been dispensed with, there was quite prolonged discussion on the possibility of a small Club Show to be held in early September in conjunction with the Budgerigar Society, on the Pier Head. In the end, no final decision was taken about this show; it was pointed out that there would be certain difficulties, particularly in finding enough tanks and in transporting everything to and from the Pier Head, but it seemed likely that these problems could be successfully overcome. Members were at that time engaged on restoring the Club's angle iron frames and stands, possibly for use in a Show, and Mr. Mason said that more help was needed as some of the stands were in a poor condition and time was limited. The meeting was adjourned for half an hour and tea was served.

In the raffle, pairs of *Aphyosemlon bivittatum* were won by Mr. R. Cairns and Mr. Willis.

After the interval, the Table Show results were announced;-

DANIO, RASBORA AND WHITE CLOUD MOUNTAIN MINNOW TABLE SHOW.

- 1.- Giant Danio.....Mr. R. Brown.... (85 points)
- 2.- Glowlight Rasbora.....Mr. B. Martin... (84 points)
- 3.- Rasbora borapetensis...Mr. B. Martin...(83 points)
- 4.- White Cloud.....Mr, V.C.Pickett. (82 points)

Number of entries 9 Judge - Mr. J. Wylie.

There were comments on the closeness of the pointings in the Table Show. The final topic of conversation was the possibility of holding the fry-rearing competition again this year.. 8 of those members present said that they were keen to take part. The meeting closed at 10. 50 p.m.

Meeting. Tuesday August 4th ; The meeting was officially opened at 8.35 p.m although there was a good deal of discussion about the Pier Show before this. The President, Mr. Mason, addressed the meeting and stated his case against holding the Show. Apparently there seemed to be no way of obtaining the beer crates necessary to support the stands (the stands in question being those constructed by Ted Mayhew and used in the displays at the previous two Town Shows). It was not considered practicable to use the angle iron stands which had just been repainted. Also, the gentleman in charge of the Show had a reputation for being unsympathetic towards the needs of Aquarist Societies trying to stage shows. So Mr. Mason suggested that the proposed show be abandoned, and

asked for a show of hands, 2 members were in favour of the show and about 8 against, the remainder did not vote. Mr. Preston was given permission to make further enquiries about this SHOW) but in fact the evening events had killed it stone dead. However, it was pointed out that there was still a chance of a small Club Show later in the year in conjunction with Leigh Horticultural Society.

The business having been disposed of, there followed a most excellent talk by-Mr. R. Cairns on his experiences with Discus. He said that he had been keeping these fishes for 10 months and now had eight, ranging in size from 1½-" up to 6". They were at present in a 30 gallon tank (48" 15" x 15") maintained at a temperature of 80 deg. F, the pH was 7-2 and the hardness had been reduced from the original figure of 16 degrees to 9 degrees, a further reduction to 6 degrees being contemplated in the hope that spawning would be encouraged.

The fish seemed unhappy in a bare tank, and their present home was mainly furnished with large Amazon Sword plants of which the fish seemed fond. The only other occupant of the tank was a small Kissing Gourami added recently. The Discus were normally peaceful and had been found to be quite hardy, but sometimes became nervous, e.g, when someone walked near the tank and in such circumstances they might perhaps pull up plants. Feeding had been mainly with Tubifex, Daphnia and White Worms. Outside filters were used continuously and after a day without these the fish seemed unhappy. A large tank with filtration and aeration certainly seemed to keep them happy.

Diseases had presented a certain amount of difficulty. White Spot had made an appearance but was cured with Wardley's cure and high temperature (95 deg.) but the disease which is accompanied by growths on the head and was said to be incurable presented more problems. Terramycin and Aureomycin were obtained on prescription from a Veterinary Surgeon and a dose of 250 mg. of each to each 5 gallons of water, without any change of temperature (80 deg.) resulted in a 100% successful cure within a week. This cure had also been used with success by a London dealer who encountered the same trouble with Discus. Care was needed: when netting Discus as damage to them caused nasty marks to appear on their bodies. No harm had come to the fish shown at Dagenham despite sudden temperature changes of 5 degrees. The only losses had so far resulted not from disease but accident, when 2 fish ended up on the carpet after their tank burst.

The addition of softer and fresher water had resulted; in an improvement in the fishes colour but the only signs of future breeding activities were lip pulling amongst some 4" fish. Apart from slight colour differences, the fish could be sexed by a difference in the shape of the ventral fins, as was described by Roy Skipper. Mr. Cairns concluded by saying that all his fish were the Brown variety, and he believed that the Brown, Blue and Red types were all just,

varieties of the same species, the other species being the Heckel Discus.

After the refreshment break, there was a reminder that the Bethnal Green Show was to take place early in September, and Schedules and Entry Forms were distributed. Mr. P. F. Capon won the raffle, 2 *Otocinclus* Catfish*

For the last ½ hour of the meeting, Mr. A. J. Mason spoke on the breeding of Dwarf Cichlids, dealing in some detail with *Pelmatochromis kribensis* and also *Apistogramma ramirezi* and *Nannacara anomala*.

The meeting finished at 10.30 p.m.; 21 members had attended.

Meeting, Tuesday, August 18th There was a rather disappointing entry of only 9 fish for the Cichlid Table Show. These were benched, and the meeting proper commenced at 8.25 p.m. with 22 members present. Dave Perrott had donated a number of Giant Danio fry to the Club for the fry rearing competition, and members took 6 of these each for a charge of 2/-. The idea is to bring back the best 4- of these Danios on 1st December and the teams of fish will then be compared to find the winning member. The fry distribution took us up to 9 p.m, then an outing was arranged to visit Whitwell's (see report on page 11). Following this, there was a short discussion on judging fishes, and the maximum sizes of certain Barbs were mentioned, the idea being that this information would be of assistance to members at the next meeting. At 9.25 p.m. there was a 25-minute break for tea. Raffle prizewinner was Bob Cairns with a pair of *Pelmatochromis kribensis*.

Immediately after the interval, the Table Show results were announced;-

CICHLID TABLE SHOW

- 1.- *Apistogramma ramirezi*.....Mr. G-. Pryor... (65 points)
- 2.- *Pelmatochromis kribensis*.. .Mr. A» J. Mason (64- points)
- 3.- *Pelmatochromis guentheri*...Mr. C. Bennett. (63 points)
- 4.- *Apistogramma ramirozi*.•....Mr. A. J. Mason (61 points)

Number of entries - 8 Judge – Mr. J Wylie.

JUNIOR SECTION

- 1.- *Nannacara anomala*.....John Paterson

Number of entries - 1.

A brief general discussion on Cichlids followed, then Barbs were also discussed. Tho Club Show with Leigh Horticultural Society now seemed a distinct possibility and it seemed that tanks about 18" x 10" x 10" and 16" x 8" x 8" would give a good display. Finally there was a mention of the September Zoo outing, then the meeting closed at 10.35.

Meeting, Tuesday, September 1st ; The main event of the evening was the Judging Competition, originally planned to take place earlier in the year. The fish to be judged were a selection of 7 Barbs mostly young adults. Judging got under way soon after 8.45 p.m., and although only 20 members were present the Liberal Hall seemed quite crowded as people swarmed round the 3 tables to examine the fish.

There was the usual break for refreshments, then the meeting dissolved into discussion on various topics.

Mr. E. Swan won the raffle for 4 Ticto Barbs.

Meanwhile, Michael Willis had judged the competition fishes, and it was duly announced that the member who had placed the Barbs in the order closest to this 'official' order was Vic Picket!. In fact most members agreed that 2 Tiger Barbs were the best 2 fishes on show, but some had these two in the wrong order.

This was a quiet meeting, not, I venture to say, very exciting. The reasons may have been the lack of numbers and perhaps insufficient planning beforehand. It is also interesting to note that this meeting was declared closed by 10.10 p.m. giving us less than 1½-hours of 'entertainment' , compared with a theoretical figure of some 2½ hours (8.00 to 10.30 p.m.). Of course, an Aquarist Society cannot be run with the precision we might expect from a railway time-table, and most people would want to keep their few minutes at the start to exchange greetings and news, but there does seem room for some improvement of late.

Meeting, Tuesday, September 15th . A start was made just after 8.35 p.m., and details were finalised for the forthcoming Zoo outing and similarly for the Thurrock Inter-Club Table Show. This took about half-an-hour, and was followed by a session of questions and answers on algae, then there was a short talk on judging plants, which took us up to tea-time.

After a break of roughly 25 minutes, Michael Willis gave the table show results and also a few comments on the entries. These entries were not quite as numerous as they might have been, nor was the standard excessively high, but the probable reason was that the Home Furnished Aquaria Competition was still in progress. The results are shown on the next page.

Raffle prizes of various aquarium plants were won by Mr. G. T. King and Mr. B. Dunn.

Water Lettuce was donated to the Club by Mr. Dunn, and also Cabonba, and these plants were auctioned, raising 5/-for Club funds.

PLANT TABLE SHOW

CABOMBAS and WATER WISTERIA

- 1.- Cabomba.....Mr. R. Brown
- 2.- Water Wisteria.....Mr. Do Plappert
3. Cabomba..... Mr. B. Bonnor
- 4.- Water Wisteria..... •Mr. D. Flap .pert.

Number of entries - 7 Judge - Mr. M. J. Willis

ANY OTHER VARIETY

1. Giant Sagittaria.....Mr. D. Plappert
- 2.- Water Lettuce.....Mr. B. Dunn
- 3.- Sagittaria species (suall) ... Mr. G. F. T. King.
4. Water Lettuce.....Mr. B. Dunn

Number of entries - 7 Judge - Mr. M. J. Willis

London Zoo Outing, Sunday, September 27th. This has been mentioned elsewhere in this issue, and it also inspired Clive Bennett's article on the Reptile House on page 19. Over 70 members and friends packed the 2 coaches and the weather was perfect with autumn sunshine and the temperature comfortably lower than the previous year.

You should have seen the looks on the organisers' faces when we stopped at Romford Market Place and found that the cafe we normally patronised on these outings had been pulled down. Refreshment facilities in the Zoo were also not quite what they might have been, and some people would have enjoyed a drink on the return journey too, but nevertheless a good time was had by all.

Clive and I did detect an 'end of season' air about the Zoo, including the aquarium, where the tropical fresh-water section at least had certainly not improved since our visit last year. But there could be no doubting the success of the outing, and it would not be surprising if something along the same lines is arranged again next summer.

The meeting on Tuesday, October 6th had to be canceled as the Liberal Hall was not available in view of the forthcoming General Election.

Don't forget the **Annual, Dinner and Dance**, to be held Saturday, November 14th, 7.30 for 8 p.m. at THE ROADHOUSE, Eastwood Road, Leigh-on-Sea (near Belfairs). 20/- per head.

. Further details will be announced at the meetings tonight and on November 3rd.

J. H. P.

AROUND THE SHOWS

An item of news omitted from our July issue was that Bob Cairns won the Essex Championship with one of his Discus at the Dagenham Town Show on 4th and 7th July.

I visited Birmingham on 29th August for the last day of the MAPS (Midland Aquarium & Pool Society) 21st Open Show. This was a really fine show with over 50 classes and there were some good coldwater fish exhibited in addition to the many tropical classes and the furnished tanks and the inter-Society competitive display. An additional attraction was the Annual Show of the Federation of Guppy Breeder's Societies which was staged in the same hall. Those aquarists in the Midlands must be really keen to put on a show like this.

One odd entry was a red Swordtail owned by Mr. J. Smith of Stoke-on-Trent with upper and lower swords - a sort of lyre-tail effect.

The Bethnal Green Aquatic Society's 15th Annual Show took place on 4th and 5th September, and our member Brian Martin won the London Fighter Championship with a Red and also took 3rd in the Catfish class with a *Mystus*.

Our Club entered a tropical furnished tank in the East London Aquarists and Pondkoepers Associations Annual Show at Barking on 19th September. We were unsuccessful in our attempt to win the I.G.M. Trophy but gained 3rd place. However, the result was even closer than in the recent General Elections-

- 1st. Basildon and District A. S. (86 points)
- 2nd. Walthamstow A. S. (85 points)
- 3rd. Southend, Leigh & District A.S-(83 points)
- 4th. East London A. & P. A. (82 points)

Most of the gravel, rockwork, plants and fish for this tank were supplied by Len Willis, and setting up was by yours truly, aided and abetted by Dave Cheswright. It was unfortunate that this had to be planned at very short notice as a little extra time beforehand for selection of fish and plants might have gained us the extra points. The fish used were Nigger and Rosy Barbs, Pulchers, Veiltail Guppies and Red Wagtail Platies - rather a mixture but including some very good specimens. Basildon certainly took their time in setting up their winning tank - arriving at 9 p.m. on the Friday evening, they finished about 7 hours later at 4 a.m. I bet it must have been worth it.

I have also to report that the Federation of Guppy Breeders Societies (Eastern Counties Section) staged their Annual Show in conjunction with the East London Show, and in the class for Scarftails, a certain Howard Preston took 3rd place.

On October 12th, 21 of our members traveled up to Grays in the evening for the return inter-club Table Show. While the judging was taking place, entertainment was provided

by the now customary quiz, but despite some inspired guessing, both sides finished level with only 5 correct answers each. The refreshments laid on were really excellent. The Thurrock Club has been through a rather difficult period lately as regards attendances, but on this particular evening they found enough good fish to beat us in the table show by 19 points to 17.

Results:-

SWORDTAILS - 6 entries

1. Mr. E. Nicoll (Thurrock). Green Weisbaden(70 points)
2. Mr. Durrant (Thurrock).....Red. (69 points)
3. Mr. J. H. Preston (Southend)....Red..68 points)

LABYRINTHS (EXCEPT FIGHTERS) - 8 entries

1. Mr. Durrant (Thurrock).....Pearl Gourani..(69 points)
2. Mr. D. M. Cheswright (Southend).Paradise Fish..(66 points)
3. Mr. R. Brown (Southend).....Leeri Gourami.. (64 points)

CATFISH - 6 entries

1. Mr. Durrant (Thurrock)... Bronze. .. (68 points)
2. Mr. R. Nicholls (Thurrock).... Leopard..... (65 points)
3. Mr. J. H. Preston (Southend)... Bronze..... (64 points)

CHARACINS - 12 entries

1. Mr. M, J. Willis (Southend).....Pulcher..... (69 points)
2. Mr. D. M. Cheswright (Southend).Cardinal.....(68 points)
3. Mr. R. Nicholls (Thurrock).... Bleeding Heart. (65 points)

GUPPIES - 13 entries

1. Mr. E. Nicoll (Thurrock).....Red Triangle tail (68 points)
2. Mr. D. M. Cheswright (Southend).Coloured Veil..(67 points,)
3. Mr. J. H. Preston (Southend)... Gold Veiltail.. (66 points)

ANY OTHER VARIETY - 11 entries

1. Mr. A. J. Mason (Southend).... Ramirezi..... (72 points)
2. Mr. R. Nicholls (Thurrock).....Blue Acara..... (69 points)
3. Mr. L. E. Willis (Southend)....*Nothobranchius.leakeyi* (68 points)

Best fish in the show. A.J. Mason ramirezi

J. H. P.

JULY PUZZLES Here are the solutions to last issues fishy anagrams. 1, Aplocheilus lineatus; 2, Aplocheilus dayi 3, Copoina arnoldi; 4, Hemigramus armstrongi 5 . Pristella riddlei 6, Cynolebias bellottii.

CROSSWORD No. 4 SOLUTION; Across:- 1 Latipunctata 9,ear;10, car, 11,Dernogenys, 14,Bed, 15,Isolate, 17,lala, 18,Go.19,ill, 21,Lionhead, 24, adage, 25,dens; 26,pea; 27err, 28, rare characin 31, nami, 32,ansorgei.

Down:-1,ludwigia; 2,terio, 3I am,; 4, probable; 5,,need elodea; 6, can 5, ,stry; 8,acara; 12,get , 13,Siamese cat, 16, sold; 20,labrus; 22,near; 23,dorni; 26,pH 29,car, 30,an.

Another crossword and other puzzles will appear in our next issue, which should appear on January 19th, 1965. The crossword has been omitted from this issue because of lack

SAFARI TO WEST BERGHOLT

by D. M. Cheswright.

Having made arrangements with Mr. Whitwell of West Bergholt to visit his establishment, the writer set out from the wilds of Wickford at 8 a.m. on 30th August and progressed at speed along the meandering Arterial Road towards Southend-on-Sea. Having successfully located the Leigh area, Mr. Gordon Pryor was picked up and after a short trip to Victoria Road the rest of the Expedition,

Mr. Mason, his son Peter, and Mr. Bryan Bonner, were found and taken safely aboard. One other intended traveler had 2 days before realised that he had an appointment in Spain and his arrival was, therefore, not awaited.

The Expedition then proceeded with Maps and eyes open through Rayleigh, Battlesbridge and other native settlements to Maldon and then on to Great Totham and Tiptree and on to the A12 Battlefield. Having joined that road some 5 miles earlier than intended somewhat slow progress was made in the Colchester direction with all eyes looking for a signboard stating "Colchester - Oldest Town in England", by the side of which the alleged route lay. A shout of "There it is" from the back seat brought on an acute attack of braking and making a quick decision the driver took the next turn left.

This led through further settlements, the names of which we had never before seen, and as we were soon by no means certain of our position and had run out of map we stopped and enquired of a fellow expeditionary "How do we get to West Bergholt?" The reply "I am looking for a place to get a cup of coffee" did not impress us, but luckily some children fishing told us to follow the road and we would find a sign. We did follow the road but soon wondered what sort of sign we were looking for and what it might say if we found it. Everyone was now intent on finding a Grocer's shop as this was alleged to be next door to our destination; further braking soon discovered this shop and with a quick 3 point turn we had arrived.

We were greeted by Mr. Whitwell and spent about 1½ hours looking at the innumerable fish available. There were some 800 tanks arranged in 5 tiers in a number of fish houses, each tank containing from 100 to 600 fish and a large dose of Methylene Blue. Viewing of the fish through this blue water was difficult and much mountaineering was done to see the top row of tanks. Many good mature fish were on view in clear tanks but were Breeding stock and could not be bought; also, many fishes were in quarantine as newly arrived consignments.

Breeding of some species, e.g. Black Widows, Barbs, Penguins, Flames, Angels and White Cloud mountain Minnows

was being carried out in quantity but information was not available on more difficult species as the gentleman in charge of breeding was away. Our party made their purchases, procured a free supply of Coconut Fibre for use in spawning, and set out again at high noon, having been told by Mr. Whitwell to follow the road over the level crossing back to the A12. This we had hoped to do but no railway was sighted within reasonable distance and at a road junction, to calls of "turn left" from the back seat, the car turned right and found its way back to the A12 more by luck than judgment. The suggestion was then made to return via Colchester Zoo and slow progress was made towards Colchester behind a mobile crane about to drop anchor on the car at any moment. Once again the "Oldest Town" sign was sighted and this time a correct turn to the right was made and the Zoo was duly passed, some animals and humans being visible from the road. A call for refreshments was made and the driver pulled into a cafe marked "Open" only to find it shut and then made with all speed to the next Public House. We refreshed ourselves and continued the journey to Southend, uneventful except for complaints that Radio Caroline could not be obtained on the car radio.

The Southend expeditionaries were duly set down and, as cars fought their way into Southend so that their occupants could fight their way along the Promenade, the writer made his way home in the opposite direction.

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The following article is reprinted from "The Informer" September, 1964, published by the Green Water Aquarist Society, Illinois.

FISH OF THE MONTH by Zane Scoby

Puntius tetrazona - Tiger Barb

The Tiger Barb is considered one of the most beautiful Barbs. I do not recommend them for a community tank as they will chase and nip other fish in your aquarium. It is said, they are one of the reasons for many deaths in your community tank. It would be best to set them in their own tank, so you can enjoy their beauty.

The Tiger Barb (sometimes called the Sumatran Barb) home area is Borneo and Sumatra. Their adult size is 2½ inches, and they must have plenty of room to swim in. If you put them in close quarters, you will soon see them swimming at the top of your tank gasping for air. A twenty gallon tank is recommended for their home.

This Barb's colour pattern is vary outstanding. This is one of the reasons why they are in demand. They have four black vertical bars; one bar runs through the eye and one across the middle. The third bar is located just behind

the dorsal fin, and the fourth is at the end of the body just before the tail fin. The tail fin is coloured a deep orange and the dorsal fin is almost all black with the exception of an orange stripe on the top. Anal fin is black, and the ventral fins are a deep orange. The lower part of the body is a cream colour, and the upper part is a golden yellow. With this colour pattern, you can see why they are popular.

The feeding of your Tiger Barbs will not cause you any problems. When you get near their tank, you can almost see them jumping up to you for some tit-bits. They will eat almost anything you put into the tank, and leave very little food at the bottom of the aquarium. Of course,, when breeding time comes, feed them a good portion of live food (worms, daphnia, brine shrimp) then they will be in tip-top shape for spawning.

Here again, I will use the wide-leaf water sprite. About six plants should do the job. Plant the water sprite very close, so they will make a tight large plant. The male will drive the female into the plant leaves for spawning. For spawning, I use a twenty gallon tank.

The best temperature for spawning is about 80 degrees. The spawning act begins early in the morning with a wild chase all over the aquarium. The male will be in hot pursuit of the female. She will come to a stop, and the male will drive her into the leaves. He quivers beside her, fertilizing the eggs as she is scattering them among the leaves. They will repeat this act time after time until the spawning is over. Now is the time you must remove both parents before an egg hunt can start.

The eggs should hatch in about 48 hours. The fry are very easy to raise. Start with infusoria for about a week, then go to newly hatched brine shrimp. Once your Barbs are growing, you should watch that they are not overcrowded. You can see your new baby Tigers growing, and what appetites they have. This is where the fun really begins, when you have spawned the fish yourself.

SWISS BREEDING ESTABLISHMENT VISITED

by N. Sellers

During my short stay in Switzerland in 1962 I took the opportunity of visiting the establishment of Hr. B. Zihler, perhaps the most noted retailer and wholesaler of tropical fish in that country. The address given in the German Aquarist Monthly which I receive regularly was in the town of Zurich, about two minutes from the main railway station. After worming my way through a mass of one way streets, in

which It was almost an impossibility to find a place to park a car, I eventually arrived at my destination. Leaving my car rather perilously perched close to a deep roadside excavation, I entered a large pet shop selling everything from Parrots to dog biscuits, with one end devoted to tropical fish. The tanks were conventional and gave the effect of a built-in appearance; a pillar surrounded by tanks and a contemporary stand completed the setting. A good selection of fish was on show and the tanks were attractively set up with the usual range of plants obtainable here in England (though few *Vallisneria* were observed). Prices also appeared, in the main similar to those prevailing here.

Along with the advertisement previously mentioned was an invitation to visit their breeding establishment) and on enquiry I was informed that it was situated just outside the town and there of course I went. It was situated on a rather scattered industrial estate and consisted of a long single-span greenhouse some 75 feet long and 10 feet wide with brick walls and a single glazed roof; the roof was covered with cane matting to exclude direct sunlight. On one end of the greenhouse a building some 20 feet square was built housing the main entrance doors facing which was the work table - to the right the greenhouse, to the left the breeding section heating and aeration set-up. The tanks were again of conventional design, constructed with 1½ " galvanised, unpainted angle iron frames, mainly 3' x 18" x 18" arranged side by side in a single line on either side and supported by steel angle on brick pillars. A number of similar tanks lined either side on the floor. Several house plants added ornamentation.

Heating was by means of 2½"- pipes a few inches below the tanks, the heat of the fish house being quite considerable though probably rather more attributable to the sunlight on the roof than the interior heating arrangements. The male workers were naked to the waist, and there were apparently four employees, who were kept quite busy. Considerable aeration was used in the tanks, mostly without stones, and a 1" pipe circling the upper part of the greenhouse, fitted with small tubes at intervals, led via plastic tubes to the tanks.

Nearly all the tanks contained a 2" layer of ¼" gravel and a profusion of plant life, again mostly of the types available here and again very little *Vallisneria*. Several of the tanks were covered with duckweed, possibly as an additional shading.

The plants were of exceptional quality and size, mainly *Hygrophila*, Indian Fern, *Cabomba*, *Ambulia*, Amazon Sword and long, narrow fine leaved plants. The heavy galvanising of the tanks, which showed no signs of rust whatsoever, did not appear to have any adverse effect upon either the plants or the fish, which is I think rather contrary to what we have been taught in the past. One tank contained about a dozen 4" Discus.

Fluorescent lighting along both roof sides and close

to the glass gave lighting possibly only for working purposes. The roof members were of galvanised angle supporting 2' x 2' 6" window glass, the height of the centre ridge being about 10 feet.

Access to the breeding section was not permitted, though one could see through the entrance door. The tanks were mainly 18" x 8" x 8" all glass, the remainder being metal framed; a total of about 100 resting on two free-standing tiers of six wooden shelves. Space heating was used. The room was well shaded and the water in many of the tanks appeared brownish, probably from peat water. The spawning medium was probably artificial, and judging from one or two small tanks containing either eggs or young fry dotted about in the greenhouse itself, this consisted of bundles of fine pale green plastic threads which, being fairly pliable, more or less just splayed out and gave one an excellent view of a spawning and its development. Viewing of eggs in nylon wool is much more difficult, and this plastic material is much cleaner, readily washed, and cannot harbour unhatched eggs or young. Judging from the profusion of Harlequins in the fishhouse tanks, this species would appear to be their particular specialty. In the central workroom there were two or three tanks of sea water fish.

Tubifex was evidently used for feeding the fish, two plastic bags full being left on the doorstep from a recent delivery.

In the grounds just behind the buildings were two ponds neither of which, as I expected, contained daphnia, but large numbers of frogs and coldwater plants, chiefly water lilies.

WORLD OF THE AQUARIST

I have been admiring two of the newer tropical introductions, the Emperor Tetra (*Nematobrycon palmeri*) and the Black Neon (*Hyphessobrycon herbertaxelrodi*). The Emperor Tetras I saw were in magnificent condition and most colourful. Their size is almost 2 inches and they are native to Colombia; the male is easily identified by his 3-pronged tail. The fish is reputed to be not too difficult to spawn - they have been bred here in Essex although no details are to hand. - and probably require clean, soft, slightly acid water, temperature between 72 and 80 degrees, and either fine leaved plants or nylon mops for the spawning. The fry require infusoria, euglena and the like in the early stages until they can accept brine shrimp. I have a fancy that full sized adults are perhaps best kept with other fishes of their own size and they should have a fair proportion of live food if possible.

They are strong, hardy fish.

The "Black Neon" is smaller than the Emperor and its general behaviour is similar to the Neon Tetra. Discovered in 1961, I have not yet heard of its being "bred by aquarists and it is 'overdue' as a breeders entry in one of our open shows. It is bred to some degree commercially. *Hyphessobrycon peruvianus* (not so attractive) is sometimes confused with the real Black Neon, but the distinctive characteristic of the latter is the white line running along and above the horizontal black stripe.

One of the difficulties in particular in breeding some of the 'difficult' fishes is fungus attacking these rather precious eggs - sometimes contained in less than a gallon of water. Non living organic matter in water (such as infertile eggs) is almost immediately attacked by micro organisms present and "fungus" is such an organism, and a virulent one. Fertile fish eggs contain concentrated foods and although provided with some protection by nature, are susceptible to attack- Egg fungus under the microscope shows cotton-like filaments radiating from the egg. At the ends of some of those filaments are spores for reproduction, which itself can occur within 24 hours. In an article in America by Ken Wolf, a bacteriologist, it was said that in the case of the spawn of fresh water fish, flushing the eggs for a period with Malachite Green proved helpful in checking egg fungus.

Malachite green is to be avoided where our fish are concerned but at a suitable diluted strength could it be more successful in bringing through Neon eggs than Methylene Blue? Careful experiment might be worth while.

L. E. W.

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CORRESPONDENCE COLUMN

by Clive Bennett

This column will contain items of information and interest, taken from pen pals letters, other club magazines and journals from abroad. Our club is now swapping several bulletins, and they all contain useful hints and articles

As you may know the Americans are having quite a lot of success with some fish and the hobby over there is really big, even with advertisements on T.V. for fish foods, etc

The fish prices in the U.S.A. seem to be mostly very high though, e.g. for good Guppies such as Kartung's from New York prices are around \$9 to \$20 per pair or trio - say about £3 to £7 (top Guppies in this country can be expensive too - Ed)

On the whole/ the Americans prefer the German dry food (Tetramin and the like; it seems they've got us beat there.

Warning! be careful who you give the job of feeding your fish to when next on holiday. I have so far had two tales of woe from pen pals who have had three or more people all feeding the fish. One, a young lady aquarist from Nashua lost all her fish.

One of my pals, Guy Jordan, has kept over 40 species of cichlids - a man after my own heart. His latest introduction is a *Polypterus*, whatever that is. One very interesting and knowledgeable pal is Janes W. Stutsman. He tried all summer to spawn *Tilapias* in a pool but without success. Then he put them in a tank and, well, you can guess the rest - he's now waiting to see if they hatch out. At present he has cleared nearly all his many tanks to put wild and semi-fancy guppies in, the idea being to try out experiments to determine the effect of chemical pesticides. His imagination was fired by the book "Silent Spring" by the late biologist Miss Rachel Carson. The results of his experiments will be published later in this column. It seems that aquarists can play an important part in modern Science, too.

Some of the exchange bulletins which the Club receives are "The Informer" (Zane Scoby's article on Tiger Barbs has been reprinted in this issue), the Northeastern Indiana Aquarium Society News Bulletin, "Aqua-Chat" from Newcastle Aquarium Society of Australia, and, from nearer home, the Rugby and District Aquarist Society News Letter, the Federation of Scottish Aquarist Societies News Letter and the Romford and Becontree Aquarists' Society News-Letter.

If any other member has an interesting item gleaned from any correspondence we will be only too pleased to incorporate it in this column, so please send it to me or the Editor

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BREEDING THE GLOWLIGHT TETRA

by D. M. Cheswright

The Glowlight Tetra (*Hemigrammus gracilis*) is of a similar shape to the Neon Tetra, and just a shade larger. In colour it has a silvery-grey background with a red stripe running the length of the body. The finnage is also tinged with red and shows white edges. The Glowlight is an ideal community fish and is quite happy in a temperature range from 70 to 85 deg. F. although in my experience it is best kept below 80 deg.

Breeding presents some difficulties but is not such a problem as with Neons and certain other characins. I have used 10" x 8" x 8" all-glass tanks, half-filled with soft water (approximately 10 parts per million hardness) and a pH neutral or slightly alkaline. As with more difficult

is available and I find that they are not then affected by the hardness of the water.

The temperature throughout spawning and rearing varied between 72 and 80 deg. F. The parent fishes are fed on a variety of foods and will spawn readily every 8 to 10 days. I have not bothered to separate the pair between spawning and find that some 50 eggs are laid at each spawning, this number being quite sufficient to raise in the space available.

To sum up, the requirements for breeding this species are:-

1. A clean tank, spawning media and net.
2. Reasonably soft water.
3. Temperature 72 to 80 deg. F.
4. Do not overfeed the fry and so pollute the tank.
5. Keep the tank covered until the fry are free-swimming and then uncover it gradually over the next week.

LONDON ZOO VISIT - THE REPTILE HOUSE

by C. Bennett

Almost opposite the entrance to the Aquarium at the Zoo is the Reptile House, It consists of a roughly circular passage with different sized vivaria on both sides. At the far end there is a rise of a few steps to a section of caymans, alligators and crocodiles. Also in one corner near the entrance there is a small section of amphibians and a fine life-sized "statue" in bronze of a crocodile.

The vivaria range in size from some no larger than two foot tank to some approaching the size of our club hall.

They of course vary in size according to the size of the inhabitants, and these range from the two inch viviparous lizard common to England to the huge pythons some twenty or more feet long..

Of the alligators and crocs, the most interesting specimens to my mind were the long-nosed species, but by far the most active were the caymans with their huge jaws gaping and their powerful tails lashing the water. The most amusing exhibits were two chameleons, their tiny bony legs in front of them as they slowly climbed branches, as they slowly climbed branches., crossing gaps wider than themselves!. Another fascinating sight was a huge Reticulated Python moving along a branch only half its diameter. It managed this by a sinuous side to side movement coiling some small loops of its body on one side of the branch and more on the other. For colour the American corn snake with his deep red and black markings took some beating. The green Mambas and Boomslangs were also startlingly brilliant, and a few fat Puff Adders added an air of symmetry to the place.

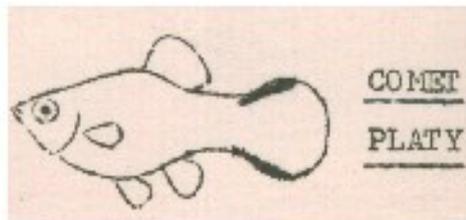
In many of the vivaria there was nothing to be seen in the tangle of natural plant growth; in others, there was a languid bunch of ten or so snakes just lying together right at the front.

Club members may possibly have seen the first week of "Thorndyke" on B.B.C. T.V.; the zoo certainly has become much better than then.

COMETS AND SPANGLES

by J. H. Preston

During recent months, two Platy varieties have invaded aquarists' shops in south-east England in noticeable numbers. At least, those I have seen fall into two distinct categories but I strongly suspect that they have a common origin. These Platies are currently known as Victory or Comet-tail Platies. They are not new "types, rather they are re-introductions of Platies that have been around for years.



One strain has a yellow body colour, the black 'V' marking, and an orange dorsal fin in most specimens. I would call them Golden Comets with red dorsal fins. These fishes would probably breed 100% true to type.

The second variety is similar, but the basic body colour is orange, and the fish also carries more or less black spangling, chiefly on the rear half of the body and on the caudal and dorsal fins. Various intermediate types also occur. This orange type is interesting because the Federation of British Aquatic Societies (which presumably is still the authority on these matters as far as our Club is concerned) in its recently revised show standards, describes a Spangled Platy with "ground colour of the body orange, regularly covered with scintillating black spots.. Certainly very similar. The Spangled Platy is surely worthy of some serious attention from breeders; it would certainly make a change from the rather ubiquitous Reds and Wagtails.

The F.B.A.S. still has its standard for the Yellow Platy ("entire body an even chrome-yellow, this colour spreading as far as possible into the fins") but I don't think this variety is ever bred deliberately, or likely to be, in the face of competition from more gaudy types.

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**THE SOUTHEND, LEIGH AND DISTRICT AQUARIST SOCIETY
QUARTERLY MAGAZINE**

No 8 January 1965

The Society meets at 8.00 p.m. on the first and third Tuesday in each month
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We are happy to exchange publications with any other Society here or overseas

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The views expressed herein are not necessarily those of the Society or the Editor

PRESIDENT'S LETTER.

Dear Readers,

I will take this opportunity and wish all of you a happy and prosperous New Year. I would also like to thank the Club for putting up with me in the chair for the past year, and I hope that you can tolerate me in the coming one..

I think that this year will be quite a good one as far as Club activities are concerned. Already a three-way inter-club table show has been arranged;, and outings to Whitwells of Colchester and the Zoo again have been suggested. If any Club member has any other ideas please let me kiiow.

The fish breeding side also looks good. Mr. Dave Perrott of Rochford has already had Emperor Tets off as well as two typos of Catfish c I have a sneaking suspicion that when lie went on that visit to Holland he picked their brains a bit, but jolly good luck Dave..

Before I close I must tell you of something I saw, which J; thought was not possible; in fact if I had not actually seen it I would have thought it one of those fishy stories.. Dave Perrott brought me round a pair of his home-bred Neons, and I took the plastic bag they were in and floated it in one of my tanks. After the fish had been there for about 15 - 20minutes I went to let then out - but what I saw pulled me up dead in my tracks. There they were busy spawning!. We both stood and watched them -they might have waited until I had them in their own tank. In all fairness I must say that the water in that bag was special soft water that they had been kept in.

Thats all for now.

Yours truly,

A. J. Mason

(President)

Here are a couple of verses discovered while looking through copies of old S.L.A.D.A.S monthly Journal for 1953:-

First a belated Christmas carol :-

Unholy community

by M.C.Mash

While suckers watched their Tets by night,
A' spawning down below,
An Angel of the hoard came down,
The dirty so-and-so.

"Fear not " said he "Dear Neon test,
I'll fan back to and fro",
But cunningly he double-turnod,
And syphoned up the roe.

A Lament

by G.G.G. Willis

Two Tiger Barbs I have placed ,
For spawning in ny aquarium;;
One .faces north, the other south,
Needless to say I swear`atuni

CLUB NOTES AND NEWS

Meeting Tuesday October 20th The bring and buy sale previously arranged for the previous meeting was held, but although there was a good attendance of 31 members there were only 16 tots for sale. Under the high-pressure salesmanship of the President these were disposed of in 35 minutes and raised '49/- for Club fund . A great deal of time was devoted to discussing the forthcoming show at St. Clements Hall and. it did seen later that we were nearing some ki|nd of definite plan regarding entries and the layout of the show.

Following the interval for refreshments, there was the raffle draw for two Red-finned Sharks;, won by Hr. K. Eagland

The table show was for **A.O.V.** and results were:-

- ,1.-Mystus Catfish.....Mr R. Brown (78 points)
 - 2..Mystus Catfish.Mr B. Martin (76 points)
 - 3.-UnidentifiedCorydoras (?) Cat,..Mr. B. Dunii (75 points)
- Niimber of entries - 13 Judge - Mr. J. Wylie.

The meeting was declared closed at 10.30 p.m

Meeting Tuesday November 3rd Tropical marine fishkeeping does not appear to have advanced far in this country as yet, at as far as the ordinary aquarist is concerned. However, a good supply of slides is available as was proved by the excellent show put on at the meeting by Michael Willis. A good deal of information also came from Norman Sellers, who told us that the Germans are by now relatively expert in this branch of the hobby. A few points for anyone interested in marine fish were that aquarium sealers, especially those containing bituminous compounds should be avoided as they are highly toxic to the fish. Filtration was required in the marine aquarium but not aeration as this injured the mucus covering of the fish. It is important to avoid contact of salt water and metal so the conventional metal framed tanks were of little use.

Because of various unforeseen difficulties it was not possible to make any tea, and there was no raffle either. The remainder of the evening was given over to finalising arrangements for the imminent show.

24 members had attended, and the meeting finished at 10.20 pm.

Show at St Clements Hall, Leigh, November 6th & 7th

After all the talk and argument through earlier months of the year, this show was something of an anticlimax as regards size and content. What was finally achieved was a display of 25 tanks containing about 44 varieties of fish and organised into 3 more or less competitive classes.

But this was far better than having no show at all, it appears that there will be more support for a more ambitious show in 1965. The experience we gained in setting up this display should prove useful, for although one inevitably has some disorder when staging these shows, the condition of St Clements Hall on the evening before the show had to be seen to be believed. There was so much water about that Johnny Mason called out the Southend lifeboat.

By Friday afternoon things were remarkably well organised ready for the opening, but the real crowds never can except for 2 or 3 hours on the Saturday afternoon. It was interesting to meet several of our former members again, including George Hedger, Mr Arnold and Mrs Jagged of Thorpe Bay.

Thanks are due to all those who helped, especially to Dave Booth for assistance in moving the stands, Colin Ward for donating the raffish prize, Mr. and Mrs Giles for their help on the Thursday evening and for judging, Brian Martin for selling an incredible number of tickets, and Mr. and Mrs. Dolby for the refreshments,

As already stated, we divided the entries into 3 classes quite in the conventional way, but the primary aim was to make each tank look as attractive as possible to the visiting public, therefore all tanks contained plants and in most cases 6 or more fish.

For results see the next page-

Class 1 - Furnished Aquaria, 24" x 12" x 12'

1. Mr. J. H. Preston.....77 points
 2. Mr. D. M. Cheswright.....72 points
 3. Mr. H. C. Holmes.....66 points
- Number of entries ..4

Class 2 - Specimen Fish (Shoal of one variety)

1. Mr. A. J. Mason.... (Tiger Barbs),..... (85 points)
2. Mr. B, Mart in. •.... (Siamese Fighters).. (83 points)
3. Mr. J. H. Preston., .(Fancy Guppies).....(82 points)
4. Mr. B. Martin.....(Scats).....(80 points)

Class 3 - Display of Fish (mixed species)

1. Mr. M.J. Willis.....75 points
2. Mr. C. Bennett.....70 points
3. Mr B. Clements.....68 points
4. Mr R. Brown.....62 points

Judge (all classes) - Mr, H. A. Giles.

Annual Dinner and Dance, Saturday November 14th. This event was held at the Road House , Leigh-on-Sea, and. Was largely organised by Michael Willis. It was disappointing in that less than 30 members and friends turned up , but those who did go certainly enjoyed themselves and I should think it is fairly certain that there will be a repeat this year.

Meeting, Tuesday November 17th ; Only 20 members attended, despite the attraction of the breeders table show, which almost invariably produces something interesting. I will reverse the usual order and give the results of this show first:-

Egg layers:

- 1..Neon Tetras,12/2/64.....Mr B. Dunn.....(86 points)
 - 2.. Glowlight tetras 27/8./64.....Mr D. Cheswright (84 points)
 - 3...Tiger Barbs 7/3/64.....Mr A. J. Mason (83 points)
 - 4...Aphy` vexellifer 12/8/64.....Mr B. Dunn.....(81 points)
- No. of entries - 6 Judge -Mr J. Wylie

Livebearers

- 1..Yellow Gold Platies 21/8/64.....Mr J. H. Preston.....(82 points)..
- 2...Yellow Wag` platies7/7/64...../Mr P. F. Capon.....(81 points).
- 3.-.Festival Platies 23/8/64.....Mr J. H. Preston.....(80 points)
- 4...Berlin Swords 6/9/64.....Mr V.C. Pickett.....(77 points)

Meanwhile, after various opening announcements, members had been discussing fishy diseases, and their cures where known. Dropsy was one disease for which S.L.A.D.A.S. Members did not know a cure; however, it was not thought to be

contagious and it was comparatively rare. One member suggested that tubifex worms might be a cause of dropsy - this may be true, but tubifex worms seem to have been blamed for many of our aquarium ills at one time or another. Neon Disease has not had much publicity lately, but apparently it is still there as strong as ever. Johnny Mason told how he had cured an outbreak of finrot on some young Rams by running a box filter at full speed - all signs of trouble disappeared after one week. White spot had not troubled members much lately salt was recommended for rapid elimination but because of its adverse effect on plants an additional tank was required., (Table salt should be avoided because of various other chemicals added to it). Mercurochrome was recommended only as last resort as it often caused more trouble than it cured (this is contrary to my only experience with it, some 8 years ago, when it apparently induced a spawning in Chaperi panchax.

In the raffle, Mr. B. Dunn won 2 Dwarf Gouramies. Colin Ward donated a number of fish to the Club, and these were auctioned for Club funds.

Meeting, Tuesday December 1st 28 members attended the penultimate meeting of 1964. Dave Cheswright and Michael Willis gave a report on the Hendon Convention (held on the previous Saturday) where the speaker had been Herr Dieter Vogt editor of the German publication D.A.T.Z. Some of the new German aquarium equipment was described, and also some of Herr Dieter Vogt's interesting fishkeeping experiences. Those included a 'guaranteed' method of inducing spawning a period of starvation followed by feeding with mosquito larvae, a method of growing beautiful Cryptocorynes out of the water, and an account of how some tropicals had withstood a temperature near 46 deg. F (and even Neons had been down to 54 deg.).

There was the usual break for tea.

Raffle prizes of 3 Australian Rainbows were won by Tom King and Barry Clements.

The Giant Danios for the fry rearing competition we judged, and Stan Forster's team was the best, winning for their owner the prize of 10/~.

The results of the table show were announced:-

BEST FISH OF THE YEAR TABLE SHOW

Livebearers:-

- 1.- Red Wagtail Platy.....Mr. M. J. Willis.. ... (75 points)
- 2.- Green Lyre-tail Molly..... Mr, R. Brown..... (73 points)
- 3.- Moon Platy.....Mr. J. H. Preston.....(72 points)
- 4.- Male Guppy.....Miss R. Bowrian. ... (71 points)

No. of entries - 9 Judge - Mr. J. Wylie.

Egglayers;

- 1.- Zebra Barb.....Mr. G. Pryor.....(78 points)
- 2.- Scissortail Mr. C. Ward..... (76 points):
- 3»- Red Siamse Fighter.....Mr. B. Clements....(75points)
- 4.- Lace Gouroni.....Mr. B. Brown,.... (74 points):

No. of entries - 14 Judge - Mr. J Wylie

Gordon Pryor's Zebra Barb was the **Best Fish of the Year**,

Annual General Meeting, December 15th; 26 members turned up, a figure that would have seemed impossible 2 or 3 years earlier. The success of 1964 was also reflected in the reports from the Secretary and Treasurer.

The following trophies were awarded:-

Southchurch Cup (highest aggregate points in table shows) to Mr. R. Brown. See also page 11.

Brooks Shield (best furnished aquarium) to Mr. J. H. Preston

Brooks II Shield (runner-up, furnished aquaria) to Mr. D. M Cheswright.

Jones Coldwater Cup to Mr. D. M- Cheswright.

Saunders Cup (runner-up, coldwater fish) to Mrs. P. C.. Swan

Abbot Cup (highest aggregate points in Annual Show) to Mr. B. Martin.

Barnes-Oak Cup (winner of Breeders egglayers class) to Mr. B. Dunn.

Coronation Cup (winner of Breeders liveboarers class) to Mr. J. H. Preston.

Jones Cup (for best tropical fish of the year) to Mr. G. Pryor

DuBoisson Cup (for best Black Widow) to Mr, B. Dunn for the best Characin

The Julia Giles Award for Meritorious Breeding Achievement was not awarded for 1964.

The Home Furnished Aquaria competition for the **Giles Cup** is still in progress at the time of going to press.

There was the usual break for refreshments. Michael Willis had donated the raffle prizes, 4 yellow Wagtail Platies were won by Mr. E. Swan and 4 Red Wags. were won by Howard Preston.

Several minor changes were proposed to the **Society's Rules** and there was prolonged discussion on these; as a result, any 2 members of the same family who join the Society will now pay an Annual Subscription of 10/6d, and there were minor- changes made to the constitution of the Executive Committee.

Election of 1965 Committee; This was almost the final item to be dealt with; see page one for details. Mr. Ron Brown was appointed as Honorary Auditor.

Meeting Tuesdays January 5th An attendance of 25 was a most encouraging start to the New Year. For the auction sale there were 38 lots - but the bidding was somewhat reluctant, at least at first. The sale was punctuated by an interval of 20 minutes for tea.

Two aquarium thermometers were raffled 9 and Dave Perrot (nice to see you again, Dave) won both of them

AQUARIUM PLANTS - TYPES AND USES

by Evelyn Cohen

(Reprinted from 'Tropic Tank Talk', the official publication of the Greater Detroit Aquarium Society, Nov., 1964)

I. Introduction.

At the present time, over 100 species of aquarium plants are widely grown and marketed for the American fish hobbyist. Many of those are native to the southern United States while others have come from distant parts of the world. Some have grown for a long time and are commonly named, such as water milfoil and duckweed. Others are of such recent importation that they can only be correctly identified by their scientific names. The many kinds of *Cryptocoryne* are examples of plants which do not have common English names. They come from India and southeastern Asia. Wherever possible, both the common name and scientific name will be given.

With so many kinds of plants to choose from, the beginning hobbyist often finds himself wondering how to make selections, especially at prices he can afford. There are bare places in the fish tank. What will best fill the space? Is the object to provide a place of beauty in the show tank? Or is it to find a place in which the young fish can hide, away from the mouths of eager parents. Will the plants that look so well in the dealer's tanks succeed under artificial light?

11. Some general hints are in order here.

A. The dollar sign (\$) should not be the last word in determining what plants you purchase. Let your requirements (spawning medium, show plants) be your guide. A "good buy" for twenty cents may be quite a bust if what you needed was a rooted plant for a dark corner. On the other hand, this bunch might be quite satisfactory if what was needed was a spawning medium in a temporarily set up tank. Most of the types of bunch plants sold need plenty of light or they fall apart and rot. Fifty cents may seem like a lot of money for a single rooted plant but if it is successful it will propagate in your tank. Even if you have two dollars to spend for one plant, it will be wasted if you cannot give the plant its requirements. Some plants are high priced because they are scarce or difficult to grow, or both. **FIGURE OUT YOUR NEEDS, ASK QUESTIONS, BUY WISELY.**

B- BUY QUALITY PLANTS. Colour should be good, stems firm, and rooted types should be well rooted. Young plants are best. They cost less, and are easier to transplant. Plants with any brown or otherwise discoloured leaves should be avoided. Notice how deeply the roots of plants are inserted.

in the gravel of your dealer's tanks. Some plants object strongly to being buried by the well-meaning amateur and show this by calling it quits.

C. Inspect your purchase carefully when you arrive home. Unless you want to be the owner of hundreds of snails in a short time and have chewed up plants it would be wise to disinfect your plants. Alum, which can be bought for a few cents from the chemist, will rid you of the snails, leeches or other unwanted pests. One tablespoon per gallon is about right. Soak for not more than an hour and rinse in fresh water. You must also look for, and pick off, snail egg cases because the alum does not affect them in this stage. Remove all discoloured leaves and carefully check the crown of the roots for signs of rot or attached pests.

Some fanciers "quarantine" their plants in a spare jar or tank for about a week or two before admitting them to the aquarium. The old cliché about an ounce of prevention, etc., may save you considerable time and money later.

D. No soil, please. Aquatic plants grow well in home aquariums where the fertilizer consists of the natural sediments and wastes from the fish. This is the best liquid fertilizer. Ordinary coarse gravel plus a supply of fish is all that is necessary. When you clean your tanks, use the water siphoned out to feed your potted house plants. Even they will improve.

III. Classification.

Most plants sold fall into one of three categories; bunch, floating, or rooted.

A. Bunch - sold without roots, cuttings, will usually grow roots if planted in gravel. Remove fastener and separate each stem, inserting in gravel. Most need strong light or they discolour, rot and fall apart, spoiling the appearance of the aquarium. Usually they fall into the lowest price range.

B. Floating - not planted, normally float in or on the water.

C. Rooted - sold with roots and require individual planting. Prices vary according to scarcity season and locality.

IV. Kinds of Plants.

A. Commonly sold bunched.

1 Elodea (*Anacharis gigantea*), long branching stems which will root; leaves close together, narrow, tightly whorled. Native to most of the U.S., rapid grower, needs a lot of light, will float and conceal babies; very inexpensive.

Elodea (continued)

Don't buy if the leaves are not all bright green. Several varieties are available including a more delicate one called the star anacharis.

2 Fanwort (*Cabomba caroliniana*); fan shaped light green leaves, brittle; attractive, needs strong light. Fish may chew it to pieces and rotting ends make a mess. Very inexpensive and widely used for spawning egg layers

3- Water Milfoil (*Myriophyllum spicatum*); fine, lacy leaves; whole plant gives the appearance of being very delicate which it is not. Cuttings will root and when the stems look stringy, uproot and trim, replanting the growing ends. Often found in ponds and streams in the northern states of the U.S. but danger of importing fish enemies makes collecting hazardous. Buy tank raised stock which is not expensive. Needs a good deal of light to grow properly.

4 Ambulia (*Limnophila* species); similar in appearance and habits to fanwort although more durable than fanwort.

5. Palm Plant (?); Slender stemmed plant with tufts of leaves resembling a palm frond. Each frond will root and branch. Fairly new to the market. Habits not known to the writer,

6. Willow Moss (*Fontinalis gracilis*); very fine needle leaved bog plant which will grow submerged attached to rocks or in a terrarium. Ideal spawning grass for all egg scatterers. Mossy looking.

TO BE CONTINUED.

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GOLDEN HOPES

by J. H. Preston

After my remarks about the Yellow Platy in the October issue I never expected to be proved wrong so soon, but entry number 8 in the December 1st table show was – yes, you've guessed it - a Yellow Platy, belonging to our member Brian Dunn. Brian tells me he has a number of these Gold Platies. as they are also known, and although this specimen was unplaced, I could see little wrong with it. It could not be faulted on colour and was a good size. Look out. for more of these Platies on the Show-bench.

A recent contributor to "Aqua Chat" (Australia) laments the current dearth of the once-popular orange-tailed Green Swordtail, and it seems that this type has disappeared in Britain also.. Has any reader come across this variety lately ?

S.L.A.D.A.S. TABLE SHOW CHAMPIONSHIP, 1964

Position	Name	Prize cards				Points Awarded
		1 st	2 nd	3 rd	4 th	
1.	R. Brown	4	2	0	2	24
2.	B. Martin	3	3	1	0	23
3.	B. Dunn	2	1	2	3	18
4.	A. J. Mason	1	1	3	2	15
5.	M. J. Willis	2	1	1	0	13
6.	G Pry or	0	0	0	12	
7.	J. H. Preston	2	0	2	0	12
8.	D. G. Perrott	1	1	2	0	11
9.	D. Flappert	1	1	1	1	10
10	D. M. Cheswright	1	1	0	2	9
11	G. F. T. King	0	1	1	0	5
12	D. Groves	1	0	0	0	4
13	A. Saunders	1	0	0	0	4
14	R. F. Dersley	0	1	0	1	4
15	B. Clements	0	0	2	0	4
16	P, Mason	0	0	2	0	4
17	P. F. Capon	0	1	0	0	3
18	Mrs. P. C. Swan	0	1	0	0	3
19	C. Ward	0	1	0	0	3
20	J. Wylie	0	1	0	0	3
21	C. Bennett	0	0	1	0	2
22	B. Bonner	0	0	1	0	2
23	E. Swan	0	0	1	0	2
24	V. C. Pickett	0	0	0	2	2
25	Miss R. Bowman	0	0	0	1	1
26	R. Machin	0	0	0	1	1

JUNIOR COMPETITION

1.	Harvey Holmes	1	1	2	0	11
2.	John Pater son	1	1	0	0	7
3.	Martin Wilson	0	1	0	2	5
4.	David Groves	1	0	0	0	4
5.	Peter Mason	1	0	0	0	4

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WATCH THAT HARDNESS

by B. Dunn

Just recently I have had trouble in two tanks due to water hardness. The first case was my 48" x 18" x 18" cichlid tank. The story goes back to June 1963 when I found some lovely flat rocks on the south Devon coast - just right, I

thought, for the cichlid tank I was going to set up. So I put as many as possible of these rocks under the driving seat of my car (that was the only spare luggage space we had and brought then home. It was a couple of months before I did anything with them, then I thoroughly cleaned them and placed 3 in the 4-foot tank. About another month later everything was still all right so I put another 12 rocks in the tank.

There was no sign of trouble until January 1964 when a pair of Firemouths gave up. Then over the next 6 months another five fish turned over. About this time I attempted to spawn my Kribensis in a 24" x 12" x 12" tank using about 12 – 16 of these rocks. Needless to say they were both dead inside a fortnight, and I thought it was just hard luck. Still I did not see the folly of the rocks.

By now I was not happy with the four-foot tank, and I changed most of the water and introduced some new fish (Tin-foil Barbs, *Anostonus*, etc.). The plants did not grow but I put this down to insufficient light and bad treatment from my fish. Therefore I installed a four-foot fluorescent light but this only promoted our old friend algae. I also thought it strange that none of the fish were attempting to spawn. After another couple of months there were more dead fish. In September I cleaned out the tank gravel and rocks and set it up again after my beautiful Tin-foils turned over. By November 3rd the fish population of this tank was again decreasing. So in a moment of wonderful inspiration I sampled the water and did hardness tests on it. I found that in only 6 weeks the hardness had jumped from 140 p.p.m. to 450 p.p.m. So once again I had to get to work with the siphon, and my small boy now has two large flat stones to play with in the sand at the bottom of the garden

Now let us return to the other tanks this was an entirely different story, a 24" x 12" x 12" without any cover glass on the bottom tier of the stand in the fish-house. The tank was directly above the thermotube heat and the evaporation losses on this tank were extremely high. Yes, you have guessed what is coming. I kept on topping the tank up with ordinary tap water, and every time I did that up went the hardness and again the fish began to turn over. Since changing the water everything appears happy again.

So don't forget - WATCH that hardness.

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THE DuBOISSON CUP A REMINDER

Members are reminded that the above trophy is awarded annually for the best Black Widow shown during the year. But where have all the Widows gone? We have had to award it for the best characin instead. So let's be seeing your Black Widows, in large numbers. In 1965 in the characin table show and also in our Annual Show.

BREEDING *Hyphessobrycon rosaceus*

by B. Dunn

I had a lovely "big female Rosy Tetra and she was about 2½ years old. To me she looked as though she was longing for a mate. At the next club meeting I discovered Jim Wylie had several large males and I therefore gained a pair. I had been told that Rosaceus need a fairly large tank, so I cleaned out my 18" x 10" x 10 ", using potassium permanganate for a day.

Then, using rainwater, distilled water, sodium phosphate and peat I finally arrived at a water condition that I thought my fish would like. The only trouble was they didn't think much of my thought. So I watered the flowers. And started again. This time I used refrigerator water, tap water (boiled) and distilled water. Now my fish approved. In fact they approved so much that they spawned on the coconut fibre on the third day. I was delighted with the thoughts of all those lovely little rosy tets but I was filled with dismay the following day when I could count all those white fluffy eggs,, What went wrong ? I asked; quite often the way with first spawnings came the reply.

So again I set out to spawn my Rosy Tetras (as least, mine and Jim's). It was a month before I considered that the rosaceus were fully conditioned. When the tank was set up they had been separated for a fortnight. I was on night-shift- just right, I thought, and so it was until I got home and found my lovely -female, hanging upside down in the tank. If ornly I had put them together the night before, I thought as I touched the side of my female and watched her eggs ooze forth.

I was lucky enough to be able to go out and buy some more rosaceus. But that was over two years ago, and now after last year's success with Neons I am going to have another go with these beauties.

SCIENTIFIC LITERATURE AND THE AQUARIST

Scientific magazines are a fruitful source of information for the aquarist, I hope to present a review of this literature, bringing to your attention articles and reports that are of interest in this and the following issue

In the New Scientist Volume 24. Number 414 9 Dr Torben Wolf

has an excellent article entitled "Life in the Oceans Six Miles Down"; the following is a synopsis of this article.

Just over a hundred years ago the famous oceanographer and biologist Edward Fortes stated that it was impossible for life to exist 550 metres down in the sea, The British "Challenger" expedition (1872-76) however proved the existence of marine life down to about 5000 meters. There have been other expeditions before and after the "Challenger", but not until the end of World War II did the secrets of the deep sea trenches begin to be revealed.

Whilst the highest mountain summits in the Himalayas are only 8850 metres there are twenty ocean trenches having greater depths than 7000 metres and five exceed 10,000 metres.

In order to dredge the trenches specially fitted vessels are needed with complicated echo-sounders and winches holding at least 12,000 metres (7½ miles) of steel cables. Such a vessel was the Danish "Galathea" which investigated five trenches in a voyage in 1950-52. The Russian ship "Vityaz" has continued the work since 1953 and is at present the only vessel equipped for continuous biological sampling. American researchers have taken photographs of the trench bottom, and in 1960 "Trieste" the bathyscaphe. made a remarkable dive to 10,915 metres.

The trenches only occupy 1% of ocean area compared 83% for the abysmal depths. The bottoms of the trenches are of a soft ooze similar to that found in the abysmal depths there is no trace of light, and temperatures vary between 1.2 and 3.6 deg C. Sufficient dissolved oxygen has been found everywhere to support life and the salinity remains constant right to the bottom. The real difference with the abysmal depths is one of pressure, which is about six tons to the square inch in the trenches.

All the food in the ocean originates from the surface the only place where plant plankton or phytoplankton can be produced. Only a small proportion of this phytoplankton together with animal remains ever reaches the bottom, most of it being devoured close to the surface.. However chitinous coats of moulting Crustacea, excrement of fishes and remains of land plants do reach the bottom in astonishing amount. These materials can be used by bacteria which are fed on in turn by bottom dwelling protozoa and so on up the scale

Representatives of the major groups of invertebrates can survive at these colossal depths. One hundred and fifty five species of trench species have been named so far of which ninety eight are endemic to this zone. Most, however are members of genera known at lesser depths.

Among the predominant groups are those known as actinians, bristle worms, amphipods, isopods, gasteropods, lamllibranchs, sea-cumbers and sea anemones. The decapod crustaceans (crabs, lobsters and prawns, etc.) are the only major group of creatures that have never been encountered at those depths. Only three species of fish are mentioned and nothing appears to be known of their habits.

All trench creatures are greyish or whitish and probably always completely blind. Many crustaceans are also extremely long legged, presumably an adaptation for walking on the soft muds.

Many species of crustacean are extremely large compared with relatives in shallower waters ,presumably the tremendous pressure plays a part in increasing the metabolic rates, retarding aexual maturity, or increasing longevity. The three species of fish however only grow to a couple of inches or so..

So now Neons, Cardinals and Discus are old hat yon cannot call yourself an experienced aquarist until you have bred *Carcproctus amblystomopsis* (a fish from 6150 -7\$90 netres in the North West Pacific).

King Crabs can see in Ultra Violet Light

In the proceedings of the National Academy of Sciences, Volume 50, Number 6, Wald and Krainin describe their experients into the ability of the King Crab to see in ultra-violet light. They found that the crabs median eye is far more sensitive to ultra violet than visible light: this would have advantages as U.V. light penetrates to greater depths in water than visible light.

Cave Fishes

Poulson in American Midland Naturalist Volumo 70, describes his studies on Cave fishes. He suggests that cave fishes have evolved from nocturnal fishes which have small eyes and have their sensory organs sufficiently developed to allow then to feed and find their way in the dark. In cave fishes the sense of smell, distant touch (i.e. through the lateral line), and balance become more pronounced and the portions of their brains concerned with these senses become more developed than in the non-cave dwelling species. The cave-fishes appear to be able to sense objects and food by a form of "Sonar" similar to that found in bats.. Cave fishes tend to have longer fins so that they are able to move further through the water at each thrust, by means of a gliding action and so make less noise which might interfere with their distant touch sense. Cave fishes also have a better memory which enables them to avoid static obstacles.

"Heterohabcliis"

**Ticket or leave it
(with thoughts of raffles)**

(Reprinted from the Federation of Scottish Aquarist Societies Newsletter, No 20).

Old "Bob", a member ber of Alloa A.8.S was always good for a `tap` from the ticket seller. He bought tickets galore in every raffle run by the Club, the Inter-Club Group, or the Federation, yet never once had he ever won even a packet of fish food. Yet he always bought a handful of raffle tickets at every meeting or function of the Club. Tony Watt and Big Geordie decided to do something about this - so a quick whip round among the boys, and a bottle of whisky was purchased.

Steve Naismith went up to old Bob and sold him ticket No. 7, This information was duly passed on to the conspirators. Later on Rob Kolso's "Split New Bunnet" was crammed with tickets all number 7, and old Bob asked to put his hand in and draw the raffle himself.

Beaming with pride at the honour, he dug deep into the cap, rummaged around and withdrew a ticket. His face fell as he read it. "Just my bloomin' luck ~ Six and Seven-eighths !"

"The Big Yin"

The Australian Rainbow Fish (*Melanotaenia maccullochi*)

'by D. M. Cheswright

This fish, which is also known as the Dwarf Rainbow or Black-lined Rainbow, originates from Northern Australia. It grows to a length of some 4 inches and when adult it is extremely colourful, for although the basic body colour is grey this variety shows a wide range of colouring especially when in good breeding condition. There are several stripes, brown in colour, along the length of it's body, especially the belly, will show a yellowish to reddish sheen, whilst the back of the fish appears dark brown, and the fins a slight red with green at their bases. The body has a general gleaming appearance and greens and blues can be spotted if the light is right.

This species likes as big a tank as possible as it is very active and fast-moving, and a tank 18" x 10" x 10" should be regarded as a minimum to ensure good and healthy growth.

The Australian Rainbow is a very good community fish.

The sex of each fish is determined by the depth of the

chest rather than by the fatness of the body; the female is far deeper In the chest than is the male and when trying to sex then it is easier if they are of a near enough identical size.

For breeding an 18" x 10" x 10" or 24" x12" x 12" tank is the best although they can be spawned in a slightly smaller size. No special water conditions are required and the temperature should be 73 - 78 deg. F. (23 - 26 C,) The water should be around 5 inches deep and plants or nylon mops should be placed in the tank for receipt of the eggs, which are adhesive.

The Australian Rainbow is quite easy to spawn, the eggs being laid over a period of days and being easily visible attached to the spawning media. They are quite dark in colour It is said that the parents will not eat eggs or fry but I feel that they are best removed when a reasonable number of eggs have been laid.

The eggs take from 6 to 9 days to hatch and the fry are quite large when compared with most varieties of tropicals. Brine shrimp may be fed immediately once the fry are free -swimming. One of the reasons for removing the parents after a few days' spawning is to avoid having fry hatching days after other fry with the resultant difficulty in the younger fry being adequately fed. Micro worms, grindal worms and other live food and dry food may be fed to the fry as their size warrants. The fry are fairly slow growing and the colours from which the name is derived do not appear until the fish are around 2 inches in length.

Another species which is sometimes available is *Melanotaenia nigrans* (the Australian Red-tailed Rainbow Fish). This differs from the above more in colour than anything else. The body , especially the belly., is whitish in colour and the fins show yellow rather than red. It grows to a larger size and is said to withstand a lower temperature. Otherwise it is very similar to *M. maccullochi* in appearance and breeding.

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CORRESPONDENCE COLUMN

by Clive Bennett

News From Abroad

Some Club members are now fortunate in receiving several magazines from American and other Clubs.

The Northeastern Indiana Aquarium Society News Bulletin is one of these magazines. Its cover has a large picture of a male triangle-tail Guppy. Its many interesting and' informative articles include a recent one by Sandy Lentzer on tetras. He

says that this large family of fish mainly from quiet stretches of the Amazon contains some of the most beautiful fish found in aquaria. - When kept in community tanks they are not fussy about pH, water hardness or food, but for breeding purposes they need soft, slightly acid water at a temperature of between 73 and 80 deg. F. Light during the breeding period should be kept to a minimum as the eggs are sensitive to light and the parents are prone to egg eating. The parents should be conditioned on brine shrimp and daphnia and some species need vegetation also. Mr. Dentzer says if you want a real challenge and beautiful fish try breeding Neons or Cardinals.

Another article of interest by D. B. McSpadden is on Discus. One of his large females ate a piece of cotton used to anchor a floating thermometer. She had it going in at her mouth, and the other end out of her anal opening at the same time! The cotton passed right through, and the fish since successfully bred- Another article of interest on an unusual subject was by M. J. Henn on Mystery Snails. He found them excellent scavengers until they bred and became overcrowded, when they started on the plant life.

The Informer with its beautiful cover of two Angels (this picture also appears in the T.F.H. booklet on Angels) has a fine article by an Englishman, Jim Kelly of the Fancy Guppy Association, on the International Federation of Aquarist Societies. He poses the question, why join T.I.F.A.S. and answers it by saying that if everybody put a tiny amount into such an organisation, huge rewards could be reaped. Such an organisation could set standards in equipment, books and aspects of fishkeeping so that new standards would be forced onto manufacturers and publishers. T.I.F.A.S. has a Digest and Report and hopes to bring world-wide show 'Standards to fish instead of all the different show standards now in existence. THE INFORMER also carries articles on Florida Angels, a regular "Fish of the Month" series by Zane Scoby and many others, and very interesting reading they all make

Our only Australian exchange so far is "**AQUA-CHAT**" of the Newcastle Aquarium Society, containing many jokes and rhymes such as this one for an auction:-

Funds are low,
So give it a go,
We need the cash,
You get the trash.

Other excellent articles are "James takes up the Hobby of Fishkeeping" by Miss Ngaire Phillips aged 3.6 (!!!) and a comical piece by Frank Dayes (which has been reprinted in other bulletins) on the future of the guppy. To quote Mr. Dayes:-

"The primary aim being to produce specimens with a

one inch body, three inch long tail three inches wide; the ultimate goal "being one with no body, just a head and tail.

The conditions needed for this fish were most elaborate and consisted of a completely sterile environment and food, and a flush W.C.I

Aqua Chat also runs a 'Fish of the Month' feature, a recent one being on the Swordtail ('Swordie' in Australia)

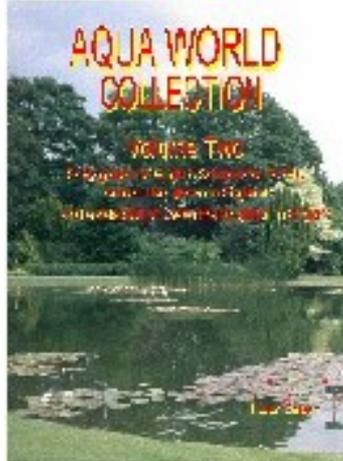
GUPPY, the magazine of the Federation of Guppy Breeder Societies, contains many interesting articles, including one by Malcolm Delingpore entitled "In Search of the Purple Guppy Eater". The writer tells about his trials and tribulations in trying to find fish to eat his disposable Guppies After convincing himself and the reader that this is the best method to get rid of unwanted fish his tale is as follows: Fred the Firemouth was his first acquisition. After chopping two Guppies in half, Fred had a change of heart and became the friend of his Guppy tank mates. Next the author bought guaranteed voracious guppy eater - a Severum, Next morning Fred was dead and another happy community tank of a Severum and Guppies existed!! The author, by now thoroughly disgusted, was persuaded to buy an Archer fish and a Butterfly Fish and sat back to see a gastronomic orgy. But he now had yet another community tank on his hands! At last he managed to procure the last of a batch of unidentified fish, half dead and after a few days he had used up all his spear .Guppies.

A new exchange bulletin which has just reached me via Michael Willis is from **Winnipeg Aquarium Society**, Manitoba

The December bulletin is excellently produced and the attractive cover pictures a Swordtail against a background of plant, probably Aponogeton. Articles are mostly reprints this time the Winnipeg Society is in the all-too-familiar position of having very few members who are willing to write for the Journal.

Last but by no means least, I have just received from Ron Gordon of Detroit, Michigan, no less than six issues of '**TROPIC TANK TALK**' published by the Greater Detroit Aquarium Society. Time and space do not permit me to review these in full here but I will do so at the earliest possible opportunity. One article from Tropic Tank Talk has been reprinted elsewhere in this magazine.

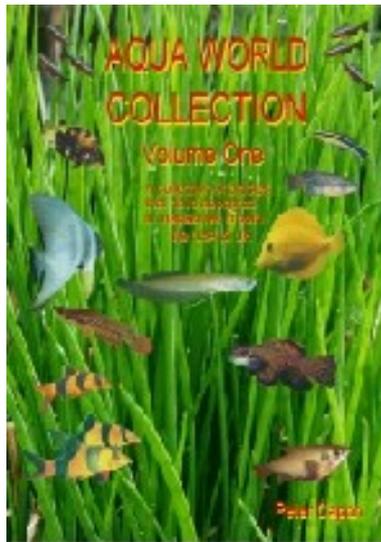
AQUA WORLD COLLECTION VOLUME TWO



An illustrated survey of ponds and garden pools around London and counties close to London, England. Included are also photos of Water Lilies, water plants and large ornamental pond & lakes

. The book is available from www.lulu.com/content/554478

AQUA COLLECTION VOLUME ONE



A collection of articles on a wide range of individual fish species for the aquarium (both tropical and marine)

These fishes are covered in greater depth than the usual book. Fishes covered are *Aplocheilus lineatus*, *Osteoglossum*, *Platax*, *Lucania*, *Xiphophorus milleri*, *Sphaerichthys* - the Chocolate gourami, *Chrombotia* - the Clown Loach, *Heterandria maculata*, Flower Horn, *Anableps* - the Four eyed fish, Marine Hawkfish, *Monodactylus* -Malayan angel, *Pantodon*, *Macropodus*, *Polycentrus*, *Copella*, *Corynopoma*, *Xenotoca* .. Cave fish not only covers the Mexican blind tetra but numerous other species. Refugiums and ozone are covered for the marine enthusiasts, and there is also cover of the commercial uses of sea weed in food and industry. There is also an article on Buoyancy giving details of how various sea creatures manage to stop themselves from sinking.

Available from www.lulu.com/content/330927

LINKS

[Southend, Leigh & District Aquarist Society](#)



[Federation of British Aquarist Societies](#)



[IFOCUS for archives of other clubs](#)



[Fishbase. Org A treasure trove of information](#)



[Aqua World Volume One](#)



[Aqua World Volume Two](#)



[Peter Capon's Aqua World site](#)



