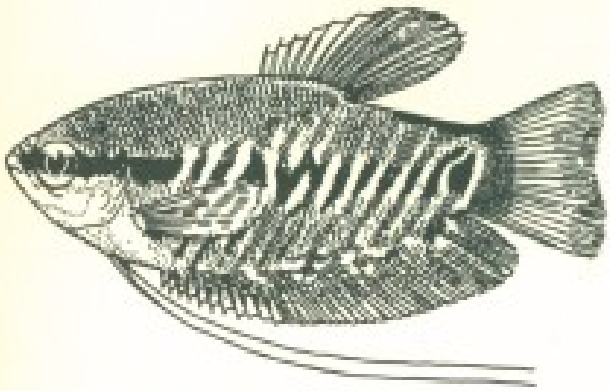
SOUTHEND, LEIGH AND DISTRICT AQUARIST SOCIETY

QUARTERLY MAGAZINE

TRICHOGASTER PECTORALIS



SNAKESKIN GOURAMI

No. 9

SOUTHEND AQUARIST HISTORY
SLADAS JOURNAL For 1965/66

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 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.

The issue has been copied in OCR form but because of the nature of duplication and the type of paper it was written on the result has had to be substantially re-written but no alteration has been made to the format so that some pages are not filled completely, but the original page number have been retained throughout. No attempt has been made to update the nomenclature so many fish names may be strange to a modern audience. We have also resisted the temptation to change any information that doesn't`t agree with present day thinking.

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 from 1948 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.

Although each issue contained advertisements we have only included one example of each rather than bore you with twelve repeats

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 :- petercaponcapq3t@supanet.com

The Southend, Leigh & District Aquarist Society
(founded 1938)

QUARTERLY JOURNAL

Number 9 October 1965

The society meets at 8.00 pm on the first and third Tuesday in each month at:-

The Liberal Hall, Clarence Road, Southend-On-Sea.

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The cover of this magazine was designed by Mr Ken Eagland. I am sure our readers will appreciate his efforts and the excellence of his design and will join me in thanking him most sincerely.

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EDITORIAL

New members are the life-blood of our Society – do NOT frighten them away! It takes a great deal of courage for a novice to wander into one of our meetings. Please make any potential member welcome! Don`t ignore them- talk to them -you may even learn something- one never stops learning in this hobby of ours.

Ask them about their set-up – show interest!

If they only have an aquarium in their living room for it's decorative effect, don`t look down your noses at them – after all we all started with just one tank! Help them with their problems; warn them of the possibilty by all means but don`t talk of the time when a certain disease completely depopulated your fish house.

This will only convince them that fishkeeping is not for them.

Some people only keep fish for a year or so and then give up – don`t despise them, they spend money at the dealer and so allow them to carry a few of the rarer species for the enthusiasts. At any rate, many of those transient aquarists might be kept in the club and hobby if only they could receive help from those who are more experienced.

If each member were to donate just one fish to any newcomer who has lost his stock through disease or electrical failure, the newcomer might no lose interest and give up! The aquarist who is lost could quite well turn out to be another Innes or Axelrod but for their intial misfortunes.

Don`t frighten them away with tongue-twister names, it helps of course to know the scientific names of fishes but having them rammed down your throat in your first few weeks as an aquarist is terrifying.

Help them- welcome them- talk to them. You will be a better aquarist, the club a better club, and the hobby a better hobby.

Every club needs new blood – ours is no exception

P. F. Capon

CLUB NEWS

Annual Show Saturday 3rd July, St Clements Hall.

Show Results:- Here should follow the list of prize winners but despite repeated requests to all quarter no copy has been received at the time of going to press.

Thanks are due to the small band of helpers who erected the stands and maned the show on the day. The rest, well!, I suppose they did put fish in, even if after the show they rushed in, grabbed their fish and disappeared !

Thanks are also due to Grays, Witham and Basildon for their efforts and in particular the gent from Basildon who put in the monster "shark" it certainly was a hit with the general public. I wish I could thank him by name but as I said the results are not available.

I hope a little more care will be given to the wiring next time.

It is also obvious that we need at least two members on duty at a time, one to answer the publics questions and one to tend to the fish.

Is it too much to expect just a little more help will be forthcoming at future shows.

From the publics point of view I believe the show was a great success. From our point of view I believe we only just made qa profit but we did purchase extra tanks for the club which will be of great help in the future.

CLUB NEWS

Meeting August 3rd The major part of the evening was taken up with an illustrated talk on cichlids, given by Michael Willis. This talk and slide show concentrated on Discus, although other species were covered. Michael took all the rude remarks about slides being up side down in good part, pointing out that this shows just how symetrical the discus is.

As far as is known Symphysodon discus has only been bred in this country by one person: Roy Skipper of Hendon. There are , however, several breeders on the continent and in the States.

Roy Skipper has, apparently, given up our hobby, which seems rather a shame, owing to pressure of business.

The raffle of two *Apistogramma ramirezi* was won by Mr Baron; it is gratifying how many time a new member wins the raffle.

Meeting August 17th Members were entertained by George Yallop. Mr Yallop served part of his National Service in the R.A.F. In Malaya and Singapore and afterwards made a round the world trip in a 1033 Riley. This car is still being used by George to travel to work.

In Singapore George caught *Tilapia mosambica* in the monsoon drains. These fish he kept in large concrete tanks with glass fronts. The glass was scavenged from tanks (the military type) and since the glass was uncuttable the tanks had to be constructed around the glass panels. The *Tilapia* bred in these tanks without any encouragement from George, as he so honestly stated.

R.Edmead , with who George went on many fish collecting trips, wrote an article on *Tilapia mossambica* for the Aquarist & Pondkeeper. He and George were apparently the first to record that *T. mossambica* females carried the eggs in their mouths: at that time Innes stated that it was uncertain which sex carried the eggs. The article is in The Aquarist & Pondkeeper July 1954 page 93.

George also told of large quantities of half beaks (*Dermgenys pusillus*) and the fact that it was difficult to keep them alive for any length of time. Harlequins could be caught by the netful and the occasional wild fighter (*Betta splendens*) was caight with difficulty,as they frequented the roots and flotsam at the waters edge.

Leeches wre a problem in Malaya and contrary to belief a lighted cigarette is not the best method of removing them as they often leave their “hooks” in the skin to fester.

George maintained that tobacco or saltt were the best substances to get them to release their grip.

George also told of an unusual fish that he nor Mr Edmead were unable to identify; they contacted Innes who could not identify it either. George andEdmead christened this fish the "Chocolate pinhead" . The fish has since been identified as it appears in the T.F.H. Supplement in the September `64 issue: it is *Luciocephalus pulcher* (Gray): the Americans have givenm it the common name of "Pike Head" . Like George T.F.H. State that it is not easy to keep prefering fish as food; George incidently fed his on Harlequins!

Mention waso made of skin diving and the fact that Mr Edmead almost came to grief on the sea bed when he became drunk on pure oxygen. Amongst their sea bed experience was when the "sky" became black when a school of Barracuda swam over George and Ed`s heads whilst they remained dead still for fear of arousing these fish's interest in a possible meal!

Experience with snake were detailed and raised commentsfrom members who had been stationed in the Far East.

On his world trip George came across fish in Persian wells, these fish were reputed to be blind but George was unable to catch any and examine them for himself. The wells were teaming with these fish.

Outing September 5th Royal Botanic Gardens, Kew

The visit to Kew was hardly a "fishy" outing. It appears to have been arranged to placate certain spouses who have become disenamoured with the charms of the Zoo. The day turned out to be one of the few good ones that we have experienced this year, after the deluge we experienced the preceding Friday and the howling gales we had on the following Wednesday.

The hot-houses were interesting in that they gave members an insight into the types of vegetation that is found where our fishes are caught.

Fishes were not entirely absent. In the large ornamental lake there were carp including one very large fellow which took half a slice of bread in one gulp of his huge mouth. If any one turns up at the coldwater table show with a monster carp your editor for one will be highly suspicious. Even the ducks appeared to be frightened of this specimen for whenever he rose for a piece of bread they "back peddled" in great haste.

Large goldfish and shubunkins were to be seen in the pools in a couple of hot-houses, along with the ubiquitos guppy. In the *Victoria regina* lily pool besides guppies and goldfish there were both green and gold swordtails; the females of which were a particularly good size. There is no truth whatsoever in the rumour that a number of gold swordtails are to be seen in a certain "new town" shop.

The lily in this pool was a magnificent specimen; the pads were three foot or more across with the edges turned up to give a shape resembling an upside down cocoa tin lid. The underside of the pads sported a number of spikes which could possibly be supplementary roots. The rest of the surface of the pool was carpeted with Water Lettuce and the occasional Water Hyacinth.

All in all the visit to Kew was enjoyable even though I had to fight off a number of gueese every time I took a sandwich out of it's wrapper. I think they would have taken the food out of my mouth if I had let them.

Meeting September 7th This was the night of the fry rearing competition, it was disappointing in that there were only three entries. The number of fry that changes hands on the 1st of June and the number that were finally benches is either a sad comment on members ability as aquarists or on their lack of interest. There would have been at least one other entry had not Mr King had the misfortune to boil his entry last Sunday.

Vic Picketts entry was judge best by Dave Cheswright who donate the Australian Rainbows in the first case.

The rest of the evening was taken up by a slide show entitled "Fishkeeping Facilities", this was a chat on the slides of various fish houses. On thing that I could not understand was the bearing that shots of a windmill had on fish-keeping.

The raffle of a pair of Rosy Barbs was won by Mr Barker.

Meeting September 21st The coldwater table show was the highlight of the evening. Our old friend Stan Halsey was invited along to judge the show. The results were:-

!st	Mr King
2nd	Mr Baron
3rd	Miss Bowman (Junior member)
4th	Mr Mason

Stan remarked on the increase number of entries compared with last year`s effort, remarking that interest in the cold water branch of our hobby appeared to be increasing at last. Little did Stan know of the threats that our President made at the previous meeting.! After the judging Stan asked Mr King how he managed to catch his specimen. It appeared that Mr King had left instructions with his son to catch him one of the several Crucian Carp that he has in his pond. His son took him at his word and caught one with a hook and line! Stan mentioned the possibilty of the fish catching mouth fungus when caught by this means.

Stan gave a chat on various aspect of coldwater fishkeeping mentioning that beside the well known method of sexing goldfish by the tubercules on the male fish` gill platesin the spring, male fish tended ti have stiff rays in the leading edge of their pectoral fins, whereas the female` rays were soft.

Stan also offered to buy any fancy goldfish of good quality that any membermight aquire should they visit China: he could not however be ppersuaded to pay for member passages to China.

Your editor understand that fancy goldfish are becoming rare in China as the communist authorities are endeavouring to feed thaier population by breeding and rearing *Tilapia mossambica* instead of the fish with capitalistic associations – the GOLD fish,

The raffle of two Orange Chromides (*Etroplus maculatus*) was won by Mr King.

(Club News continued on page 14)

Some Notes on a Peaceful Aquatic Family

by A.J. Mason

So often I have heard the age old cry of what fish can I keep with what, and how many fish in a certain size tank.

Well to begin with it would be madness to keep large cichlids and young neons in a 18 x10 x 10 tank, (this has been tried I believe!)

The answer is to try and get a colourful selection of medium sized fish living peacefully together. Perhaps I might be allowedto made a few suggestions as to how this might be achieved.

Let us say you arte setting up a brand new 24 x 15 x 12 for an elderly lady. The heater (100 watt) and thermostat have been installed, the gravel is in and the plants are set out to form an attractive aquatic scene. The tank should be left for three or four days to settle down; after this period it is time to consider the "fishy" inhabitants.

Zebras look fine in shoals of six or eight as do other danios, be sure to buy young fish as their normal life span rarely exceeds three years.

Angel fish look impressive in a tank but are inclined to eat other species that are small enough to be swallowed. When breeding they will drive off other fishes in their attempts to protect their eggs and fry.

White Clous and most Rasboras are fine for a community tank.

Dwarf Cichlids such as *Apistogramma ramirezi* and *A. agassizi* are very colourful but prefer and aquarium that has been established for at least three months.

All the above fishes will live quite peaceful lives in a community aquarium, but be sure not to over crowd them or they will not grow to their full size. A 24 x 15 x 12 should hold about fifteen to twenty medium to small fishes

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Breeding the Checker Barb

by P. F. Capon

Although generally known as *Barbus oligolepis* in the United Kingdom: according to Dr Leonard P Shultz cursator of fishes at the United States National Museum in Washington the checker barb is more correctly known as *Capoeta oligolepis*. For barbs with with two barbels the correct generic name (first name) is *Capoeta.* For the barbs with no barbels, such as the Rosy barb, *Puntius* is apparently the correct generic name. The majority of African barbs belong to the genus *Barbodes*.

The Checker is “said” to reach a size of two inches and it comes from Sumatra. All the stocks available in this country will have been aquarium bred for it is unlikely a certain gentleman by the name of Sukarno allows exports of fishes.

The name Checker comes from the similarity of the black markings on the fish`s side to a draught board which is called Checkers in the U.S.A.

My method of breeding ia to allow the pair to come into condition in the community aquarium and to net them out when they start courting prior to spawning. I place them in nay tank that is availsble that has been filled with ordinary tap water, green nylon mops are used as spawning media. Normally our tap water at Runwell has a hardness of two to three hundred parts per million calculated as Calcium carbonate, and a pH that is just on the alkaline side. This summer the hardness of our water has varied all over the place, on one ocassion 400 ppm was recorded, and at times has had a high organic matter content. The water has several times come out of our taps an amber colour. I have not had the courage to use this amber coloured water in my tanks and so have no idea of its effect on fish life.

Ihave tried spawning my Checkers in rainwater but they have huddled in the tank corners and refused to perform. I have also noticed that the roots of their fins appeared to be “blood shot”. They obviously pref an harder water as the literature suggests.

As soon as the barbs have spawned I remove the parents, and sit back to wait. The eggs usually hatch in sixty hours and ocassionally fry are seen in as little as fourty-eight hours.

When the fry are free swimming I add an “Infusyl” tablet and follow up with regular quantities of “Liquifry”. I have bee told that I am heavy handed with the feeding of liquid food but to counteract any possible pollution I always add a lump of lesser Bladderwort to clear up any excess infusoria. Perhaps this is why my Bladderwort grows so well.

After the first feeding stages I follow the normal patternexcept that the fry are so slow growing that they are kept on each food for longer than the normal run of barbs.

Innes states that Checkers drop about two hundred eggs but the best brood that I have managed to raise is only ninety-eight fish.

I think it best to remove the fry brom the breeding tank as soon as they can be safely netted, and to move them from tank to tank as soon as their growth seems to stop. I believe that the fishs waste products tend to poison them and slow up their growth; so that changing .their tank gives them fresh poison free water.

Scientific Literature and the Aquarist

by “heterohabdus”

Dr J. D. Carthy in an article entitled “On Living Upsie-Down” in the New Scientist Volme 1 Number 14 discusses how animal determine whether they are the right way up or not. Fishes are considered in particular, their balance being due to impulses reaching their brain from the inner ear and also to the effect of light on their dorsal surface.

Experiments were carried out with Pool Wrasse (*Crenilabrus* sp) and it was shown that when they are place in a tank with light from the side , the fish will swim inclined towards the light. The light falling on the side of the fish causes it to lean towards the light. The fish does not take up an horizontal position with its dorsal surface towards the source of light, because of countermanding messages from the inner ear. A compromise is made and the final position of the fish is one half way between horizontal and vertical..

If the fish is illuminate from underneath it does not turn upside down but remains in a normal position. It is, however, possible to cause the fish to swim either on it's side or even upside down by disabling it's inner ear by surgery

Prawns also exhibit the behaviour of leaning towards the light when illuminated from the side..

the prawn has no inner ear but has instead an organs called statocysts at the end of their antennae. These staocysts have cavities lined with very fine sensitive hairs, on these hairs rest fine sand grains which weigh them so as to cause movement with differing postures and so inform the prawn which way is up.

Mention is also made of the African Catfish from the Nile which habitually swims the wrong way up, (possibly the Upside Down Catfish *Synodontis nigriventris* known to aquarists. The only mention made for the reason for the fish`s strangle posture is that the fish`s food consists of dead insects that float on the surface of the water.

Fish which swim normally have a dorsal surface which is darker than their ventral surface: the reason being that a dark surface presented to the "top" makes it more difficult for predators such as birds to see them. The upside down catfish has it`s ventral surface darker than its dorsal surface for a similar reason.

Mention is also made of water boatmen; the lesser water boatmen swims normally wheras the Greater Water Boatman swims upside down; both these creatures will attack small fishes, the Greater Boatman being the more dangerous. Cichlids and the like will crunch these with obvious relish.

Aquarists Were First

Mention is made in the New Scientist Volume 26 Number 441 of a system which causes compressed air to be pumped into a Dutch lake.

The lake had become polluted through the dumping of sewage. For the first five years of use as a sewage dumping ground natural circulation was sufficient to break down the sewage and preserve the animal and plant life.

When the sewage input was increased the animal and plant life perished and the lake rapidly became a nuisance.

Life returned to the Lake and it became sweet again when a system of compressed air bubbling for 24 hours per day was introduced to cause a circulation.

Either the Scientist thought of the idea independently very many years after aquarists or, dare I say it, they pinched the idea!

The compressed idea is surely no more than a giant aerator.

Game Fish

In a series of articles on hobbies in the New Scientist there is one entitled "Anglers Lore" (Volume 26 Number 437.

Science appears to have effected the angler to only a slight extent. Nylon lines, plastic floats.and synthetic varnishes on the rodsbut the average angler knows very little of the feeding habits of his quarry.

One misconception mentioned is that the "Dawn Rise" (e.g. when the bulk of the larval aquatic insects are supposed to change into their adult form). Biologists have shown, however, that insect larval metamorphoses are at a minimum at dawn, so there is little or nothing for fish such as trout to rise to feed on.

Another misconception is that when a trout stream contains a large number of undersized fish, the problem is solved by introducing fresh blood often at great expense. Actually the reverse action is required, that is fish should be culled. The fish are undersized because of overcrowding and competition for food.

The GOOD OLD DAYS?

By "spinosissimus"

Most of us have only been keeping fish for a few years but a glance over the years at the "game" in it`s infancy turns up some very interesting points.

The advertisements in old magazines can be just as interesting as the articles. So let us browse though some old English magazines of 1938 vintage.

Mr Whitwell was not at West Bergholt the business was owned by a Captain R. Lane

Freshwater Crayfish were for sale a 1/3d each, we never hear of these nowadays. Daphnia were to be bought for 1/9d per can, it makes me green with envy. Goldfish were 2/6d a **dozen,** shubunkins were 9/6d a dozen and Golden Orfe were 5/- a dozen.

A gas heated aquarium , 20 x 10 x 14 with a 30 inch high stand and agas thermosta was offered complete for £3-9-0. Vibrator aerators were 15/-, thermostats 21/-and heaters 5/6d.

But no tropical fish prices were advertised- were ther dealers ashamed of their prices?

If we browse on quickly to 1948 wer find a note in the Society columns to the effect that S.L.A.D.A.S. Meets every first Wednesday in the month at 8 pm at the Girl Guides Hall, Westborough Raod, Westcliff- I must drop in on one of their meetings I have always wanted to join a club.

Prices of fishes now begin to be printed for instance:-

June 1948	White Clouds	7/6 each
	Nigger Barbs	7/6
	Giant Danios	15/-
	Black line tetras	8/-
	Speckled Mollies	10/-
	Angels	12/6.
July 1948	Neons	40/-
	Serpae	32/6
	Australian Rainbows	10/-
February 1950	Schuberti barbs	30/-
	Neons	17/6
December 1950	neons	10/6

To my mind we are better off today, fish are cheaper to say the least, perhaps I should qualify that and say that tropicals are cheaper coldwater types seem to have gone up in price,The aquatic trade must one of the few to drop prices since the war.

We all have something to thank our dealers for.

Club News continued

Meeting 5th October This was the Bring & Buy . What was Brought and what was Bought I couldn't say as I did not attend. Unfortunately Dave Cheswright who is good enough to bring me to Southend had a mishap with his car. Apparently someone ran into it whilst it was stationary.

Dinner & Dance .This is planed for late November or early December. It is intended that it be held at the Airport Restaurant on a Saturday evening More details are available from our Treasurer who is collecting deposits.

The Dinner will only take place if a sufficient number of members are interested. So if you are interested get in touch with the Treasurer-- NOW.

THE JOURNAL

Can you write? - we need Copy

Do not worry if you can`t spell – most of our readers will not even notice your mistakes

SO YOUR ENGLISH IS NOT TOO GOOD- SO WHAT1

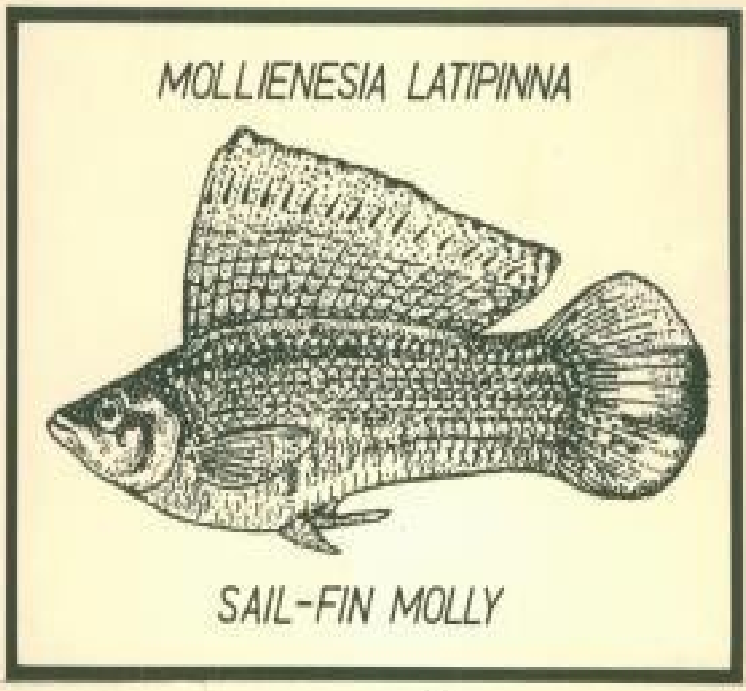
MOST READERS AGREE THAT THE JOURNAL SHOULD BE KEPT ALIVE. DO YOU/ !

WITHOUT ARTICLES THERE CAN BE NO JOURNAL !

ANY HAPPENING IN YOU TANK OR FISH HOUSE IS OF INTEREST SO JUST SIT DOWN AND WRITE

SOUTHEND, LEIGH AND DISTRICT AQUARIST SOCIETY

QUARTERLY MAGAZINE



No. 10

THE SOUTHEND, LEIGH AND DISTRICT AQUARISTS' SOCIETY.
(founded 1938)

QUARTERLY JOURNAL
Number 10 JANUARY, 1966.

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..

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COVER EXECUT'ED BY KEN EAGLAND

EDITORIAL

I had. my editorial already mapped out prior to the A.G.M. It was to have been a cautionary tale based on the fate of a certain Wickford Association. This group had to close owing to lack of support at the meetings, and in particular at their A.G.M.

Then we held our A.G.M. and my copy went straight inthe fire! S.L.A.D.A.S. nearly folded up on December the 7th - after almost thirty years ! Let us all try to get just a few new members in 1966, even if we have to 'fiddle the raffle` as J. W. Baron suggests in his article (page 4)- No, I am not suggesting that the raffles are already fixed, far from it.

Mentioning Mr. Baron, I should like to thank him, a new member, for contributing to the magazine, whilst the old timers say that they do not know what to write about,

A LOOSE MOTHER GOOSE FOR AQUARISTS USE

By Ginny Reed
reprinted from the
Wet Pet Gazette.

Little Jack Homer sat in a comer,

Watching his fishes eat,

He stuck in his thumb,

Which was rather dumb,

PIRANHAS like all kinds of meat!

`FRISCO JOURNAL TAKEN OVER

By S.L.A.D.A.S. Foreign correspondent

As from January, 1966, 'The Aquarium Journal' published by the San Francisco Aquarium Society is to be taken over by T.F.H. and thetitle is now to be 'Ichthylogica/the Aquarium Journal'.

Mike Reed the new editor who takes the chair from James W. Crawford says that the new magazine is to cater for the more scientific aquarist,breeder, and trader. Personally, I shall be sorry to see the old 'Frisco Journal go for in my opinion it was the best magazine in the English language and. run by an Aquarium Society at that !

I shall be interested to see whether the new magazine is up to the standard of the Aquarium Journal.

BEGINNER'S LUOK

by J. W. Baron

My interest in tropical fish had, up until I joined S.L.A.D.A.S. only been confined to gazing into tropical fish shop windows and thinking that an aquarium would look nice in my house. My interest never went further than a shop window, that is not until Vic Picket! made himself known to me. From then on my interest began to grow, so that after a few visits to Vic's house he asked me whether I would like to go to a club meeting.

I remember that first meeting very well. It was a slide show and talk on Cichlids given by Michael Willis. The raffle was a pair of *Agassisi* dwarf cichlids which I won to my astonishment,(I still think it was a 'fiddle' to wet my appetite). Having won the fish I had to ask Vic to look after them until I had my own tank.

I went home that evening and told my wife the news and that I was going to get myself an aquarium. I wanted an aquarium in my home but I wanted it to be part of a room-divider.

While it was in the making I paid our good friend Stan a visit and bought a tank, 36" x 15" x 12" - I got this size on the advice of club members (thank you members).

I can still hear my wife's words - 'Two fish only three quarters of an inch long causing all this fuss !. We had not bargained for a tank for at least twelve months.

Eventually the divider was ready for the tank, which had been standing in the garden shed full of water for about throe weeks,

I paid another visit to Stan to purchase two heaters, a thermostat, pump. plastic tubing, clamps, 'under-gravel' filter, gravel, and some rocks. I took these home and after placing the tank in position proceeded to rig all the equipment as I wanted it, and then poured in the water until it was just about the filter outlet. I switched on the pump only to switch it off again as quickly as possible. I had not put the clamps on l You can imagine what happened - it was like a miniature waterfall !

With the tank set up I was advised to leave it for at least a week. I bought some plants and was also given plants by a member.

I then waited a week for the plants to settle down before putting in any fish.

I have now some thirty odd fish in my tank (thirteen are guppies, the flipping things breed like rabbits ! I am very pleased with the end product, in spite of the work and cash spent, it was well worth it I

Incidentally, the divider still isn't finished.

OUR FATHER WHO ART IN PHILADELPHIA

by P. F. Capon

February the 2nd. is the 92nd birthday of that grand old aquarist William Thomton Innes.

Bill Innes was bom of a quaker mother and Southern father on the 2nd of February, 1874. On finished his schooling, Bill was apprenticed to a printer and on completion of this apprenticeship he joined his father in his printing business.

W.T.I.'s first interest infish was aroused at his grandmother's house, which backed onto the Delaware River. The fishes in the river fascinated him but he was never able to catch any. Bill's first aquarium was made from a glass bowl that his mother used to cover wax fruit. He only kept water-snails but at last he had an aquarium.

His interest blossomed forth when he was invited to a meeting of the Philadelphia Aquarium Society.

In 1906 Bill met Herman T. Wolf who had written a book entitled 'Goldfish Breeds and Other Aquarium Fishes'. The manuscript of this book had been rejected by several publishers and Wolf was threatening to destroy it. Innes agreed to print it but it took ten years to sell a thousand copies at a loss of a thousand dollars.

In 1916 tropical fishes began to be imported into the U.S.A. And W.T.I, suggested to Wolf that they add these to the Goldfish book. Wolf rejected the idea so Bill bought the copyright and rewrote the book entitling it 'Goldfish varieties and Tropical Aquarium Fishes'; thirty-two editions of this book were sold by 1954.

Innes took over the `Aquarium' magazine which had been published by the New York, Philadelphia, Brooklyn and Chicago Aquarium Societies. In the hands of the societies the magazine lasted only two years because of the difficulty that the editor had in getting material (sounds familiar).

W.T.I, launched the 'Aquarium' in 1932 and it is still being published to this day.

I am sure all our readers will join me in wishing this grand old aquarist a happy 92nd birthday and many more years of contributions to our hobby.

AQUARIUM ARISTOCRAT
Aponogeton Fenestralis (Poiret) Hooker Fil
The Madagascar Lace~Leaf Plant

by N. Sellers

On a recent visit to a local retailer of tropical fish I noticed. a small solitary lace-leaf plant carefully packed in a polythene bag and pinned to the wall - certainly an indignity for any self respecting aquarium plant, let alone to this aristocrat of the aquarium world,

This particular specimen was priced at 12/6d. and thus would be considereod by many of us as a rather costly item requiring much deliberation before purchase. In this connection I hope the following information will be useful in enabling the aquarist not yet acquainted with this unique gem of the aquatic world to decide for or against it`s purchase,

Seeing this plant immediately recalled to memory a visit some years ago to the Tropicarium" Frankfurt, which is one of the largest tropical fish establishments in Germany, and where at that time large numbers of these magnificent plants could be viewed in six foot by three foot concrete tanks standing on the floor of the fish house.

This plant has been very much in demand by aquarists in Germany in recent years and many of them appear to be able to keep them reasonably well in home aquaria, where they make attractive centre pieces in the larger sized tanks. However, those offered for sale in Germany are usually quite large in comparison to those offered in the U.K., being 6 to 8 inches in height.

The Laceleaf plant is truly aquatic, and in consequence is always found submerged. It is endemic to Madagascar, the first specimens being introduced into Europe in the second half of the nineteenth century. It was not, however, until the 1930`s that much success was achieved in the cultivation of this plant and the propagation of it's seed.

The leaves are borne on fairly long stems and are approximately twelve inches long and three inches wide when the plant reaches maturity. The leaves have a centre rib with some five to seven lesser veins parallel to it and meeting together at the leaf-base and tip. The centre rib and veins are joined together at intervals by narrow bands of leaf tissue between which no structure exists - an attribute otherwise unknown in the plant world - truly one of the wonders of nature. Although the plant gives the appearance of being fragile the leaves are in fact quite strong and adhere to the tuberous root-stock for quite long periods..

Unfortunately, the lace-leaf plant requires a considerable amount of care and. attention if it is to survive for any appreciable length of time, which under ideal- conditions could amount to several years. Unless one is prepared to acquiesce to it's demands, bitter disappointments will result.

In nature the plant frequents still shallow waters in shady spots over-hung by vegetation where the water is crystal clear, very soft and free from algae - one of it's greatest enemies !

In hard or even medium hard water the leaves quickly yellow and die.
The best growing medium would appear to be course sand, and further secrets of success are the use of rain-water, frequent water changes - a third of the tank contents every month (using rain-water of course), maintenance of slightly acid conditions, hardness under '2 degrees, only moderate lighting to prevent the growth of algae, and ample tank space - at least 12" x 12". The tuber must never be covered with gravel at any time, or rotting will result.

As with all members of the genus there is a resting period when leaf growth ceases and then dies down. It is desirable at this time to reduce the tank temperature to 55 degrees for two months. Propagation is normally by seed production or more rarely by separating rooted off~shots from the parent tuber.

HENDON CONVENTION - 1965

by D. M. Cheswright

The Annual Convention waasheld on the 16th of October and was attended by some two hundred and fifty aquarists from all parts of the country. The speaker was M. van don Nieuwenhuizcn from Holland and his, lecture was illustrated by excellent colour slides.

He commenced by describing many furnished aquaria shown on the screen. The important differences between furnished tanks in Holland and the U.K. Were:-

!) Size of tank Most of those illustrated were six feet in length and. some two to three feet high and deep. This was apparently not an unusual size in Holland,

2). Importance was placed on the planting and decoration of the tank rather than on the fishes and many tank are kept in Holland with few or no fishes in them. One can imagine, however, having continual tidying- and pruning work to do with such. large quantities of plants.

3). Decoration of the tank before planting- was not with rock-work but by the use of cork oak bark and dead wood. This could be cemented or wedged together to provide terraces and crevices in which were placed the plants and such terraces could be built up on the top back of the tank, each species of plant could be placed in the most beneficial position as regards light and the effect of the finished display.

4). It was stated that spot lighting could be used over the tank to provide extra light to those plants requiring it. Willow Moss could be planted at the top back of the tank and would spread across the bark with a pleasing effect. Obviously the large tank size gives tremendous scope with lighting effects.

M. van den Nieuwenhuizen then spoke of the use of horticultural fluorescent lights. These are marketed on the continent under the trade name »f Grolux, and whilst they greatly improve the reds and greens of fishes, are of little use for plant growth and should not be used for aquaria.
A tank illuminated with these lights was on display and to the writer the effect on the tank was terrible, to say the least. The water exhibited a lavender glow, as did the gravel and rocks, and the plants appeared to be faded.

A better lamp to use was the 'Gro-lamp' which was said to be very good for plant growth, this was not, however, illustrated in the tanks on display.

The speaker continued with slides showing various new species of fishes that had arrived in Holland in 1965, and others showing species that had been bred recently, included was the Clown fish, a marine, which had spawned many times. No answer had been found as to how to feed the fry, all foods normally used being refused.

The final slides showed various pet birds and animals and concluded with an amusing sequence showing an owl taking a bath in a polythene bowl.

The evening was well worth attending and it seemed a pity that only two S.L.A.D.A.S. members were present.

'I'VE GOT MILLIONS`

A report on the lecture by E. Arnold at Thurrock.

By P. F. Capon

Mr. E. Arnold is probably less well known by his name than by his advertising slogan of 'I've got millions'. Mr. Arnold gave an informal lecture on the culturing of worms for the feeding of fishes when S.L.A.D.A.S. and Basildon visited the Thurrock club for one of the series of inter-club table shows. The following is a synopsis of that lecture:-

When asked how to breed such and such a fish most aquarists reply that first they got the fishes into condition by feeding them live food. This is the wrong way to go about it, your fishes should always be in breeding condition. The best way of keeping your fishes in condition is to feed them regularly with live foods.

Live foods can be classified into two groups - wild live foods and cultivated live foods. Cultivated live foods have the advantage that they are readily available at all times of the year and that they are hardly likely to introduce pests into your aquaria. At this point Mr. Arnold handed round a jar of pests which proved to be leeches. These had appeared in an aquarists tanks after he had fed with wild daphnia. The only advice he could give on eradicating the leeches was to sell the tank, or failing than, to give it away !

White-worm, grindal, and micro-worms are all native to this country and can usually be found in the soil in any non-urban locality. It may sound surprising that micro-worms are native to England but if you take a sample of soil from a non-urban area and simply add water to it, micro-worms will often be seen wriggling on top of the earth.

White-worm are scattered in the soil and it is said that they can often be found in large quantities under dust-bins, but if your dust-bin is in such a state as to attract white-worms, I would advise you to contact the Sanitary Inspector immediately.

This discussion will be concerned primarily with white-worm but the conditions that suit this worm apply equally well to the others. The best way of culturing white-worm is to study the common earth-worm, as their requirements are very similar.

As far as feeding to your fish it is best to give grindal to small fish, such as fighters, and white-tfbrm to the larger species, such as the cichlids, as grindal are more readily digested than white-worm. Contrary to popular opinion white-worm are pure protein and not 'starchy' in the least.

In culturing white-worm the following points should be given careful consideration :-

1)' Food - Worms need vitamins, carbohydrates, and traces of mineral matter the same as other animals. They also need protein. This can be supplied in the form of cheese rind buried in the compost; meat can also be used but not in a poor culture. This should also be buried. Mr.Arnold's own food contains protein in the form of milk, along with the other requirements. For a strong culture the food should be buried in the compost. The milk in Mr. Arnold's food has had the fatty portion removed, Bemax is also a good food.

2). Protection from Enemies - The box for white-worms should be as big as possible, on 12" x 6" is ideal, no greater depth is necessary as white-worm are rarely seen over four inches depp in the soil. The box should always be constructed of wood, since wood breathes. The box should be made of ¾" thick pieces, do not use seed boxes as they soon rot and deposit their contents on the floor, A couple of battens should, be nailed to the bottom of the box to provide ventilation and drainage.

White-worm do not like light. The compost should be covered with a piece of glass to keep the damp in and the pests out, and then covered again to exclude the light. The glass should not, however, be tight fitting as air is essential to worms.

Enemies that are particularly annoying are wood-lice and mice. Never allow the culture to dry out!

5). Compost - The compost should have a neutral pH, that is neither strongly acid nor alkaline. Sedge peat is too acid. The best compost is made by mixing ordinary agricultural peat with leaf mould and then leaving it to weather for as long as possible; the acid is slowly leached out. When mixed, the compost should not stick to your hands, a good compost should also be a good food for your worms.

4) Fit conditions for reproduction - The ideal temperature range for white-worms is 55 - 60 F. At temperatures in excess of 60 the worms tend to crawl out of the compost giving a false impression on the productivity of the culture,

The culture needs aeration; by this we mean plenty of air. The best method of keeping the culture well aerated is to turn the box out every week and thoroughly mix the compost. If the compost is too wet, mix the food on the dry side, if too dry mix the food on the wet side. It is advisable to feed sufficient food to last the culture for three days, all food left at the end of that time should be discarded.

Mr. Arnold then asked if the floor would like to ask any questions:-

Questioner What should one feed micro-worms on?
Arnold; Any of the wheat based baby foods, 'Farex` is particularly good.

Questioner; Do you not think that white-worms have got the reputation for being starchy from the fact that they are often fed on milk and bread?

Arnold Yes, this is probably where the fallacy originates. White-worm are not starchy even if they are fed on starchy foods, they convert starch into protein and fat. Incidentally, white-worms have hairs on their bodies which serve to aid locomotion, I have heard that these hairs stick in fishes' throats but I regard this as highly improbable as the hairs are microscopic.

Another point that I would like to make is that you should not feed white-worm to small fishes, give them grindal. Mollies will eat white-worm for they are not only herbivorous, but it is better to give them grindal,

Questioner What is the best culture media for grindal? I have tried John Innes compost but have not had much success.

Arnold The best compost is the one that I make myself. Grindal will put up with a more acid compost than white-worm. Generally speaking the smaller the worm the more acid it will stand. Micro-worm cultures often have an acid smell. This should not be blamed on the worm but on the aquarist. This acid smell can be stopped by stirring the culture every day. With the micro-worm culture, there is plenty of oxygen in the upper layers, but almost none at all in the lower layers. The smells arise from decay, they can be arrested by the daily turning over,

Questioner; Are there any special pests that infest white-worm cultures?

Arnold; There are not special pests, a pest is an animal or an insect in the wrong place. Pests are usually caused by over-feeding the culture, nature will always supply mouths to consume any excess food,
Mice are a pest that appear in white-worm cultures. They riddle the compost with burrows and eat both the worms and food.

Flies often attack cultures, any culture that is left open will attract flies; flies are supposed to be useful in this world, but their use escapes me I If a culture is neglected, it will be infected with fruit flies. The best method of eradication. is to kill any flies, at once - one fly killed now means fifty fewer later on. If your culture is infected with fruit flies, the best thing to do is to throw it away and write to me for a new one.

The time when one gets the most trouble with fruit flies is when the fruit is on the trees. I have often had letters asking me how to get rid of fruit flies, and I have also had letters asking me how to culture them !

My method of destroying the flies is to spray the culture with `Flit` and then to put the cover-glass back on; in twenty four hours the obnoxious substances are absorbed by the soil and it is safe to feed the white-worms to your fishes.

The simplest remedy is not to get the flies !

At this point Mr. Arnold requested the return of his leaches. The `Special' prize card attached caused laughter from the audience.

('Flit' contains D.D.T. which is a persistent insecticide and in view of it's being found in sterile birds eggs the fact that it may harm our fishes should be borne in mind. There appears to be little in the literature on the effect of traces of D.I.T. on fishes, but I personally will not allow it anywhere near my tanks. I will not allow any fly sprays in the same room as fish - it is just not worth it).

Editors note

CLUB NEWS

Meeting 19th October,

Mr. Allard gave a talk on fish photography - a difficult subject in that he is not an aquarist. Mr. Allard experimented on putty fish models to prepare himself for the lecture and familiarize himself with the problems. One important point mentioned was that if care was not taken the reflection of the lens and even of the flash bulb on the front glass of the aquarium may be evident in the final print.

Mr. Allard illustrated his talk using a 'Polaroid' camera and hence was able to show members various faults and errors and the results obtained as in this type of camera the photos are available in a matter of seconds.

Included in the evening was a cichlid table show:-

1...M .Willis.....blue acara
2...E.Thompson.....Severum
3...B.Dunn.....Firemouth

..

The raffle of a trio of Firemouths was won by a fellow called Capon.

Inter-club Meeting - Thurrock, 25th October.

Outnumbered as usual! Where is your fighting spirit Southend? Four members turned up at Grays - need more be said? We achieved one point thanks to Brian Dunn.

The results of the table shows were:-

CLASS	ENTREE	CLUB
MOLLIES: 1 ….....	.Nichols.....	Thurrock
….. 2 ….....	.Brown.....	Basildon
3 ….....	.Barber,.....	.Thurrock
4 ….....	Dunn.....	Southend
CATFISH; 1 ….....	O'Brien.....	Thuironk
2 ….....	.Stockwell.....	Basildon
3 ….....	Durrant.....	Thuirock
4 ….....	Welman,.....	Thurrock
GOLDFISH;,		
1 ….....	.Nichols.....	Thurrock
….. 2 ….....	.Barber.....	Thurrock
3 ….....	.Barber.....	Thurrock
4 ….....	Barber.....	Thurrock
SWORDTAILS;		
! ….....	Durrant.....	Thurrock
2 ….....	Stockwell.....	Basildon
….. 3 ….....	.Barber.....	Thurrock
4 ….....	.Stockwell.....	….....Basildon
A.O,V		
1 ….....	.Nichols.....	Thurrock
2 ….....	.Nichols.....	Thurrock
3 ….....	.Belcome.....	Thurrock
4.....	Dudley..,.,,.....	Basildon
4 ….....	Tankard.....	Thurrock

“Best fish in the show” was Mr. Nichols' *ramirezi.*
During the judging we were treated to-a talk by Mr. 'I've got millions' Arnold - this is re-ported on page 9.

Meeting ~ 2nd November.

Mr. A. J. Mason gave a talk on the usefulness of various propriety foods.
There was also a table show for mollies :-

1...B.Dunn.....Black lyretail
2...B.Dunn.....velifera
3...T.King.....velifera
4...B.Dunn.....black sphenops

The winner received a medal,

Meeting - l6th November Table shows:-

BREEDERS: 1. B. Dunn.....Rosaceua.....1/5/65.
2. B.Dunn.....Lyre-tail Mollies.....1/5/65.
3. P.F..Capon.....Siamese Fighters.....50/8/65
4. P.F.Capon.....Yellow Wags.....Mid-Aug.

BEST FISH OF THE YEAR;

1.. C.Ward.....,,,...Aurilius barb.....84 points
2. V.Pickett.....Stolicaa barb.....82 points
3. P.F.Capon.....Siamese Fighter.....80 points
4. Miss Bowman.....Bleeding heart.....79 points.

The raffle of a pair of Celebes rainbow fish (*Telmatherina ladigesi*) was won by C. Ward,

Mr. A.J,Mason gave an informal talk on 'Queer Fish' - this was extended to cover the rarer species and those in short supply.

Meeting - 7th December.

The Annual General Meeting How can an A.G.M. be held with only NINE members? We have thirty four paid up members, where were they – in front of the 'goggle box'?

I presume that members stayed away because they were afraid that they would get a job. Nobody has a post forced on them at our A.G.M.'s.

By a unanimous vote it was decided to postpone the A.G.M. until the next meeting.

Meeting - 21st December.

The A.G.M. was held albeit still with p. reduced attendance. For the officers elected please refer to page 1.

Mr. Mason has incidentally, only agreed to hold the post of President for a provisional six months, depending on business commitments and the support he gets.

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THIS IS YOUR MAGAZINE - IT NEEDS SUPPORT IN THE FORM OF ARTICLES. BECOME IMMORTAL, COMMITT YOURSELF TO PRINT.

ALL AQUARIUM TOPICS ARE OF INTEREST - HOW THE CAT DROWNED IN YOUR TANK -

WHAT THE WIFE SAID WHEN THAT BOW-FRONTED AQUARIUM BURST AND SPILLED IT'S CONTENTS ON THE BEST CARPET.

THE SOUTHEND, LEIGH AND DISTRICT AQUARIST SOCIETY
(founded 1938)

QUARTERLY JOURNAL
Number 11, April 1966.

The Society moots at 8.00 PM. on the first and third Tuesday in each month at :-

The Liberal hall

Clarence Road
Southend-On-Sea.

CONTENTS

EDITORIAL

Brief mentlon was made at a recent meeting of the possibilty or otherwise of holding an Annual Show this year. Since the suggestion was to allow the committee to deal with the question no arguments were heard for or against a Show.

Our last two shows have been moderately successful at least as far as the general public is concerned if not financially, A Show gives the public a chance to become infected with "fishitis" and the more people we infect the better it will be for us both as individuals and as a club.

The two shows that we held in conjunction with the Leigh Horticultural Society did not nett us a very good income partly because of the Horticultural people's ruling that we could sell tickets before the day but not take a percentage of the gate.

The fact that they are not adverse to inviting us again shows that the addition of fish to the flowers helped their income to some extent at least .

It is a pity that we can't hold a purely fish show but I realize that halls cost money and our membership is rather limited.

Whatever the committee decides I trust that we will hold some sort of show this year. An Annual Show keeps a club alive l Of course setting up a show is hard work but personally I enjoyed it last year.

A LOOSE MOTHER GOOSE FOR AQUARIST USE

by Ginny Reed.
reprinted from the
Wet Pet Gazette.

Mistress Mary, quite contrary

How do your guppies grow ?

By two and ten,

By hundreds then,

Those females must never say "No" !

SUCKERS FOR FISH !

by S.L.A.D.A.S. foreign
correspondent.

A report from the Nihon University's -Fishery Dept` (Japan) mentions a tean led by Professor T .Hurayana devising a method which enabled twelve and a half Kilos of fish to be caught and landed in only fifteen minutes. The method involved using a pump.

The pump is driven by an electric motor and is attached to a long hose with a funnel shaped end. Lights on the funnel of the hose attract the fish which are then pumped on board.

It has also been reported that Russian ships have . been using this method for some tine.

Aquarist`s may feel that this idea is unsporting but many of us have been accidentally catching fish with a siphoning hose for years I

What the DICKENS !

by P.F.Capon.

The Paradise fish (*Macropodus opercularis*) was first introduced to Europe according to Stcrba (1) in
1876; this fish is generally assumed to be the first tropical fish kept by aquarists.

However, in “Martin Chuzzlewit,” which Dickens wrote in 1843, in chapter seventeen Martin says to some American ladies who asked after the "goldfish in that Grecian fountain in such and such a nobleman's conservatory, and whether there were as many as there used to be”. He gravely reported, after consideration 'There must be at least twice as many; and as to the exotics; Oh well !, it is no use talking about them they must be seen to be believed !"

Dickens must have come across some form of tropical fish; presumably the Paradise, to have been able to have written about them. So tropical fishes were imported earlier than most authorities claim.

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(1). Freshwater Fishes of the World.

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NEW BROOM FOR THE ".AQUARIST "

A change of editorship in the oldest English aquarium magazine will it mean improving standards ?

by P.F.Capon

The "Aquarist" now has a new editor, Lawrence E. Perkins, who is probably best known for his photos` of aquatic subjects.

Anthony Evans the retiring editor, has been in the chair since September 1948; he took over from A.Frazcr-Brunner who had been associated with the magazine since it's inception in 1924.

Enquiries have revealed that Anthony Evans is to be the editor of the new monthly magazine "PetFish".

Once again we have two magazincs for the aquarist published in this country. It is not since December 1958 that we have had two magazines for the British aquarist, it was then that the old "Water Life" closed down.

Since the closing of the 'Water Life" I had noticed a steady decline in quality of the "Aquarist" and in my opinion it is this that has enabled T.F.H. to make such large inroads into the British market.

Let us hope that the extra competition will stimulate both our magazines to produce informative and interesting articles once again.

Indeed the "Aquarist" has made an effort already the March and April issues with their cold-water supplements and included colour plates show that it can be done when occasion demands.

ICHTHYOLOGICA - a review.

By P.F.Capon.

In the last issue we told of the "take-over" of the "Aquarium Journal" by T.F.H. under the new name of "Ichthyologica" we now have a copy to

(please turn to page 14)

THE WATER HYACINTH

Eichornia crassipes (Martius) Solms-Lanback.

A neglected aquarium plant that repays it's owners care with beautiful flowers.

By N.Sellars.

The Water Hyacinth derives it's name from the similarity of it' s flowers, which are produced on a small stem, to that of the bulbous garden Hyacinth. It is an attractive, unusual, and. very useful plant for the tropical aquarium and certainly deserves more attention than it has received to date.

Perhaps the biggest drawback contributing to this lack of popularity amongst aquarist's and one which has led to it rarely being stocked by local dealers is it's floating habit requiring, as it does, either a low water level in the aquarium - approximately six inches when not in flower, or partial removal, of the canopy to enable the leaves and lengthy flower stem (to sixteen inches) to protrude,

The plant originated in the tropical and sub-tropical regions of South America, chiefly in Brazil, but has now become prevalent in most tropical areas of the globe. It has been introduced to those areas by plant lovers. The areas include the southern states of North America, central Africa, India and Australia.

It often occurs in such numbers and quantities as to be termed a pest and in such dense masses as to bear the weight of a man. It becomes an hindrance to navigation and a source of death to countless numbers of fish by depriving them of oxygen.

Attempts at exterminating this tropical weed have so far proved fruitless and have led to laws prohibiting it's introduction into non-infected areas.

It's powers of reproduction are phenomenal, as many as thirty plants being produced by each pair of parent plants in the course of a month, propagation occuring by means of seed, and also by the formation of stolems which give rise to daughter plants. The seed has remarkable powers of survival in it's native habitat being able to lie dormant for years in the moist coastal

regions, germinating when conditions are ripe for growth,

The plant possesses a thick shiny heart-shaped foliage arranged in rosettes, is light green in colour and readily identifiable by the oval pith filled bladders which are situated at the base of each leaf stem giving the plant a remark;ab1e buoyancy.

As already stated the flowers are formed on a single :stem and there can be up to twenty on a single plant, the diameter of these flowers is about one and a half inches. These flowers are generally a pale mauve colour which merges into a yellow area in the centre, they are also edged with blue - a truly magnificent sight to behold mnot withstanding the fact that the blossoms each last for only one day.

The roots are dense, long and feathery,and violet in colour , they are thus ideally suited to the aquarium containing livebearers as they form a source of refuge for the young fry. They are also suitable as a spawning media for egg laying varieties.

The growing plant requires ample light, warmth in the range of 68° to 86°F,,and a humid atmosphere through out the year. A heated greenhouse or conservatory would make ideal surroundings particularly for propagation.

Aquarium reproduction is usually achieved by removing runners after the new plants have developed at least two leaves to enable them to retain buoyancy.

The plants may be over-wintered, in a dormant state» by planting them in moist peat in a covered container at a temperature of between 60° and 68°F.

The Water Hyacinth is a particularly expensive plant to purchase being available from time to time-between four and eight shillings according to size and condition

AQUARISTS ALL

' by Annon.

Most Aquarist clubs are formed so that members may hear a few good speakers. But once the club gets going the difficulty is to find a few good speakers to address members. When a speaker is obtained the difficulty becomes one of getting enough members to attend meetings to give the speaker someone to talk to.

WATER SOFTENING AND TESTING

The author discusses the techniques that he employs to produce a water suitable for breeding the "problem" fishes. He has had success with several difficult species using these and related techniques.

by D.M. Cheswright.

It is of benefit to many fishes, particularly the more difficult to breed characins such as Neon Tetras, Glowlight Tetras, and Emperor Tetras: to be kept and bred in soft water, Other species such the Discus appear healthier in soft water and nay possibly be bred therein. The mixing of soft water with tap water is often he1pful in getting barbs and the easier to breed characins to spawn.

When considering the nature of water being used in the aquarium two factors need to be measured:-

1) The hardness of the water. This is measured in parts per mi;;ion as calcium carbonate or sometines particularly in continental publications it may be quoted as D.H.

2) pH This is a measure of the acidity or alkalinity of the watere.The measurement is recorded by a series of numbers from one to fourteen, seven being neutral,under seven being acid and over seven being alkaline.

How do we obtain soft water of pH 6.5 to pH 7-5 ?

Distilled water could be suitable and could be purchased from a chemist but to most people the cost would be prohibitive. In any case, such water is so pure that it has not proved of much use unless mixed with other water.
Soft water may be collected by defrosting the refrigerator but the quantities needed to fill even a small tank would be difficult to obtain.

The easiest and cheapest way to obtain soft water is to invest in water softening resins. A set-up using Pernutit "Zeocarb 225" would cost approximately one pound five shillings. The only additional cost is for the purchase of cooking salt for treating the resin before use. The use of this resin is as follow;-

1) The resin is removed from it's jar and soaked for an hour in a ten per cent salt solution (two ounces in one pint of water).

2) The resin is then placed in a glass column, the size of this should be approximately one foot by two inches in diameter, a glass rolling pin would be suitable. .rubber bungs are required for each end of the tube with holes through which to pass smail diameter plastic tubing to allow the water to flow through the resin. A layer fine glass-wool should be placed in the bottom of the tube before the resin is placed in it, to stop the resin beads being washed out with the softened water.

3) A few gallons of tap water are then passed through the softener to wash out the salt that the resin was soaked in. One pint of ten percent salt solutionis then passed through the softener and a further one gallon of fresh water is passed through to rinse off the salt.

4) The softener is now ready for use. Approximately six gallons of water can be softened before it is necessary to "recharge" the equipment with a further pint of salt solution, rinsed off as before. The resin will continue to soften water for a very long period provided it is properly charged and it is kept damp v/hen not in use. This is done by 1eaving the resin always covered by water and the inlet and outlet tubes clamped shut with aerator clamps.

The water produced by this method should test as follows:-

Hardness,0 to 8 parts per million as calcium carbonate.

pH, approximately 7 (neutral)

There are other resins which produce soft water of slight variation to the above, notably "De-Acidite FF", but their use is slightly more complicated.

TESTING.

A- Hardness Simple test kits can be purchased from aquatic dealers to test the hardness of aquarium water.

More accurate methods can quite easily be used notably the "E.D.T.A. method".

BDH. Bromothymol blue is suitable for measuring pH in the 'range of 6.0 to.7.6. The cost of a 100 ml bottle of this chemical is around 30/- but is sufficient to last the average aquarist many years.

The instructions for use are on the bottle but all that is involved is to drop a few drops of the chemical into a sample of the water in a snail test tube.

The water changes colour from yellow (acid) to blue (alkaline) and the pH is read according to the shade of yellow or blue produced by comparing it with either a colour card or with a series of tubes of standard colours.

There are many chemicals available for testing pH each covering a different area of the pH range of 0 to 14. Bromothynol blue is very accurate and covers the range normally used by aquarists.

Finally, it is essential to keep all utensils,water storage bottles, etc perfectly clean when dealing with softened water. Aquariums into which soft water is to be placed with a view to breeding fishes should be thoroughly washed under the tap and then be washed out with soft water in order to remove all traces of tap-water.

All water which has passed through softening resins or to which chemicals have been added IKIST be tested for hardness and pH values before it is used for fishes.

Would any reader who requires any further information on this subject let our editor know and provision will be made for a more detailed account of softening techniques to be included in future issues of this journal.

(The above suggestion not only applies to
S.L.A.D.A.S. members but to all cur readers both in the U.K. and abroad.)

editor.

CHIPS WITH EVERYTHING ?

A report on the talk entitled "Fishkeeping and the shopkeeper" given by A. J.lIason on the l8th of January.

reported by P.F.C.

This time last year our President A.J. Mason was one of us but now ha has joined the ranks of that much maligned branch of the hobby - "the trade".

At our meeting on the l8th of January he gave an informal talk on the trials and tribulations of fish-keeping for a living, the following is a synopsis of that talk.

Whilst most of our members maintain something like one or half a dozen tanks I have to look after twenty four tanks containing anything up to seventy five different varieties. 1 have that species that fight are kept separate and that types that are prone to disease are carefully watched for the first sign of that disease.

1 have to try and ensure that there is something new in the tanks every week to maintain my customers interest.

The lack of space in the shop means that the quarantine facilities are not all that I would desire, the ideal is of course is to quarantine all new arrivals for two weeks as a few of the larger establishments do.

If trouble docs appear in my tanks the only thing to do is to heave the whole tank out and replace it with a clean one.

In the Basildon shop there is not really enough room since we cater for all types of pets. Perhaps the number of different lines that we carry gives an idea of the overcrowding in the shop - we carry some fourteen hundred items for the pet trade in general.

Two of my suppliers quarantine their fish for two weeks but this does not necessarily ensure freedom from disease.

I keep the plants for sale in the tanks and this does pose the problem of transferring disease from tank to tank.

I tend to try to put new arrivals into empty tanks as a precaution against spreading disease.

A typical offer of young fish to me by a customer might go as follows :-

Customer I have got some lovely fish that I bred myself, would you be interested in them ?

A .J .M I might, are they sexable ?

Customer; Well -no !

A. J.M How big are they ?

Customer About half an inch - well - some of then are !

A.J.M What size tank are they in ?

Customer; An eight by ten by ten !

A.J .I'l. ; How uany have you got in this tank ?

Customer; SIXTY or so !

A. J. M : You should not try to raise so many fish in such a small tank1. You would be lucky to raise a dozen fish to sale able size in that tank let alone sixty .

In a shop you can expect to lose something like three fish out of every dozen that are delivered from the wholesalers.

1 have been in Jim`s fish house and seen a whole tankfull of now arrivals "rolling over" and there was not a thing that either of us could do about it.

It is not an uncommon sight in the importcrs tanks to see anything up to a thousand cardinals "turning up their tails" before your eyes - the risks of dealing in tropicals are far greater than the general public realizes l.

When a customer comes into the shop stating that the fish that ho bought the day before have died and asking what 1 am going to do about it, what answer can I give? The fish that arceleft in the shop are

still in as perfect a condition as when the customer bought his yet within a few hours of being placed in his tank they have passed on.

Really good fish are hard to get and I am willing to accept good stock from any local breeder.

In this game one has to be a walking encyclopedia. The commonest question usually goes as follow :-

Customer; I want something to put into the water in my aquarium to stop it going cloudy.

A. J. M. Have you got a filter ?

Customer No !

A. J. M. What food do you use ?
Customer ; That one on the shelf up there.

A.J. M. Right now take out how much of the food you give the fish at every feeding tine.

Customer About this much three tines a day I

The quantity is usually more than enough for a weeks feeding !

I enjoy the combination of my job with my hobby although it can be a worry at tines. One annoying fact is that often when I am out the back of the shop having my dinner a customer will ask for me , find that I am having a meal in the back room and "bowl" straight through to ask me questions.

Some of the people who cone into the shop have peculiar senses of humour in that they will drop all sorts of things into the tanks - one occasion I even found a bag of chips floating in a tank you can imagine the mess that that made !

ERRATUM

The final paragraph of N.Sellers article on
Water Hyacinth should read :- ""The Water Hyacinth is not a particularly expensive plant to purchase."

ICHTHYOLOGICA

(continued from p 5)

hand and are able to give our readers an idea of the type of magazine that is being produced.

The editor is not Mike Reed, as we stated in oar last issue, bat Dr Martin R. Brittain of Sacrauento State College; Myers, Gery, and Leonard Shultz
cpmplete the editorial board.

Ichthyologica is not for the average aquarist, the first two issues at least are purely for the ichthyologist and the ichthyologically minded aquarist.

George Myers does, however, state in a foreword to the first issue that the publication will be concerned with fish taxonomy, morphology, physiology, ecology, behaviour, pathology, geography. Paleontology, conservation, biology, and studies of water chemistry and physics where they affect fishes.

It would seen from this that the magazine`s future issues would be of interest to scientific minded members our hobby.

HAND FED ANGELS

by P. F.Capon.

The first cover photo` of the new magazine PetFish Monthly is a delightfu1 picture of angel-fish being fed tubifex by hand.

This magazine is good, the articles are informative more so than we aquarists have become used to of late.
There are articles on Ozone as an aid to disease prevention, one by J.Kelly of the Fancy Guppy Association on his trip to the U.S.A. ; and one on methods used in Germany to keep LIVING CORAL. In aquaria, besides many others. There is also a comments and notes section which proved extremely interesting to us at least.

The first issue is excellent let us hope the standard is Maintained !

A LOSS TO THE HOBBY

By P. F. Capon.

on January the eighth this year the aquarium hobby lost a wcl1. known devotee, Harald Schultz. Schultz was well known for his articles, in T.F.H. on the fishes of Brazil.

Harald Shultz was curator of the Department of Anthropology at the Sao Paulo State Museum.

His main studies were concerned with discovering all that he could of the languages, customs, cultures etc of the Indian tribes of Brazil. In pursuit of these studies he made frequent expeditions into the jungles and plains of Brazil. It was on these trips that he was able to collect and study the fish .life in it's natural habitat.

He was responsible for introducing a number of new species and was honoured for his work by having several fish named after him..

His articles painted an interesting picture of the conditions under which our fishes are found and of the difficulty of collection and transportation.

Aquarists the world over will sympathize with his family at their loss.

CLUB NEWS

Meeting January 4th

Tho rmeeting consisted of an auction which was not particularly well supported. The raffle a pair of Marblw Botia was won by John Baron.

Meeting January 18th

Our President gave us a talk on Fishkeeping from the point of view of the trade, this is reported on page 11. The raffle of a pair of *Hvphessobrycon ornatus* was somehow won by your editor.

Meeting 1st February

A.J.Mason gave a talk on Diseases, tho usual ground was covered. An interesting point raised by Mr Mason was that white spot could be wiped off the fins of
some fish if extreme care was taken. The raffle of a selection of propriety disease cures was won by Vie Pickett.

Meeting 15th February

There was to have been a talk by Vie Picket on Aquariun maintainance but Vic was unable to attend. Instead a quiz was held with two sorts of questions; one set compiled by Dave Cheswright and the other by your editor. The latter as requested made the questions easy to the misfortune of the team that held him in it's ranks. The quiz, however, proved entertaining to all concerned.

The raffle of a pair of fighters was won by a new member Steve Norris.

There was also a pair of table shows;-

PLATYS

1..... B.Dunn..... Victory

2 ..... J.Baron..... Lemon Wagtail

3..... T.King ..... Red

4..... B.Dunn..... Sunset Variatus

GUPPIES

1.....A.J.Mason..... Green-lace

2.....II .Preston. ….. female

Meeting 1st March.

The highlight of the evening was a slide show, given by Micheal Willis, on characins. Points mentioned that were of interest are that the characins that we maintain in our aquaria are usually found in small tributaries and not the main streams of rivers.

For breeding the more difficult fish soft water is needed (see page 8), and the use of a thick cloth over the tank to prevent destroying the eggs was essential.

Nylon mops not plants should be used as the mops can be sterilized thoroughly. The first food should be brine shrimp and not infusoria as infusoria is harmful to the fry of many species of the characin family..

Mention was made of neons spawning in jars and plastic bags.

The raffle of a pair of *Copeina guttata* was won by Michael Willis.

Meeting March 15th

This evening we were entertained by Mr S.C. Halsey who gave a very interesting talk on cold water topics, we hope to include a report on his talk in a future issue of this magazine-
There was also included in the evening a table show for :

CICHL1DS the results were:-

1.....A.J. Mason..... Ranirezi

2.....M J .Willis. ..... …..Blue Acara

3.....J.Baron.... ….....Agassizi

Meeting 5th April

The main event of the evening was a bring and buy was a reasonable success from a financial point of view thanks to John Baron's efforts to " up " the prices.
I hope your- wife doesn't read this page John we can't afford to loose members !

The raffle of two Leeris was won by Mr Mason and the announcement of this fact was greeted with cries of derision fro the floor.

INTER-CLUB TABLE SHOW

The next inter-club table show is to be hold
at Southend on June the 7th . That's a warning there
can be no excuse for a poor turnout now !

The classes in the three round contest are provisionally as follows.

AT SOUTHEND___ BARBS , PLATYS. FIGHTERS. TOOTH-CARPS.

AT BASILDON __ GUPPIES. A.O .V. .,LABRYNTH (OTHER THAN FIGHTERS). DANIOS.
RASBORAS AND WHITE CLOUDS.

THURROCK__ SWORDTAILS. CATFISH. MOLLIES. CHARACINS.

SPECIAL NOTICES

DEALERS. ARE YOU INTERESTED IN ADVERT ISING IN THIS MAGAZINE. THE READERS OF THIS MAGAZINE ARE ENTHUSIASTIC AQUARISTS AND ALL POTENTIAL. CUSTOMERS

WRITE TO THE CLUB SECRETARY OR THE MAGAZINE EDITOR
FOR DETAILS .OF ADVERTISING RATES WHICH ARE BASED ON CIRCULATION RATHER THAN INSERTIONS.

AQUARIST SOCIETIES YOUR MEMBERS HAVING READ THIS MAGAZINE THEY WILL DOUBTLESS BE INTERESTED IN READING FUTURE ISSUES.

WE CAN OFFER THIS MAGAZINE TO SOCIETIES AT
THE RATE OF 7/6d per HALF DOZEN IN MINIMUM LOTS OF
HALF A DOZEN POST FREE. LOTS OF T'WO DOZEN AT
SPECIAL PRICE AVAILABLE ON REQUEST.

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THE SOUTHEND, LEIGH AND DISTRICT AQUARIST SOCIETY

(founded 1938)

QUARTERLY JOURNAL
Number 12, July 1966

Tho Society meets at 8.00 pm on the first and third Tuesday in each month at;-

the liberal hall,
clarence road,
southend-on-sea.

CONTENTS

EDITORIAL;

Why do some aquarists turn up for one or two of our meetings and then disappear for good ?

Is it that the present members resent the new- comers ? Surely, it can not be for without the new-comers the club would die a slow death due to natural wastage

The easy answer is “they aren't really interested in the first place"; but if that is so they wouldn't have made the effort to come to one of our meetings in any case.

Do the present members scare then off by appearing to "know it all" ? If this is so we should remember that no one can possibly know all there is to know about this fascinating hobby of ours.

Perhaps our meetings arc not as interesting as they night be ?

What over the reason perhaps any new member might like to let me know what they do not like about about the club. Write to me, you can remain anonymous, if you wish, and we will include your comments in the next magazines, do not worry your name will not be mentioned in the article.

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A LOOSE MOTHER GOOSE FOR AQUARISTS USE

by Ginny Reed.
reprinted from the Wet Pet Gazette.

Jack be nimble,
Jack be quick?
Your best show tank
Has thriving ich'

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TAX-FREE FISH

by P.F.Capon.

On the financial page of the "Guardian" for the 25th of MarchWilliam Davis, the financial editor, suggests that Callaghan night like to raise more taxes by imposing licenses on "budgerigars and goldfish".

Mr Callaghan did not take his advice for the budget nor for the recent "crisis budget". Taxes keep rising on cigarettes, beer, and petrol but for Pisces sake don't tax. our fish !

Perhaps there are some secret fishkeepers in the cabinet after all the late Winston Churchill was a cold-water fan !

Incidentally, did you know that our fishes escaped the general surcharge on imports introduced 18 months ago.

How they escaped I do not know, after all they are a luxury. They were lumped into the general category of live-stock and this group does not have to pay the surcharge.

Do not let anyone from the treasury see this article or all British aquarists will be after my blood !

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A FISH HOSPITAL

by S.L.A.D.A.S.
FOREIGN CORRESPONDANT .

Toba Aquarium in Japan is running a fish hospital, this is for research and not for compassionate reasons.

Dr Kataoka, the principal, is at present experimenting on treating the diseases of marine fish by putting then into fresh-water. He believes that all marines can "learn" to live in fresh-water for extended periods.

The staff of the hospital have isolated the bacteria causing "pop-eye" and is now successfully treating the disease by putting eye lotion into the tank, the Brand is not disclosed. Antibiotics failed to cure the disease.

Kataoka claims that the best cure for white spot is a solution of "Neguvon" (a Japanese insecticide used on domestic animals) and copper sulphate.

==========

HOLLERING HADDOCK

by P.F. Capon.

Talking catfish and croaking gouramis are well known but did you know that other fish can make sounds ?

The haddock (*Melanogrannus aeglefinus*) also makes sounds the noises apparently depending on it's mood.

It has been discovered that haddock make noises when feeding, being held in the hand, or being chased by a net.
When approached by another fish such as a cod they also emit sounds.

Aggressive nature males are especially noisy during March but in May and June young fish also make sounds.

Normally the noises are low frequency "knocks" or pulses but occasional "grunts" are heard. When the fish is frightened such as when it is chased by a net rasp-like sounds are emmitted..

It is assumed that these sounds are produced with the help of the swim-bladder.

==========

WHITE SPOT CURE WITHDRAWN

by P.F. Capon.

The well known cure for white spot, “Hobby” Red and White has been withdrawn from sale.

Apparently this is because Red and White contains Mercurochrome which is a scheduled poison.

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AROUND THE SHOWS.

At the Dagenham Town Show Brian Dunn took first and Second places in the Breeders classy; the fish were Salmon Discus and *Nothobranchius guentheri* respectively. Well done Brian !

The next inter-club table show is at Thurrock and the classes are :-
SWORDTAILS, CATFISH, MOLLIES, and CHARACINS.,

You know the classes now so their can be no excuse for not bringing your fishes. The date ? The 10th of October.

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AQUARIUM PLANTS – a survey

On June the 7th at the INTER-CLUB meeting Southend, Basildon, and Thurrock Clubs were entertained to a talk by C.J. Skilton. Mr Skilton gave us a lecture on plants? a subject dear to his heart. Anyone who has seen his fish-houses at Chelmsford will agree that Mr Skilton certainly knows how to grow plants,

Very few of the plants that you see listed in advertisements are readily available. Continental aquarists are very interested in plants for their own sake but interest in plants is uncommon in this country,
Continental aquarists are concerned with how many varieties of plant they can grow and fish are only added to an aquarium as an afterthought. It is true to say that English aquarists after they have been keeping fish for several years tend to become more interested in plants for their own sake. After all, fish only display well in a properly planted aquarium.

Filters.

One question that we must consider is whether to run, a filter or not. Very few plants can be grown with heavy filtration An under-gravel filter is an asset but the trouble is that most people install it, switch it on straight-away, and forget it. The trouble is that an under-gravel filter can destroy natural plant foods.
Do not use a base-filter for at least ten weeks after setting up a new tank, this is to allow a certain amount of mulm to collect as a food for the plants.

Light

Where there is no direct light tungsten bulbs are very good, (these are ordinary household bulbs).

Strip-lights tend to be expensive to buy and do not last very long, nor do they give oat as many lumens per watt as the ordinary bulb.

White fluorescent light is not so effective as a "warm" light. Water plants utilize infra red light, and only two thicknesses of cover-glass will filter out a large proportion of this light.

Most plants naturally have ten and a half hours of daylight, and you should give them at least six hours

of artificial light; less light than this and plants are difficult to grow.

Gravel

Lime-free gravel is the best. Peat as a sub-soil can be a headache, it is impossible to remove plants without clouding the water, I only use it for special plants. It should also be borne in mind that when peat is used as a sub-soil it can acidify the water.

Fertilizers can be very effective. If you doubt this place one of the proprietary tablets in a jar of clean water, the water will turn green over-night. As you know green-water is due to a minute algae and algae needs roughly the same foods as ordinary plants.

It goes without saying that you should only use fertilizers in well planted tanks or you will only turn the water green.

PLANTS

Rushes (Acorus). These are temperate plants and will survie prolonged tropical temperature.

The Japanese Rushes can be divided into dwarf, standard and variegated; they are normally grown three quarters above the water surface, that is the bottom two
inches in the water. Generally they are slow growers.

They will survive in the low 701s but will not propagate, they do better in cold-water. No fish will attack rushes.

Aponogetons the cheapest way to obtain these plants is from corms. If the corms have not started to groww I would not advise you to buy them as many corms fail to grow. They are best grown in clumps.

Aponogetons have prolific blooms; their flowers are long and whlto and in some cases have a mauve "tinge" to them. The plant can grow to at least fifteen Inches.
All plants that bloom should be given a rest period in the winter.

When you have an Aponogeton that has flowered I would advise neglecting siphoning the tank as much as possible, and after a while you will be rewarded with a mass of little plants.

I discovered this method of propagation by simply neglecting a tank of Aponogoton and I was able to take fifty young plants from a tank containing only five adults after three months.

Bacopa. There are two main types of Bacopa, the dwarf and the giant. The dwarf is the common variety, it is easy to grow in warm or cold-water. This plant which has small hard leaves is propagated by cuttings or runners.

The giant Bacopa is a delicate plant, with a yellowy green furry leaf and a stem that is almost hollow. Cuttings always seem to rot. It should be kept with the smaller fishes and never above 75°F.

The dwarf Bacopa will grow in almost any light whilst the giant Bacopa does not like strong sun1ight, neither does it like a poor light, it is best grown in a clump. In general all plants grow much better in clumps.

Cardamine. Strictly speaking this is a terrestrial plant.'It suffers from being eaten by big Barbs and livebearers, platys appear to be particularly partial to cardamine.
The plant is best kept with small characins and is atolerant subject if left alone. one thing that it can not stand is algae it usually succumbs readily to an attack, of this pest.

Indian Fern There are two types of Indian Fern, the broad and the narrow leaved forms. The commonest type in this country is the broad leaved Indian Fern.

When the parent plant gets old it is a good idea to cut off a few leaves with young plants growing from the nodes. Allow these to float until the young plants are large enough to detach and plant. If the plant is planted rather than left to floating they are a much richer green.

Up to six or seven years ago only the narrow leaved form was available, then the broad leaved form was introduced and the narrow type disappeared almost completely within one and a half years.

The narrow leaf fern is daintier but less prolific than the broad loaf fern.

Cabomba. There are eight varieties of this plant. The plant is grown outside in pools in Florida, Most people seem to fail to maintain this plant.

The best treatment for this plant is for it to be left alone when it will when it will grow yards long. Eventually it will form diamond shaped surface leaves and then bloom, the flowers are quite small and a creamy -white. After flowering it will throw out a mass of side shoots along it's whole length.

Never uproot the plant, leave it alone and only propagate by cuttings.

When you are buying Cabomba in a shop never buy a plant that has translucent leaves, especially those forming the "head". The underside of the leaves in a healthy plant should be a mauvish colour,

Cabomba grows bolter in fine sand, commercially it is grown in silver sand and neever disturbed. Never buy this plant in the winter months.

Cryptocoryne is group are strictly bog plants.

The easiest member of this group to grow is known in the trade as harteliana; recently the names of the cryptocorynes have been revised and this plant should be now known as affinis.

Affinis only became available four or five years ago but is very easy to grow and I always recommend this plant to newcomers to the hobby.

"Shirleys" manual on plants is very good but it does list a great many types of plants that are rarely available.

Two species of crypto` have been confused for a long time; these are beckctti and cordata. Becketti is listed as a little low plant with a low growing habit, traders will persist in using the name becketti when it's correct name is nevilli.

The plant sold as cordata is the real becketti is a taller plant with the undersides of it's leaves green and mature leaves taking on a reddish color.

There are many other species of cryptos` for instance willisi but these are not so readily available. Willisi has a long narrow leaf on a short stem, it is a slow grower but not particular as to light conditions.

Pigmy Chain Sword Plant This plant propagates by runners and under the right conditions one; can get a dozen young plants from a couple of adults in two months. If at any time the leaves turn clear it is best to throw the plant away.

Amazon Sword Plant. There are two distinct varieties of this plant, the narrow and the broad leaved Sword Plants. The narrow leaf type grows to eighteen inches high. The broad leaf plant has a leaf that is three times as wide as the narrow type.

Most of the plants grown in this country are narrow leaved whilst imported plants are usually broad leaved. The broad leafed variety is the easier to grow the narrow orn being a very slow grower,

The Amazon Sword Plant is a hardy plant costing up to ten shillings a root. It is not too fussy about light conditions. The plant is propagated by runners. If the young plants are cut off the runner too soon they will die, the best course is to anchor the runner to the gravel and only detach the young plant when it has become established.

Hair Grass. Most people fail with this plant because the clunps that they plant are too small.

The plant will grow as a marsh subject, and when grown in this manner they will flower; the flower is similar to a bull-rush. In a tank the plant tends to be taller than when it is grown outside as a bog plant. At outside temperatures it blooms readily and reproduces rapidly.

This plant hates undergravel filters and is best grown in eighth gravel or silver sand.

Willow Moss. There are two varieties of this plant commonly called fine and coarse.

The coarse type grows in dykes or on lock gates and is a suitable spawning medium for coldwater fish. The fine type is suitable for tropical tanks but it should never be subjected to aeration as any mulm that settles on it will quickly suffocate it.

Elodea. This plant is strong and healthy at 70°F but
at 80° F it quickly deteriorates.

Egeria densa is another name that this plant is known under.

Water Stargrass. This plant has a single stem with ribbon-like leaves it is one of the easiest plants to induce to bloom, the flowers look very similar to the celandine.

It is suitable for tropical or cold-water and is propagated by cuttings or runners.

All aquatic plants flower usually above the surface of the water. Hygrophila is the only common aquarium plant that has not yet been observed to bloom. If you should get hygrophila to bloom I would advise you to send it to Kew;

I am sure you would be well rewarded.

Never let Stargrass get more than a foot long. If you take two pieces of Stargrass and place then both in aquaria at 75° F one under subdued light the other under strong light, the one grown under subdued light will become a dark green-brown whilst the one grown under bright light will become a yellowy colour. The yellow colour is a sign that the plant is growing strongly.

Myriophyllum There are two varieties that need concern us here parrots feather and elantoides they are really cold- water plants and in tropical tanks they tend to got leggy and very palo green.

Elantoides will grow in a poorly or well lighted tank but no aerationshould be applied for they stir up the muln even base filters stir up too much mulm which is deadly to the plant.

Naja and Nitella Both these subjects are low in the order of plants. Nittella is the nearest known plant to algae
Since it is so closely relatod to algae it will deter the growthh of blue-green algae and blanket algae.

Scats, however, should be kept away from this plant as they will eat it, they will attack it in preference to any other .food.

Najas is similar in form but it is more brittle and has the disadvantage that it tends to attract blue-green algae.

Sagittaria and Vallisineria Sagittaria is the easiest to grow, hardier and a good'qxygenater, but it is not suitable for shallow tanks. Sagittaria leaves tend to "fan out" whilst vallis leaves grow straight up to the water surface.

When Sagittaria flowers it throws up spade shaped floating leaves to enable the blooms to stay above the water.

surface. Sagittaraj. is suitable for tropical or cold-water tanks.

Vallis is a tricky subject. If it is planted in a tank already well planted with other plants it w;ill not do well. It likes a lot of light, is not fussy as to temperature but should never be overcrowded with other plants. Straight vallis is a little easier to grow than the twisted variety.

Straight vallis is known as spiralis whereas the twisted form is tortafolia; this may seem odd but the name spiralis refers to the twisting growth of the flowering stem and has nothing to do with the leaves.

Floating Plants many so called floating plants actually grow just below the surface of the water.

Lessor Bladderwort is very good for breeding live-bearers. ivy leaf . duck weed is a less prolific plant than the common duck weed^ it :floats just below the water surface whilst the common type has leaves that lay on the surface of the water.

Water lettuce is not really suitable for the aquarium although it^s long trailing roots are a good spawning media.

Floating Fern has it's leaves normally about a quarter
of an inch above the surface of the water and I would reccommend this plant rather than the Water l,ettuce.

Frogbit will last about eight months in the aquarium, the South American frogbit is better, this plant propagates by runners.

lMr Skilton then asked whether there were any questions:-

Questioner Is it possible for twisted vallis to become straight ?

Skilton Not normally. If it is grown in a poor light it does tend to have only one twist per leaf. In a tank where it is growing strongly it could come up under a rock, if you remove this rock it will grow straight for a while. The roots of twisted vallis are white and brittle whilst those of straight vallis are not brittle and are green or yellow.. Twisted leaves grow from a crown whilst straight vallis leaves grow from the stem.

Questioner . DidMir Skilton leaves out Ludwigia ?

Skilton Yes, I left out a lot of plants. I also left out Wisteria - with this plant it is best to lay a portion on the gravel if you wish to propagate. Ludwigia also propagates best if laied on the gravel. Ludwigia needs a lot of light, strictly speaking it is a bog plant.

Questioner You mentioned lime-free gravel as being the best compost can you explain where one can get it ?

Skilton. Most gravel has got lime in it and the only way to get lime-free gravel is to purchase what is known as "sea screened" gravel, do not get the crushed variety as this contains sharp stone This gravel retails at about four pence a pound.

'Whilst on the subject of gravel I would like to warn you against using gravel from iron seams, this is an orange coloured material and plants simply will not grow in it. At one time I "inherited" a retail business and along with it hundred weight after hundred weight of this orange gravel no plants would grow in it and in the end I had to throw it all away.

I believe I am right in saying that gravel can be tested for lime content by taking a small sample and adding hydrochloric acid to it if it contains lime it will "fizz".

CLUB NEWS.

Meeting 19th April

The highlight of the evening was a talk on Breeding and Rearing the Barbs given by Dave Cheswright. One interesting point mentioned was that some barbs if they are spawned in ordinary tap-water the resulting fry will often develop a form of tail-rot. This can be avoided by spawning in a half and half mixture of tap-water and ion exchange or rain-water.

Table Show Barbs.

1.....P.F .Capon.....chequers
2.....C. Ward..,.....filamentosus
3.....B. Dunn.....schuberti
3.. …..A.J. Mason.....tiger

The raffle of a pairof chequer barbs was won by a new member Stephan-Mann

Meeting 3rd May

The raffle of a trio of Angels was won by Dave Cheswright.

The major portion of the evening was taken up by a talk and slide show on cichlids given by Michael Willis.

Meeting 17th May

This evening John Mason gave us a talk on catfishes and loaches, He mentioned that although it is almost unknown for cat:s: to catch white spot they do often act as carriers - He also mentioned -an ex-member .who used to place a stick of chalk in his corydoras tank, the cats apparently ate the chalk without any ill effects. Another point mentioned was that corydoras and some other cats are able to take air in by mouth;pass it right through their intestines and finally out through their vent.

LABYRINTHS

l.-.B.Dunn.....leeri.....80 points
2..P. F.Capon.....Fighter.....79 points
3..B .Dunn.....thicklip.....75 points
4. P.F. Capon.....fighter. ….....72 points

A.O.V.

1..B.Dunn.....Synodontis catfish.
2 C. Ward ….....Celebes Rainbow
3..A.J. Mason.....Flying fox
4 -Mr Medhurst..... ….....Flying fox

Meeting 7th June

This was the evening that S.L .A.D.A..S. was host to Basildon and Thurrock clubs for the Inter-club table show, During the evening we were entertained by Mr C.J. Skilton to an interesting lecture on aquarium plants and their propagation., this talk is reported on page 6..

Inter~club table show held at Southend

BARBS

1 . ..B..Dunn.....Southend.
2. ...Mr Hemble.....Thurrock.
3.. ..Mr Lupton.....Basildon
4.....C..Ward.....Southend.

FIGHTERS.

1....Mr Niccol.....Thurrock.
2. ..Mr Barber..... ….....Thurrock.
3 ...M:r Durrant..... -.....Thurrock.
4- ..P.F.Capon..... ….....Southend

PLATYS

1.. ,Mr Lupton..... ….....Basildon.
2. .D .M Cheswright... ….....Southend.
3 ...Mr Lupton,..... ….....Basildon.
4....Mr Durrant.....Thurrock.

TOOTH-CARPS..

!....A.J.Mason.....Southend
2.. Mr Lupton..... ….....Basildon.
3...Mr Hartlebury.....Thurrock.
4...Mr Durrant«.....Thurrock.

This gave the positions of the clubs as Thurrock first with 16 points, Southend second with l4 points, and Basildon third with 11 points.

The raffles were won as follows:-

1... J.Hartlebury (Thurrock) pair *Aphyosemion caliurum*
2...T.King (Southend) pair Plying Foxes.
3..Mr Niccol and S.Halsey (Thurrock and S.L.A.D.A.S respectively)
plants donated by C.J.Skilton.

Meeting 21st June

The time table rather wont ary this even.ing First we were supposed to have a cold-water table show but no entries turned up, perhaps this was just as well for the judge did not turn up either.!

The next item was to have been a talk on fry rearing but instead turned out to be a talk on a trip to Shirley Aquatics.

The raffle a pair of Australian Rainbows, the *nigrans* species, was won by Vie Picket !.

The fry for the "fry rearing" competition,yellow wagtail platys, were handed out, (one member apparently received a solitary zebra amongst his wags). Only five fry instead of the normal six were handed out so it is proposed that only a trio need be brought back for judging on the 4th of October.

Meeting 5th July.

Dave Cheswright and your editor gave a talk on live-foods and pond life respectively. Your editor ignored the remarks about the wide variety of pests that he breeds in his tanks.

Seriously, though, the attendance was very poor indeed members obviously are not interested in "bugs" perhaps "pond life" should be loft out of the program next year.

The raffle of a white worm culture was won by Michael Willis who put it up for auction,

Meeting 19th July.

The highlight of the evening was an auction.

TABLE SHOW CHARACINS

1...P.F. Capon.....Glowlight.....92 pts
2.. P.F .Capon.....Black Widow.....79 pts
3-..D. Cheswright.....Cardinal,,.....74 pts
4...P.F.Capon.....Ornatus.....70 pts

RESULT OF INTER..CLUB TABLE SHOW HELD AT BASILDON,

GUPPIES (MALES)

1...D.Stockwell.....Basildon.....77 points,
2...J.Hipgrave.....Basildon.....76 points.
3.. B.Dunn.....Southend.....75 points.
4...J.Hipgrave..... ….....Basildon,.....,74 points.

GUPPIES (FEMALES)

1...J.Hipgrave.....Basildon,.....76 points.
2...D.Snith,.....Basildon.....70 points
3...B.Lupton..... .Basildon,.....63 points

A .O.V.

1...B.Lupton.....Basildon.....89 points.
2...B.Dunn.....Southend.....88 points.
3. .D .Smith.....Basildon.. ….....85 points.
4...Mr Niccoll..... ….....Thurrock.....84 points.

DANIOS, RASBORAS,AND W.C.M. MIMNOWS.

1...B Lupton.....Basildon..... ….....88 points
2...Mr Niccolls.....Thurrock.....87 points.
3...D.Cheswright.....Southend,.....86 points.
4...B.Lupton.....Basildon.....85 points.

LABYRINTHS.

l,.Mr Niccoll.....Thurrock.....88 points.
2.Mr Mendle.....Thurrock.....85 points.
3..Mr Barber.....Thurrock.....83 points.
4..P.F.Capon.....Southend.....82 points.

Best fish in show} Mr B.Lupton 39 points. The judges were Messrs Steward and Goodall.
During the evening the meumers of the throe clubs were entertained by Cyril Creed who gave a talk entitled " An A.B.C. of Fishkeeping" we hope to report this talk in our next issue. The raffle of a pH test kit was won by Dave Cheswright

DOZEN .ALL POST FREE.

THE SOUTHEND, LEIGH AND DISTRICT AQUARIST SOCIETY
(founded 1938)

QUARTERLY JOURNAL
Number 13, October 1966

The Society meets at 8.00 PM on the first and third Tuesday in each month at;-

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EDITORIAL

On page 5 we have published an anonymous letter – Should like to point out that I have an idea who the author is.

I must say, however, that I do like the idea of a trophy for the Fishkeeper of the year.

Our club needs new ideas otherwise we will all get stale, and stale members r-mean a stale club. A stale club is dead !

What do members think of the contents of the letter- do you agree or do I get the sack for daring to publish it.

Incidentally, one member did mention to me that he also felt very much an outsider on joining our club. It took some tine before he felt accepted,

Talk to new members make then feel at home !

==========

A LOOSE MOTHER GOOSE FOR AQUARISTS USE

by Ginny Reed.
reprinted from the
Wet Pet Gazette

Mary had a little tank ,
One day it sprang a leak;

The words that Mary spoke were not
Translated from the Greek !

==========

A BETTER CLUB - an anonymous letter.

Sir

In a recent Issue of the club magazine the question was asked, "Why do some members attend one or two meetings and then disappear ?".

Two or three theories were put forward by the editor, but, personally I do not think that these theoriesquite hit the nail on the head.

In every club you vill always get a few "One Nighters" who just make that brief appearance and then vanish, but these are not the people to worry over, as they either "know it all" or "do not want to be told".

No, it is the average fishkeeper with a genuine quest for knowledge that the club must look after and cater for-, and the best way to keep such a member interested ia the club's activities and keen for the next meeting lies, in my opinion, mainly with the committee.

As things stand at the moment, a new face appears round the door of the club-room, singles out somebody who appears to be in authority, talks a moment, smiles round briefly, takes a seat, and there remains until the meeting closes. Repeat this procedure two or three times and it is no wonder that this new face doesn't appear anymore. He is no doubt disillusioned., bewildered and feels very much outside everything.

This is where the committee could rectify things !

Now, one does^t expect to have the red carpet rolled out upon joining the club, but it is courteous and rather nice to be introduced publicly to all members present by the officer in charge. This should got the new-comer off to a good start, but unhappily it doesn't happen in this club.

The rest of the committee should now follow this up by giving our newcomer all the information he requires on coming events, club functions, fish shows and entering procedure etc, so that he can acquire a rapid sense of security and of being accepted.

Finally the new member should be drawn into any talks or lectures as often as possible, so that he can voice his opinions. This should bring him out of his shell and, in doing so, help him find his feet amongst his fellow members. No one likes to sit like a dummy all evening, especially when there is so much to learn, but all too many people will never open their mouths in a discussion for fear of ridicule.

I personally have undergone such an experience and know full well what I an writing about !.

Readers will no doubt have their own opinions as to why new members disappear, but I sincerely believe that if the "Nine" committee members, (three of which I know, I think !) try that little bit harder to make new comers feel at home from the word "GO" ; then the ranks would soon be strong again.

Uninteresting meetings were mentioned as a possible reason for the lack of new members. As far as I am concerned, the agenda that is printed in the membership books is varied enough with interesting topics, but I would like to see some of the committee out in front daring discussions, rather than voicing their opinions from the body of the hall,

Finally, I would like to see the introduction of a Club trophy where points could be awarded for attendance, table show entries, show placings, etc, as an Annual Award for the Fish Keeper of the Year, this would give an incentive to existing members, and create a competitive spirit so vital to a healthy club.

I have decided to remain anonymous for the time being, until I see the reaction to this letter, as I feel sure that there will be some repercussions, no matter how slight, but will give all the help possible, if members think that the trophy will help give that added interest on Tuesday nights.

==========

Well, readers what are your comments do you agree ? Let us be hearing from you !

Editor.

COUNTING FISH ELECTRICALLY

by P.F. Capon

Ever had a problem counting the fry in a brood?

Tho Lancashire River Authority has devised an automatic fish counter. The River Leven, which flows from Lake Windermere to Morecombe Bay, at a point on it's course flows over Eel's Damn. This damn has a gap through which fish, mainly Salmon and Sea Trout, may pass. In this gap an electronic counting device has been installed. This counter is also able to measure the length of the fish.

RED GUARDS BAN FISH

by S.L.A.D.A.S
foreign correspondant

The Red Guards who have been roaming Pekin boating up anyone they fancied have started to condemn our hobby. They say that the keeping of Goldfish and other pets indicates "revisionist" tendencies and that the affection lavished on pets ought to be channeled to increasing "productivity".

Be careful aquarists or you may have to give up your hobby and spend you spare time reading the works of Chairman Mao !

After a thousand years the goldfish is to be banned in it's homeland China. The first records of goldfish occur in 970 AD. Originally it was only cultivated by the aristocracy but it was popular with the whole population by 1600.

Goldfish were first inported into Europe via Portugal from Java in the 17th century.

NOTICES

CLUB SECRETARIES YOUR MEMBERS WILL WANT THEIR OWN PERSONAL COPIES OF THIS MAGAZINE. COPIES ARE AVAILIBLE AT SIX SHILLINGS PER HALF DOZEN POST FREE.

MARINE FISIIKEEPING^,by a NOVICE.

alias A .J Mason.

Before diving head first into this very tricky subject I went round picking the brains of all and sundry, and reading as many books as I could lay my hands on. The following is the result of my inquiries.

First it is agreed by all those that I questioned that an angle iron tank must be coated with nylon or another plastic; stainless steel tanks are also suitable. A reasonably powerful filter must be included in the set-up.

Anyway, to cut a long story short this is what I have managed to achieve so far ;-

We have a 25 X I5 x 12 nylon coated tank , which holds approximately fifteen gallons of water, and a plastic cover.

Now, the water has got to be made salt and that doesn't mean adding ordinary cooking salt the salt that you use is special marine Salts. Four pounds of these salts make ten gallons of water at the correct density of 1.025 to 1.030, anything between these figures is all right.
For a bottom medium I used well washed silver sand, (have you ever washed silver sand ?)..
1 covered the base of thetank with about half to one inch of this sand.

I carefully mixed the salt in the water and checked the density and then filled the tank in the usual way. To check the density of the water you use a piece of apparatus called an Hydrometer.

Having filled the tank I installed an ordinary 100 watt immersion heater and a inside thermostat.

Now comes the hard part, especially on your pocket, according to the "sages of Marine Fish-keeping" a little gadget called an "Ozonizer" is a must. This is incorporated into the aeration system and is supposed to kill all the unwanted bacteria in your aquarium.

The filter that we are using is a Dynaflow power filter with a. through-put of twenty-four gallons per hour.
You could cut your costs by using a "Bubble-up" driven by a fairly good punp.

As the fishes are Coral fishes the decor is of course two or three pieces of coral, a word of warning do not put a Red Sea-fan in until it has been boiled and scrubbed until all the outer red skin has been removed.

A temperature of 75°F is about right, I used a 40 watt bulb as a top light.

Having set the tank up it was left for three days to settle, this is the right time for this kind of fish.

We then introduced the fish which included a Clown Fish, Black and White Damsels, Blue Damsels, and one Trigger Fish which is very expensive and very beautiful.

So far they are feeding on white worms which they all take with great relish. Their diet is supplemented with chopped shrimp and "Tetra Marine" dry food .

We ere keeping our fingers crossed, but we are only feeling our first feeble steps in this type of fish-keeping, and by this time next week who knows what may happen ?

==========

H.G. WELLS AND FISH

by P.F. Capon.

Nearly all the national newspapers and magazines have run articles on H.G .Well's centenary. We thought that w'e should follow suit but Wells seemed to mention little if anything on fish.

Many of his prophesies have come true and one in our line could still do so. In his tine machine story he suggests that many thousands of years hence life on the land will become extinct and water-life will be all that is left.

So when you look at your fish remember that one day they may be the "lords of creation" and man but a menory.

So treat then with respect !

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A CULTURE LABORATORY

by D. Roberts.

Several years ago I adapted a small room into a Culture Laboratory. Interest in biology prompted me to add this to ny already fascinating hobby of fish-keeping.

Perhaps the majority of aquarists are interested mainly in live foods - these I culture as well as carrying out many experiments with infusoria.

Each infusoria culture is examined minutely under a magnifying glass and the results recorded. All infusoria cultures must be kept warn, about 75° F. Too low a temperature slows down their activity and decreases reproduction. If you are feeding infusoria to tropicals there must be no temperature difference bctveen the culture and that of the tank. Pages could be written on my numerous experiments with scores of infusorians. I have found an amazing amount of life in stagnant pools. These ars often full of algae and diatoms.

I keep a special portion of the garden specially reserved for a regular supply of earth-worms: these are collected and stored live. This worm is extrenely hard to keep and breed.

1 also breed white worms which 1 believe to be one of the best foods, nine are bred in old seed boxes containing damp peat and occassionally a specially prepared compost. The white worm boxes are covered with sheets of glass and kept away from all light.
In breeding these worms dampness, coolness, and darkness are mportant.

I use a special food but sometimes give mine a slice of damp brown broad or a knob of cheese.

There is not time to go into the full culture of this worm, but I do keep several boxes going to use alternatively for an endless supply.

Meal-worms are a less well known food, they take time to breed and are best bought if needed. The life cycle of this flour beetle is fairly long, it takes several months for a culture to reach the cropping stage.
Although these "worms" are capable of breeding at temperatures as low as 35°F they are best kept at 60° F.

The micro-wom is white in colour, less than an eighth of an inch long and no thicker than a hair, is an ideal food for fry.

I culture these worms in plastic dishes with lids. I nix a paste of brewer's yeast and water and cover the bottom of the dishes to a depth of about a quarter of an inch. At room tenperatures I find that these worms will crawl up the sides of the dishes within three days, they are then ready to scrape off and feed to the fry. The worns are also attracted to wood so I stick orange sticks in the dishes. The sticks can be washed in clean water when the worms sink to the bottou and are ready to feed to the fry. The worns are best removed fron the water with an eye-dropper. Suall mouthed fishes such as neons and pencil fishes are fond of micro-worms.

I also produce grindal worns.

At the present I only produce enough worms for my own needs but 1 do hope to produce a surplus in the near future.

==========

An A. B. C, of FISHKEEPING

reported by P.F.C.

At the recent Inter-club meeting at Basildon we were entertained by Mr Creed of the F.B.A.S. to general talk on fish-keeping. The following is a report on that talk.

A is for aquarium. The bigger the aquarium the better large tanks are easier to maintain. I would reccomend a 24 X I5 X 12 to a beginner as in a 15 inch deep tank the plants do better, as they really need a two inches deep growing medium.

Most people start with cold-water fish and then go on to tropicals. The guppy is the first fish that most people breed, it is a good idea to have a smaller aquarium for breeding purposes. When breeding guppies seriously it is adviseable to have a number of aquaria.

B is for breeding the aim of everyone.. I always think that it better to win prizes with fish that you

have bred yourself rather than bought ones. I do not think that clubs publish their schedules early enough before hand to enable people to breed fish specially for a show. Most fish should be up to show standards in six nonths.

When breeding live-bearers plenty of space is needed. As these fish sex out at an early age, the sexes nust be separated if you intend to do any "line breeding".

C is for community tank. More people are introduced to "our hobby by these than by any other method.

Community tanks are restful, Harley Street waiting rooms invariably contain one. The minimum size is between twenty four and thirty inches.

D is for diseases. Diseases should not worry healthy fish.
I have put fish with white spot into a cominity tank and had the disease disappear.
White spot is prevalent in most waters but does not always come up.

To cure white spot I would r eccor-mend a tenperature of 85 °F for five days and then slowly returning the temperature to normal over a period of several days.

White spot is prevalent in nost waters but does not always come up.

I hate chemicals.

When quinine is used to cure white spot it makes the fish sterile. Because of the fear of white spot in this country the Germans at one time doctored all consignments with the result that they could not be bred. This led to a lot of bad feeling.

In the end British dealers obtained their own fish as
breeding purposes.

E is for egglayers, A most interesting group of fishes. If JOM purchase an unidentified fish and wish to breed it is of great help to find out to which family they belong. It is also useful if it is possible to find out from the dealer from what part of the world they come.. Then by going to along to the library and reading some "traveler's tales" you can get an insight into the locality and conditions that the fish..are used to.

An acquaintance of nine obtained some unidentified Killifishes (Tooth-carps) and put then into the top tanks in his fish houise. Those tanks being near the glass roof got overheated and the tenperature ranged fron 120°F in the day to 90°F at night, and to his suprise the fish spawned. He tried to breed them again at a temperature of between 80°F and 90° F but they refused. As soon as they were placed in the "hot" tank again they spawned readily,

Surface waters in the tropics, can reach 100°F or more, and a pail of water can freeze at night.

Snow melting in mountainous regions can melt and chill the waters in the lowlands. The surface of natural waters can be very hot whilst the bottom is only 40°F to 50°F.

j**F** is for feeding. In the wild state our fishes get a wide variety of live foods.

Daphnia is a much over rated food 50% of it is shell which only provides roughage. Experinents have been carried out at Guys hospital on feeding human volunteers on one type of food only, the experiments had to be discontinued as the participants nearly went insane.

Tubifex is all right as food as long as it is clean. It is best to keep it for four days to allow it to pass out the filth in it's intestines. It is possible to keep tubifex for four to six weeks if it is placed in about two inches of water with soue daphnia in ir to keep it clean.

Grindal and white-worm are all right.

Meat can be used but it should be borne in nind that meat swells in water. It is possible for meat to swell inside a fish.

Earth-worms are far and away the best food; they are best cut up small enough for the fishes to swallow easily. The earth inside the worns acts as a fertilizer for the plants.

White fish and shrimp eggs are also very good.

I would advise using at least half a dozen different dry foods and if you run out try raiding the kitchen cupboard; I have found that fish like cornflakes.

Mosquito larvae are one of the best foods of all; I find oak leaves in an old, butt etc provide the best culture.

H is for heating. Paraffin is easil^ the cheapest and electicity the nost expensive torn of heating. Gas comes next to paraffin in cheapness but there is a chance of leaks fron the govenor.

I ronenber one night helping to sort out fighters at the Artistic Aquaria next morning not one was left alive- leaking gas had killed the lot. Fighters and other labyrinths are far more vulnerable to gas than other fishes as they breathe air.

At one time we used to heat tank using small paraffin burners under each tank. These were quite efficient but during the winter a blue flame heater was needed as a booster.

Base heating encourages plant growth.

I is for inbreeding. Inbreeding is not all that worrying in the fish world. For line-breeding we nust inbreed.

Myron Gordon maintained a thousand aquaria in his line breeding experinents that finally led to the yellow wagtail platy, (Myron Gordon was a faimous geneticist who studied the platy-fishes in his investigations into cancer. He used platys and swordtails as his experinental "tools". He contributed articles to the "Aquarist" on fish genetics

(He had an article on the crosses that led up to the yellow wagtail platy in the
Oct:bor 1952 issue Editor.).

L is for light. Light is necccssary for aquarium plants.

To find out what anount of light your plants need start off with an 100 watt bulb and if you get algae within a few days cut the power to 75 watts. You should air. to have an amount of light that produces algae in about ten to fourteen days.

Our plants are used to daylight. You should aim for a power equivalent to sunlight at mid-day for about two hours per day. If the light is of too lower power the plants will rot,

M is for marine. There was a marine Association started in this country once but I have not heard much about it lately; I do not know whether it got nach support.

Fresh water comes straight from the tap but marines make for a careful aquarist as it is more difficult to get salt water.

I .have naintained marines for 9 to 10 years and have never changed the water. I make ny water with Tidman's salt but add one gallon of real sea-water to every ten gallons of manufactured water.

I have bred Sea-horses in this water.

Anemones bred in ny tanks and I had so nany young ones that I did not know what to do with then all.

Fresh water goes green with algae but narine water goes brown, if you cover the tank with green glass the sand will stay golden and the water crystal clear.

I use two aerators in case one packs up and put the filter one only one day per month. The fish are fed on daphnia.

I once had a Scorpion fish (*Pterois volitans*) which used to eat fourteen guppies at one sitting. It was fourteen inches long when it died and I have still got it pickled at home.

N is for newconers who should all undergo quarentine (new fish not new club ueubers» ed)

O is for oxygen. All fishes need plenty, the plants supply all they need. I do not beleive in aeration.

P is for plants. Cichlids often attack them but if giat Sagittaria or Amazon Swords are planted and well rooted they will give up if they can`t uproot them in a short time.

(To be concluded in our next issue)

CLUB NEWS

Meeting August 2nd .

Dave Cheswright gave us a nost interesting talk on building a fish house. Dave illustrated his talk with his own slides. He converted an existing shed into a fish-house. The work involved would have put off a lesser aquarist. He removed the old floor, put a concrete one down, ripped off the old roof and replaced it with a double glazed glass one. The walls were lined with poly-styrene foan and finished off with painted hard-board.

As if this was not enough work Dave took a range of slides step by step through the reconstruction and used these in his talk.

The raffle of a pair of *Bedotia gayi* was won by Derek Trickett.

Meetin; August l6th

The high point of the evening was a plant table show: -

1...B.Dunn.....water lettuce.

2.. .A .J.Mason.....vallis

3....B .Dunn.....hair-grass

4....B.Dunn.....vallis.

Meeting September 6th

Michael Willis gave us a talk on Tooth-carps illustrated with slides. Part of the selection of slides were hired and part Michaels. Michael's own were more comprehensive than the hired set.

The raffle of a pair of *Pelnatochronis kribensis* was won by a fellow who has pretensions to literary merit.

Meet ing Septenbor 20th

Dave Cheswright entertained us with a talk onbreed ing and keeping livebearers.

Table Show, Swordtails and Mollies.

1.. ,E .Thoupson.. .Female red sword.....80pts
2...S.Norris..... …...male Tuxedo.....78 pts
3...J.Cooper..... …..Black Molly .....76 pts
4.. .E .Thompson... Male Red sword.,.....74 pts

The first prize in the raffle a pair of blue Limia was won by Tom King, the second prize a pair of Festival platys was won by that Capon fellow, both winners put their prizes up for auction.

Meet ing October 4th

The major event of the evening was a bring and buy, the most successful for many a year; so successful in fact that the tea was FREE I

Table Show., Fry Rearing (Yellow Wagtail Platys)

1...E.Thompson.....80 points
2...R.D.Orford.....78 points
3...T.King.....77 points
4...J.Cooper.....76 points

The raffle of a filter was won by Vie Pickett

TABLE SHOWS.

Results to date are:-

B.Dunn.....l3 pts	M.J.Willis... …..3 pts
P.F.Capon.....13 pts	R.D.Orford..... 3 pts
A. J.Mason..... 9 pts	D .Cheswright. ….2 pts
E .Thoupson..... 8 pts	T .King..... ….....2 pts
C.Ward..... 6 pts	J.Baron..... ….....2 pts
J.Cooper..... ….....4 pts	Mr Medhurst..... 1 pts
S.Norris..... ….....3 pts	

==========

The preceding table shows how everyone is fairing in the table show conpetitiong there is a cup for the winner of the highest points in table shows^ the South Church Cup. There are a few table shows left so let us see if you can give the leaders of the table a bit more competition I

Here is a novel competition that everyone can enter - the Mini-Aquariun table show on Novonber the first. All you have to do is furnish a square show jar with plants, at least two fish, gravel, rocks etc if you wish. Your entry will stand an equal chance with even the "experts" as this a new venture by our club.. I understand that the two shields known as the Brookes Shields nornally given for the first and second winners in the furnished aquaria class in an annual show will be awarded for this table show.

On November the l5th the breeders table show takes place: in the past six fish were accepted as an entry the rules have now been altered. You only need bring along FOUR of your hone-bred fish. Lets see a little more competition this year, only two members entered last yoar.

Inter-club meeting at Thurrock October 10th .
Table Show results:-

GOLDFISH

I... B .Barber.....Thurrock
2... B.Barber.....Thurrock
3....B .Barber.....Thurrock
4...D.Cheswright.....Southend

MOLL IES

1....E.Miccol.....Thurrock
2....D.Durrant.....Thurrock
3....B.Barber.....Thurrock
4....D.Durrant.....Thurrock

SWORDTAILS

1...E.Thompson.....Southend
2...G.Roe.....Thurrock
3...J. Hargreave.....Thurrock
4...D.Durrant.....Thurrock

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CATFISH.

1.. .B oDunn ….....Southcnd
2...E.Niccol.....Thurrock
3.-.D.Durrant.....Thurrock
4...B.Dunn.....Southend

CHARACINS

1..D.Durrant.....,.....Thurrock
2...D.Cheswr ight.....Southend
3...Mr Hendle.....Thurrock
t.,.B-Dunn.....Southond

Best fish in show B.Barber, goldfish, 85 points.

The final--results were Thurrock 36 points, Southond 14 and Basildon were for some reason unable to attend.

This nade the final results for the three shows ;-

1.....Thurrock.....,65 points
2.....Basildon.....39 points
3.....Southend.,,.....36 points

Thurrock did not entertain us to a talk as is usual but instead there was a general discussion on the future of the Inter-club table shows. A trophy for the winning club was discussed and agreed upon.

Next years dates and classes were provisionally agreed:-
THURROCK BARBS, PLATYS, TOOTH-CARPS, FIGHTERS on the
22nd of May 1967

SOUTHEND - GUPPIES, A.O.V., DANIOS RASBORA W.C.M.MINNOWS,
LABYRINTHS OTHER THAN FIGHERS .July 4th 1967
BASILDON To be arranged.

.Put tbaso'dates in your diary we want to win that new trophy !!!

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ERRATA :- C.J.Skilton has pointed out the following errors in the article "Aquarium Plants" in the last issue
page 6 para 3 "very few plants can be grown with heavy filtration" not witbout a filter"
.Page 10 para 6 suggests “marsh subject" rather than "bog subject"
Page 11 para 5: elatinoides is correct not alantoides.
Page 11 para 10 should read " sagittaria is as good an oxygenator, it is nore suitable for a shallow tank"
Page 12 para,11 " straight vallis young.loaves grow from a stem whilst twisted leaves grow from the crown.

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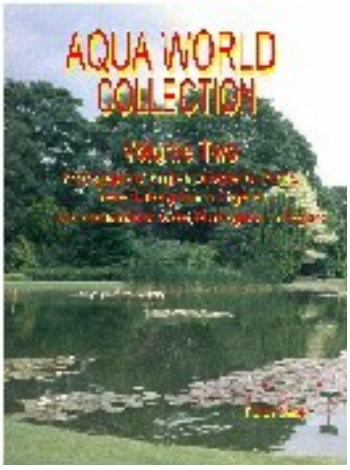
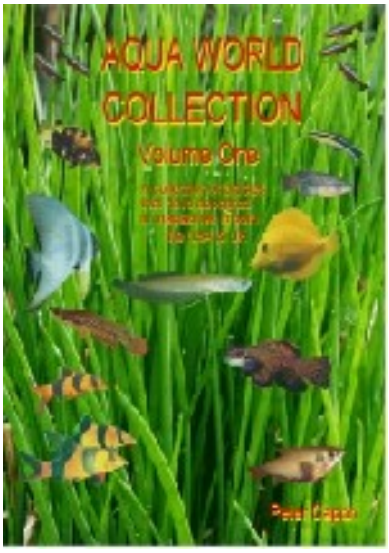
AQUA WORLD COLLECTION VOLUME TWO



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

FOCUS 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

Next

STROOD A.S

ILFORD AQUARIST SOCIETY