



GEORGE
YAPLEY

THE CANBERRA AQUARIUM SOCIETY

NEWSBULLETIN OF THE CANBERRA AQUARIUM SOCIETY

GUPPY

VOL. 5, NO. 3

JUNE 1964

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THE AUTHOR OF EACH ARTICLE IS
RESPONSIBLE FOR THE FACTS AND OPINIONS RECORDED

N E X T M E E T I N G will be held on June the 2nd at the usual place :

GOOD NEIGHBOUR COUNCIL,
Hut 35, Riverside B, BARTON.

commencing at 8:00 p.m. sharp.

P R O G R A M M E :

1. Opening of meeting and reading of minutes
2. Discuss arrangements for Exhibition :
3. Coffee Break
4. Films
5. General Discussion
6. Conclusion of meeting

P L E A S E C O M E O N T I M E

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FROM YOUR PRESIDENT:

With some surprise I noticed the other day that from the date of our June meeting, only approximately nine weeks remain in which preparations can be made for the Exhibition in August.

Most of us are familiar, especially those who were directly engaged with the Exhibition, with the requirements that were needed:

TIME, TANKS, and TEAMWORK

and the results of this combination.

Apart from having been a success for the Society as a whole, we strove to display to the general public the fundamentals of our hobby, i.e. the keeping and breeding of (tropical) fish. The keeping of fish to many ignorant people is boring and dull, but inspired by their own initiative and imagination to create near natural conditions and surroundings for the fish, our members produced many varied and attractive settings.

To carry out this task again this year, the three T's are once more required, preferably more of the first and the last than last year.

Tentative preparations will be discussed at the next meeting and I request all members to give this some thought and bring forward their suggestions at the coming meeting.

Ron Schimpf,
President.

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FROM THE EDITOR

At the last meeting we were introduced to a new member, Mr. John Andrew. He kept tropical fish in a two foot tank for some time and is a keen spearfisherman.

The weekend after the meeting he said he would go to the beach with his friend to catch a few marine fishes for Thea. They have devised an easy (on the face of it) way to catch the cunning, attractively coloured fish that abound along our coast. Their equipment consists of a cylinder and a piston. The fish is approached carefully and when only a few inches remain between the fish and the opening of the tube, the piston is drawn back as fast as possible and the fish is sucked into the pipe; at the same time a hand is placed over the opening to prevent the fish from swimming out again. This sounds very feasible on paper. A similar gadget has been developed in the United States and seems to work very satisfactorily.

If you are wondering how it worked come to the next meeting and hear John's report. He will also show a number of underwater movies, taken on our coast. So it might well be a very interesting evening.

While we are on the subject of films, Ron has organised a 16 mm film projector and is at present arranging the hire of some films related to our hobby. Watch the magazine for more details.

The committee plans to hold our third aquarium competition in the coming winter months. Now is the time to plan what type of fish and set-up you want to enter. Our plants, generally speaking, do not grow as fast in the winter as in the summer so it is important to plant your tank now and leave it alone, until after the competition, because a well planted aquarium adds many points to the final score and might decide whether you are among the first or at the other end of the line.

See you all at the next meeting.

B. van Bockxmeer
Editor

CAMOUFLAGE ON THE SEASHORE

by Thea Smits

There are all kinds of marine examples of camouflage, ranging from forms with simple concealment by means of colouration closely resembling the general background, to more advanced types, in which special shape is added to colour.

Animals that break pieces off their own bodies in order to direct attention away from the remainder, e.g. seastars; and the octopus, which secretes an inky cloud to blind its pursuers are both using a type of camouflage.

Many fish have countershading, i.e. those parts of the body surface normally in the shadow are light coloured, whilst the illuminated upper surface is dark. Thus the fish is not likely to be seen from below or above.

Most coral fish usually fit in with their surroundings, but others do not, and are often meant to be seen. They are deliberately advertising by their brilliant colours some unpleasant character, such as poisonous flesh or stinging weapons. An example of the latter is the Butterfly fish.

Numerous kinds of fishes are very difficult to see owing to their colour resemblances to seaweeds or rocks of their habitat. Some fish even have specialised shape: e.g. the Leafy Seahorse. This fish, *Phyllopteryx*, is a close relation of the common Seahorse, and lives among seaweeds at the lower levels of the seashore. The skin of this animal projects in the form of curious irregular tags, making the contour of the body quite unlike that of the body quite unlike that of the typical fish form, but perfect in its resemblance of a leafy weed.

Amazing examples of concealment by colour are provided by those animals that can change their colours to suit different backgrounds and conditions of light. The Octopus,

some Prawns, and the Sting Ray in particular are good at this. The colours are produced by separate and exceedingly tiny colour-cells called chromatophores which can expand or contract and so change the colour of the skin.

Certain crabs deliberately stick pieces of weed or sponge on their backs and limbs, which hides them very effectively.

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NOTE BY THE EDITOR:

Miss Smits has once more provided us with an interesting article on animal life of the sea. Well written as her article is, I would like to draw her attention to one misapprehension.

She states that colours in some animals are produced by chromatophores, which can expand or contract and thus change the colour of the skin. This, I am afraid, is not completely true.

Generalized, a chromatophore consists of a tiny hollow sphere with hollow branches radiating from it. These branches are usually much longer than the diameter of the centre. The whole cell contains a fluid in which pigments, usually melanin (black), are suspended. Depending on requirement, the pigments are concentrated in the centre, spread throughout the branches and the centre or somewhere in between. When the animal moves from a dark background to a lighter surrounding, it perceives the change of condition through its eyes and triggers off certain hormones, that control the position of the pigments in the colour cells. The pigments, that were evenly distributed through the whole cell, travel to the centre and concentrate into a pin point. This has the desired effect that the whole skin takes on a lighter colour. A typical example of this process can easily be observed in Angels. Within seconds they are able to become very pale or dark. (With Angels as with most other cachelids, colour changes are not so much due to

differences in light intensity as to emotional conditions; the principle, however, is the same.)

From my explanation it is therefore obvious that not the cell as such contracts or expands, but that it is the pigments that are able to move through the solution within the cell.

SNAILS GALORE II

Miss Grant Lipp told us in the previous issue in Snails Galore, about the trouble she had with algae, how she tried to overcome the excess growth by introducing snails which in a very short time overran her tank and proved to be much of a nuisance.

Our member from Warragamba, Mr. H.M.H. Schimpf, has sent in some good advice. - Editor.

"The old method (of cleaning the glass from algae - Ed.) is not always the best. I suggest you try first of all to remove the tank from the 'near the window' position. Then obtain a discarded but good windscreen wiper blade. After you have attached a handle long enough to let the blade reach the bottom of your tank, you then clean the glass by moving the 'cleaner' up and down over the glass without even getting your hands wet

A vacuum cleaner' can be purchased to remove all traces of dirt that could collect on the gravel. Normally your filtering system should take care of this.

I found this method very successful and hope it will do equally well for you. Good luck."

WHAT MEMBERS ARE DOING

by J. Holland

This month the activities of Mr. Bernie Broers are featured.

Most of Bernie's activities are centred in his fish house. This little building, situated at the back of their garage, contains all his fish, aquaria and associated paraphernalia that are normally required to maintain such an establishment.

This fish house measures 12' x 12' and stands approximately 7'6" high. It has a 7" thick concrete floor and the walls are insulated with insulwool. Bernie selected masonite for the inner walls and fibrous cement sheets for the outer walls. The roof consists of two layers of 3/16" glass that are 2" apart. The airlock between the two layers serves as an insulating medium. The light entering the fish house is controlled by moveable sheets of masonite that can be placed on top of the glass roof.

In the fish house is found a total of 20 tanks varying in size from 15 to 70 gallons and also 6 ponds. The tanks are arranged in two tiers around the room and are supported on heavy planks which, in turn, rest on brick piers. The ponds are merely concrete - walled enclosures built on top of the floor of the fish house.

Contained within the tanks and the ponds are an estimated 500 - 600 fish. About 40 species are represented. The set-up at the moment contains two community tanks and all the other tanks and two of the ponds are devoted to breeding of fish. Bernie eventually intends to convert all tanks to breeding. If you are wondering what he plans to do with all the fish, the answer is that Bernie wants to go into business and sell fish and plants. He hopes that he will be able eventually to supply a large proportion of the demand for aquarium fish in Canberra.

Initially he will mainly offer for sale Goldfish, Angels and livebearers. Later he will attempt to breed in quantity Neon tetras, Glowlights, Tiger barbs and Black Widow tetras. Bernie also aims at propagating plants.

He has already begun selling some varieties and hopes to do business eventually with the plants Cabomba, Water Sprite, Hygrophilia, Ludwigia, Cryptocorynes, Corkscrew Vallisneria, and Siamese Temple plants. The plants are grown in four of the ponds.

To maintain the correct temperature in all the tanks and ponds, three thermostatically controlled 750 W infra-red strip heaters are used. On the average the temperature is kept at 73° - 75°F in all the tanks. The temperature in the ponds, however, fluctuates from about 65° - 75°F, hence only the hardier livebearers are kept in these. For any fish that require higher temperatures, Bernie uses the normal-type thermostatically controlled heaters in the tanks that contain these fish.

The air for the tanks is supplied by a double piston pump. Since the house is fairly airtight and no ventilation can be used, the oxygen that is required is introduced by drawing air for the pump from outside.

Nightlighting is supplied from fluorescent tubes. In a fish house of this size, filtration is impractical and so every three weeks the mulm is siphoned out of each tank.

Some interesting statistics concerning Bernie's fish house:

Building Costs	£ 350. 0.0
Feeding of fish per week	10.0
Electricity used per week not estimated, but relatively small, according to Bernie.	

Hence, if you are considering building a similar fish house, the only cost that should worry you would be the initial cost of the construction of the fish house and the purchase of the fish. Don't forget to build a strong floor, because Bernie's 20 tanks and 6 ponds carry approximately 675 gallons of water, i.e. the total weight of the water in the fish house alone comes to three tons.

A WHITE BLOODED FISH

by Thea Smits

Among various fishes being studied at McMurdo Sound, Antarctica, is the Chaenichthyid; the only vertebrate known to have white blood.

It was discovered in 1954 by a Norwegian biologist. A normal fish to all appearances, it has no haemoglobin in its blood. Haemoglobin, which gives the blood its red colour, has hitherto been regarded as the only means by which Oxygen is carried from the lungs or gills through the blood to the cells of the body.

NATIVE FISH

The Role Played by the Western Carp Gudgeon in the Breeding of the Murray Cod

Mr. C.J. McKenzie reported in the Sunday Telegraph of 17.5.1964 that biologists of the Inland Fisheries Research Station at Narrandera successfully induced Murray Cod to spawn and, what is more remarkable, were able to rear the young.

Until this year the mighty Murray Cod - they are reputed to attain weights up to 100 lb - did not spawn in captivity and attempts to rear the young artificially always ended with the death of the young.

Because this fish is a potentially good food supply and also a sought-after game fish, as long ago as 1906 attempts were made to breed the fish so that lakes and rivers could be stocked with them. However, as mentioned before, it all ended in failure.

Since the fish could not be induced to spawn, a biologist stripped a ripe female cod 25 years ago and sent the eggs to the University of Sydney. Some of the eggs eventually hatched and were kept in the University

aquarium, but shortly after the absorption of the yolk sac the young cod began to die. The project was abandoned for lack of interest.

Because the Murray Cod began to die out in several of our inland rivers, the problem was tackled once more. At the Inland Fisheries Research Station at Narrandera two large ponds were made available. One covering several acres was only a few inches deep to allow the water to reach the required temperature. The other pond which was eight foot deep, was used to hatch the eggs. Warm water from the shallow pond drained into the deeper one.

Until this time it was thought that if the right conditions could be created the Murray Cod would be induced to spawn and the rest would then be plain sailing. Mr. John S. Lake, M.Sc., the officer in charge of the station, told Mr. McKenzie "Our prime interest was not so much to hatch cod but to find out the factors which stimulate this species to breed".

In October of last year breeding began in one pond with the temperature at 69^oF. The eggs took about eight days to hatch and the fry crowded together on the bottom of the pond. Unknown to the biologists the little Western Carp gudgeon - maximum size only two and a half inches - moved into the breeding pond with the warm water from the shallow artificial lake. This little fish spawned at the same time as the Cod and its eggs were deposited on twigs and grass two inches under water. By the time the young Cod had exhausted their yolk sacs, the fry of the carp gudgeons were available and these were gobbled up eagerly by them, as Mr. Peter Wong discovered. It appears that without the Western Carp Gudgeon to feed the fry of the Murray Cod, this fresh water fish is faced with extinction.

Because the Carp Gudgeon's eggs are hatched in shallow water, any lowering of river levels through irrigation leaves the eggs exposed to die. This was the answer to the

falling off of Cod in many inland streams. Mr. McKenzie concludes his article: "It was a breakthrough that took almost 60 years to achieve. The less Western Carp Gudgeon the less Murray Cod. The tiny fish that no one believed important had dramatically shown that it was the key to abundance or otherwise of the mighty Murray Cod."

Ed.

NOTICE BOARD

1. Hec Horsburgh offers a complete aquarium set-up for sale. It belongs to one of his friends and it consists of a two foot tank with stand. A heater, pump and lamp shade are also included. The price asked is £10.0.0.

2. When I introduced Mr. and Mrs. B. Strudwick in last month's 'GUPPY', I forgot to mention their address. So for the record: they live at Flat 5/20 Northbourne Flats, BRADDON, A.C.T.

3. As mentioned in my editorial, Mr. John Andrew has joined our ranks and on behalf of the other members he is welcomed by me into the Society. John lives at 42 Quiros Street, RED HILL.

Ben.

CANBERRA MEMBERS

Do you

NEED LIVE FOOD,
BUT LACK THE TIME TO COLLECT AND CLEAN
TUBIFEX WORMS

Why not see our member Mr. Theo Smits, of

21 Carstensz Street, Griffith,

He sells clean worms at a moderate price.

