

TALK



TALK

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CANBERRA AND DISTRICT AQUARIUM SOCIETY

The Society Post Box is
P.O. Box 129, Lynham 2602

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821990

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546655

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316213

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546655

The Canberra and District Aquarium Society
meets on the second Monday of every month at
the Lecture Room, First Floor, Division of
Entomology, CSIRO, Clunies Ross Rd., Acton.

- TANK TALK -

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EDITORIAL

This issue of Tank Talk is the first of the new year for the Society. I would like to thank all those who contributed articles to Tank Talk over the past year. In all, nine members between them authored some 22 articles. While this is highly encouraging, this still means that only a small percentage of our membership is attempting to write articles for our magazine. I hope to hear more from the 'silent majority' this year. Take a lesson from Andy Wattam! He admits that while initially the prospect of writing an article was somewhat daunting, when he sat down with pen and paper, he was surprised how easy it was. He is now one of our most prolific writers!

By the way, it has been brought to my attention that many of the original articles published in Tank Talk have been turning up in other magazines and papers relating to the hobby. This must be one of the best compliments that our authors could receive.

At the last Committee meeting it was decided that the C.D.A.S. would become a member of ANGFA

(Australian New Guinea Fishes Association). It was also decided that special encouragement should be given to the keeping and breeding of our native fishes. During the year, Andy Wattam will be showing some more slides of many of our beautiful natives, which should be all the encouragement you need to keep these fish. For my part in this process, I would like to urge all those people who keep native fish to write articles on them for Tank Talk. This should not only be of interest to our members but should also greatly interest many of our overseas readers.

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BREEDING NEW GUINEA NATIVES

Andy Wattam

Glossolepis incisus

Glossolepis incisus is a rainbow from Lake Sentani in Papua New Guinea. It is commonly known as the Salmon Red rainbow, primarily because of the tomato red colouration of the males. It is a rainbow that will grow to roughly 5 inches in length. The colouration in the males has to be seen to be believed. The fins as well as the body are a brilliant red. The female is quite a dull fish as is the case with most female rainbows. The fish I have came from a friend in Sydney who has roughly 15 different species of rainbows which he is maintaining and supplying to St. George Aquariums.

My male *G. incisus* is 3½ inches long whilst the two females are considerably smaller. The fish are set up in a 30 inch tank which is heavily planted with melon swords. The temperature is 26 degrees and the water is alkaline. The fish were initially in with other species of rainbows and therefore I did not collect any

eggs. Now that all the other fish have been removed, the fish have coloured up and are spawning daily into an acrylic spawning mop which I have provided. The eggs are collected after a week and then placed into small containers and floated in the tank with the adults.

The eggs are not all laid at the same time and therefore the fish hatch over a period of days. At present I have approximately 30 fry and another 45 eggs. The eggs are quite small for a large fish and they eye up after 3 to 4 days. When the fry hatch they are as small as neons. They are fed *Euglena* for 3 days, then microworms for another 2 days and then they are large enough to eat newly hatched brine shrimp which they consume greedily. I have witnessed the fry eat so much shrimp that they cannot swim and sink to the bottom of the tank. I feel that as soon as a few species of rainbows are sold at the Society auctions, they will become very popular.

Popondetta connieae

The colouration of these small fish is as follows. The males' fins are iridescent blue with black stripes. The pectorals are coloured also and the body has a blue sheen. Beautiful! There are only two members in the *Popondetta* family - *connieae* and *zucata*. These fish were originally placed in the same family as the Australian Blue eyes (*Pseudomugil*) but studies by Gerald Allan of the Perth Museum have proven otherwise.

Allan first discovered *connieae* in 1981, which by the way is named after his wife Connie Allan. They are a beautiful rainbow which rarely exceeds 2 inches in length. There are probably only 50 of these fish in Australia at the present time. I was lucky enough to get 5 of these fish

from Melbourne during my recent trip.

The fish I have are only fairly young, the males being roughly 1 inch and the females are smaller, say 3/4 of an inch. They have been set up in an 18 inch tank with a spawning mop. I collected 15 eggs and placed them in a container with water that was from the breeding tank. Acriflavene was placed into the container so that the eggs would hopefully not fungus. The eggs were checked daily and any that had fungused were removed. After 18 days the first *conniaca* hatched. The eggs are quite large for a small fish. I would say that they are roughly the same size as a *Coarctoxas melas* egg. The fish are well developed when they hatch and can be fed brine shrimp after two days. Out of the original 15 eggs I have now got 9 baby *Popondetta conniaca*, that are swimming about with their parents. Hopefully it will not be too long before these fish are commercially produced and made available to everybody.

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BREEDERS' AWARDS REGISTER

Doug Williams

As recorded in the last issue of Tank Talk, entries 82 (species first bred), 83 and 84 have completed all requirements for the breeding points to be awarded.

This completes the 1984 Annual Breeders Awards Programme in which 21 club members participated, with 70 successful breedings surviving the 30 day period. Forty-two different types of fish were bred of which 7 species were recorded as being bred within our society for the first time.

1984 PROGRAMME RESULTS

	<u>Name</u>	<u>Successful Breeding</u> s	<u>Annual Total Points</u>
1st	R. Jez	15	690
2nd	H & Z Ibrahim	11	360
3rd	A. Wattam	8	315
	D. Barnard	4	95
	J. Baskett	4	35
	P. Baulch	3	35
	J. Birch	2	20
	A. Calder	1	15
	L. Daroczy	1	15
	D. Daykin	2	40
	C. Dendrinios	2	50
	J. Haycock	6	105
	E. Highley	1	25
	N. Hung	1	10
	H. Hutchinson	1	15
	D. McConnell	2	20
	H. Searle	1	55
	D. Williams	5	125

1985 PROGRAMME

1.	A. Wattam	<i>Moenkhausia pillieri</i>	Diamond tetra
2.	G. Reynolds	<i>Poecilia latipinna</i>	Black sail- fin mollys

3. G. Reynolds	<i>Gambusia affinis holbrooki</i>	Leopard gambusia
4. S. Newell	<i>Cichlasoma severum</i>	Green severum
5. S. Newell	<i>Henichromis limaculatus</i>	Jewel cichlid
6. G. Churchill	<i>Brachydanio rerio</i>	Long-fin zebra danio
7. L. Daroczy	<i>Gambusia affinis</i>	Mosquito-fish
8. P. Green	<i>Pulvicachromis pulcher</i>	Kribensis
9. J. Baskett	<i>Xiphophorus helleri</i>	Swordtails
10. L. Daroczy	<i>Aequidens pulcher</i>	Blue acara
11. D. Williams	<i>Gambusia affinis</i>	Mosquito-fish
12. A. Wattam	<i>Henichromis limaculatus</i>	Jewel cichlids
13. D. Barnard	<i>Colisa lalia</i>	Dwarf cichlids
14. D. Barnard	<i>Corydoras aeneus</i>	Bronze catfish
15. H & Z Ibrahim	<i>Tanichthys albonubes</i>	White clouds
16. H & Z Ibrahim	<i>Brachydanio laankei</i>	Long-fin leopard danio
17. H & Z Ibrahim	<i>Aphyosemion gardineri</i>	Gardineri
18. H & Z Ibrahim	<i>Aphyosemion amati</i>	Killifish
19. H & Z Ibrahim	<i>Epiplatys dageli</i>	Dageti

Entries 1, 4, 5, 7, 11, 12, 14, 15, 16, 17 and 19 have completed all requirements for the breeding points to be awarded.

Entries 2, 3, 6, 8 and 9 still require the 30 day verification to be confirmed as successful. Entries 10, 13 and 18 are undergoing the 30 day qualifying period.

Congratulations go to Ken Basham, Tom Bujna and Stephen Newell who were recently presented with their Novice Breeder's Certificates.

Remember, one of the aims of the Breeders' Awards Programme is to share knowledge and experience in fish breeding techniques. In their early days, all breeders lose fry. These losses are not entirely worthless if they lead to questions being asked which enable the aquarist to gain more perspective in breeding and fry care. It is not a failure or mistake to lose fry - losses are necessary to gain personal experience. So share your breeding losses by discussing them with other learning Society Members. Beginners who try again using their own version of a successful technique can only benefit. Also, information gained from years of experience is not lost when experienced breeders exchange knowledge and ideas.

So make time for discussion or write an article. The time you save and the experience gained can be used to further your hobby.

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Any articles published in Tank Talk may be reprinted. Courtesy would require, however, that due acknowledgement is given to Tank Talk and the Canberra and District Aquarium Society.

ARE THESE GOODEIDS OR DO I NEED GLASSES?

Xmas time in Adelaide again, and the customary tour of the Aquarium shops to compare fish and prices. If you haven't been to Adelaide fish hunting, I assure you it has the range and quality of Sydney with quite a variety of not-so-common piscatorial friends. One fish that took my eye was marked "Rare Live bearer - Goodeid" (*Xenoloca eiseni*). Having never heard of or seen these fish before, I knew there was some study ahead of me once I was back home. Having been told they weren't very common and only new to aquarists in Australia, I had a feeling that not much information would be available on them. One of the best books/magazines I have come across is the Aquarian Digest International. This journal revealed some information, so I had a start.

The red, or better still, orange-tailed goodeid is a native of Mexico and is strictly protected as an endangered species. Apparently the fish had been smuggled out of Mexico and had made its way to the U.K. This species has been available in Germany for some time, though. The question remains - how did it get into Australia?

The family Goodeidae, whilst new or rarely heard of by aquarists, has been around since before the turn of the century - being named after George Goode, an ichthyologist and director of the Smithsonian Institute. This species of fish has been known to science since 1849, when it was first collected by Dr. Eisen, a German ichthyologist, and since named after him. It is still not known the exact number of species in the family but between 30 to 40 would be a good guess at this stage. Their sizes range from 2 to 4", with one species even going to 8". The native habitat of the family is in the cooler, tropical highlands between 3000 - 7000 ft. They

are found in just about any sized body of water.

When livebearers come to mind, the immediate thought is of Cuppies, Platties and the other Poeciliidae. Well, the goodeids are related to both Killifish and Poeciliidae but some clear distinctions exist. In fact the Poeciliidae are ovoviviparous (egg developing young in the womb), their eggs being large and the young not connected to the blood supply of the mother. The eggs hatch within the mother and the young are expelled soon after, and as we know, you don't always need boy guppies to make babies as the females can store sperm. Goodeidae are true live bearers. The eggs are much smaller with proportionate yolk and the young are in contact with the mother's blood supply via a form of placenta, with nutrients being obtained via a tiny umbilical cord which can be seen on the young once born. For each brood a successful mating is required, so the male is not indispensable. The male does not have the usual gonopodium, with only the first 2 or 3 rays forming the reproductive organ.

As is usual in the Animal world, the male is the pretty one. This is no exception with my goodeids. They are both high backed fish, the male's body colouring being bronze-gold leading to an almost neon blue peduncle followed by a bright red or orange tail. The scales are easily distinguished, with a dark mark along the lateral line. The female is larger than the male and is basically a bronze-gold colour with silvery gill plates.

After about 2 weeks back at home, I noticed some behaviour reminiscent of Cichlids, with all the dancing, fin flairing and bullying associated with the spawning act. Since then, a small brood of about 25 goodeids were spotted setting up home. As I have had some water

temperature fluctuations during the recent hot weather with no ill effect on them it's hard to state the exact temperature. The tank water is almost neutral and the tank is heavily planted. I have noticed no fussy eating but live tubifex sends them busily digging in the substrate. The young have displayed an amazing growth rate, so hopefully soon I might be able to set up a colony of these fish.

I have since found out the fish in Adelaide got there from Melbourne. Mr. Heinze Staude of "All Aquarium and Pet Supplies" was entrusted with a trio sent to him from the late George Crocker imports of Queensland. A recent trip to Sydney revealed none available on the retail market and only one breeder having a lonely female which I will be procuring in order to avoid any deformity in the future. Hopefully soon I will be able to pass on some pairs to fellow aquarists.

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SPRINGTAILS

Janet James

Have you ever seen specks of dust 'sproing' across the water surface of your tank? Those little specks are very small insects called Collembola, or in common language, Springtails. Springtails generally live in moist soil, among dead leaves and rotting timber, but they can be found anywhere where there is enough moisture to support any type of vegetation such as moss, fungi and lichens. They can be found on almost any quiet body of water as well as in wells and cisterns. Some species occur between the tide marks and feed on dead fish and molluscs, but most feed only on plant matter. Occasionally they appear on snow in great numbers and these

are known as snow fleas.

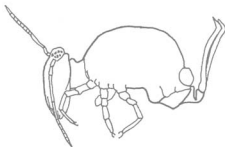
Springtails are among the most abundant of insects and sometimes occur in unbelievable numbers. One man reported a gathering of Springtails that was a foot in diameter and several inches deep. Now keeping in mind that most Springtails are usually 5mm or less, the number of individuals in that pile must have been in the millions. Luckily for us, the numbers we have in our tanks are much less.

Springtails generally feed on algae, fungi, lichens, and living and dead plant materials, though some eat dead worms, pollen and plant spores. There are about 40 species that are considered pests. Some destroy mushrooms, others destroy seedling vegetables, sugar cane and in Australia a special pest is the Lucerne Flea which destroys alfalfa and other fodder crops. The density of these latter insects was once estimated at 150,000,000 per acre. However our little pet Springtails are not a destructive species and merely content themselves with an occasional nibble of our aquarium plants or the algae on the sides of the tank.

I have included a drawing of a specimen from my tank to give you an idea of what your speck of jumping dirt may look like. It is certain that this specimen is from the genus *Sminthurides*, although I have not been able to fully identify the species.

Springtails are able to 'jump' by suddenly releasing their tail from a little 'latch' connected to their body. This 'latch' comes in various shapes and sizes (depending upon the species) and holds the tail or furcula tucked tightly under the body while the Springtail forages. When startled they release the 'latch' and 'spring'. That is why they are called

Springtails!



0.5mm

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BREEDING THE RUMMY-NOSE TETRA

Werner Habitzi

(Reprinted from *Aquarien Magazin*, Nov. 1984
Translated by Denis James)

The Rummy-nose tetra must be kept in very soft water that may even require being filtered through peatmoss. If it's provided with a good thicket of plants in the background, plenty of swimming-room in the foreground and a dark, non-reflective substrate, the pale silver fish that you saw in the dealers' tanks will hardly be recognisable. It will quickly develop its blood-red head, a soft-green shimmering body and its characteristic black and white striped tail. Any visitor will quickly turn his attention away from the Neons and Emperor tetras, for a school of

Rummy-nose tetras moving as one through the tank is truly eye-catching. Other peaceful fish do not seem to bother the Rummy-nose. The only real danger lies in overstocking the community tank, for if it becomes polluted the Rummy-nose will almost certainly be the first to suffer.

The food requirements of the Rummy-nose are easily satisfied since they are omnivorous. Live food should, however, be preferred especially if breeding is to be encouraged. Bloodworms *Tubifex*, *Cyclops*, *Daphnia* and fruitflies are a satisfactory. They are just as happy to take *Tubifex* from the bottom of the tank as they are to take chilled fruitflies from the water's surface. Provided that a variety of live foods are furnished, the Rummy-nose will forgive its keeper if it has to content itself with flake food for a few days at a time. In fact it may even regard such flake as a delicacy. As far as water conditions are concerned, I keep the pH slightly acid while water hardness varies between 5° and 8° dGH.

I kept around 10 Rummy-nose tetras under these conditions and kept hoping sometime to see some breeding activity. The fish offered for sale by the dealers are usually quite well grown and a reasonably trained eye can differentiate between the larger, thick-bellied females and the smaller, thinner and more intensely coloured males. I didn't have to wait long to see the courting display of the males - but they always attempted to court the wrong females! It can surely be said that the trigger for this behaviour in the male must be the sight of the well-rounded belly of a female. At evening time, the male would swim up under the female and touch her belly with his head in the area of the ventral fins and then for some time pursue the naturally confused female around the tank, for they always chose a female Cardinal,

Emperor tetra or a Harlequin fish, never one of their own species.

I would almost have given up - the few attempted matings in the school were unsuccessful - had I not noticed after some time a change in behaviour amongst the Runny-noses. One morning I noticed that the school, which normally formed a uniform group, had suddenly dispersed. I was surprised to observe aggressive activity amongst usually peaceful fish. This behaviour was mainly shown by the oldest and largest female who now would not permit any of her companions to enter her vicinity. This aggressive behaviour, I decided, could only be brought about by two possible factors - either the nitrite level in the water had risen to a level at which the fish no longer felt well or the hormone balance of the fish had altered such that they were in a breeding mood. The especially aggressive female previously mentioned had significantly intensified in colour over the previous few days.

Spurred on by optimism I carefully netted a few Rummy-noses-including the aforementioned female and installed them in a 20 litre breeding tank. Care was needed since the barbs on the anal fins of the males become easily entangled in the net. The tank was sparsely furnished without substrate but with a spawning rack and a bunch of Java-moss. After three days I could report a partial success. On the floor of the tank under the rack there lay around 50 eggs all of which, however, were fungused. The cause of this misfortune was probably due to the fact that I did not take enough care preparing the water. I simply used soft water.

In spite of this setback I got ready for the next breeding. Firstly, I separated the females from the males and kept them for a fortnight in a special tank. It also became apparent that

only the large female had spawned. I placed her with a male selected at random into a 10 litre tank equipped with a spawning rack and a bunch of Java moss. Later it became apparent that the Java moss is superfluous when breeding Rummy-noses. This is important in that whenever we put plants in the breeding tank we introduce infusoria, even if the plants have been well washed. These can pollute the tank. This time I gave great attention to the breeding water. I was convinced that extremely soft water was required and it appeared to me that the same water conditions used to breed Cardinals would be ideal - clean rainwater that has been filtered through peat moss for a few days. I set the temperature at 27°C. In this extremely soft and acid water I achieved a hatch rate of at least 90 percent. A record result was achieved when I used melted snow for breeding water, which I filtered for a day through peat moss. All the fry hatched - not a single egg fungused. This must surely be a rarity.

Since I was unsure why the eggs fungused during my first breeding attempts, to be safe I darkened the tank by covering it with paper. Later experience proved this measure to be absolutely necessary since the eggs and the fry are, like the Neon tetra, light sensitive. Through the covering, my opportunities to make observations were limited and although I checked several times a day, I could not detect any special activity or courting behaviour on the part of the pair. On the third morning when I looked into the breeding tank, I could hardly believe my eyes. Next to a few fungused eggs - I discovered them first due to their conspicuous colour - I spied a few glassy eggs which, for a tetra, were relatively large. I could not estimate how many there were, for the eggs were almost invisible - they just had a greyish sheen. When the eggs hatched and the fry were

free swimming I was able to make a better estimate - between 120 and 160 young. I began to use the adult female over again for breeding in a 2 to 3 week cycle.

This first breeding success that took me by surprise really aroused my curiosity. I now wanted to know precisely when the breeding act took place, although I confess that even after a dozen or so breedings I still haven't been able to determine that. Since the eggs probably take 18 to 24 hours to hatch and the eggs normally hatch around evening time, I estimate that the breeding act would occur around midnight.

The newly hatched Rummy-nose are relatively large. After five days they have consumed their yolk sacs and can be fed freshly hatched brine shrimp nauplii. Anyone who has access to finely sieved pond life should feed this several times a day, for this diverse food really stimulates growth in the fry. Maintaining cleanliness in the spawning and raising tanks is the highest priority. Food remains must be siphoned out daily while topping up the tank with fresh water also appears to be good for the fry. I must say that I have never put in so much effort maintaining water quality when breeding tetras as in breeding the Rummy-noses - and there were still more problems to come.

After about 4 weeks, the fry began to colour up. First, the head became red then the typical black and white colour of the tail developed. Around this time I experienced a great disaster. When the fish were 1 cm long and fully coloured, they began to die one after the other. The thing that bothered me the most about this mass death was that I hadn't been able to detect any signs of disease the previous day. One morning a few fish were swimming belly up with swollen bodies at the water surface. A little later I

was able to observe the early stages of this unknown illness. A few fish tore like mad around the tank, tumbled, and revolved around their own axis before hanging, exhausted and gasping at the surface. After a few hours they were dead. Through this misfortune I lost my first batch of fry. The same thing happened to my second batch just after they coloured up. Now, I stopped looking for signs of illness and searched for some mistake that I might have been making. First of all I suspected the food. I thought the problem might have been constipation, caused by the indigestible brine shrimp egg shells. However, a microscopic investigation of the intestine could not confirm my suspicion. While gazing into the tank I suddenly got a bright idea. Mentally I tried to imagine the natural habitat of *Nemigammus aodiosomus* - dark and shady jungle streams. By comparison my spartan tank was bright and had a highly reflective glass floor. I asked myself if it were possible that the fish could be especially light-sensitive at their colouring up stage. Immediately I covered the aquarium until it resembled a gloomy jungle pool and I had success - the mass deaths ceased. Thus I was able to save at least a part of the fish I had bred, and they thrived in these same conditions. It was interesting to note that it now took longer for the head to become red, but by the time they got to 2½ cm they were fully coloured up.

This only served to strengthen my suspicion that the fish had died from a type of 'sunburn'. Today I believe that during this ticklish stage of development, a dark substrate (which I make by using used activated charcoal) is sufficient. However this problem still needs to be cleared up and until it is all I can suggest to a breeder who is suffering this mass death is that the aquarium be darkened until the mass death ceases. When the fish have coloured up, I illuminate the

tank as usual. After this report I think you will agree with me that the breeding of *H. rhodostomus* is quite tricky and requires some skill and experience on the part of the breeder. For that reason, though, the joy of having bred your own school of Rummy-noses, which I like to describe as the school fish among school fishes, is so much the greater.

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TANK TALK TIPS

* Cleaning canister filters is always troublesome and aquarists frequently postpone the evil day. However, if a pre-filter is installed, it's possible to avoid cleaning the main filter more than twice a year. Pre-filters can be bought, but it is quite easy to make one out of an old corner box filter. The large pipe of the box filter (up which the air normally bubbles) is inserted into the intake tube of the canister filter. The second, smaller pipe (which is usually attached to an air tube), is glued shut or stoppered. The box filter can be packed with filter wool which can be easily changed weekly. While doing so, you don't even have to turn off the main filter.

* When connecting an air pump to an airstone or filter we often find that we want to regulate the flow of air. Frequently this is done by putting a clamp on the airline or by tightening a two-way valve placed in the airline. These methods should be avoided as they apply considerable back-pressure on the pump, reducing the life of diaphragms and valves in the pump and often increasing pump noise. A better way is to put a T-junction in the airline with one leg of the T going to a two-way valve which has a short piece of air-tube attached, through which excess

air can be vented-off into the atmosphere. A loose wad of filter wool inserted in the end of this piece of tube will completely muffle the sound of escaping excess air. This problem can be minimised, of course, by ensuring that any pump you use provides approximately the volume of air supply that you require.

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