

CAT CHAT

The Journal of the Catfish Study Group (UK)

In this issue

New Feature

Breeders List

Leaf Litter

By Peter Liptrot

Some notes on the natural diet of
Megalancistrus parananus

by Lee Finley

So you want to breed 'Cory's'

by Ian Fuller

Volume 5 Issue Number 1

March 2004

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2004**

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From the Chair



So far the beginning of the year has been very eventful, for me at least, It started when our overseas speaker Shane Linder had to withdraw after receiving a posting to Iraq and our UK speaker, Dr McGregor-Reid, also became unavailable which, for a short time, had me well and truly in panic mode as most of the committee will confirm.

Thankfully the panic was short lived and replacements were soon found in the shape of Dr Jonathan Armbruster, Associate Professor and Curator of Fishes at the Department of Biological Science Auburn University Alabama, USA, and our very own Vice President, Dr Peter Burgess of the Aquarian Advisory Service.

So what has been happening at the last three meetings? Well in December, it was our traditional 'Hot Pot' meeting and for those of you who are not familiar with the tradition, we provide a free traditional Lancashire meal called 'Lancashire Hot Pot', with a mince pie and cream to finish. After our 'Hot Pot' treat we enjoyed a video presentation of part one of Michael Goulding's "Flooded Forest". Part two will follow at a future meeting.

January was everyone's favorite meeting; the AGM. Yes I can hear you all cringe. After the minutes were read and matters arising from the minutes discussed the committee officers gave their reports, when the reports were concluded the committee stood down and our President took over and conducted the formal task of the re-election of officers. A full list of committee can be seen in Cat Chat.

Because of the problems we had with the heating at the 2003 Convention, we took the decision to swap the February and March meetings around, making the February meeting the Spring Auction and March the Convention. As a result of the swap round, the Auction proved to be very successful with records broken, the canteen almost sold out of all supplies. Mr. Terry "The Raffle" Ward was also in fine form and sold a record number of tickets. We are thinking of hiring him out. The only down-side to the auction was the low number of lots but the bidding and the quality of the lots was high and overall the auction was a financial success for the group.

Because of change of agenda this issue of 'Cat Chat' will be published on Convention Day and for those of

you unfortunate enough not to be able to attend I will give a full report in the following issue. Now I can relax a little, well - until Convention morning that is!

Our president Trevor Morris suffered a heart attack in early February but thankfully is on the mend and will hopefully make a full recovery. We wish him well

Ian Fuller

OBITUARY

Derek Lambert

1960 - 2004

It is with great sadness that we announce the death of Derek Lambert who passed away suddenly on Friday 20th February, aged 44 . Derek had been a leading figure in the aquarium hobby for many years and was well known to many CSG members and aquarists worldwide. He had a regular column in TFH for several years and more recently he has been best known as editor of 'Aquarist and Pondkeeper', subsequently re-titled 'Today's Fishkeeper' and his efforts established it under the new title into a high quality aquatic publication.

He thoroughly enjoyed stimulating debate around many aspects of the aquarium trade and hobby. He was an enthusiastic supporter of the society and showing side of the hobby, an expert aquarist with huge experience in the breeding of many rare and unusual species, and was a driving force behind the major Livebearer society in the UK.

His efforts towards ensuring stable aquarium populations of Goodeids and other Livebearers are particularly of note and he was instrumental in the moves by aquarists, both private and professional, towards the conservation and breeding of rare species. Many Zoos and Public Aquaria around the world owe their stocks of endangered fish species to him. He was, above all, a wonderful person and will be greatly missed by the aquarium hobby and by all his friends.

Our sincerest sympathies to Pat and Wilf.

Some notes on the natural diet of *Megalancistrus parananus*

by Lee Finley

Recently, while looking through the "Interesting Questions" section of Shane's World on Planet Catfish, I was interested by one of the questions relating to "L113 - *Megalancistrus gigas*". (An aside is needed here: In the newest presentation on this genus, Sonia Fisch-Muller (2003) lists two species – *M. barrae* and *M. parananus*. The first species is limited in distribution to the Brazilian Sao Francisco River Basin. The second species is more southern, and widespread, in its distribution and is found in Southern Brazil, Argentina, Paraguay and Uruguay. Fisch-Muller lists both *M. aculeatus* and *M. gigas* as synonyms of *M. parananus*, so here I shall follow her use of *M. parananus*. I will note also that I have seen references to revisionary work that is taking place on the genus. So in the future we may see some changes and/or addition in species name usage within the genus).

In any case, back to the above noted question. The writer (Liz Savage) inquired, among other things, regarding the diet of *M. parananus*. Shane had followed up with a sensible reply on this topic based on the general principles of providing a good diet for captive lorocariid catfishes. (See the PC section for details).

I have recently begun work on a catfish natural foods and feeding project and the question by Liz reminded me of a couple of general references that I had seen relating to the natural diet of *M. parananus* (using the name *M. aculeatus*). I pulled out the references, but they were not overly helpful in that they were more general in nature and only classified the species as being a detritivore. This in itself is not a bad designation, as there are a great many lorocariids (and other fishes for that matter) that make their living by feeding on mostly dead particulate organic matter that is in the main part derived from plants sources. Generally, varying degrees of inorganic material is also consumed. Such feeders also tend to ingest

small (and varying) amounts of micro-invertebrates, algae, fungi and bacteria (Yossa and Araujo-Lima, 1998). It is interesting that some early results in this detritus feeding style show that it is not necessarily a random method, and that certain species search out and specifically eat detritus of differing nutritional values.

There is one apparent caveat relating to detritivores in many studies where general feeding (trophic) groups are assigned. This is the lack of any qualitative analysis as it relates to the "detritus" found in the alimentary canal (stomach and gut) of the fishes studied. I will not insinuate that this is a bad thing, in that overview trophic studies of a general area can be very important in helping to understand the general ecology of the particular area being studied. But, as we shall see, this often more rapid assessment method may at times give an incomplete, or misleading, impression regarding the diet of a particular species.

I continued searching for more material that might relate to the diet of *Megalancistrus* and finally came upon a paper by Delariva and Agostinho (2001). I won't keep you in suspense and will note up-front that their study of six co-existing lorocariids in the Parana River in Southern Brazil showed that *M. parananus* (as *M. aculeatus* in the paper) is a carnivore with a highly specialized diet!

The study by Delariva and Agostinho compared the morphology of the entire digestive tract (from the mouth and teeth to the intestines) coupled with a comprehensive study of the dietary items that were present. Of the six species, one was a committed detritivore (*Rhinelepis aspera*) and two were selective carnivores (*M. parananus* and *Hypostomus microstomus*). The other three species (*H. regani*, *H. terntzi* and *H. margarifer*) were intermediate between these end positions.

So, with *M. parananus* (and as it happens, with *H. microstomus*) what was the primary dietary items that was detected? In a word, sponges. By volume, the stomach and gut of *M. parananus* contained just short of 60% sponges as the main dietary item (*H. microstomus* actually showed about 1% more). In addition, bryozoans (so-called moss animals) made up almost 8% of the total contents. The remaining ingested items consisted of organic detritus, small amounts of algae and plants, and sediment.

The bottom line based on the above, would be to feed captive *M. parananus* a more "meaty" higher protein based diet. With all of the variety that is available in aquarium foods this does not present any problems to the aquarist. For the purist, there are even some sponge based foods (albeit made for the marine fish market) that are available. One available in frozen form, is made by a company named Ocean Nutrition and is sold under the name "Angel Formula". Marine sponges are the second listed item on the contents (after krill). I know that this is sold in the U.S., but I am unsure regarding its availability in the U.K. and Europe. Many aquarists, myself included, use a variety of "marine" foods for feeding freshwater fishes, so this product is a good potential for consideration.

One might, in season, consider collecting their own freshwater sponges to use as food. But, in that many freshwater sponges are limited in distribution and may therefore be protected by law, it would be best to

check with your local fish and wildlife departments before getting into this. I am unsure of the status of freshwater sponges in the U.K. and Europe, but I would suspect that a similar situation may well exist.

In wrapping up, and based on available data, *M. parananus* is a carnivorous loricariid and should be fed a higher protein diet than that used for many other loricariids. It will be interesting to look for confirmatory (or contradictory) studies of this interesting dietary preference, in that many catfishes prove themselves to be quite catholic and adaptable in their diet based on many factors (food availability, changing habitat status, etc.). Time will tell, but at least for now some guidelines for feeding this species, based on wild caught fish, are available.

Author's note: As this article was going to press some additional information regarding the natural diet of *Megalancistrus* came to light. In that it was too late to adequately incorporate the material into the present article, I will cover this in a follow up piece for a future issue of the magazine. L. F.

References and Suggested Reading

Delariva, R. L. and A. A. Agostinho. 2001. Relationship between morphology and diets of six neotropical loricariids. *Journal of Fish Biology*, 58: 832-847.

Sonia Fisch-Muller. 2003. Subfamily Ancistrinae (pages 373-400); in Check list of the freshwater fishes of South and Central America/organized by R. E. Reis, S. O. Kullander, C. J. Ferraris, Jr. – Porto Alegre: EDIPUCRS, 2003. 742 p.

Yossa, M. I. And C.A.R.M. Araujo-Lima. 1998. Detritivory in two Amazonian fish species. *Journal of Fish Biology*, 52: 1141-1153.

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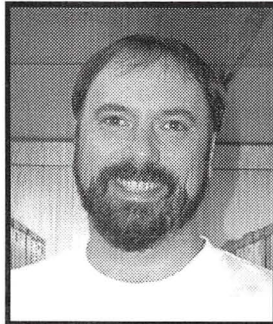
Hi Bill

Forgot about letting you know how the Pleco wafers went down until today.

All my fish enjoy eating them, Plec, Cichlids, Hoplo etc. the bigger fish take them as they are put into the tank & the smaller ones take pieces out of the plec's mouth, when fed with pellets or flake they all disappear first leaving the other food to be collected by latecomers. They are a definite hit with my fish and I will buy them.

Pat





MEET THE MEMBERS

Eric Bodrock

Member No 29 from Pittsburgh, USA

I started in the aquarium hobby at the age of ten.

The first fish that spawned for me, purely accidentally, were platys. The second fish I had spawned, also by accident, was a group of *Corydoras paleatus*. Unlike the Platys, the Cory spawn of eggs scattered throughout the aquarium not only intrigued myself but also my entire family. As we watched the eggs develop before our eyes, the level of enthusiasm grew. After they hatched and the fry began to grow the rest of my family lost interest but I became infatuated with the experience. Shortly afterwards, I was introduced to an advanced hobbyist who told me that the spawning of Cory catfish wasn't that common an occurrence and he proceeded to purchase the young Corys I had raised! From what he said and the fact I had made a little money was sufficient to get me hooked on the idea of breeding more Corys.

My first big step into the hobby and industry happened at the age of fifteen when I landed a job at a local pet shop, working a few hours a week after school and on weekends. I also joined the local aquarium society, the Greater Pittsburgh Aquarium Society, Inc (GPASI).

Both of these actions unleashed an uncontrollable desire to have more,...more tanks, more equipment, more knowledge and every fish I laid my eyes on!



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Within a couple of years I became a junior board member of the GPASI and I had advanced my job position through several area pet shops. By the time I graduated from high school, I was maintaining sixty tanks and was very active in the aquarium club's Breeders Award program and had set a goal of someday owning a pet shop of my own.

At the age of twenty that 'someday' came when I opened my first pet shop (as the active half) along with partners.

Three and a half years later I sold my interest in the business to my partners and moved on to open my own aquarium specialty shop.

Eight years later, I sold that business and landed a fantastic job as a sales representative for a large full line pet distributor, White's Fish Farm, which was owned by well known "fish people" Jim and Nancy White. About a year and half passed and the White's retired, leaving me to move on to manage the freshwater fish department of a large independent pet shop in the area.

After three and a half years with that company, about three years ago, I moved on to my current venture, All Oddball Aquatics, a tropical fish hatchery and outlet.

Now at age forty-two, I'm keeping rather busy building my business and I'm confident that I'll be content doing so for years to come. But I must admit, that in the back of my mind, the ultimate dream would be to do some collecting in South America.

More info can be found about my business at www.allodballaquatics.com

Leaf Litter

By
Peter Liptrot

This article was first published for the British Cichlid Association in 2003

Sometimes when we talk about biotopes suitable for our tropical fish, mention is made of leaf-litter habitats and how to replicate them. I know that this can be intimidating for some people, who aren't always sure what leaf litter is, how to find it and how to prepare it, so here's my little recipe for a great looking substrate that suits many species of catfish down to the ground (no pun intended). Banjos, Doradids, small Loricariids etc. are amongst the Neotropicals that will thrive in this sort of covering, and many of the smaller Asian Catfish will do equally well.

I find a park or patch of woodland well away from any roads, and just go for a walk with a couple of fishbags in my pocket (there'll be plenty of suitable places wherever you are, I can pick around 10 suitable spots for this within a 3 mile drive). Then I look for either Oak or Beech trees.

These leaves are known to be safe, and are easy to identify (if you need to, borrow a field guide from your nearest library). Find where the fallen leaves are thickest underneath, and then just pick them up in handfuls and put them into a bag. If you can find a slope you may find the leaves are in drifts, this will make it easier to collect them. If you get any peculiar looks, just smile back and pretend you are insane, it works for me and they then leave you alone!

I filled four decent sized 'fish bags' in about 20 minutes, to try to make sure I had enough, then found that I only used half of one bag to do every aquarium that I wanted to use them in! I now have enough to last until next year when I can collect again, and this amount is very easy to store. I then leave them in the bags for a couple of days in the garden to allow any insects etc. to get out. I put a few handfuls in a bucket, and pour a kettle full of water over them, leave it to

cool and then pour the water away. A couple of days soaking in cold water and then I start to add them to the aquarium, a couple of handfuls a day until I reach the depth I want (Some of them may float for a couple of days, they will sink soon enough). This avoids too drastic fluctuations in water parameters and allows me to observe the fish. The water will stain a lovely tea colour quite quickly, I control this with water changes, and you may need that for the first couple of weeks you need to squeeze out your filter sponges or mechanical media a bit more regularly than usual. If you are using power filtration you may find that you need to either cover the intake with a sponge block or raise the intake above the level of the leaves.

I found that all the fish reacted very positively from the moment the first handful was added, and when I added them to an aquarium with *Acarichthys*, *Apistogramma* and Rummynose tetras the difference in behaviour was striking (some *Tatia* catfish in that aquarium mated within days of the leaves going in for the first time I was aware of). I find that during feeding, instead of the fish gorging and then stopping foraging immediately the food is gone, with a bit of dispersal of the food the fish extend their feeding time over the next hour or so and forage amongst the leaf litter, which is far closer to natural than the gorge/digest feeding that is often seen in aquaria.

The leaves may break down over time, but by having surplus stored I can remove any that start to look less effective and replace them. *Ancistrus* do tend to cause them to break down rather faster, but all that roughage has to be good for their digestion!

I recently went to a park (Haigh Hall only 10 minutes from the CSG meeting venue in Aspull) that has some species of Oaks with leaves that do not look like British

Oaks, these are much larger and look a bit more authentic (the ones I collected are from an American Oak called the Red Oak). They are just as easy to prepare, and really do look good. Everyone who has seen the aquarium since has commented on how good it looks.

An annoying problem with blue-green algae on the substrate has almost totally cleared up, being replaced by a far more appealing fine filamentous algae.

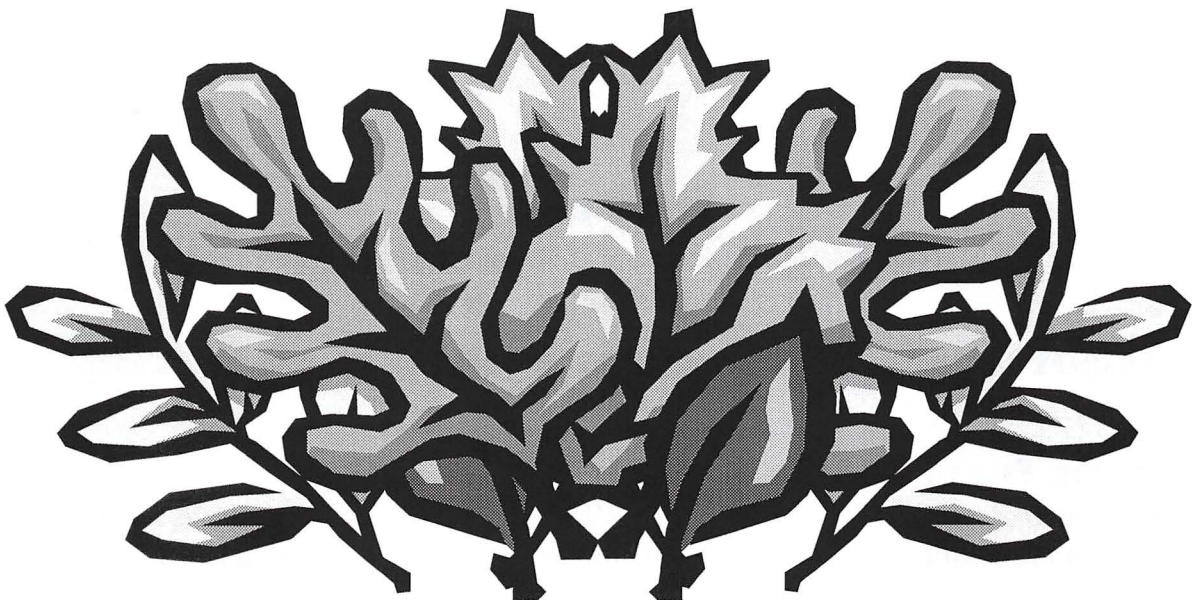
One thing I have discovered, which I feel I must point out for those who are considering trying the substrate method I suggested, is that it appears that leaf litter is a very good adsorption medium! I discovered this when, some new fish introduced developed White Spot (I knew this was likely when I bought them, but as Ichthyophthirius is so easy to treat I wasn't worried). I placed the fish concerned (Characoids) into an aquarium with plenty of leaf litter, because they come from the black water areas of the Orinoco drainage. They settled in quickly, feeding inside the hour but I was aware of their susceptibility to protozoal diseases. The next day when a few spots were visible, I treated with a proprietary cure expecting to have to do a 4-day course of treatment, usually more than enough to deal with White Spot particularly at the high temperatures this species prefers. Unfortunately all that happened over the next two days was that the infection slowly got worse while the leaves turned a fetching shade of blue. The medication was removed from the water

within a couple of hours after application, meaning that I had the most white spot-free leaves around but fish that were still infected!

Obviously at this point I removed the leaf litter and the treatment proceeded as normal but for a less visible species I could easily see that this could allow an infection to progress to the point where it could be terminal without the aquarist ever realising what was amiss.

What I would do in future, in a similar situation, is anticipate the arrival of fish, use the leaves to create suitable water conditions and then remove them for the duration of any possible treatment.

At the time I felt that the leaves would act as cover to help to settle the fish down, preventing stress which is half the battle where disease control is concerned, but in this case it actually negated the addition of medication, allowing the parasite to continue to reproduce. So, the moral of this story is, quarantine your fish thoroughly before you use leaf litter as a substrate. I always quarantine fish myself because even if a dealer makes every effort to quarantine fish before sale, it only takes one small child with wandering hands or a splash of a net or filter to mean that 'isolated' systems are nothing of the sort. Water droplets from filters can travel several feet and each droplet has the potential to carry infectious organisms.



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BREEDERS LIST

The breeders list has been compiled to benefit all members. Firstly it provides a possible source for new fish, secondly as a source of potential breeding/husbandry knowledge, as I am sure all those that have contributed to the list will be only pleased to pass on any knowledge or tips appertaining to the species of catfish they are breeding. It also provides you with a place to inform members of the Catfish species you are breeding. Feel free to contact me with your inclusions.

The list is also being published on our web page: - <http://www.catfishstudygroup.org>

Name	Species (w – wild b – tank bred)	Contact details
Allan James (UK)	Aspidoras sp. 'Goia' Aspidoras sp. 'Golden' Corydoras aeneus black	allan@scotcat.com
Bob Barnes (UK)	Synodontis petricola	01204-707375
Dave Bent (UK)	Corydoras aeneus "Black" Corydoras barbatus Corydoras duplicareus Corydoras hastatus Corydoras metae Corydoras panda Corydoras sterbai Corydoras trilineatus Otocinclus affinis Otocinclus hasemani	davemartin@corydoras.fsnet.co.uk 01733- 242137
Ian Fuller (UK)	C. sterbai C. pygmaeus C. hastatus C. oiapoquensis C. loretoensis C. paleatus (Albino) C. sp 'Guarana' Ancistrus sp albino (Bristle nose)	ian@corycats.com
Adrian Taylor (UK)	Hara hara Corydoras metae Corydoras paleatus Aspidoras eurycephalus Gold	TAYLORMEDAKA@aol.com

BREEDERS LIST (Continued)

<p>Yann Fulliquet (Switzerland)</p>	<p>H. L260 "Queen Arabesque" H. sp L28 (w): Corydoras aeneus "schultzi" Corydoras panda (w + b): Corydoras paleatus Corydoras aeneus Peru Green Stripes Corydoras napoensis Corydoras zygatus</p>	<p>yannfulliquet@yahoo.fr phone ++41(0)216538638</p>
<p>Eric Bodrock (USA)</p>	<p>Aspidoras sp. "Black Phantom" (C 35) Aspidoras eurycephalus Aspidoras sp. "Senger"^{***} Corydoras aeneus "Peru Gold Stripe" Corydoras aeneus "Bronze" Corydoras aeneus "Black"^{***} Corydoras aeneus "Albino" Corydoras adolfoi Corydoras araguaiaensis Corydoras axelrodi Corydoras "Baianinho" Corydoras bilineatus Corydoras bondi Corydoras burgessi Corydoras davidsandsi Corydoras duplicareus Corydoras garbei Corydoras larcerdai^{**} Corydoras oiapoquensis Corydoras pygmaeus Corydoras reynoldsi^{**} C. seussi "Short-nose" NEW* not C. gossei* Corydoras similis Corydoras simulatus Corydoras sp. "Mazaruni" Corydoras stenocephalus Centromuchlus perugiae* Hoplosternum thoracatum Synodontis petricola</p>	<p>sales@allobdallaquatics.com</p>

Project Report

By
Stephen Pritchard

Objective

Research the species of fish recorded in the Manu and Madre de Dios Rivers at the Manu Biosphere Reserve in Peru.

Methodology

This project is based on secondary research in preparation for a visit to the Manu Biosphere Reserve in July 2004 where some primary research is planned to catch and photograph the species in the surrounding area.

The use of the internet and expert contacts within the hobby and scientific community is key too any success that this project will have.

Success criteria

Unlike many projects that will be undertaken in the CSG (UK) this one has an end date, 22 July 2004, when I fly out to Peru to start the next project the primary research project to catch and photograph species in the reserve. So to stipulate success criteria I need to have a list of recorded species, especially catfish, from the Manu River.

Progress

January 2004

Searching the web for key words Manu, Manu Biosphere and Manu river brings in many results, mostly from travel/adventure companies offering trips to the Reserve extolling the many terrestrial beauties of the area, the forest canopy the birds especially the macaws that visit the clay licks (clay 'cliff faces exposed by the erosive action water from the rains and swollen river)

One result was from the Natural History Museum (NHM) in Kensington London, brought back memories from the late 1970's when I was privileged enough to go behind the scenes into the fish section and see all the specimens stored in bottles row upon row on large shelves and shelf upon shelf in rack upon rack, well you get the idea they have a lot of fish there.

A quick email to the enquiries address to see if I could take a look at the documents stored. The speed of the internet does lead to expectations of a quick response but to date I have not received any.

February 2004

Still no response from the NHM although further searches on their site has revealed a list of species from Manu

Another search result lead to correspondence with who advised me of a book, which I have ordered through, a further mail from a advised me that it was written part English and part Spanish, so I wait to see

A plea to the cichlidexpiditions mail group gave one response from in Italy a gentleman who gave me a link to his site which has the fish species from his trip to the Peruvian Amazon in 2000, at about the same time members of the CSG (UK) were there, he may have been part of the group that returned to the Amazon Gardens the Friday we arrived.

Heok Hee Ng sent me a list of fish species from the book "Manu: the Biodiversity of Southeastern Peru", edited by Don Wilson and Abelardo Sandoval. After making another plea this time on the taxonomy and science news forum of the Planet catfish web site

This list is as follows

Correspondence with Pete Liptrot, again making a plea to the well connected, resulted in a quick and positive response to assist and once I give him the reference he will get me the information

End

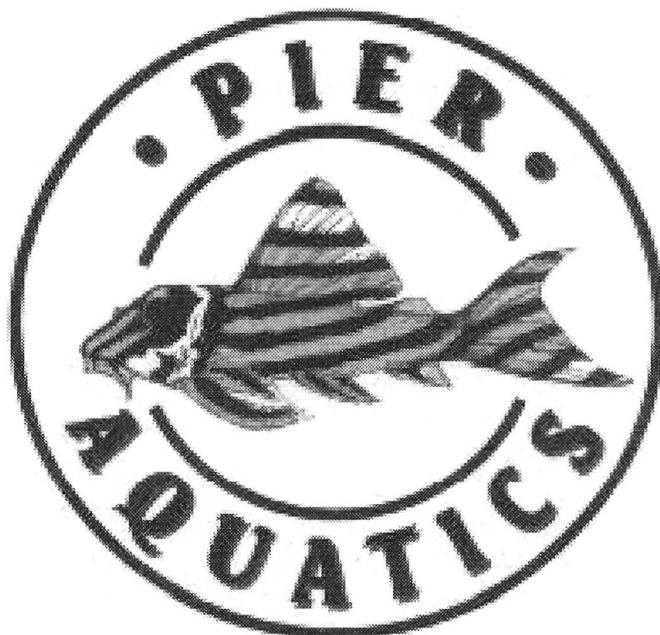
More next Cat Chat

Hi Bill

just a quick email to say fish loved the plecowafers you sent. My Synodontis Angelicus chases them to bottom of the tank before swimming off with them. the clown loach tend to pinch them and swim off with them as well.

Pauline

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Dear Members,

Most of you will have received a letter from me in early February asking about membership renewal. I have had varied feedback from this and would like to clarify the purpose of the letter, why we sent it and how the membership process should work.

The same letter was sent to different groups of members: those that did not renew last year; those that had not yet renewed this year; and overseas members. To keep things simple, a generic letter was sent to all.

Many of you commented that you had not received any prior membership renewal request. You are correct in this view. A renewal form should have gone out with the last "**CAT CHAT**" of the year, but did not. I was only made aware of this recently. This in itself led to the requirement for a mail shot and the committee decided that, while doing this, the reach of the mail shot should be broadened to include the other groups of members that I mentioned above. So, apologies if it appeared I was "chasing up" anyone, I was in some cases and not in others!

Also, the process that handles whether you have one or more membership cards requires clarification in some instances. If you previously received more than one membership card but have not of late, please let me know and I will remedy this. You must however tell me whom the other cards are for.

Some members also enquired about paying by direct debit or some form of regular annual payment. This can be set-up via PayPal, but you will have to amend it if the annual fee increases over time. For those members with access to the Internet, please check the CSG forum (www.csgforum.planetcatfish.com) where, among many other things, you will find details on how to securely pay for your membership online via PayPal with your credit or debit card.

While I'm writing this I would also like to welcome the influx of overseas members to the group. We may not see you all at the next meeting or convention, but it's good to know you are around and that the group appeals on a worldwide basis.

So, thank you to all those that pointed out these facts, and, rest assured, we will be sending renewal forms out with the final "**CAT CHAT**" of 2004.

Jools

Dear Bill

TETRA PLECOWAFERS

On receiving a sample of Tetra Plecowafer, I decided to try them in three of my Loricariidae tanks, to see how they would be accepted.

The Ancistrus species accepted them readily, including their youngsters, who would browse on them throughout the day.

The second tank, containing 'King Tiger Peckoltia' (L66), and Peckoltia angelicus (L005), also consumed them, but preferred them in the evening/night – this is probably due to the secretive nature of the species.

Lastly, I tried them on my tank of Hypancistrus zebra, this was a total failure, as the zebras completely ignored them. I removed the wafers three days later and to my surprise there was no sign of any fungus.

As a keeper of catfish it would be useful to hear from other members with their experiences of keeping different species, their dietary and water requirements, including failures.

Yours

DANNY BLUNDELL No 5



So you want to breed 'Cory's'

By Ian Fuller

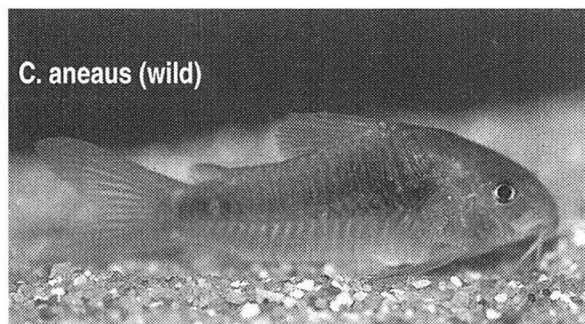
When first starting keeping tropical fish the majority of people never give a thought to breeding them and their first experience comes when their female Guppy or Platy gives birth to a batch of youngsters. Watching a female livebearer deliver her young is an awesome sight the first time you see it happen and has probably been the beginning of many a lifelong journey for budding aquarists. It was certainly what started me on the road to fish breeding.

Among the many groups of fish that I have bred over the years it's the group of small armoured catfishes from South America belonging to the family *Corydoradinae* that have intrigued me the most and for the longest time. In fact my interest in them started within the first three years of taking up the hobby, it's an interest that has continued to this day.

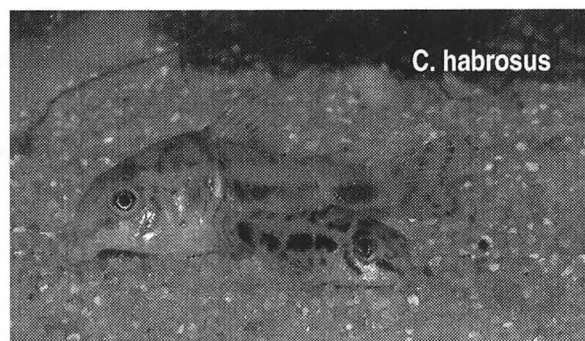
There are nearly one hundred and fifty described species, with almost as many more species awaiting scientific description. At any one time there are probably twenty to twenty five species available to the hobbyist, these range in size from a little over one inch body length (25 mm), to four inches (100 mm). Their body shapes also vary, which is an indication that, although they belong to the same family, they do not necessarily live in the same type of habitats. Which means that providing the correct breeding conditions for them is not always a simple task. The substrate where most Cory's are found is sand and, unlike common building sand, river/stream sand is different because it is constantly being moved by the flow of the water. The granules have been worn rounded and smooth. In some areas there are larger gravel and in others the substrate is clay, which is not an ideal substance to use in the aquarium. In slower moving rivers, streams and flood plain pools and lakes, there may be thick layers of leaf litter or even deep silt. Therefore, selecting the correct substrate can be a problem.

Water condition requirements also vary from species to species. At one end of the scale there are some that require very soft acidic water (0 – 2 dGH; pH 5.6 – 6.0) and at the other end the water needs to be medium

hard and neutral (8 – 12 dGH; pH7.0). As aquarists, it's almost impossible to determine the exact needs of each individual species, so we need to have to starting point. I would normally start with what I call a basic set up. The size of the tank is not that important. Most of my Cory breeding tanks are quite small, holding between six and eight gallons of water.



The first decision is to select the species you want to breed, and here I would recommend one of the so-called easier and more readily available species. *Corydoras aneus*, the 'Bronze Cory', and *Corydoras paleatus*, the 'Peppered Cory', there are also albino forms of both species available, which are equally as easy to breed. The ideal breeding group for any of these species would consist of two females and four males. To house them, an aquarium of 18" x 12" x 10"/12" deep (45 cm x 30 cm x 20/25 cm) would be a suitable size for a breeding set up. For those of you that have a limited amount of room there are one or two dwarf species that are also very easy to breed. These are, *Corydoras habrosus* and *Corydoras pygmaeus*. A small 10" x 8" x 8" (25 cm x 20 cm x 20 cm) aquarium would be an ideal size for these species.



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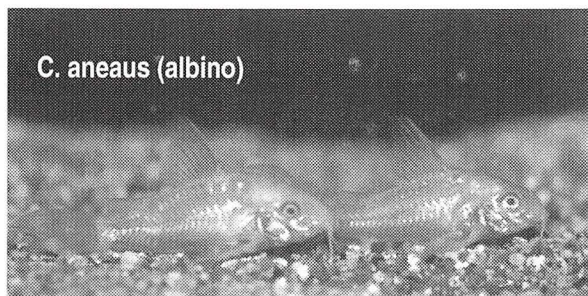
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No more than a three eighths of an inch (10 mm) layer of smooth grained sand should be used as a substrate for the larger species and about half that for the dwarf species. The reason for the shallow depth of substrate is so that when the adult fish are sifting through it in their constant search for food, they can actually penetrate to the base of the aquarium. Which alleviates the risk of uneaten food causing pollution problems. By way of filtration, I would recommend the use of air driven sponge filters. These, once they have matured, not only help to keep the water clean with their biological action, but provide what can only be described as a dining table for small fry. To mature new filters I set them up in an already established tank, usually the stock tanks that house the fish I want to breed.



The only other additions I would add to a breeding tank would be either a floating spawning mop, constructed out of synthetic 4ply knitting wool. To make a spawning mop simply take a piece of stiff card about 18 – 20 cm wide and wind the wool around it fifty times. Tie off the loops at one end of the card and then cut through the strand at the other, attach a piece of cork to the tied off end and you have a spawning mop. The colour of wool is immaterial but I find that dark green or brown seem to be favoured more than any other colour. Once the mop has been soaked it will provide an ideal egg deposit site. Java moss and Java fern also make good spawning sites; both plants are hardy and will tolerate being moved from tank to tank as required.

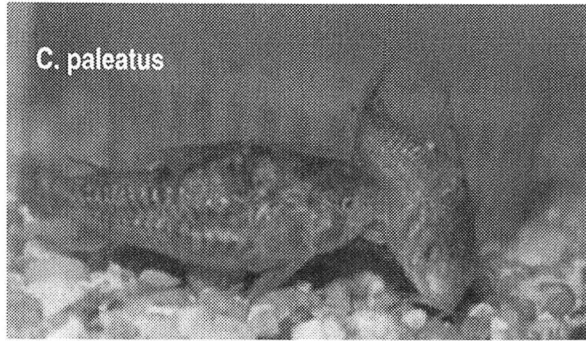
A new breeding tank set up will have thin layer of well-washed sand. Water will be taken from the stock tank that the potential breeding stock is housed in, filling the tank to about three quarters full and topped up with new water of the same temperature. One or two sponge filters are added depending on the tank size and the species to be housed. The temperature is set to suit the species to be bred, and then the tank is left

to settle for a couple of days. For *C. paleatus* the temperature would be set at 70_ F (21_ C), for *C. aneus* a little higher at 75_ F (24_ C). Once the tank has settled, the adults are introduced. If the water parameters in the stock tank are different from those in the breeding tank the adult fish should be acclimatised, which is done by catching the fish and putting them in a container with water from the stock tank and floating it in the breeding tank. The water in the container is then slowly exchanged for water from the breeding tank; once the acclimatisation has been achieved the group of adults can be released.

Now the potential breeding group needs to be given the best diet possible to get them into the best possible condition for breeding, a staple daily diet of a quality flake or tablet food alternated with live or frozen foods. *Daphnia*, *Tubifex*, bloodworm or Cyclops would be ideal.

Thirty percent water changes should be made twice weekly to keep conditions at their best, making sure to siphon all the fish waste and any debris that has accumulated on the bottom. In many cases, when the fish are in the best possible condition, a basic water change will be enough to trigger them into spawning mode. Some species however will need a little encouragement, which may be achieved by a fifty percent water change using replacement water that is about 10_ F cooler (6.5_ C). Other species may prove even more difficult, and daily water changes may be needed to start spawning interest. It's usually at this point that I advise people to make notes of what they are doing and to record all relevant details, such as tank size, water parameters, food and feeding regime, water changes; how often, how much and temperatures etc. Another tip here is to only change one parameter at a time because, by altering more, one thing could counteract another.

It will be pretty obvious when the fish are interested in breeding by their increased activity. What usually happens is the males will start to pay a female a lot of attention by performing little dances around and all over her, often offering themselves in arched sideways stances in front of her. They will stay in constant contact in an attempt to arouse a females interest. It may only be one two or all four males taking part in the ritual each one competing for the chance to mate. The females will be more interested in cleaning various

**C. paleatus**

sites around the tank in readiness to deposit her egg/s. When a female is sufficiently aroused, the roles are reversed, and she will pursue the male of her choice, nuzzling into his side just above his ventral fins. At this point the male will clamp the females barbels to his side using his pectoral fin spine. The male will be seen quivering for a second or two before releasing his grip on the female. This is what is known as the Corydoras 'T' mating position and, depending on the species, is the time when the female releases eggs into a pouch formed by clamping her ventral fins together. There are some species where the female releases her eggs into the pouch after the male has released her. There is a lot of conjecture how or at what point the eggs are fertilised and has been the subject for some lengthy discussions, which I do not intend to delve into here.

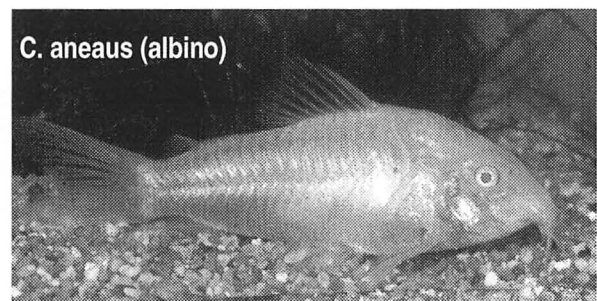
After mating the female will rest momentarily and then swim off in search of a suitable site to deposit her eggs, which may be on the tank glass or on one or all of the other tanks furnishings. I have found that *C. paleatus* seem to prefer the tank sides to deposit their eggs on, with *C. aeneus* having a preference for plants and mops. Egg size varies from species to species; the smallest I have measured was from *Corydoras* sp. *pestai* at 0.7 mm diameter and the largest from *Corydoras* 2.8 mm diameter. The size and the quantity of eggs seem to be inversely related. A species laying small eggs produces large numbers, and a species producing large eggs only produce small numbers. soaked powdered flake can also be given, alternating with the live food. At this time it will be necessary to increase the amount of water changes to before each feeding.

Corydoras paleatus fry grow very quickly, aOnce the spawning activity has ceased, it is best to remove either the adults or the eggs to avoid any possibility of the eggs being eaten. If there are a large number of eggs it is best to remove the adults and return them to their original stock tank. A small number of eggs can

be housed in a small container left floating in the spawning tank. Where eggs have been deposited in the mop or on the plants, it's a simple case of lifting the whole plant or mop out and putting it in the container. Eggs that have been placed on the tank sides can be carefully lifted by using a razor blade. Some species produce very sticky eggs, that are quite difficult to remove, and others have hardly and adhesion at all. Eggs that are removed should be put in a small hatching container (I use 1,5 Or 2 liter ice-cream tubs) with water from the spawning tank and with an air stone added. If the container is floated in the spawning tank, it will be maintained at the same temperature. The addition of a proprietary anti-fungal solution will help keep any infertile eggs from contaminating the fertile ones. Over the four or five day gestation period, the water in the container should be changed for water from the spawning tank. This will reduce the content of the anti-fungal solution to zero by the time fry start to emerge from the eggs. Once the fry have escaped the confines of the egg membrane, it will take a further two to four days for them to become free swimming. The daily water changes should be continued.

When the fry can be seen to have totally absorbed the contents of their yolk sac, they will need to be supplied with food and there is nothing better to start them off than small helpings of micro worm. Here the term little and often should apply, but this is not always a practical option. Therefore feeding twice a day will suffice, making the daily water change before the second feeding. After two days of micro worm, other foods should be introduced, preferably live food. Newly hatched brine shrimp or Cyclops are ideal. Prend within four or five week the fry will need to be moved to larger accommodations. By the time they are ten weeks old they should be about one inch in body length.

Finally remember to keep notes because not everything you do will go according to plan.

**C. aeneus (albino)**



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J.R. Shute
Stan Weitzman


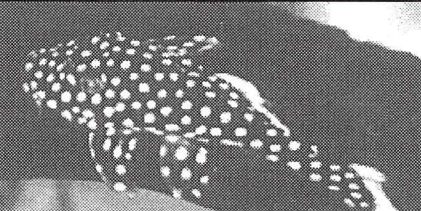
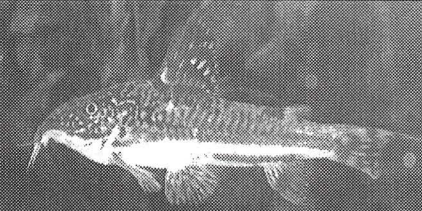
Speakers and Topics
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Topics:

Catfishes as Aquarium Inhabitants: A Preliminary History
Breeding Corydoradinae Catfish: I Did it My Way
Collecting Catfishes in Venezuela and Colombia
Asian Hillstream Catfishes
Collecting Catfishes in Sumatra and India
Catfishes of Africa
The Mouthbrooding Catfishes of Loricariid Subfamily Loricariinae
The Loricariid Catfishes of Subfamily Ancistrinae: Ecology, Care and Breeding in Captivity
North American Madtom Catfishes
Hearing in Catfishes: The Remarkable Ear Horn of *Otocinclus*

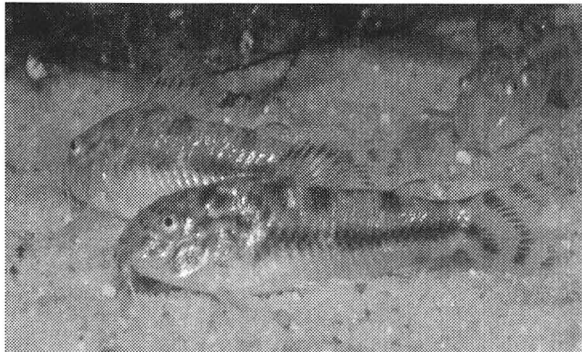
Corydoras Forum Featuring:

Eric Bodrock, Ian Fuller, Don Kinyon and Mark Soberman

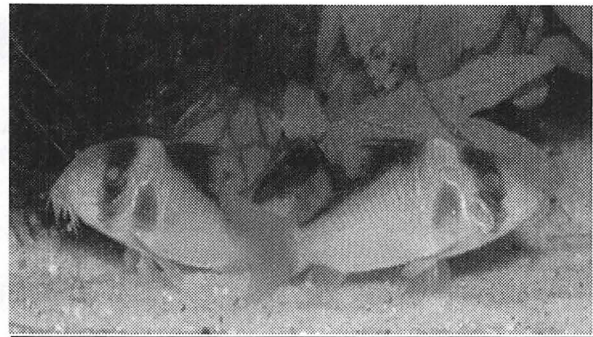
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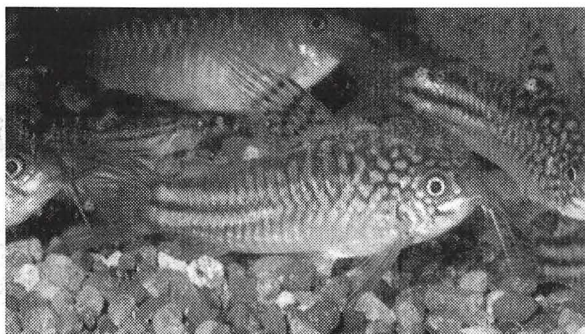
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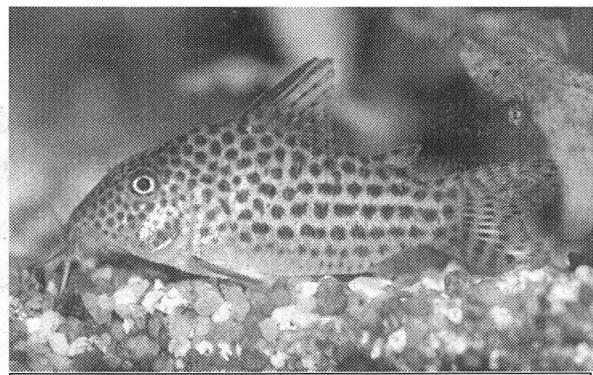
C125 *Aspidoras* sp. Peru, Ucayali drainage
Ian Fuller



C121 sp cf *burgessi*. Brazil, Rio Negro
Ian Fuller



C123 sp cf *elegans*. Peru, Rio Nanay
Picture courtesy Oliver Lucanus



C122 sp cf *maculifer*. Brazil, Rio Araguaia
Ian Fuller

C124 sp cf *stenocephalus* No picture available at this time.

World Record Blue Catfish Caught

By J.B. BENNETT / Daily Times outdoor writer

Texas angler, Cody Mullennix, broke, what is believed to be, a world record, when he caught a 121 lb., 8 oz. Blue Catfish from Lake Texoma. The five foot long fish was caught from the Texas side of the lake, about an hours drive from Dallas. Just before he caught the record fish, Mullennix caught a little 56 pounder.

Using a three inch dead shad on a 8/0 circle hook, he then hooked the record fish, which was so big it looked like it could eat the 56 pounder. Mullennix donated the fish, in a live, healthy condition, to the Texas Freshwater Fisheries Center in Athens, Texas.

The fish smashes four previous big Catfish records.

A 109 1/4 pounder previously held the 20-pound line class of the International Game Fish Association. It was caught on South Carolina's Cooper River.

The all-tackle record was a 116 3/4 pounder taken from the Mississippi River in Arkansas in 2001.

The big Blue, obviously, breaks the old Texas record of 100 lbs. caught in March 2000.

Finally, Mullennix's big catch tops the unrestricted Texas state record of 116 lbs., taken on a trotline in April 1985. It too, was taken out of Lake Texoma.

Catfishing is good in Oklahoma right now, as it always is in mid-winter.

Breeding *Aspidoras* 'gold'

By Adrian Taylor

Having acquired a small group of these fishes, I decided to have a go at breeding them. The sex of these small fishes was determined as in the normal way when sexing *Corydoras* species. The female being the plumper and the pectoral fins being rounder; and set up a tank with this in mind. I used a tank having the measurements: L40mm x B20mm x D22mm. I used 40% water from their main tank and topped it up with rain water. The PH was measured at 7.2 and the water had a GH reading of 3°. The water temperature was a constant 25°C and the tank filtered by an air operated sponge filter. I placed a large woollen spawning mop into the tank and the fish were then added.

afternoon I carried out a 60% water change and fed slightly on small bloodworm. The water I used was from an outside water barrel, this dropped the temperature down to 18°C.

The next morning when I entered my fish house I discovered that the fish had spawned on and in amongst the breeding mop with some of the eggs having been laid just out of the water. I carefully picked the eggs out of the mop and placed them into a plastic container and covered them with water taken from the spawning tank. All in all I counted 92 eggs.

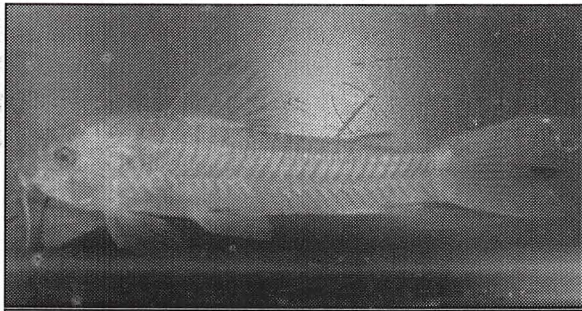
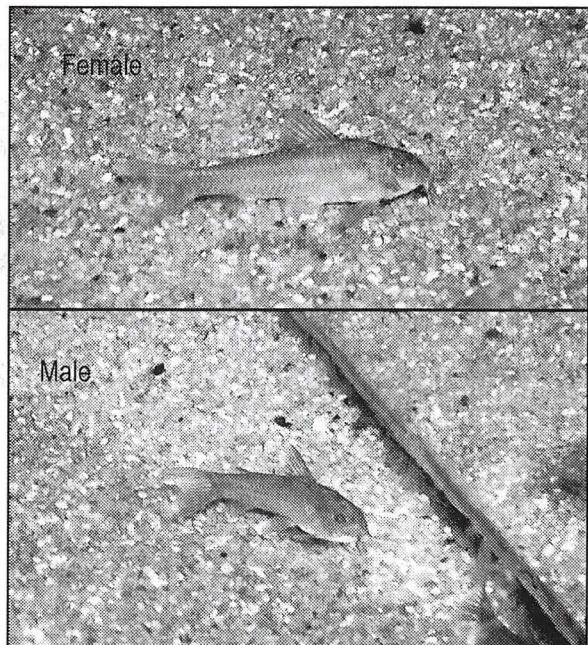


Image of *Aspidoras* 'gold' by Allen James

I fed the adults on grindalworm and baby brine and I did 10% water changes every day.

After ten days the female started fill out and by Friday she looked quite plump in the midriff, at around mid-



Images of *Aspidoras* 'gold' by Allen James

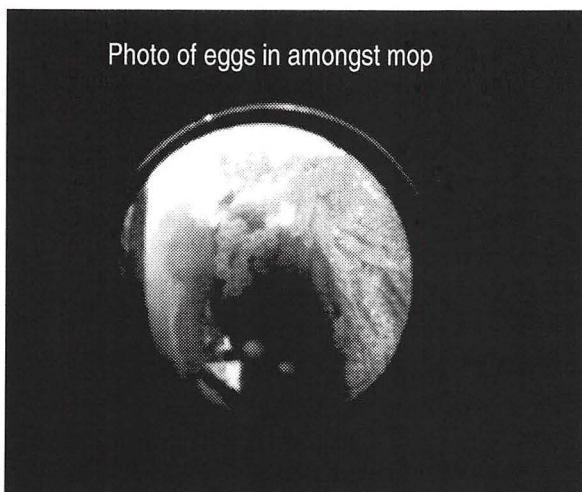
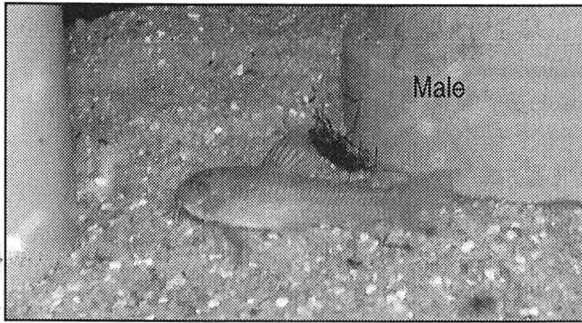


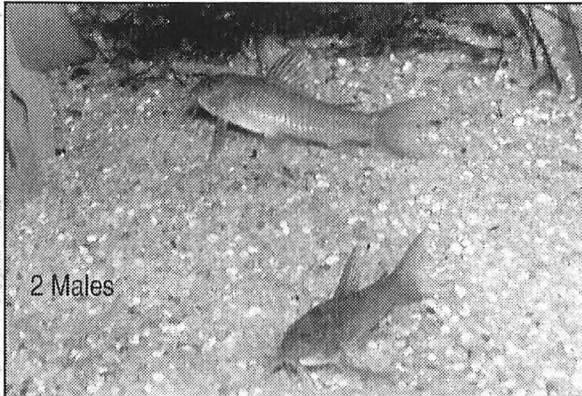
Photo of eggs in amongst mop

On inspection the following morning, there appeared to be some 20 or 30 eggs. I removed and discarded fungused eggs. The temperature in the container was Measuring 22°C, and it took a further two days for the eggs to hatch. Due probably to the low water temperature. The fry were all showing quite a large yolk sac.

The fry were then added to a tank that had been set up in the same manner as for the breeding tank. The water in the raising tank was at 25°C. Before I added the fry to this tank I slowly mixed the water from the



tank with the water in the container whilst all the time floating the container of fry; in the designated tank. This took around two hours. And the fry had absorbed



their yolk sacs by the next morning.

The fry were fed for the first three days on powdered egg yolk and live paramecium and for the next few days after that on a mixture of micro worms and paramecium; after that they were fed mainly on newly hatched brine shrimp. I did 10% water changes every day. Growth was quite rapid and the fry had increased in size from 1 to 2mm, when first hatched to 12 to



15mm some 20 days later.

On subsequent spawnings I increased the temperature in the container to 25°C, this made the fry hatch slightly quicker and they carried very little in the way of yolk sac.

Jonathan W. Armbruster

Associate Professor and Curator of Fishes
 Department of Biological Sciences
 331 Funchess
 Auburn University, AL 36849
 e-mail: armbrjw@auburn.edu



Jon is our overseas speaker for 2004. We asked him to give us some information about himself for Cat Chat and he sent a 9 page CV which reads like a scientific paper. However, to summarise (or to leave a lot out), Jon was born in Chicago, Illinois, on the 3 Sep 1969 and he is married. His current research projects are:

The systematics of the South American catfish subfamilies Hypostominae and Ancistrinae (Loricariidae) based on osteology and digestive tract anatomy.

The decoupling hypothesis and its usefulness in understanding loricariid diversification

Revision of the *Hypostomus cochliodon* group of the Loricariidae with an examination of the morphology associated with wood-eating.

Functional morphology of air sacs in loricariid and scoloplacid catfishes.

Description of new loricariid species.

Description, revision, and biogeography of a new genus of loricariid catfish from west of the Andes.

Survey of the fishes of the Iquitos region, Peru and the Potaro River, Guyana.

Geographical variation in the world's smallest anchovy, *Amazonsprattus*.

Phylogenetics of the North American cavefishes (Amblyopsidae).

Distribution and status of the southern brook silverside.

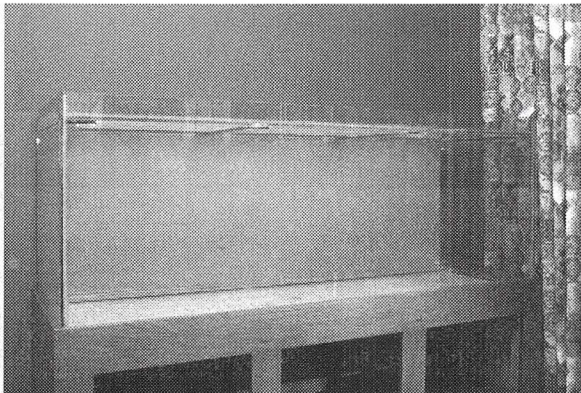
Description of the southern silverjaw minnow.

Michael Hardman, from Preston, one of our former Convention speakers and member, has also worked with Jon on a number of projects one of which was published in an earlier Group magazine.

CHANGING ROOMS -THE FINISHING TOUCH ONE 150 GALLON FISH TANK

by
Danny Blundell

A couple of years ago, Ann and I redecorated our dining room, this included moving a radiator which enabled us to reposition our wall units, leaving us with one empty wall. How to fill it was the next problem? Should we build a Llewelyn-Bowen M.D.F. Gothic knick-knack holder in cerise and lime, or a 6'x2'x2' fish tank housed in a teak cabinet containing mainly catfish. Ann persuaded me that the latter would be preferable.



We already had the tank, so a telephone call to Brian Walsh of 'GBW Products and Services' enabled me to exchange a very reasonable sum of British Pounds for a cabinet constructed of marine plywood, stained teak and sealed, which should last a lifetime.

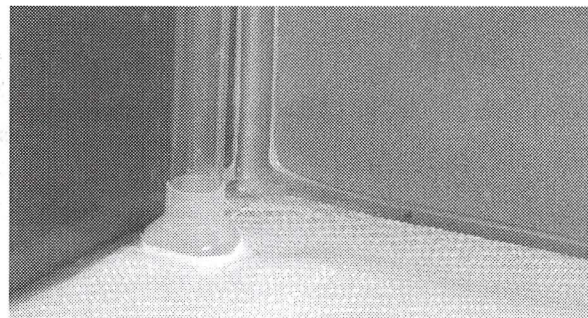
I like to use 'swimming pool filter sand' as the substrate, as it is the correct scale for the inhabitants and is also inert, but can penetrate the 'subgravel filter system'. The fish love to browse through the substrate surface and in extreme cases attempt to



excavate the filter plates, so it was essential to protect the filter system. This was achieved by Ann covering the Rena filter plates with a fine plain net curtain, and sewing this in place.

The plates were installed onto the base of the tank, two rise pipes were fitted, complete with two Eheim power heads. A single piece of 'Gravel Tidy' was positioned over the plates and silicone sealed to the base of the tank, and allowed to cure.

Approximately 50Kg of sand was washed and placed over the base, to a depth of 4cm. The main tank decoration was a large quantity of bog wood that had been well soaked, but to remove the last vestiges of debris I used my power washer. With the bog wood assembled, 150 gallons of water was hosed in, and the undergravel filters and heaters were energised, and a bucket full of mature substrate added to aid the maturation process.



Our Lancastrian tap water has very little 'buffering action' and when fish are in residence, the pH will slide quickly to acidic value or 5 or less. To combat this I mixed a small quantity (1/4 litre) of marine sand with the inert substrate and monitored the water quality daily. It is essential to add such additives sparingly as they cannot be removed (alternatively the coral sand could be temporarily housed in a pair of tights or used in an external power filter).

Two Fluval 403 external power filters were installed, one at each end of the aquarium, to remove any floating debris and to provide additional bacterial

filtration.

It is essential to keep the filter inlet pipes adequately separated to prevent them from being simultaneously blocked by either food or a dead body.

One week later 12 x 25mm Silver Sharks (*Balantiocheilos melanopteros*) were added to test the system and to provide interest in the upper levels of the tank, you will be surprised the difference a large shoal of a single species makes. Over the next few weeks the following catfish were added:-

6 x *Hassar notatus*?

1 x *Panaque nigrolineatus*

1 x *Pseudoacanthicus leopardus*

1 x *Synodontis alberti*

1 x *Synodontis brichardi*

1 x *Synodontis clarius*

1 x *Hemisynodontis membranaceus*

The aquarium established very quickly, and settled into a routine of feeding small quantities of various foods whenever I passed, combined with regular weekly water changes of approximately 20%.

Feeding consisted of:-

Dried flake (various manufacturers)

High protein pellets (various sizes)

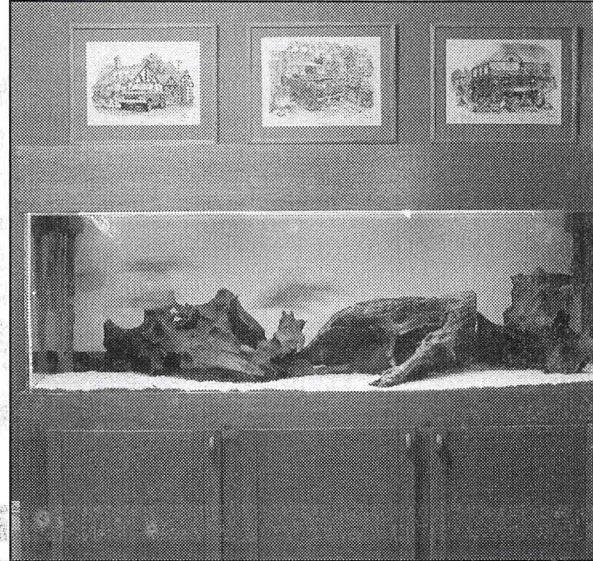
Dried colour foods

Frozen bloodworm; prawns; cockles; whitebait

Frozen crab sticks – diced.

Two years later, the growth rate is so great that the Silver Sharks have reached 15cm (6" old money), excluding the tail, and I am now forced to sell some, and remove the reduced shoal to another tank occupied by larger catfish. This will enable me to introduce a shoal of something smaller, that only grows to about 8cm (3"), any ideas? And perhaps a shoal of brochis?

Meanwhile I am renovating my fishroom, which is another story, so hopefully in a few months time, I will report back on the trials and tribulations of these two projects.



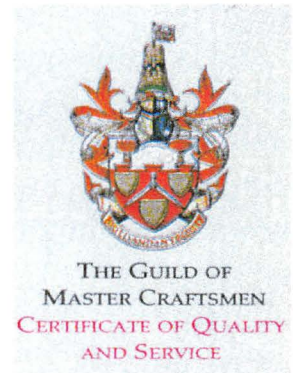
Forthcoming Events for 2004

April 18	Meeting Pt 2 "The flooded Forest"
May 16	Members only show, all catfish eligible. Judging symposium
Jun 20	Meeting Looking at: - Loricariidae
July 18	Meeting Looking at: - Doradidae
Aug 15	Meeting Looking at: - Asian Catfish
Sep 19	Annual Open Show & Auction 27 Catfish classes
Oct 17	Meeting Looking at: - African Catfish
Nov 21	Autumn auction
Dec 12	Annual "Hot Pot" Looking at: - Corydoradinae



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