

# THE JOURNAL OF THE CATFISH STUDY GROUP

*Furthering the study of catfish*



**New *Megalodoras* species**

**CSG Convention 2014**

**Focus on *Liosomodoras***

**Spawning *Hisonotus***

**Spring Auction**

**Catfish in the Community**

**What's New**

**Threat to the Import of Wild Caught Pets**

## Catfish Study Group Committee

President – Ian Fuller  
 president@catfishstudygroup.org  
 conventionmanager@catfishstudygroup.org

Vice-President – Dr. Peter Burgess

Chairman – Bob Barnes  
 chairman@catfishstudygroup.org

Treasurer – Danny Blundell  
 treasurer@catfishstudygroup.org

Membership Secretary – Mike O’Sullivan  
 membershipsecretary@catfishstudygroup.org

Auction Manager – David Barton  
 auctionmanager@catfishstudygroup.org

Assistant Auction Manager – Roy Barton  
 auctionmanager@catfishstudygroup.org

Secretary – Ian Fuller  
 secretary@catfishstudygroup.org

Editor – Mark Walters  
 editor@catfishstudygroup.org

BAP Secretary – Brian Walsh  
 bapsecretary@catfishstudygroup.org

Show Secretary – Brian Walsh  
 showsecretary@catfishstudygroup.org

Assistant Show Secretary – Ann Blundell

Website Manager – Allan James  
 webmaster@catfishstudygroup.org

Floor Member – Bill Hurst

Scientific Advisor – Dr. Michael Hardman

## Diary Dates - 2014

Date	Meeting	Venue
June 8 <sup>th</sup>	Summer lectures and Sales Meet	Derwent Hall
July and August	NO MEETINGS	—————
September 21 <sup>st</sup>	Annual Open Show and Auction	Derwent Hall
October 19 <sup>th</sup>	Discussion on ‘L’ numbers	Darwen Valley Community Centre
November 16 <sup>th</sup>	Autumn auction	Derwent Hall
December 14 <sup>th</sup>	Christmas meeting	Darwen Valley Community Centre

Monthly meetings are held on the third Sunday of each month except, where stated.  
 Meetings start at 1.00 pm and are held at the:

**Darwen Valley Community Centre, Sudellside Street, Darwen, Lan’s BB3 3DL**

Auctions, Open Show and Spring and Summer Lectures will be held at the  
**Derwent Hall, George Street, Darwen, BB3 0DQ.**

The Annual Convention is held at

**The Kilhey Court Hotel, Chorley Road, Standish, Wigan, WN1 2XN.**

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Front cover – *Megalodoras* species from the middle Rio Xingu, Image by Mark Sabaj Pérez

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## Editorial

It's always tough to find enough quality time to devote to my editorial duties. With a young family, full time job and demanding hobby there are never sufficient hours in the day and I need to spend a good 40-odd hours to draft sufficient copy and pull it all together.

Thankfully, there have been plenty of contributions from members both regulars and new, who promised articles on the back of the various conventions and meetings in recent months. Ian Fuller collared a few aquatic icons at the L-Welse event in Hanover, held in November. We press-ganged further eminent catfish experts at our own Convention in March. I hope we will see further articles down the line too.

This edition sees articles from one of last year's attendees, Mark Sabaj Pérez on the discovery of a new species of Doradid from tributaries of the Rio Xingu. One of our more regular contributors Michael Hardman presents his experiences with the Jaguar catfish of the genus *Liosomodoras*.

We have also have a write-up of the Convention and plenty of images. I have saved a follow-up article on the Convention until later in the year. This years' Convention was probably the best yet. I really enjoyed the lectures and the great company. It was good to see lots of new faces, especially overseas delegates for whom this was their first CSG Convention.

The wealth of knowledge that is shared at the event is phenomenal. I was pleased to meet many of the people I had only previously known through online websites and forums, but who are internationally recognised as some the best fishkeepers and experts on the planet. After the Convention, I topped up my Facebook friends lists with many of my new colleagues and look forward to our next meetings. Next years' itinerary is already set with yet another great line up of speakers. Book it into your diary now.

There have been a number of new descriptions recently, of some relatively common aquarium catfish, which removes some of the uncertainty over their origin. I have summarised some of the highlights of recent scientific descriptions in my regular what's new feature.

Ian Fuller achieved his silver award in the breeders award programme, helped no doubt by the excellent success with the 'green oto' *Hisonotus aky*, Ian is one of the few fish keepers to have successfully bred the species and presents his experience, accompanied by some stunning images.

The relative frequency at which new species are described amazes me, considering most of the

catfish featured do not have a significant food-fish or commercial value. What it does do is to emphasise the diversity of the family and importance of threatened habitats for their species richness. Without formal description, many species would become extinct before they were realised to science.

The next big CSG events are the Summer lecture in June, with guest speakers Dr Martin Taylor from the University of East Anglia and Daniel Konn-Vetterien a very knowledgeable German aquarist, and then the Annual Show and Auction in September. Details of both events are included in this edition.

Some of you will have noticed from the last edition that we have now dropped the 'Catchat' moniker from our title, simplifying to the more professionally sounding 'Journal of the Catfish Study Group'.

Enjoy the latest version of the Journal and I hope to see you at forthcoming CSG events.

**Mark**



## From the Chair



Hello and welcome to this the second issue of the CSG's quarterly Journal and as usual the editor has done us proud with some very interesting and informative articles and reports. I would also like to give a very big thank you to all the contributors who have made the effort and taken the time to produce such high quality articles. The journal is the groups life's blood and it is the quality of its contents that is a big factor in the group being where it is today.

Since the first issue of the year the group has had its Spring Auction, which drew in what must have been one of the biggest crowds I have seen at a CSG auction. The quality of the fish and items offered were as usual of a very high standard, there were many tank bred fish being offered, which is a very good sign that the hobby is still as vibrant as it has ever been, and all being sold at very good prices. I must at this point give a big thank you to Brian Walsh and his daughter Angela for their superb effort in the kitchen, with such a big crowd attending they were on the go none stop all day.

Moving on to the following month March, as you all know this is when we hold the Annual Convention. This took place over the weekend of the 14th - 15th & 16th and was attended by yet another record crowd, which just about took us to the hotels room limit. The event is now becoming a classic in the worlds aquatic calendar and although this year there were one or two minor glitches with the hotel, which were mainly due to most of the management being new, and not used to the CSG way of precise organising. These, we are assured will not re occur in 2015. We as always had a great line up of international speakers who kept us all enthralled with their vast amount of knowledge and tails of all thing Catfish. I will not dwell too much on the actual programme as there is a very good report in this issue from Allan James our member speaker at the event. I would however like to give the Convention Manager and all those involved in the organising and running of the convention a very big thank you, it was very well organised. A very big thank you must also go to the sponsors, without who's support we could not put on such events and of course the main catalyst, all the attendees for coming along and making it such a success. I am already looking forward to the 2015 event.

The format of our monthly meeting has changed a little this year in as much as we now have interactive presentations, where the committee will put a presentation together on a given subject and the whole meet can get involved and add input as we go through the presentation. At the April meeting the subject was 'Filtration' which everyone seemed to enjoy and learned something. Unfortunately I was unable to attend the May meeting, the topic of discussion being 'Catfish breeding' and which I am reliably informed was very well recieved.

Looking forward to meeting you at our next big event on June the 8th, detales are on page 23.

Warmest Regards

**Bob Barnes**  
Chairman CSG

## Notices

### 2014 CSG Show and Auction

The annual Catfish Study Group Show and Auction will take place on Sunday 21st September

#### Schedule of Classes

1. **Aspidoras.**
2. **Brochis.**
3. **Corydoras** group A - up to 55 mm SL. (females).
4. **Corydoras** group B - over 55 mm SL. (females).
5. **Corydoras** Types - C & CW- numbers and unidentified species\*
6. **Scleromystax.**
7. **AOV Callichthyidae**
8. **Aspredinidae**
9. **Auchenipteridae**
10. **Bagridae.**
11. **Doradidae**
12. **Loricariidae** - Up to 130 mm SL
13. **Loricariidae** - Over 130 mm SL
14. **Loricariidae** - L & LDA up to 130 mm SL
15. **Loricariidae** - L & LDA over 130 MM SL
16. **Mochokidae** - Up to 130 mm SL
17. **Mochokidae** - Over 130 mm SL
18. **Pimelodidae** - Up to 100 mm SL
19. **Pimelodidae** - Over 100 mm SL
20. **AOV Cold water Catfish**
21. **AOV Catfish** - South American
22. **AOV Catfish** - African
23. **AOV Catfish** - Asian
24. **Pairs** - Corydoradinae
25. **Pairs** - Loricariidae
26. **Pairs** - AOV South American
27. **Pairs** - AOV African
28. **Pairs** - AOV Asian
29. **Breeders** - Corydoradinae
30. **Breeders** - Loricariidae
31. **Breeders** - AOV South American
32. **Breeders** - AOV African
33. **Breeders** - AOV Asian
34. **Family Class** - Pair & Breeders team of same species.
35. **Breeders Master Class** - 1 entry = 3 separate species of juvenile fish.

#### Show Rules (CSG 2010)

Fish will be judged to Catfish Study Group Show Size Guide

1. Fish will be exhibited in clear, flat-sided containers, the smallest of which will be 100mm x 100mm x 100mm. Jars will not be accepted. Exhibitors are requested to label their show tank with the Latin and/or Common name of the fish.
2. Gravel/Sand is allowed. Aeration may be used.
3. Show tanks must be of sufficient size to allow fish to swim and turn. Exhibitors may be DISQUALIFIED if the fish is poorly presented, in poor or cramped conditions. Fish will not be fed on the show bench.
4. Breeders teams will consist of 4 fish, minimum age 3 months, maximum 15 months. Date of birth/hatching and name of species must be shown on tanks.
5. Entries may not be moved, or interfered with once judging has commenced, except by order of the Judges or the Show Secretary.
6. DEBENCHING is not allowed until the Show Secretary makes the announcement, except by prior arrangement with him.
7. The show organisers reserve the right to RE-BENCH any fish into their appropriate class.
8. PHOTOGRAPHY of entries will be permitted after judging is completed.
9. Time will be allocated to allow viewing of the judges' decisions.
10. The Judges decisions are final. Judging sheets will be displayed in the hall.
11. Any complaints, comments, etc., should be directed to the Show Secretary.

Whilst every care will be taken, the Catfish Study Group will not be held responsible for the loss of or damage to fish, equipment, or persons.

## Hands off my hobby!

Ian Watson

A recent edition of the OFI Journal carried an advert from 7 German importers concerned about a move to ban the import of all wild-caught pets. This is something which is gathering momentum and to date, major restrictions have been brought in for Belgium which not just halt the import of some wild-caught pets but go much further and also prohibit the keeping of many pets, regardless of their source.

So far, this affects mainly mammals but there are signs that the intention is to work down the vertebrates and include herptiles and ornamental fishes. At the very least, the proposals coming out are for the banning of ALL wild-caught pets, so you can wave goodbye to a lot of those interesting corys, L-numbers and apistos among others.

Leading the charge is the Federation of Veterinarians of Europe (<http://www.fve.org/>) which has released a position statement ([http://www.fve.org/uploads/publications/docs/13\\_005\\_lists\\_of\\_animals\\_rev.pdf](http://www.fve.org/uploads/publications/docs/13_005_lists_of_animals_rev.pdf)), saying the EU should create a list of animals that can be kept as pets.

That sounds innocuous until you read the detail, with the organisation welcoming Belgian and The Netherlands' approach to restrict acceptable pets to just a small handful of domesticated animals. You might like to think about how much the average vet knows about keeping ornamental fish.

The FVE, which is working with the Born Free Foundation, supports the position that wild-caught and some captive reared non-domestic animals are not suitable as pets; in short, it wants to ban or severely restrict the keeping of "exotic" animals. Some of the arguments (maybe most?) are spurious and on the grounds of welfare and the risk of passing diseases from animals to humans.

Now, the latter may be a risk for some wild mammals but the chances of catching anything from fish is remote indeed. Even cases of "fish TB" in humans are very rare. The British Veterinary Association abstained from supporting this document, saying they wanted more information.

The 'Eurogroup for Animals' campaign was launched to target MEPs. It wants MEPs to sign a pledge to protect animal welfare. Sounds harmless until you see the manifesto which includes the objective to 'ban the import of wild-caught animals and restrict the number of exotic species that can be imported and traded in the EU, in line with EU policies which

tackle related concerns including human health, animal health and the protection of the environment'. It looks as if they have got their sights on marine and tropical fish.

If you're interested (and if you keep any fish, you should be) you can find out the campaign on the OATA website at <http://www.ornamentalfish.org/hands-off-my-hobby> and, you'll see the names of 15 UK MEPs who have already signed up. You might like to see what your MEPs (they represent regions of the UK) think on the issue.

I have warned about this before but now the campaign seems to be getting serious. The fight is not equal; the Born Free Foundation has a fund of some £3M donated from the US by PETA just to support the campaign against the exotic pet trade. You might think about doing something before the only fish you are allowed to keep are guppies and goldfish. Thanks for OATA and OFI for supplying information.

Do not sit back and leave this to others! Get involved and protect your hobby. Write to those MEPs who support the Eurogroup manifesto and let them know why they are wrong and why you think your hobby is worth fighting for.

Write to the other MEPs in your region to make sure they realise the need to oppose regulation to ban the import of wild-caught fish.

If nothing else, the aquatic industry supports jobs and pays taxes in the UK which should get their interest. The pet trade as a whole supported about 50,000 jobs and paid £2 billion in taxes (source OATA annual report 2012/13).



## Meet the Member

### Rob Mclure

Rob is currently the Vice President for the Milwaukee Aquarium Society in Milwaukee, WI, USA.



He has focused almost exclusively on *Corydoras* for the past 2 years and managed to breed 18 *Corydoradinae* species so far....

Rob was introduced to *Corydoras* when his father bought a few 'julii' at a local pet shop for his younger sister Julie! These were fascinating to watch and throughout the years he always found room to keep some of the small and interesting bottom dwellers. Several years back after a spree of breeding 25 different fish in one year, Rob decided he needed to focus.

Out of all the fish spawned that year, the *Corydoras paleatus* were by far the most fun, so the choice of what to focus on was easy! 2 years later he now has more than 60 types of *Corydoradinae* fish in his home and has been told by friends and family that he probably qualifies as an addict of some sort! Rob hopes to continue enjoying and breeding *Corydoras* as long as possible. He has made a lot of great new friends in the catfish hobby and hopes to keep making more.

He has over 25 years' experience keeping fish and has tried everything (especially in his college days) from big cichlids to mini reefs. Rob has bred more than 50 species of aquarium fish and currently maintains more than 50 tanks in his small basement fishroom.

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# Convention 2014

Allan James



Convention assembled

Our 2014 Convention was held for the fourth year running at the prestigious Kilhey Court Hotel, in Standish near Wigan, England where the roots of the CSG began. The talks this year were as usual, diverse and interesting.



Allan James

## Friday night

After our dinner I started the Convention proceedings as the CSG guest speaker, with a tongue-in-cheek look back at how and why I started my fish keeping hobby all these years ago, with the aptly titled "How I caught the Catfish Bug" which was sponsored by **Midland Waterlife**.

## Saturday

After a morning spent viewing the Breeders Award Programme and sales tanks, plus all the merchandise and display stands, the convention was formally opened by our chairman Bob Barnes.



Sales tanks



Mark Breeze's with his Live Food Stand



GBW – Brian Walsh Woodcarving



Loach Association and Aquarium Gazette



New Era

The first talk was by a newcomer to our Convention weekends, Norwegian aquarist, pleco expert and breeder, Haaken Haagenson. The talk concentrated on the different *Hypancistrus* forms found in the Rio Xingu in Brazil and it was a very informative talk given by a man who really knows his stuff. Haaken's talk was sponsored by **David Howarth**.

Later on in the afternoon we were introduced to another newcomer in the form of North American adventurer and founder of Tourism and Export business WildPERU, Brian Perkins. Brian's talk took us to the Madre de Dios in Peru where he is based and the many *Corydoras* found there especially his favourite *C. weitzmani*.



Haaken Haagenson



Brian Perkins

There were many video's used to accompany his presentation. Brian's talk was sponsored by **Corydorasworld.com**.

In the evening before getting ready for our formal dinner, we had our usual Catfish Forum where all the speakers are asked questions posed by the audience. Personally I found this a bit daunting as you did not know what questions were being asked so you had to think fast on your feet, but I think I managed okay!. The forum panel was sponsored by the **South American Facebook group**.



Forum

Presentations were made after dinner to CSG members who have achieved awards through the Breeders award Programme. Ian Fuller received his silver award for spawning catfish species from at least 6 different genera and achieving over 1000 points.

Mark Walters received his Gold award for spawning 10 different genera and achieving over 2000 points. Mark also received the annual award for the best BAP article published in the CSG Journal during 2013/14. His article was on spawning *Peckoltia* L211, one of the species contributing to his gold award.



Presentations



Mark Walters

After our presentations we were entertained by, fishkeeping author and editor of the fish keeping magazine "Amazonas", Hans Georg-Evers.

Hans delivered a different and fascinating talk on "Big bony things" the armoured catfish of the genus *Brochis* and the *Doradidae* family. Hans' talk was sponsored by **Pier Aquatics**.



Hans Georg-Evers



Nocturnal discussions

## Sunday

Mark Duffill was first up and was introduced as our non-catfish speaker. Mark is an expert aquarist on everything to do with Loaches and has also had a couple of books published on his favourite fish.



Mark Duffill

He took us through the many different species and how they can be kept and spawned in the aquarium. He also kept us up to date on the many name changes that have befallen the Loaches in the last few years. Mark's talk was sponsored by **The CSG**

After our morning break we were introduced to another new friend to the CSG Convention, fish shop owner and expert pleco keeper and breeder, Barbie Fiorentino.

Barbie hails from the north west of the U.S.A. and runs a shop which caters, apart from the usual shop stock, the many different forms of the Loricariidae family and as such her talk was centred on the many breeding techniques that she uses to produce the many species that she keeps. This is another pleco keeper who really knows her stuff. Barbie's talk was sponsored by **Aqualife**.

After our lunch our Vice-President Dr. Peter Burgess gave a short talk on the "The Big Fish campaign" and the strides forward to educate on the pitfalls of keeping fish that are too large for our aquariums and basically giving them a death sentence.

Peter's talk was sponsored by "**Buster**" the red tailed cat mascot of the campaign.



Barbie Fiorentino



Peter Burgess



Brian Perkins

After Peter we welcomed back Brian Perkins who carried on his excellent presentation from Saturday's talk with a look at the Fauna and Flora of Southern Peru and its near neighbour Northern Bolivia. We were enthralled by underwater videos including *Corydoras* in the wild. Brian's talk was sponsored by [Corydorasworld.com](http://Corydorasworld.com).



Hans Georg-Evers

To end the weekend we welcomed back Hans Georg-Evers for his final talk on "The Brazilian Shield" showing maps of the areas and many photographs of the many Loricariids who frequent these waters. Hans' talk was sponsored by Pier Aquatics.

After the presentations and closing down speech by our President and Convention Manager Ian Fuller, whose hard work alongside the committee and helpers has not gone unnoticed, we said our goodbyes and went our separate ways. Those who stayed over on the Sunday night enjoyed another dinner with much discussions going on about fish in general.



A stunning carving by Brian Walsh

The feedback on this years' Convention was the most productive yet with the attendance up from last year and was enjoyed by all giving the amount of laughing that you could hear from all quarters.

Pride of place again this year was the BAP displays showcasing the hard work and dedication that goes into breeding the many families of catfish.



BAP display

Thanks go to the many visitors from all corners of the world, who attended the weekend and to all of our sponsors.

Special thanks to our main sponsor Pier Aquatics, who once again organised a massive fund raising raffle with extremely generous shop voucher prizes.



Paul Johnson, Pier Aquatics sponsored raffle, prize winner receiving his voucher. Image by Pier Aquatics.

We hope to see you all at the same venue next year in 2015!.



The 2014 CSG convention logo

# Convention Sponsors

The Catfish Study Group would like to thank the following sponsors for their continued and most valued support.



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## Gallery of Convention Catfish

Images by Steve Grant

The following images were taken at the Convention venue and at some of the local aquatic outlets who sponsored the Convention, including Aqualife in Preston and Pier Aquatics in Wigan.



*Scobinancistrus aureatus* 'L014 – goldie or sunshine pleco'



*Hypancistrus* sp L102



*Parotocinclus* sp, Peru



*Chaetostoma* Rio Pique



*Corydoras* sp CW084



*Tachysurus trilineatus*



*Tetranematichthys wallacei*



*Corydoras* sp CW045



*Corydoras macropterus*



*Corydoras* sp CW006



*Corydoras* sp C115



*Rhinodoras dorbignyi*



*Corydoras baderi*



*Corydoras cochui*



*Panaqolus* sp L398



*Pseudacanthicus* sp L452



*Scleormystax* sp CW038



## Additional Images from the Breeders Award Programme Display

by Mark Walters



*Corydoras schultzi* 'black'



*Corydoras* sp C090



*Corydoras multimaculatus*



*Corydoras parallelus*



*Corydoras* sp CW030



*Corydoras* sp CW049

### Send in your Articles!

If you've ever thought you had something to say about your fishkeeping experiences, or an achievement you were proud of, or some research you've done on a fish-shop find, share it with the rest of the Catfish Study Group through the pages of Catchat.

Any information or experience you have could be of real value to another aquarist looking for the correct food, spawning trigger or conditions to suit a certain species. It doesn't matter if you don't have good images to share; we have an extensive catalogue of photos at our disposal to illustrate an article.

Breeding reports are especially interesting and can be supported by photos of mating behaviour, egg deposition, egg development, fry growth – in addition to the wealth of information you could share on maintaining the breeding fish, spawning triggers, feeding regimes and the tricky stages of egg hatching and raising youngsters.

Sharing information will raise your profile in the catfish community and encourage more people to share their experiences and help you further with your efforts. In addition, you can use the material to support a Breeders Award Programme submission and enter into the annual award for the best breeding report published in the journal.

You will see from the range of articles routinely published there is a wide breadth of subjects to base an article around including: Breeding reports; Meet the member articles; New discoveries; Product reviews; Book reviews; Equipment articles, Fish house construction; Show reports; Fish-shop finds; Expedition write-ups; or for that matter, anything relating to furthering the study of catfish. Send your submissions to the editor@catfishstudygroup.org and enjoy the reward of seeing your efforts featured in future editions.

## A Nice Jag with Plenty of Grunt!

Michael Hardmam



*Liosomadoras oncinus* – the jaguar cat, image by Steve Grant

I have some friends that visit and politely act interested when I show them what they believe to be my empty aquaria. Every year, they ask "...when are you going to get some fish?"

Although my friends might think I keep imaginary fishes, my aquaria are actually well stocked with catfishes. Most of my catfishes spend their daylight hours crammed into a selection of pipes and caves but as they settle down, some of them begin to face their fears and come out during the day when I'm much more likely to throw some minced earthworms or tablets their way.

My jaguar cats recently started coming out – and I'm very pleased they did because they are simply glorious animals. However, I'm spending a lot more on tablet food because my kids try to guess how many it will take before they stop feeding. I always chicken out at 15, so we still don't know how many is enough.

### Not-so-bold but Beautiful

Both the common and scientific name (*Liosomadoras oncinus*): smooth bodied doras that looks like a jaguar) give away that this cat is blessed in the beauty department. Unfortunately for the aquarist, its looks are not matched by its confidence and this South American superstar is almost as afraid of sunlight as Count Dracula. Placing a snag of dead branches at the water surface and adding plenty of shelter and floating plants can encourage their daytime adventuring.

If you're lucky enough to find them and rich enough to buy them, it helps to think of *Liosomadoras* as an occasional and exciting treat to the aquarium experience. They are definitely not guppies.

There are two kinds of *Liosomadoras*, and both are sold as jaguar cats. It's important to know which you're buying because, though no fault of its own,

the black or false jaguar cat (*Liosomadoras morrowi*) is the ugly sister. Rather than the fabulous yellow, white and black patterning of *L. oncinus*, *L. morrowi* dons the classic catfish colours of brown with brown spots and tops out at 15-20 cm (6-8"). True jaguar cats reach 25-30 cm (10-12") in aquaria.

### Dealing with Agrophobia

The jags innate fear of open spaces creates the need for lots of hiding places. They will stuff themselves into any suitably sized natural or artificial cavity placed in the aquarium. I use hollow logs, glazed pipes and long boxes made of old tiles held together with aquarium silicone.

Otherwise, both kinds of jag have similar temperaments and care, not being particularly fussy about water chemistry. But given that they are found in lowland streams of the Amazon and Orinoco, they will feel most at home in pH 6.0-7.0, dGH 0-4 and 23-27°C. Like all aquarium fishes, they should be given excellent water quality but they do not require lots of flow.

### Mother Nature's healthy diet

Unfortunately, we don't know much about jaguar cats in the wild but because they are members of the driftwood-cat family (Auchenipteridae), we can assume they take after their cousins in most respects.

Ichthyologists in South America have studied the stomach contents of several driftwood cats that move into the flooded forest in the rainy season. During this time, *Trachycorystes*, *Parauchenipterus Tatia* and *Tocantinsia* feed on fruits, seeds, flowers and small invertebrates. Others are specialists of cyclops and water fleas (*Entomocorus*), terrestrial insects (*Auchenipterichthys*) and aquatic insect larvae (*Glanidium*).

Although small fishes are not among their natural foods, cautious aquarists do not recommend keeping them together. I don't keep many fishes under 1" but I haven't noticed any such tendencies in my jags. From the stomach content data, it seems that most driftwood cats feed on invertebrates and sometimes fruits and seeds.

### The all-important Grunt factor

When it comes to their behaviour, jags are typical of the family. They don't seem at all interested in other species unless it's another catfish trying to move into their favourite daytime retreat. If another fish tries to dislodge or otherwise muscle a jag out of its hidey-hole, one of the most charming features of these cats is their ability to emit loud grunts that can be heard from the next room.



A face every mother could love! Jags have thick skull roofs and strong fin spines to discourage even the hungriest of predators. If you must handle jags, or any other driftwood cat for that matter, keep your fingers out of its "armpits". The pectoral fin can clamp shut against the strong spine behind the gill opening surprisingly fast (and painfully)

These grunts last around a second and sound like a deeper and richer version of a frog call. Jags, like most driftwood cats, have a thickened covering to their swim bladder that creates an effective drum. When the pectoral-fin spine is rotated in its socket, vibrations are carried along the shoulder bones to the swim bladder where they are amplified and released as intimidating grunts.

Because they don't really pay much attention to their tankmates and are relatively robust, jags are versatile additions to large aquaria stocked with Central and South American cichlids, characins, headstanders and the like. But because they prefer small food items such as bloodworms and tablets, if kept well fed they can also be included in an idyllic community composed of small and medium sized fishes. Just be sure to include lots of cavities of various sizes so that as they grow they have somewhere to move to. But however you decide to keep them, one setup that definitely doesn't work (and I found this out the hard way) is having more than one male in the same tank.

### Boys will be Boys

I have a good friend here in Helsinki that regularly

imports fishes directly from South America.

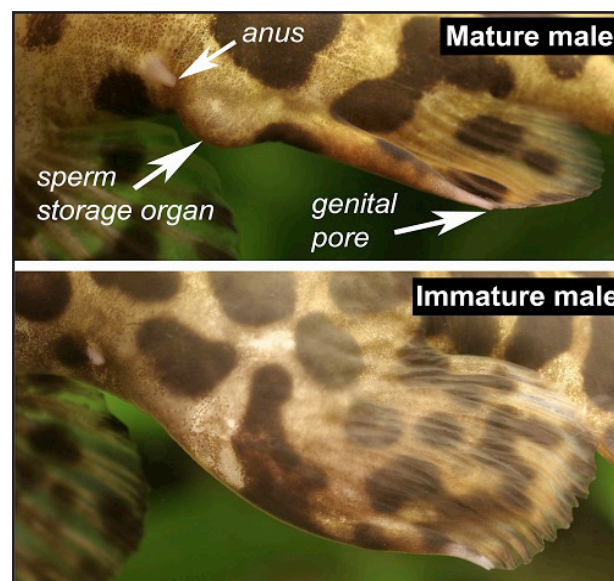
Early last year he had 20-30 true jags and I took home 4 of them, confidently pointing out the sexual differences and claiming that I had selected two lovely pairs. Two years later... I had four males.

They quickly settled in and grew from 5 to 10 cms in a few months. Then it started happening. In spite of providing plenty of caves and hollows, the smallest of the four appeared one morning looking like it had spent the night with an orbital sander. I removed it to a hospital aquarium, treated with a disinfectant and an anti-fungal agent and the fish recovered in a few weeks. That wasn't the end of it. A few weeks later, a similar incident took place and, because the tank only housed some *Corydoras* and the near-toothless *Loricaria*, I assumed the jags were responsible for the damage (mostly confined to the back third of the body) and separated them all. Fortunately, I have several large tanks and their isolation gave them the peace to grow and mature before trying to reintroduce them for a spawning attempt. At least that was the plan.

### Courtship

Any catfish geek will know that driftwood cats are special because of their reproductive biology. Unlike most fishes, they are internal inseminators (sorry for the jargon but I think most of you know what this means).

For those we know about, pairs form a loving embrace and the male places a packet of sperm inside the female via a long and flexible tube at the front of his anal fin. Based on her plumbing, the female probably releases the sperm along with her eggs some time later and fertilization is external. So the male is more of a sperm donor than a father.



It's easy to spot a mature male by the imposing bump in front of the anal fin, but separating immature males and females is not so easy. In females, the genital pore is much closer to the body whereas in males, whatever their reproductive state, it's always at the tip of the anal fin.

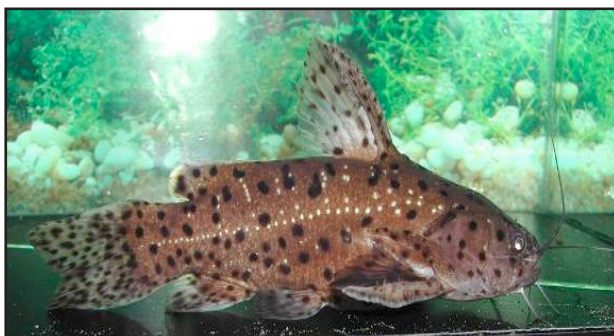
The shape of the anal fin and location of the small hole through which the sperm pass discriminates the sexes. In the male, the hole (or genital pore) is at the tip of the anal fin and in the female it's at the base. The genital pore is the opening of a long tube that passes through a pouch, some glandular tissue and eventually ending (or starting) in the testes or ovaries. Driftwood sperm is stretched out and bundled together in slimy packets. In mature males, an organ filled with these packets can be seen as a small bump just before the anal fin. In immature or unripe males it's tucked up inside the body, just like in females. This is how I managed to select four males (two mature and two immature) instead of two pairs.

### Spawning in aquaria

Spawning *Liosomadoras* should be straightforward. Other driftwoods such as *Tatia*, *Tocantinsia*, *Auchenipterus* and *Parauchenipterus* all spawn during the early rainy season and *Liosomadoras* probably do so too. Gradually increasing the temperature 3-4°C over a few weeks, then replacing 50-75% of the aquarium water and adding a strong powerhead should be enough to trigger them if they're ready. If you do try to spawn them, a single male should be kept with several females in an aquarium of at least 300 liters containing 2-3 times as many cavities as there are jags. Keeping more than one male in the group will likely result in trouble.

If they spawn and you witness the embrace, females should lay and protect their eggs in a cavity perhaps several days to weeks later. Eggs should hatch in a few days after that at 24-27°C. *Parauchenipterus* fry feed off their large yolk sacs for several days and graduate to small invertebrates such as brine shrimp nauplii, copepods and microworms. *Liosomadoras* would probably be the same.

Because driftwood cats rarely eat small fishes, I expect adults and juveniles could be kept together in the spawning aquarium where, because of their nocturnal habits, you might first realize a spawning has taken place when you see a shoal of miniature jags out feeding. And wouldn't that be a wonderful sight!



*Liosomodoras morrow* – false jaguar, image by Steve Grant.

### Jag Facts

- Jaguar cats can reach 15-20 cm (false or black jaguar: *Liosomadoras morrowi*) or 25-30 cm (true jaguar: *Liosomadoras oncinus*).
- They need clean water, pH 6.0-7.0, dGH 0-4, 23-27°C
- Lots of cavities to squeeze into and eat insect larvae and tablet foods in the aquarium.
- Males and females can be separated by looking closely at the location of the genital pore at the leading edge of the anal fin. In males, the pore is at the tip of the anal fin and in females it's closer to the base.
- *Liosomadoras* is most likely an internal inseminator with very specialized sperm.

### Q&A

1. Why do you think driftwood cats break the rules and have internal insemination?

I think it's a solution to the problem of fertilization for fishes that spend most of their time hidden and at fairly low natural densities. The female would gain a great advantage if she could spawn when the opportunity arose even if her eggs were not quite mature and store the sperm until they were.

So, internal insemination and sperm storage might be a way of buying time and maximizing fertilization without having to give up the hermit lifestyle. This also makes sense because driftwood cats invest a lot of energy into a few large, yolky eggs that the female likely defends until they hatch and leave the nest.

2. Are there any other catfishes that do this?

Although spawning embraces are quite common in catfishes, internal insemination has, so far, only been documented in driftwood cats.

However, scoloplacids and dipomystids have specialized sperm that suggests they are inseminators and astroblepids have a long and slender extension to their genital duct, so it is possible that it occurs in other groups.

*Editor note: It has been reported in the last few months that a European aquarist has successfully spawned *Liosomodoras oncinus* in captivity and raised youngsters.*

# Catfish Study Group Spring Auction

Mark Walters



A great turn-out from aquarists Nation-wide

I'm never quite sure if the CSG spring auction actually marks the end of Winter, but it has become the traditional start of the fish auction and show season, for me at least! This years' event was another great success with an incredible array of catfish on offer at the usual ridiculously low prices.

L200, L155. L190 L136a, L144, and L211.

There were plenty of dry goods, plants and other fish to purchase also, over 18 lots!



Use the force Steve! Auctioneer Steve Spence

For Corydoradinae keepers you could choose from the following: *B. splendens*, *C. metae*, *C. ambiacus*, *C. duplicareous*, *C. panda*, *C. sterbai*, *C. weitzmani*, *C. aeneus* 'albino', *C. paleatus*, *C. schultzei* 'Black', *C. habrosus*, *C. loretoensis*, *C. pygmaeus*, *C. gossei*, *C. carlae*, *C. paleatus* 'Black', *C. panda* 'White', *C. venezualanus*, *C. sodalis*, *S. barbatus*, *S. kronei*, C035, C115, C112, CW024, and CW038.

If that wasn't enough there were plenty of Loricariids and others including: *Calico Ancistrus*, super red *Ancistrus*, *Megalechis*, *Bunocephalus columbianus*, *Agamyxis pectinifrons*, *Platydoras costatus*, *Sturisomatichthys*, *Brachyrhamdia meesi*, *Tatia* sp, *Synodontis decorus*, L090, L114, L129,



Enough raffle prizes for everyone!

Amongst other bits and pieces, I picked up some young 'super-red' *Ancistrus*, which have already matured and bred for the first time, and enough bargain food to keep my fish fed for the next 6 months.

Thanks to all those involved in running the CSG auctions – Auctioneer, cashiers, auction managers, kitchen staff, runners, raffle ticket sellers, sellers and buyers. They continue to be extremely popular events in the calendar.

All images by Ian Fuller

## Breeding success *Hisonotus aky*

(Azpellicueta, Casciotta, Almiron, & S. Korber, 2004)

Ian Fuller

In December 2013 I purchased a group of ten *Hisonotus aky*, from Pier aquatics in Wigan. These fish are commonly known as the 'Green Oto', these little Lodicariidae fishes are one of the most striking of fish, although just single colored they are comparable to any marine or Killi fish. Their bright metallic green body is a sight to behold.



*Hisonotus aky* In full colour. Image courtesy Ian Fuller

These little fish originate from Rio Uruguay basin, Misiones Province, eastern Argentina, and therefore should be kept in water that is a little cooler than the normal tropical range we keep most of our 'Tropical' fish. The ideal temperature range is between 22°C and 23.5°C.

My new group were introduced into their new tank, which had the water parameters set at pretty much neutral, pH7.0 and TDS 350 ppm. Basically this is the average of my mains water; there is very little if any measurable KH in it, so the pH very quickly drops to as low as pH4. I kept a close watch to see if this would cause any problems to the fish, but they seemed very happy with their new surroundings and were grazing on the leaves of the two potted Java ferns put into the tank to give them cover and places to hide.

Knowing that these fish were pretty much vegetarian I added a couple of JBL Pleco tabs, which were very quickly found and in a very short space of time were being consumed by all eight fish. Over the next few days I tried several of the commercial Algae and Spirulina based tablet and granular foods, all were readily accepted.

It was early in March 2014, while sitting relaxing watching the fish going about their business, after doing some routine water changes and giving them all their evening feed, that I noticed what I thought was an abundance of small snails on the front glass of the *Hisonotus aky* tank.

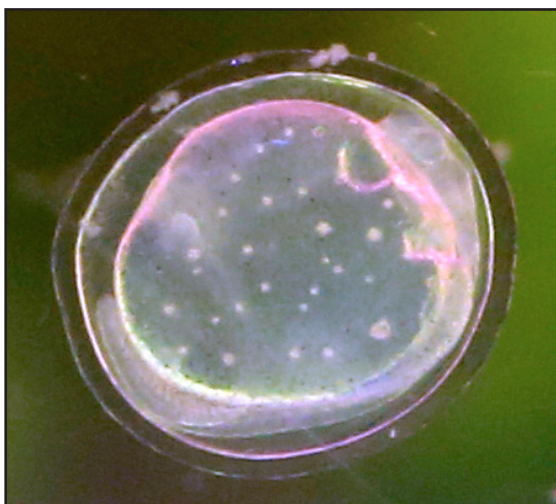


*H. aky* courtship activity.

This tank is on the lowest rack in the fish house where the tank temperatures are coolest, at around 22°C, and normally not the easiest to view, but in my position sat on the customary upturned bucket I could observe all the lower tanks, and after a closer inspection I found that the little white blobs were in fact infertile eggs, *Hisonotus aky* eggs.

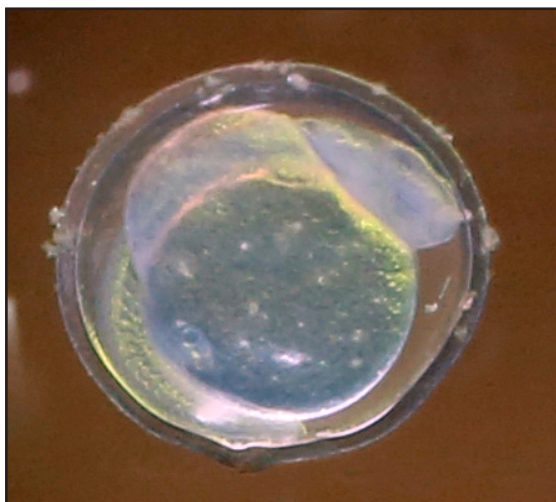


*H. aky* mating



*H. aky* eggs after 24

On close examination I could see quite a few almost clear eggs; some were on the tanks front and side glass, and many more on the Java fern leaves. There were several adults sitting amongst the leaves and totally ignoring the eggs.



*H. aky* egg 48 hours showing well developed fry.

Having these little gems spawning was a real exciting event for me, as these were to me something a bit special. I sat watching the adults moving around apparently just grazing on the leaves and the food tables they had been given a few minutes before, when, out of the corner of my eye I spotted something flitting about on the sand in the corner of the tank.



*H. aky* at 12 hours, 4.0 mm SL

Now I had to get off the bucket and sit on the floor to get a better look, and there it was, a tiny fry, all of four millimetres long, busily grazing on the glass. Then I saw another one, and another, looking around the tank I could actually see twenty or so tiny fry, even amongst the leaves where most of the adults were, some even appeared to be grazing over the bodies of the adults.

This activity intrigued me and I started wonder if the breeding adults were actually producing body mucus similar to discus, providing their fry with their first meal. This is something I will be investigating in the future. I also noticed a few larger fry at a little over five millimetres in SL (Standard length) and already showing the green colour displayed by their parents.

Over the following days I watched the tank with interest, taking many photographs of the growing fry, and about a week or so after the first sighting of the eggs and newly hatched fry, I was sat on my upturned bucket watching proceedings, when a large fat female came along and sat right in the middle of the lower half of the front glass.



*H. aky* at 3 days, 7.0 mm SL

She just appeared to be grazing on the bio film and algae that had formed, when a single male came along and joined her, working the glass and getting ever closer, then he started to agitate her, working his mouth over her body and head. Then quite suddenly he moved up and wrapped himself round her head, at which point she appeared to push into him and then he was of, only to repeat the action several more times over the following few minutes.



*H. aky* at 3 days, 7.0 mm SL showing intense green colour

After watching the action for a few minutes, and rather than going to fetch my camera and risk missing any of the action, I managed to get a few, not particularly good pictures, but they do show the mating action. The next day things were just the same with eggs being produced and fry hatching out all over the place.

One of the biggest problems I have found with many Loricariidae fry is giving them enough of the right kind of food, the JBL tablets seemed to be doing the trick, but at the recent Catfish Study Group convention, delegates were given sample packs of Repashy Gel foods.



Group of newly hatched *Hisonotus aky* fry



*H. aky* Fry of varying ages feeding on Repashy 'Super Green'



I managed to get samples of 'Super Green' a Vegan algae based food, and 'Soilent Green' which is an algae and bio film (Aufwuchs) food. Not having used this type of food before I mixed small trial amounts of each and offered these to the *Hisonotus aky* to see which, if any they preferred. It only took a few seconds and the 'Super Green' sample was covered in fry of varying sizes, all seemed to be eagerly munching away.

There were several, but by no means as many fry, doing exactly the same on the sample of 'Soilent green'. There were a few that were constantly going from one sample to the other, eagerly grazing. So from my initial brief observations I concluded that they 'Liked it'.



The adults did not seem that interested, but after leaving the fish house and returning an hour or so later there were no traces of the sample foods, so I decided it would be a good idea to add more. Time and growth rate will tell just how good this food is. At the time of writing, the group have now been constantly spawning at a steady rate, with the females producing between 8 and 15 eggs each day, only one egg being laid at a time. The eggs are 2.0 – 2.5 mm diameter and almost clear. There are three females in the group and it is difficult to determine whether one or all are involved in the breeding activity.

The adults do not seem bother the eggs or emerging fry, which means that the eggs and fry can be left alone until they are larger and less delicate, when they can then be moved to a larger growing on tank.

Another interesting feature I have noticed with this species, is that it has what I think may be unique dentition. There are two distinct sets of teeth in both top and lower jaws, the image oposite clearly shows the two rows in the lower jaw.

All images by the author

## Advanced Notice

On June 8th 2014

The Catfish Study Group will be holding another of our Summer Lectures & Sales Meets

This will be taking place at:  
**Derwent Hall, George Street, Darwen, BB3 0DQ.**

Provisional speakers are:

**Dr Martin Talyor** from the Univercity of East Anglia

**Daniel Konn-Vetterien** from Germany



## Snails have a New Mother!

Mark Sabaj Pérez



*Megalodoras uranoscopus*



*Megalodoras guayoensis*



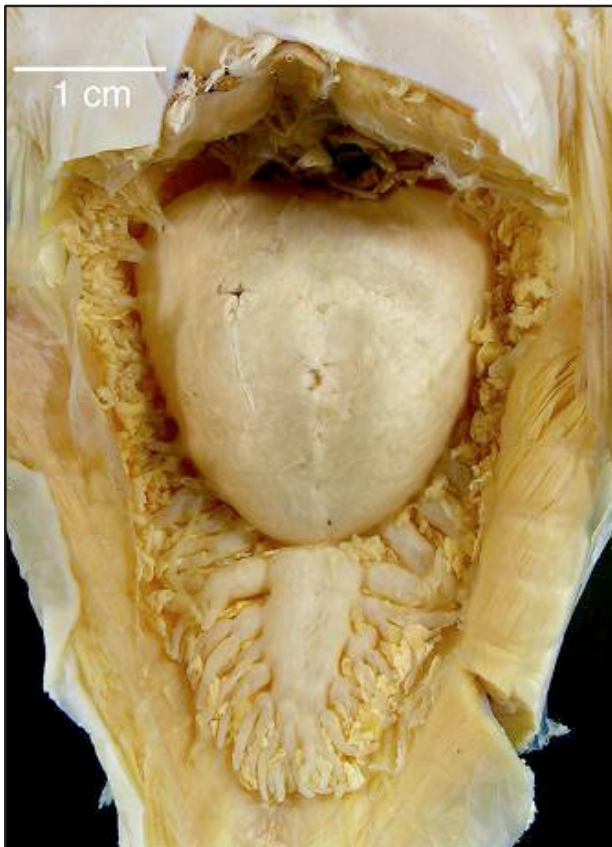
'New' *Megalodoras* from Rio Xingu

If you have seen one “mother of snails” (genus *Megalodoras*) from the Amazon, you have seen them all. Or so I thought in 2012, on my first expedition to the middle rio Xingu with fellow doradologists Leandro Sousa and Mariangeles Arce, and funded in part by generous support from Julian Dignall and PlanetCattfish.

Before the 2012 trip, I had studied a good number of *Megalodoras* in museums, and even collected a few from the waters around Iquitos, Peru. I had seen enough specimens to convince myself of two distinct species: *Megalodoras guayoensis* in the lower Orinoco basin, described in 1968 by Venezuelan ichthyologist Agustín Fernández-Yépez, and *M. uranoscopus* in the Amazon basin, described in 1888 by the husband and wife team of Carl and Rosa Eigenmann.

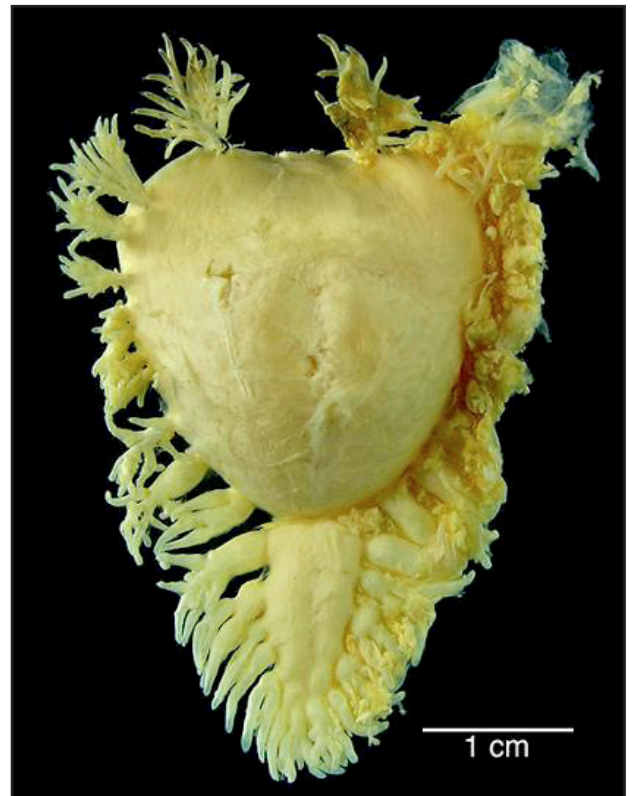
A number of additional genera and species have been proposed, but since synonymized with *Megalodoras* and its two valid species. For example, Eigenmann (1925) introduced *Hoplodoras* as a new genus for his species *uranoscopus* because he thought that its gas bladder was a singular sack.

In *Megalodoras*, the gas bladder consists of two parts, a large heart-shaped portion (main bladder), followed by an elongate secondary bladder. The peripheries of the two parts are ornamented with branched diverticula, amounting to a rather impressive structure, as far as gas bladders go (Fig).



Gas bladder in situ

Higuchi (1992) examined the type specimen of *M. uranoscopus*, and confirmed its two-part nature; henceforth, *Hoplodoras* is synonymous with *Megalodoras*. Why should the gas bladder, which presents itself as a simple sack in so many catfishes, be so richly adorned in *Megalodoras*? I have no idea, one of the many mysteries of thorny catfishes.



Gas bladder removed

The two valid species of *Megalodoras* are distinguished mostly by adult coloration. In the Orinoco species, *M. guayoensis*, the midlateral scutes are relatively depigmented and form a pale stripe bordered above by a solid brown to black stripe along the dorsolateral sides (in juveniles, this dark stripe is sometimes broken into large irregularly conjoined blotches); the ventrolateral sides and undersurface are pale except for a dark elongate blotch below the anterior one-third to one-half of the scute row; the dorsal fin is completely clear, or with scattered melanophores or diffuse dark blotches on distal half of anterior rays and membranes; and the caudal fin is clear except for two dusky longitudinal streaks, one centered on each lobe and the dorsal one continuous with the dark dorsolateral stripe on the body.

In adults of the Amazonas species, *M. uranoscopus*, the midlateral scutes are not pale, but irregularly covered with large dark spots or blotches; the sides and belly are also spotted, those above the scutes often forming a solid dark stripe (as in *M. guayoensis*); the dorsal fin has a large dark blotch on its distal half; and the caudal fin has irregular dark or diffuse spots overlying the dusky streaks described for the Orinoco species.

So, that was the impression solidly planted in my brain during the trip to the middle Xingu: only two species of *Megalodoras* exist in South America. It is a trap that taxonomists fall into from time to time. After looking at hundreds of specimens in jars in

of ethanol in museums scattered across three continents, you do not expect the next specimen to be anything different. So, you do not look at it with much taxonomic interest.



Dani Ribeiro holding the new *Megalodoras*

And so I came to look upon my first *Megalodoras* encountered in the Xingu. Leandro and his right-hand assistant Alany Gonçalves had previously collected a number of *Megalodoras* in the Xingu during their monitoring work. And, of course, the local fishermen knew of this fish long before any ichthyologists.

But, the Xingu specimen of *Megalodoras* was new to me. It was a beautiful specimen about 350 mm long from snout to base of tail, taken live in the evening from a gill net set in the rio Iriri, a tributary to the middle Xingu. I noticed that the specimen was darker than usual, solid black above and below the scute row. But, the scutes and fins had the dark spots typical of *M. uranoscopus*, and so it fell within my taxonomic blind spot. We put it in water in a large plastic fish tray to keep it alive overnight for a photo shoot the next day.

The following morning I learned why *Megalodoras* is sometimes called “Key-way-mamma” by the Creoles of Guyana, which translates to “Mother of snails” (Eigenmann, 1925:308). In the tray with the specimen were four rather large snails (*Doryssa starksi*).



Xingu snails

Evidently the snails were swallowed whole, and either regurgitated or passed whole (in either case with some discomfort, I assume, since the snail shells are rather roughly sculptured). The Creoles who first named the fish must have noticed its belly full of snails, although it is questionable whether they truly believed that some consanguineal relationship existed between fish and gastropod.



Key-Way-Mamma!

On the 2012 trip, we managed to collect a second large *Megalodoras* among the rocky outcrops upstream of Cachoeira do Jericoá, the largest rapids in the Volta Grande (“Big Bend”) portion of the middle Xingu (Figs.). I was happy to have another specimen, but again gave little thought as to whether it was something new to science



Cachoeira do Jericoá

On our next expedition to the lower Xingu in 2013, this one funded by a US National Science Foundation grant (NSF DEB-1257813) to inventory the river, we sampled not only the Iriri and Volta Grande, but the lowermost portion of the Xingu where it feeds into the rio Amazonas.

Before the Xingu joins the Amazon, it opens up into a long mouth bay where the water remains relatively clear, but the effects of the Amazon River are pronounced (Camargo et al. 2004). During that expedition we collected two more *Megalodoras* on separate outings to the Iriri and Volta Grande. Soon afterwards we collected a couple more *Megalodoras* on a third outing to the lower Xingu mouth bay.

That was the key...or perhaps the collision that often comes with blind spots. In life, the mouth-bay *Megalodoras* looked measurably different, more like the typical *M. uranoscopus* found throughout the Amazon lowlands.

Back in the lab, I eagerly checked the specimens and my notes, trying to forget all the taxonomic assumptions I had assembled over years of staring at dead fish in jars and inhaling ethanol fumes. What I found was that the *Megalodoras* from the Iriri and Volta Grande have about 20-22 relatively shallow scutes per side, whereas *M. uranoscopus* has only 13-18 deep scutes per side.

New Xingu *Megalodoras*

A distinction that is perhaps trivial to some, but pure gold to someone who has counted a lot of doradid scutes. More differences were noted in head shape and coloration, the Xingu specimens being much darker overall. Comparing the specimens side by side, the differences were striking, at least to a doradologist. A new species was discovered!

Leandro Sousa, Mariangeles Arce and I are now working on the new *Megalodoras*, which we believe is endemic to the rio Xingu above Belo Monte, the point at which water diverted for the hydroelectric dam is returned to the main channel. The rapids of Volta Grande may isolate the new species from the lower Xingu, populated by the widespread *M. uranoscopus*.

We do not know how far upstream the new species is distributed, but a good portion of its range is within the "impact zone" of the Belo Monte hydroelectric complex. We suspect the new *Megalodoras* commonly inhabits rocky outgroups in relatively deep, still water.

So, the impoundment of the Xingu may not have a strong impact on local populations, unlike the current-loving fishes of Volta Grande. A lot will depend upon how much water is diverted from Volta Grande to effectively power the turbines at Belo Monte. Like all fishes, *Megalodoras* need water!

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- Mark is currently the Interim Curator of Ichthyology Academy of Natural Sciences of Philadelphia and Co-Principal Investigator, iXingu Project.*

All images by the author.



- \* Over 350 Tanks of Tropical, Marine and Coldwater Fish
- \* Rift Lake Cichlids
- \* South and Central American Cichlids
- \* Large number of Plecs and other Catfish
- \* *Corydoras*
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## Catfish in the Community!

Mark Walters



When I was a young fishkeeper I had lots of support from my parents and fellow fishkeepers who encouraged me in the hobby and showed me the ropes. Joining a fish club at the age of 14 and starting work in a fish shop at an even earlier age set me on my way and instilled an enthusiasm which hasn't waned over the last 30-odd years. It's easy to take for granted the support we received as young fishkeepers, and important for us to try and impart some knowledge back, especially to the next

generation of aquarists. With this in mind, I have encouraged my children to take an active interest and they regularly tag along to shows and auctions. At an even earlier age, my sons have suffered the embarrassment of their dad coming into the local Primary school and presenting some of his fish to the class, to support some of the class topics of the time. The teachers regularly have certain themes running through a term, such as 'The Environment', 'Animals', 'Tropical Rainforests', and the opportunity to see some real-live animals is always a buzz. This year I spoke with my youngest sons' teacher who was interested in me doing a presentation to support his 'Habitats' topic in the classroom.

This was the fourth time I had presented to the school over the last 8 years and I brought with me a range of species to keep the kids' interests high over the 2 hour session. The talk followed a familiar pattern, with a general introduction to tropical regions and the varying habitats that exist, followed by a few challenges for the children.

They were split into 7 groups and each selected a card with the name of one of the species. The group then decided which species best suited the name card, some were quite obvious – the blue lobster and dwarf puffer fish, some more challenging like the wood cats and talking catfish. I had included species from the major tropical continents with representation from Australasia (crayfish), Africa (reed fish), SE Asia (dwarf puffer fish and a dwarf snakehead species) and South America (wood cats, talking catfish, leopard cactus plec).

Each species was housed in an appropriately sized show tank and the kids were free to come a have a close look.





After each group had assigned a place name (all correctly!), I gave them a talk on each species giving the children some clues for the next challenge! I had brought along representative samples of food that each species would prefer, so I had jars with daphnia, bloodworm, earthworms, cherry shrimps, snails, guppy fry and adult guppies (the live fish were for illustration only, I don't feed live fish to my fish!). I also had a jar with my son's African clawed frog, as bit of a red-herring (so to speak).

The children then decided which species was suited to each food and after they had placed a jar in front of each tank we had a discussion on their choices and a description of how each species was suited to a particular food-type.

The final challenge was to choose a representative sample of the type of habitat each species was used to. This time I had brought tubs with sand, stones, leaves, reeds, wood, caves and floating plants. Again the kids placed each object in front of each species.

By now they had heard a lot more information and the task was becoming easier, so the reeds were placed in front of the reed fish, stones in front of the crayfish, cave for the leopard cactus plec, leaves for the talking cats, wood for the wood cats, sand for the puffer fish and floating plants for the snakeheads.



After a break, I continued the talk with a final session on defence mechanisms and the way each species was adapted to cope with predators.

This is always a popular part of the talk, especially when I pick up the talking catfish and encourage them to grunt. I had learned from the last time I did this when the *Agamyxis* species cut my fingers with its pectoral, and brought a glove to handle them! The talking cats did their thing and were carefully placed back in their tank, none the worse for wear.

I'm afraid it's not a talk I'll be doing for any CSG meetings, and now that my youngest son is due to leave the Primary school next year could be the last time I visit, but I'd highly recommend anyone getting out there to share their interests with the next generation.

### Feature on School Website

#### Science: Habitats – Visit from Mr. Walters

This half-term we have been looking at some amazing habitats. We have looked closely at what a habitat is, why they are so important, and how they can be changed.

Mr. Walters kindly paid us a visit this week and brought with him a fantastic array of rare and exciting fish! These included a Dwarf Puffer Fish, a Talking Catfish(!) and a Reed Fish! Mr Butterwick particularly liked the Blue Crayfish!

We did a wonderful investigation into their diets and natural habitats. We also had the opportunity to ask Mr. Walters questions throughout. We're very grateful for his time and help with this unit. Thank you!





## What's New?

Mark Walters

### New Corydoras Descriptions

#### *Corydoras gryphus*

Tencatt, Britto & Pavanelli, 2014

The species formerly known as CW024 sp. "Misiones" has been described to science.



*Corydoras gryphus* – Image by Ian Fuller

It appears that this species has a fairly wide distribution in various tributaries along the Rio Parana, from the 'Misiones' in Argentina to the border area in southeastern Brazil.

The fish has been in the hobby for over 30 years, Ian Fuller kept and bred the species in the 1980's. They have been imported on numerous occasions since. Originally they were thought to be close *Corydoras steindachneri*. *Corydoras* species C007 is also very close to *Corydoras gryphus*. They are part of the 'paleatus' assemblage.

*Corydoras gryphus* is distinguished from its congeners by a conspicuous reduction on posterior laminar expansion of infraorbital 2, almost absent in some specimens (vs. infraorbital 2 with moderate- or well-developed posterior laminar expansion).

The new species differs from its congeners, except *Corydoras longipinnis* Knaack, 2007 and *Corydoras tukano* Britto & Lima, 2002, by the presence of an uncommon sexual dimorphic condition, with the conspicuous elongation of the first and second branched dorsal-fin rays in males surpassing dorsal-fin spine distal tip, with size similar to the total length of the spine (vs. dorsal fin not sexually dimorphic with respect to its length; or elongation of dorsal-fin elements (when present) not associated with sexual dimorphism; or dorsal fin, if sexually dimorphic, with first and second dorsal-fin branched rays slightly surpassing dorsal-spine distal tip).

The new species is also distinguished from *C. longipinnis* and *C. tukano* by the presence of four to six irregular black or brownish blotches on the midline of the flank (vs. midline of the flank with three large black rounded blotches in *C. longipinnis*; two very large black rounded blotches in *C. tukano*). *C. gryphus* is further distinguished from *C. longipinnis* by having the mesethmoid not visible, entirely covered by a thick layer of skin (vs. visible, posterior portion of mesethmoid covered by a very thin epidermal layer).

#### *Corydoras lacrimostigmata*

Tencatt, Britto & Pavanelli, 2014

Another new *Corydoras*, *Corydoras lacrimostigmata*, is named, after the 'tear drop' mark on its cheek, akin to *stigmata*. The species originates from Brazil, Paraná, Cândido Abreu, rio Maria Flora, a tributary of the Rio Ubazinho, rio Ivaí basin. It is not clear if this species has been seen in the hobby.



Holotype of *C. lacrimostigma*

The new species can be distinguished from most of its congeners by the presence of three nasal pores. Other diagnostic features are the lower number of serrations in posterior margin of pectoral and dorsal spines and presence of four to six small black blotches along the midline of the flank. The possible mimetic relationship between the new species and *Characidium heirmostigmata* is discussed.

### ***Corydoras apiaka***

Epindola, Spencer, Rocha, Britto, 2014

A new species of *Corydoras* is described from tributaries of the rio Arinos, rio Teles Pires and rio Preto, all in the rio Tapajós basin.



*Corydoras apiaka* Picture courtesy: José Birindelli

The new species is a member of a group that includes 36 species with spots on the body. Within this group, the new species can be readily distinguished by having a smaller dorsal-fin spine than the first three subsequent soft dorsal-fin rays; pectoral, pelvic and anal fins hyaline; dorsal-fin interradiation membrane hyaline; rounded spots on trunk restricted to dorsolateral body plates and dorsal portion of ventrolateral body plates, not reaching the base of pelvic and anal fins.

The new species can be further distinguished from *Corydoras xinguensis* Nijssen, 1972 by having spots with diffuse edges, and from all other species of spotted *Corydoras* except *Corydoras multimaculatus* Steindachner, 1907, by the absence of ventral platelets. A phylogenetic analysis recovered the new species plus *Corydoras metae* Eigenmann, 1914 and *Corydoras araguaiensis* Sands, 1990 in a clade sharing the presence of a pointed process on the maxilla for insertion of the retractor tentaculi muscle. In addition, the presence in the new species of an elongated anterior portion of the mesethmoid and a triangular uncinat process of the epibranchial 3 suggests a close relationship with *C. metae*.

*Corydoras apiaka* was mostly found in lotic habitats in the Rio Arinos and its tributaries. The Rio Arinos has a muddy-brown colour, with soft bottom of clay and sand. Most of the specimens were captured in the small forest streams of black or clear water, or in marginal ponds.

### **Redescription of *Panaqolus purusiensis***

Cramer 2014

Despite *Panaqolus purusiensis* being described nearly 80 years ago, very little is known about it. The taxon was described based on a single specimen.

Researching collection catalogues has revealed two more specimens that were caught together along with the holotype but had subsequently been deposited in different museums. Recent collections, including one from the type locality, have made more specimens available.

Examination of this new material reveals that this species has three distinct color patterns that are size dependent. Specimens with standard length (SL) less than 30 mm show a colouration common among various species of *Panaqolus* consisting of regular bands on the body, fins and head.

Specimens from 30-90 mm SL have a specific color pattern with thinner bands and those larger than 90 mm SL have a uniformly dark body with only the fins continuing to show bands.

The most similar species are *P. changae*, *P. gnomus*, *P. maccus*, and *P. nocturnus*. The first three can easily be distinguished by their coloration and by body proportions.

Specimens of *P. nocturnus* of more than 90 mm SL however are nearly indistinguishable from *P. purusiensis* of the same size, making identification difficult.

### **Revision of *Spectracanthicus* Chamon**

Rapp Py-Daniel, 2014

A taxonomic review of *Spectracanthicus* Nijssen & Isbrücker, including *Oligancistrus* Rapp Py-Daniel, following a phylogenetic study, is presented.

Additionally to *S. punctatissimus* (Steindachner) and *S. murinus* Nijssen & Isbrücker, three new species are recognized based on the examination of 159 specimens: *S. immaculatus* n. sp. from rio Tapajós basin, differs from its congeners by its color pattern consisting of a dark gray body, with no dots or spots, and by having very slender teeth; *Spectracanthicus tocantinensis* n. sp., from the rio Tocantins drainage is distinguished by the color pattern consisting of dark brown or black body with small, yellowish dots (except in *S. punctatissimus*), presence of thick teeth, infraorbital 4 forming most of the posterior edge of the orbit and the large basipterigium fenestrae; and *Spectracanthicus zuanoni* n. sp., from the rio Xingu basin is diagnosed by its color pattern consisting of large, white spots and by the larger orbital diameter.

A key to the species of the genus and a brief discussion of their threats and conservation are also provided.

The paper ties up a lot of loose ends for familiar 'L' numbered Loricariid species.



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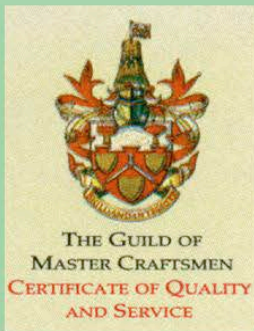
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### Contact

**Brian Walsh**

**Tel: (01254) 776567**

**Mob: 07977 428 788**

**Email: [g.b.w@live.co.uk](mailto:g.b.w@live.co.uk)**

