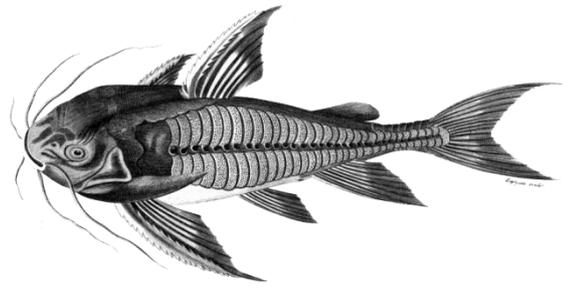


Journal of the Catfish Study Group



June 2015

Volume 16, Issue 2



Interview with Dr. Leandro Sousa

Corydoras sp. CO45

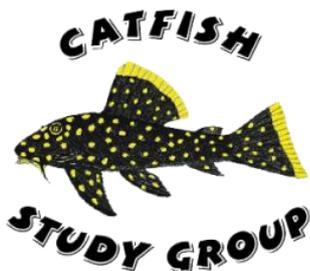
Spotlight on *Leporacanthicus*

UK spawning of *Peckoltia lujani*

Treatment of the yellow grub

CSG convention 2015 report

2015 CSG Open Show and Auction



September 20th 2015

Derwent Hall

George Street, Darwen

Lancashire BB3 0DQ

showsecretary@catfishstudygroup.org



35 Catfish 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 Coldwater 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 - one entry = three separate species of juvenile fish

Show Rules (CSG 2010)

Fish will be judged according to the 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 four fish, minimum age three 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.

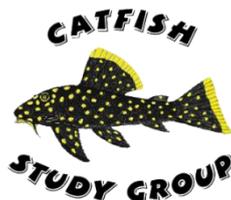
Whilst every care will be taken, the Catfish Study Group will not be held responsible for the loss of or damage to fish, equipment, or persons.

Contents

Editorial	5
From the Chair	6
<i>Who let the grubs out? – a successful treatment of <i>Clinostomum complanatum</i> in <i>Pseudacanthicus</i> sp. “typhoon” (LDA105)</i>	8
UK import roundup	9
Meet the member: Brian Walsh	11
Focus on the diversity, care and breeding of vampire plecos (Loricariidae: <i>Leporacanthicus</i>)	13
From <i>Xiphophorus</i> to the Xingu: Leandro Sousa’s adventure in ichthyology	20
CSG Convention 2015 report	24
<i>Corydoras</i> sp. CW045	28
Spawning the Orinoco suckermouth, <i>Peckoltia lujani</i>	30
Diary dates July-September 2015	34

Cover image: *Spatuloricaria taira* By: Mark Sabaj Pérez





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Editorial

Welcome to the second issue of our journal. I've received some constructive feedback concerning the digital and printed versions, and I hope I've responded to most of your concerns. If you have any suggestions for how to continue improving the content and format of the journal, please contact me via email.



In this issue, we have a broad selection of articles concerning catfishes, the people that study them, the threats that face them, and the parasites that live in them!

Dr. Leandro Sousa visited my home in Finland and I took the opportunity to interview him and have written up the conversation we had during one of several very interesting hours I spent with him in my fishroom.

Other articles include a diagnosis and successful treatment of a nasty internal parasite, the first UK spawnings of *Corydoras* sp. CWO45

and *Peckoltia lujani*, a spotlight on vampire plecos (*Leporacanthicus*), a convention report and a chance to learn more about the fantastic carvings that Brian Walsh produces for our convention speakers.

Hopefully you will be able to join us next year (11–13 March 2016) for another fantastic weekend with talks from Dr. Roberto Reis (Brazil), Eric Bodrock (USA), Regina Spotti (USA), Daniel Konn-Vetterlein (Germany), Benny Hubel Hansen (Denmark), as well as short presentations from several CSG members.

Many thanks and welcome to our new subscribers and members. Journal subscriptions help to fund group activities and events during the year, so please encourage your colleagues and friends to join the CSG and subscribe to the journal.

Thanks,

Michael

editor@catfishstudygroup.org



From the Chair

The CSG Convention continues to go from strength to strength and the 2015 event was without doubt the greatest yet! With a top-draw line up of speakers from across the globe and most of the top catfish experts in one place at one time, it was always a recipe for success.



Our President Ian Fuller has worked hard throughout the year to ensure another great event, thanks from everyone who attended to the Cory King!

The talks were exceptionally informative, although also tinged with sadness concerning the loss of so much habitat to hydro-electric schemes and other development. The role of hobbyists in raising the profile of the exceptional diversity of catfish in many of these habitats has never been greater and the links made at the convention between hobbyists and professional ichthyologists will help to further science.

I was especially interested in discussions about the fauna of the Rio Orinoco and its tributaries, presented by Nathan Lujan in his study of the Venezuelan rivers. I maintain several of the beautiful species that occur there: *Baryancistrus demantoides* (L200a), *B. beggini* (L239), *Hemiancistrus subviridis* (also L200), *H. guahiborum*, *Peckoltia lujani* (L127), *Ancistrus macrophthalmus* (LDA74) and *Hypancistrus*

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contradens (L201), all originating from the upper reaches of the Orinoco basin.

During the weekend, I added to my collection with a group of *Baryancistrus demantoides* and some of the rarely seen *Ancistrus macrophthalmus*, which resemble the more commonly seen medusa plec (*A. ranunculus*).

Recent breeding success in the fish house has included a spawning from *Peckoltia lujani*, named in honour of Nathan, and another upper Orinoco species.

Mark

chairman@catfishstudygroup.org

Who let the grubs out? – a successful treatment of *Clinostomum complanatum* in *Pseudacanthicus* sp. “typhoon” (LDA105).

By Michael Hardman and Marcel Leider

Last August, CSG member Marcel Leider bought a small group of *Pseudacanthicus* sp. (LDA105) that were imported into the UK in December 2013. This beautiful and highly-prized cactus pleco comes from the Rio Jamanxim (Tocantins drainage) in Brazil, and is high on the wish list of many pleco keepers. During the quarantine period, Marcel noticed that one of the group developed several lumps on the belly and had become swollen (Figure 1).

be and get some advice on a possible treatment. I have a morbid fascination with parasites and how they use other animals and food webs to complete their life cycles. The lumps visible in Marcel’s photos reminded me of the immature stages of some parasitic flatworms that encyst and go dormant in fish muscle before they (and the fish they are parasitizing) are eaten by a predator.

I contacted Dr. Tomáš Scholz at the Institute of Parasitology in the Czech Republic. Dr. Scholz is one of the World’s leading experts of parasitic flatworms in freshwater fish, and has worked extensively in South America. If anyone could recognize what the lumps might be in this rare Brazilian catfish, it was him. Dr. Scholz soon replied that the fish were infected with the metacercariae of *Clinostomum* (probably *C. complanatum*), a common and conspicuous trematode parasite that can occur in the muscle and skin of freshwater fish. He also mentioned that due to their relative sizes (i.e., a large parasite in a small fish), they could be harmful to the long-term health of the host. We needed to get rid of them before they got any bigger – time to hit the books and learn about our enemy!

First, a note on the biology of trematode worms (or digenean flukes as some folks like to call them). These parasites have what’s called an “indirect life cycle”, in which they have to pass through one or two *intermediate* hosts until that host is eaten by a predator in which the parasite matures and begins to reproduce sexually. In



Fig. 1. Encysted metacercariae of *Clinostomum complanatum* in *Pseudacanthicus* sp. “typhoon” (LDA105). Photos: M. Leider.

Marcel put the word out among his fellow aquarists to try and learn what the lumps might

digeneans, the first intermediate host is usually a snail, the second intermediate host is a fish, and the final or *definitive* host is a fish-eating bird such as a heron or egret (Figure 2).

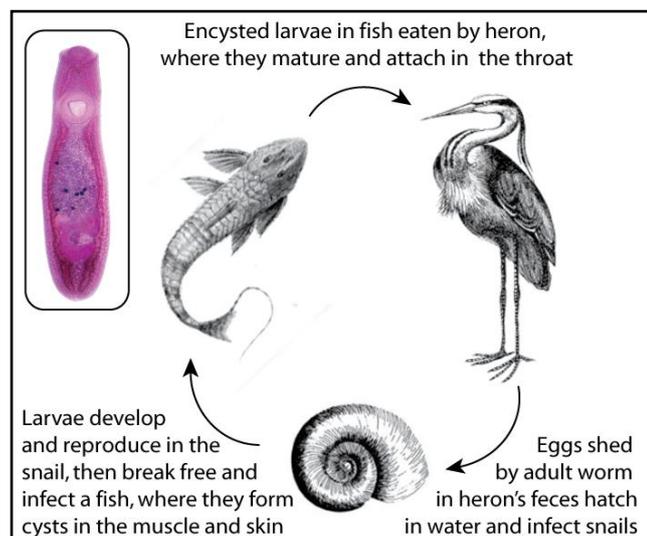


Fig. 2. Life cycle of *Clinostomum complanatum* (inset).

Diaz *et al.* (2003) studied the life cycle of *C. complanatum* on a floodplain of the upper Paraná River in Brazil. These authors reported that the parasite first infected an abundant planorbid snail (*Biomphalaria peregrina*). The next stage of the parasite was found in *Loricariichthys platymetapon*, *Hoplosternum littorale*, *Parauchenipterus galeatus*, *Hoplias malabaricus* and *Loricaria* sp. The parasites were most common in *L. platymetapon* (61% of fish infected) and least common in *H. malabaricus* and *Loricaria* sp. (2–3%). Adult *C. complanatum* were then found in the Cocoli heron (*Ardea cocoi*), Neotropical cormorant (*Phalacrocorax brasilianus*), Great egret (*Egretta alba*) and Snowy egret (*E. thula*). The main definitive host was *A. cocoi* (95% of birds infected).

This study suggests that, if the identification is correct, Marcel's fish was infected at some point prior to export. Marcel doesn't keep a heron around his tanks, so there was no risk of the infection spreading to other fish; remember that the parasite in the fish has to be eaten by a heron before it can infect a snail, and then infect fish, and then a heron to complete its life cycle and spread in the population. Marcel's uninfected fish were safe, but what could be done about the cysts?

The aquaculture industry (e.g., Lane & Morris, 2000) widely believes that fish infected with *Clinostomum* cannot be treated, and emphasize prevention by removing snails and snail habitat and scaring away any fish-eating birds. However, Lorio (1989) significantly reduced the number of grubs in infected channel catfish (*Ictalurus punctatus*) with bath and injection treatments of praziquantel (0.65mg/L) and 1% ivermectin (0.022 ml/kg), respectively. It appears that encysted trematodes can be treated by medicines added to the water – more good news!

Given that bath treatments are more practical for home aquarists, this seemed to be a way forward for Marcel and his fish. Fortunately, Marcel lives close to Ian Fuller and during a visit he mentioned the problem he was having with a pleco parasite and asked about possible medicines. Ian recommended Flubenol 15 as a wormer he had used to treat parasites in *Corydoras* and other fish. This medicine is designed for treating internal worm infections (e.g., flukes, nematodes, tapeworms, etc.) in freshwater fish and is approved by UK authorities for use by home aquarists. The active ingredient (flubendazole) is a widely-used wormer for domestic animals. Flubenol 15 has combined flubendazole with another chemical to make it soluble in freshwater and able to enter the fish to attack the parasite.

Armed with a safe and effective medicine, Marcel began a course of bath treatments at the recommended dose. Rather than treat the entire tank, Marcel decided to mix up a bath of medicine (0.5 tsp flubenol 15 in 2L of aerated tank water) into which the infected fish was placed for 20 minutes every week for 4–5 weeks. A few months of this treatment went by and the fish was improving significantly; the swelling was down and the yellow cysts had all but disappeared. In mid-October 2014, Marcel contacted me to announce the fish had fully recovered and was growing well (Figure 3). Let's hope it continues to thrive and soon starts spawning to provide a source of these amazing catfish in the UK.

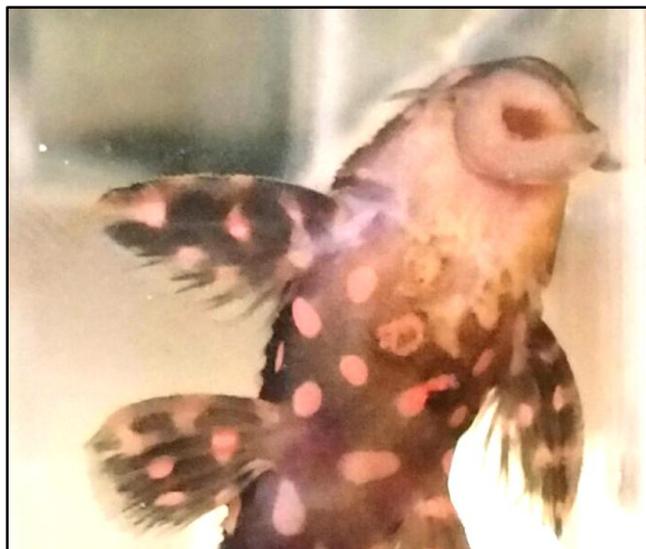


Fig. 3. Infected individual several weeks after treatment. Photo: M. Leider.

Literature cited

- Diaz, M. L. G. G., J. C. Eiras, M. H. Machado, G. T. R. Souza and G. C. Pavanelli. 2003. The life cycle of *Clinostomum complanatum* Rudolphi, 1814 (Digenea, Clinostomidae) on the floodplain of the high Paraná river, Brazil. *Parasitological Research* 89: 506–508.
- Lane, R. L. and J. E. Morris. 2000. Biology, prevention and effects of common grubs (digenetic trematodes) in freshwater fish. *USDA Technical Bulletin Series # 115*, 7 pp.
- Lorio, W. J. 1989. Experimental control of metacercariae of the yellow grub *Clinostomum marginatum* in channel catfish. *Journal of Aquatic Animal Health* 1(4): 269–271.



UK Import roundup

A selection of new or rare catfishes recently imported to the UK. Please send images, identifications, collection locality and any other information to editor@catfishstudygroup.org



Otocinclus cocama Photo: M. Hardman

During the convention weekend, many attendees made the short trip to Pier Aquatics, our main sponsor. In addition to an amazing variety of tropical, marine and coldwater fish, Neil Woodward had imported many rare and beautiful catfishes in anticipation of our arrival. Among them, was the zebra otto (*Otocinclus cocama*).

This small and inoffensive pleco is best kept in groups, and are very popular among aquarists that keep a lot of plants; they have

a reputation for being excellent algae eaters.

Zebra ottos originate from the Peruvian Amazon and show a variety of patterns. Recent reports of ottos spawning in aquaria suggest they spawn like *Corydoras* – forming a “T-position” before carrying their eggs in a pelvic-fin basket and placing them on surfaces in the aquarium. Some otto species in southeast Brazil and Argentina go a step further and mimic the coloration of corys too!





Tridensimilis brevis (inset) and *Corydoras pygmaeus*. Photo: M. Hardman

They say that some of the best things come in small packages, and beauty is in the eye of the beholder. They also say don't pee in the Amazon – here's one of the reasons why! Mixed in with a shipment of *Corydoras pygmaeus* to Pier Aquatics, CSG member Pete Liptrot pointed out a stowaway in the form of *Tridensimilis brevis*.

This is a parasite catfish (Trichomycteridae) that splits in time between hiding in the sand and cruising around waiting for a large catfish to swim by. Similar to other members of this family, *T. brevis* enters the gill cavity where it slices open a blood vessel and begins gorging itself on blood. Once full, it detaches and sinks to the substrate to digest its liquid lunch.

Pete went on to explain that he had kept several specimens of *T. brevis* in the research tanks at Bolton Aquarium. In spite of their specialized feeding, they took prepared foods and thrived in captivity without attacking any of the larger fishes. We still know very little about the behavior and biology of these cryptic cats, so be sure to check tanks of *C. pygmaeus* next time you're at your favourite importers. You could be the first to spawn them in aquaria.

In nature, some members of the family are known to undergo a dramatic colour change during spawning – females turn bright yellow as the event approaches. Just don't get caught short in your fish house!



Auchenipterichthys punctatus. Photo: Pier Aquatics

This beautiful woodcat hails from the Upper Amazon. Like other auchenipterids, they tend to be shy at first, seeking shelter during the daylight hours. However, with low lighting and lots of cover, they can become more active – especially during feeding time when they emerge from their favourite hiding place and appear over a bogwood ridge like the siluriform version of a tiger shark on a coral reef. Try frozen bloodworms and *Daphnia*, or chopped earthworms if you have access to them.



Meet the Member: Brian Walsh

By Michael Hardman



Brian Walsh at work. Photo: Michael Hardman

One of the main pillars of the CSG is found in southeast Lancashire. This pillar is not made of stone or concrete. This pillar is a man. His name is Brian Walsh, and he quietly remains one of the longest-serving members of the CSG.

Brian has been involved with the CSG and its ancestors (the Catfish Association of Great Britain and the Northern Area Catfish Group) since the very beginning. Brian is a FNAS A-class judge and has identified species and assessed the quality of the top show fish in the UK. While characins are his first love, he has a special interest in thorny cats (Doradidae), wood cats (Auchenipteridae), hoplos and corys (Callichthyidae). Perhaps best known for his

work with doradoids, Brian was among the first aquarists in the UK to breed *Brochis splendens* as well as several rare species of tetra. Brian has pioneered the use of marginal plants in biological filters, experimented with natural and alternative fish foods, and is always among the first to welcome new members to the CSG and share his ideas, experiences and knowledge with them.

Brian has served as the CSG Show Secretary and (along with his wife Janet) currently organizes the venue and catering for CSG meetings, auctions, open shows and sales meets at Derwent Hall in Darwen. In his professional life, Brian is a member of the Guild of Master

Craftsmen and operates his own business as a carpenter, joiner and artist.



Tools of the master craftsman. Photo: M. Hardman

Brian's skill and love of woodwork has shaped the face and reputation of the CSG in many ways. From a practical standpoint, Brian has designed and built the cases, display stands and speaker's podiums that enable the CSG to stage its events. Brian has also designed and carved the mementos presented to *all* the invited speakers that have come to our conventions. Brian's carvings are now widely spread and recognized throughout the world among ichthyologists and aquarists alike. When I've visited colleagues and friends in the US and Europe, I'm always happy to see Brian's artwork prominently displayed in pride-of-place.



Sturisoma aureum. Photo: M. Hardman

Brian continually develops and hones his art, and this year's convention saw some truly spectacular work in increasingly small subjects. Brian explained to me that painting the rainbowfish (*Melanotaenia trifasciata*)

presented to Alex Carslaw was one of the most difficult things he has done on a memento.



Bunocephalus verrucosus Photo: M. Hardman

Understandably, Brian spends most of his time carving catfishes and this year he presented *Asterophysus batrachus* to Dr. Leandro Sousa, *Lithoxus jantjajae* to Dr. Nathan Lujan, and *Bunocephalus verrucosus* to Steven Grant. Presenting the mementos is always a special moment during the convention, and this year's speakers were blown away by their gifts (see the convention report in this issue).



Panaqolus albivermis Photo: M. Hardman

If you need any bespoke carpentry, doors or furniture building or fitting, you can contact Brian through his website (g.b.w@live.co.uk). Should you wish to join those lucky few that own a piece of his art, Brian can also carve your favourite catfish.



Focus on the diversity, care and breeding of vampire plecos (Loricariidae: *Leporacanthicus*)

By Cristoffer Forssander and Michael Hardman



Fig. 1. Mouth of *Leporacanthicus galaxias*: Río Nhamundá. Photo: R. Collins.

Vampire plecos (*Leporacanthicus*) are among the most fascinating suckermouths and are not often spawned in aquaria. This article provides an introduction to their diversity and care in captivity.

Leporacanthicus is a characteristic genus diagnosed by several features of the head and mouth (Fig. 1). The most obvious are a pronounced crest of small spines (*odontodes*) clustered at the apex of a bone that forms the roof of the braincase (the *supraoccipital*), and a

fringe of short but well-developed barbels on the upper lip.

Members of this genus are found in the large, clearwater Amazon tributaries that drain the Brazilian Shield (Tapajós, Xingu and Tocantins), as well as smaller basins in southwestern Venezuela and Colombia that feed into the upper Orinoco (Atabapo and Ventuari). They tend to prefer flowing water and a complex substrate composed of fixed stones and sunken trees, etc. (Fig. 2).



Fig. 2. *L. galaxias* in the Río Nhamundá. Photo: R. Collins.

Leporacanthicus currently contains four described species and 11 L-numbers (Figs. 3 & 4). Six of 11 L-number codes have been assigned to forms of *L. galaxias* that are reportedly collected from distant locations in the Guamá (L007), upper Orinoco (L240, L241 & L326) and Aripuana (L294) (Fig. 5). In addition, Collins et al. (2015) recently reported *L. galaxias* from the upper Nhamundá, a left-bank tributary joining the Amazon between the Trombetas and Uatumã. This suggests that *L. galaxias* is a species with a wide distribution.

Dr. Carine Chamon studied museum specimens of *Leporacanthicus* for her Master's

degree (2007). Her phylogenetic analysis of morphological variation in the genus recovered *L. heterodon* (Xingu) and *L. joselimai* (Tapajós [L263 & 264] and Curuá-Una [L314]) as sister species, this clade sister to *L. triactis* (upper Orinoco [L091, and possibly L473]), and the basal species to be the widely-distributed *L. galaxias*. Dr. Chamon considered *L. galaxias* to occur in the Tocantins (L029), Guamá (L007) and Orinoco (L240, L241 & L326), but did not mention specimens from the lower Aripuana (L294).

Of the described species, one of us (CF) has kept and spawned members of the *L. galaxias*-group (L007, L029, L240 and L241), *L. heterodon*, *L. joselimai* (L264) and *L. triactis* (L091). In most cases, individuals were kept for several years before any success was achieved spawning them. The L007 and L029 forms of *L. galaxias* are the most easily spawned, while the beacon pleco (*L. triactis*: L091) is the most difficult. Adult vampire plecos vary from 15 to 30 cm depending on the species, with males being a few cm larger than females. Males are typically slimmer than females, with a longer and more angled profile to the head when seen from above.

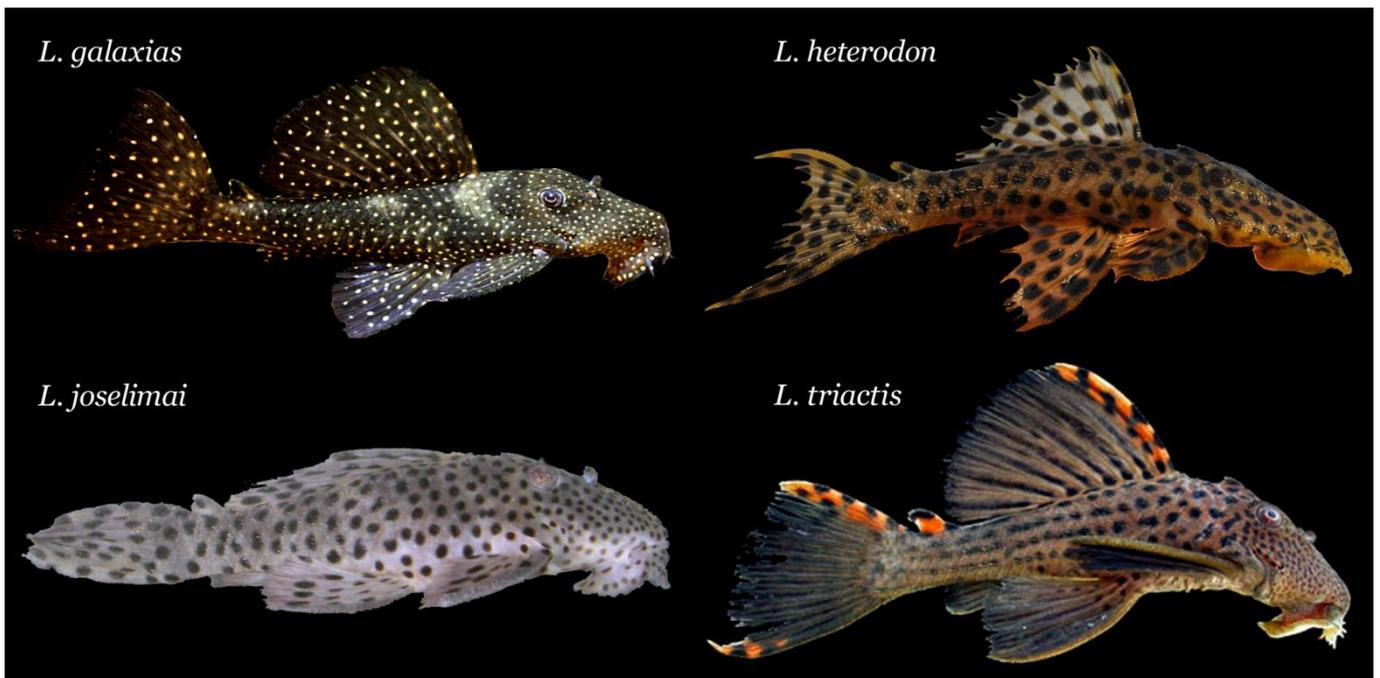


Fig. 3. Species of *Leporacanthicus* (live specimens). Photos: H. Haagensen (*L. galaxias*), S. Grant (*L. joselimai*) and M. Sabaj-Pérez (*L. heterodon* and *L. triactis*).

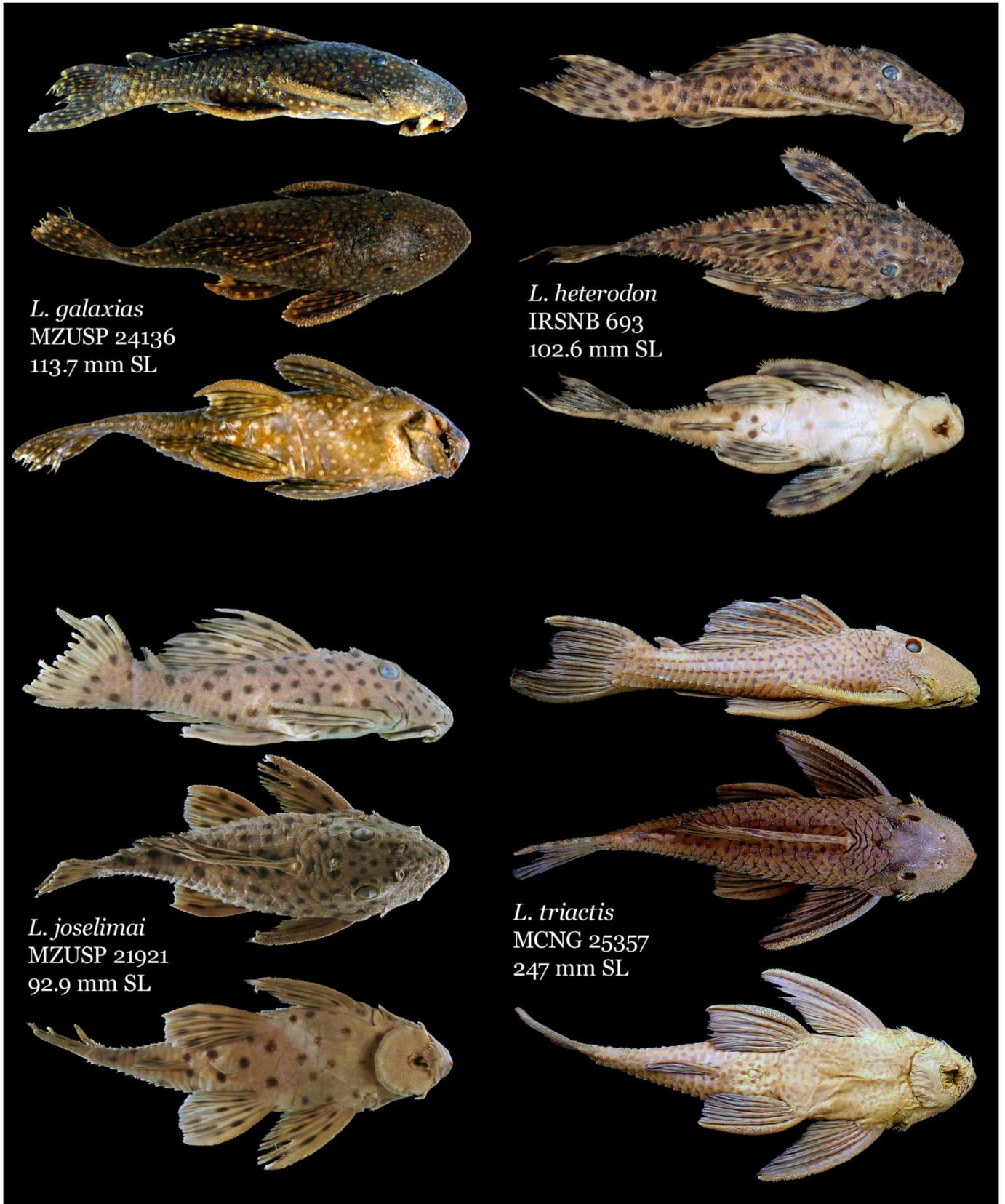


Fig. 4. Holotypes of *Leporacanthicus* (preserved specimens). Photos: J. Armbruster (*L. galaxias*), C. Chamon (*L. joselimai*, *L. heterodon* and *L. triactis*).

Given that they can achieve a large size, vampires require large tanks and powerful filters. Tank volume and turnover are the first two keys to success with this genus. Although

they can spawn in smaller aquaria of 100L or so, they should be kept in at least 300–600L.

Among ancistrine plecos, *Leporacanthicus* is closely related to *Pseudacanthicus*,



Fig. 5. Variation in *L. galaxias* (live specimens). Photos: H. Haagensen (L240), O. Paulsen (L241.L007), M. Sabaj-Pérez (Ventuari-Orinoco), R. Collins (Nhamundá-Amazonas).

Megalancistrus, *Acanthicus*, *Oligancistrus* and *Spectracanthicus* (Chamon, 2007). Like their close cousins, they can be aggressive towards other plecos and especially towards members of their own species. Males are territorial and if more than one is kept in the same tank, there will invariably be a fight to establish dominance and serious damage can be caused. Because of this territoriality and aggression, it is best to keep a single male with one or more females. If you intend to keep more than one male in a tank, you should only do so in an aquarium of at least 500L.

Once territories are established, males will spend most of their time resting in a preferred cave or cavity while females linger nearby and becoming more interested in the male's cave as spawning approaches. Add lots of caves of different shapes and sizes, ideally made from natural materials or fired clay, and secure them with stones, large pieces of seasoned bogwood, roots and branches. A complex environment will help keep the peace.

Once you have a suitable tank volume, the right number of individuals in the right sex ratio, the next things to consider are filtration and turnover. Because vampire plecos need a high protein diet and can eat a lot, they can create a lot of ammonia and waste. Given that they should be kept in warm (e.g., 27–31 °C) water, dissolved oxygen saturates at a lower level and aerobic bacteria consume lots of it processing nitrogenous wastes, so you should ensure that the water is well oxygenated at all times. For example, *L. galaxias* (L240) spawned for several years in a 600 L aquarium filtered with an Eheim Professional 3 (1250 l/h) and two Fluval FX5s (2 x 2300l/h) for a maximum of 5850 l/h. When the filters were clean, the aquarium turnover was 9–10 times per hour. In addition to these powerful filters, a strong air pump powered several airstones to ensure maximum oxygenation at all times.

Now you have the tank, fish, filters and water quality, what should you feed them? Vampire plecos, as their name suggests, have very special

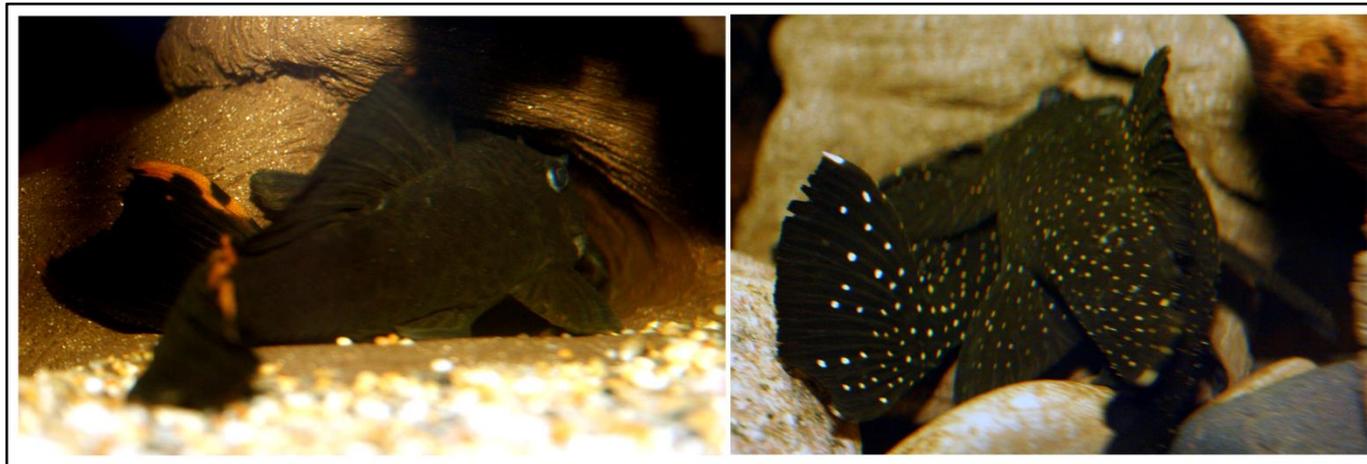


Fig. 6. Trapping behavior of *L. triactis* and *L. galaxias* (L240), males are the outermost fish. Photos: C. Forssander.

mouths and each side of their upper jaws (the *premaxillae*) contains four long and slender teeth (Fig. 1). Having a special mouth suggests a special diet, which appears to be based on aquatic invertebrates in *L. triactis* (Lujan et al. 2012). In captivity, they readily accept carnivore pellets and tablet foods. Supplement dry foods with shrimp, musselmeat, fish fillet and gel foods so as to ensure a more balanced diet and avoid intestinal problems associated with high-protein diets. Prior to spawning, you can enhance their condition by feeding relatively more shrimp.

Once you have your fish feeding well and water quality is stable and high, it's time to think about spawning. First, make sure you have several caves for the pair to choose from and orient them so that a strong current flows past the opening. The pair will explore the caves together before deciding on the one that is to their taste (Fig. 6).

Prior to a spawning attempt, it helps to turn off one or two of the filters and expose the group to a period of low turnover. During this period, which can be as long as two months, the heater thermostat is turned down to about 27 °C and 30% water changes are made twice a week. When the females are plump with eggs, clean all the filters and gravel thoroughly, turn on any extra pumps and increase the frequency and volume of water changes. The aquarium is now much cleaner than before, and the temperature should be increased to 29–30 °C (maybe higher for *L. triactis*). Water changes should temporarily lower the temperature by 2–3 °C.

During this step of the simulation, which usually lasts for 2–3 weeks, one of the females will become increasingly interested in the male and the chosen cavity (Fig. 6). As with other large plecos, it can take several days before the eggs are laid. Here is where patience pays off and provided the simulation is continued and disturbance is kept to a minimum, the female will eventually emerge with loose skin covering an empty belly and the male will be attentively fanning a cluster of approximately 80–350 orange-yellow eggs, depending on species and the size of the female.

One of us (CF) has spawned several species of *Leporacanthicus* using the simulation described above, but it should also be mentioned that – on occasion – peat was added to the filter to lower the pH to 6.4 from a typical 7.2. Most spawns have taken place at 29 °C, pH 6.4 and 200 µS/cm.

Following a successful spawning, the male should be left to incubate and protect the eggs unless they are abandoned or found loose in the aquarium. The first few spawns can result in the male ejecting the eggs from the cave, eating them, or abandoning them and moving to another cave in the aquarium. Unfertilized, abandoned or dead eggs are vulnerable to fungal attack, and once it takes hold it can destroy an entire clutch of otherwise healthy eggs. Trying to raise them artificially can have catastrophic results, but if you have no choice some pleco breeders are reporting success incubating and hatching eggs in egg tumblers. Others have incubated abandoned egg clusters in 6–7L baths



Fig. 7. Larvae of *L. heterodon* 3–4 days after hatching. Photo: O. Paulsen.

of heavily-aerated aquarium water treated with an antimicrobial agent at the same temperature of the spawning aquarium, and gradually replacing the water as development progresses and hatching begins.

If all goes well, the male will do a good job and the larvae will hatch in the spawning cave. A day after the eggs have hatched, the larvae can be carefully emptied into a container before placing the larvae into breeding nets while they continue absorbing their yolk sacs. After several days in the nets, the larvae begin searching for food and can be transferred to breeder boxes that must be kept scrupulously clean and well aerated. As a first food, finely-ground pellets can

be fed but it is critically important to clean the breeder boxes at least twice a day. Make sure you siphon off any feces, uneaten food and brush the surfaces carefully with a paintbrush to remove any biofilm that might have grown there. A few Malaysian trumpet snails (*Melanoides tuberculata*) help keep things under control between cleanings. Once feeding well and thriving, 1–2 cm juveniles can be moved into 50–70L aquaria linked in series to a large canister filter. This helps keep the water quality high and stable. Each aquarium contains an air-powered foam filter and extra airstones to ensure good aeration. Finally, a thin layer of fine gravel is added to discourage the growth of biofilm on the inside of the base pane.



Fig. 8. Juvenile *L. galaxias*: Río Nhamundá . Photo: R. Collins.

No more than 30 juveniles should be kept in each aquarium so that their health and feeding can easily be monitored. Juveniles remain delicate until about 3 cm total length, and water quality should remain as high as possible to minimize growth problems and deformities. In this system, vampire plecos grow approximately 10 cm per year, and begin to mature at the end of their second year, with males maturing slightly earlier than females.

Although one of us (CF) has enjoyed some success with *Leporacanthicus*, *L. triactis* is proving to be problematic. This species is from the upper Orinoco and is larger and more aggressive than others in the genus. Other aquarists that have kept this species have also witnessed how pairs will enter a cave but do not spawn. The only time *L. triactis* spawned was at 31 °C, which suggests a higher temperature might be necessary, as well as a different spawning cave (e.g., hollowed-out logs).

Hopefully this article helps other aquarists to keep, spawn and raise these wonderful catfishes,

and we can figure out more of the secrets that will enable us to maintain large and sustainable populations of these fishes in captivity.

Acknowledgments

We gratefully acknowledge the kind permission to reproduce photographs contributed by Dr. Jonathan Armbruster, Dr. Carine Chamon, Dr. Rupert Collins, Steve Grant, Haakon Haagensen, Ole Paulsen and Dr. Mark Sabaj Pérez (NSF Grant: DEB-1257813).

Literature Cited

- Chamon, C. C. 2007. Revisão taxonômica e relações filogenéticas do gênero *Leporacanthicus* Isbrücker & Nijssen, 1989 (Siluriformes, Loricariidae). [Dissertação]. São Paulo: Universidade de São Paulo, Instituto de Biociências.
- Collins, R. A., E. D. Ribeiro & V. N. Machado, T. Hrbek & I. P. Farias. 2015. A preliminary inventory of the catfishes of the lower Rio Nhamundá, Brazil (Ostariophysi, Siluriformes). *Biodiversity Data Journal*, 3: e4162.
- Lujan, N. K., K. O. Winemiller & J. W. Armbruster. 2012. Trophic diversity in the evolution and community of loricariid catfishes. *BMC Evolutionary Biology*, 12: 124.



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From *Xiphophorus* to the Xingu: Leandro Sousa's adventure in ichthyology

By Michael Hardman



Dr. Leandro Sousa, 2014. Photo: M. Sabaj Pérez.

Dr. Sousa recently spoke at the 2015 annual CSG convention on collecting plecocs in the Río Xingu and the threats posed to their existence by the Belo Monte hydroelectric dam. Before he returned to Brazil, I had a chance to interview him and learn more about his background, research and the situation on the ground.

Leandro, please tell us a little about how you became interested in fish and the path you took to your current position as Professor of Biodiversity and Conservation at the Federal University of Pará in Altamira.

I grew up in the country outside São Paulo. My first fish was a swordtail (*Xiphophorus* sp.) bought from the pet shop and kept for a while in one my mum's cooking pots. By the time I was eight I had upgraded to an oscar (*Astronotus ocellatus*) in a glass tank and, in order to feed it, I started catching fishes in nearby streams. I didn't know what species they were, but I remember being fascinated by the tetras and

catfishes in my net. After that, I had no trouble studying biology and, in 2000, I had my bachelor's degree and was sure about what I wanted to do with my life.

Although I was desperate to work with fishes, there were few opportunities to do so at the time, and I began studying hermit crabs along the coast of southwest Brazil in the hope that something would come along. That project came to an end but, as luck would have it, one of my professors suggested I contact Dr. Lucia Rapp Py-Daniel at the National Institute for Amazonian Research (INPA) about studying fishes in her lab.

Dr. Rapp Py-Daniel invited me to study with her at INPA and I dropped everything and moved there as soon as I could. This was one of the best decisions of my life. In Manaus, I met and fell in love... with the Amazon. Fishing in the streams around Manaus was mind-blowing; so many fishes and so much diversity! But, I was there to study not go fishing – and a tiny doradid catfish called *Physopyxis lyra* caught my attention. At the time, *Physopyxis* contained a single, poorly-known but widespread species (*P. lyra*) that was ripe for taxonomic investigation, and I set to work.

I described *Physopyxis ananas* and *P. cristata* in 2005, and stayed on at INPA after graduating to take part in some expeditions and continue working in the lab there. During that time, I met Dr. Mario de Pinna and he invited me to study for a PhD in his lab back in Sao Paulo. For my PhD project, I studied the Astrodoradinae – aquarists might be familiar with classic astrodoradines like *Amblydoras* and *Anadoras*.



Preserved astrodoradines in the INPA collection. Photo: M. Hardman

While working on my PhD, I met and became good friends with Jose Birindelli, and we scraped some money together to go collecting in the Rio Tapajós. We spent a week with local fishermen that were diving with air hoses supplied by gas-powered compressors. We saw some amazing *Hypancistrus* and other plecós that would never have been caught with our nets

and other collecting gear. I decided on that trip that I would like to work with *Hypancistrus* and other plecós in these clearwater streams.

After I finished my PhD in São Paulo, I returned to Manaus to continue working with Dr. Rapp Py-Daniel on *Hypancistrus* of the Brazilian Shield. We had just finished making our plans for the study when a job opportunity came up in Altamira, which I applied for and received an offer. I took the job, moved to Altamira, and began preparing courses, dealing with paperwork, building a house, learning to teach and doing all the other things necessary to be a university professor.

When I moved to Altamira, Belo Monte was not approved and it wasn't certain the construction company would get the permission they sought. I soon developed a strong relationship with the river and had come to see it "breathing" through its high and low water cycles. It's difficult to describe how sad and depressed I felt the day I learned that the dam would be built and, despite the opposition, it became clear that the Xingu would never be the same. So began the race to collect as much information as possible to provide baseline data to assess the impact of the dam on the Xingu system during construction and after it starts operating.

Have you found all the species that occur in the Xingu?

My team has been surveying Xingu fishes for two-and-a-half years, and we have one of the best fish samples for a large river basin in Brazil. When we started, we knew of about 350 species that occurred in the Xingu, and estimated that maybe another 150 had yet to be described – so a total of 500 fish species in the system. After three years of intense sampling, we're now at roughly 450–460, so close to what we expected. There are some cryptic species that will likely be described and push this number higher, but I think we're getting close to knowing what occurs there now. Different sampling gear (e.g., otter trawls) has also yielded new records of species in the lower Xingu where the streambed is less rocky, but most of these are species coming up the Xingu from the Amazon.



Immediately downstream of the Belo Monte dam construction site in November 2014, and some of the pleco species facing the greatest threat (left to right): *Hypancistrus zebra*, *Hypancistrus* sp. L174 and *Baryancistrus xanthellus*. Photos: M. Sabaj Pérez.

Which species will be affected by the dam and how?

While plecos found around Altamira and in Volta Grande (e.g., *Hypancistrus zebra*, *Hypancistrus* sp. L174 and *Parancistrus nudiventris*) will suffer the greatest impact to their habitat, it seems unlikely that species that occur upstream of the confluence with the Iriri will be significantly affected. However, the most beautiful forms of the polymorphic species (e.g., *Baryancistrus xanthellus*) occur around Altamira and will suffer the effects of the reservoir.

I have a notion that some species that are adapted to life in low-energy water might actually benefit and thrive in the reservoir, e.g., *Hypancistrus* sp. L66. There are also a few optimists that suggest the reduced flow through Volta Grande will support reduced populations of the most affected species. At the moment, this is little more than wishful thinking but I

desperately hope they're right!

Tell us more about the ornamental fishery on the Rio Xingu, and how the export restrictions and dam construction have affected the lives of local fishermen.

Fishermen receive orders from consolidators in Altamira to collect so many individuals of such and such species. They go out for several nights on the river, catch the fish and bring them to Altamira. Healthy fish are forwarded by air to Belem for export if they are on the positive list (e.g., *Baryancistrus xanthellus*). Consolidators only pay for perfect fish to encourage the fishermen to handle them carefully. Imperfect fish with broken fins or signs of infection are immediately released into the Xingu at Altamira in full view of the fishermen.

Current difficulties involve the export restrictions imposed by IBAMA and the social upheaval created by the forced relocation of ornamental fishermen away from their homes

that will be flooded as the reservoir fills. The dam has affected the local economy and the cost of living has increased dramatically, especially house prices. Local people have also paid for unsuccessful prosecutions of Norte Energia for lost earnings, damage to livelihood, etc. Many fishermen have started new businesses and only a few remain active. Furthermore, the government has instituted a licensing program that makes it difficult for local people to engage in the more lucrative and less damaging activities of ornamental/sport fishing. I don't see a bright future for ornamental fish collectors on the Xingu.



Field Crew 2014. Photo: M. . Sabaj Pérez.

In an attempt to mitigate the negative impacts on ornamental fishermen and others that rely on the river for their income, Norte Energia was obliged to develop alternative occupations for them and one initiative was to farm the most affected species. The idea was to develop a simple protocol by which the fishermen could farm *H. zebra* and other plecós, and then sell them to the consolidators instead of wild-caught specimens. Unfortunately, this idea failed to acknowledge that fishermen are not farmers and by their very nature they are people that respond to demand rather than plan for it, and they also have several other jobs that they perform as and when required. Needless to say, the initiative has not been successful. It remains unclear what Norte Energia have in mind, but they have built a large facility for the indoor care and propagation of fishes at the university campus, and it is likely this will

involve research or conservation rather than commercial fish production.

*Some academics and fishery managers have suggested that ornamental fishing has dramatically affected the populations of some Xingu plecós, e.g., *Hypancistrus zebra*. Do you agree with them?*

As far as I know, the ornamental fishermen are not affecting the populations significantly and they remain viable. However, there may be an incidental impact of the fishery that is not receiving enough attention. As I mentioned earlier, ornamentals with broken fins or body damage are released at Altamira regardless of where they have come from. This practice has been taking place since the 1980s, so the fishery has been moving fishes over natural barriers they would not otherwise be able to cross for the past 20–30 years. The worm-lined *Hypancistrus* sp. L66 is now established at Altamira because of these local introductions and, according to the fishermen, *Pseudacanthicus* sp. L185 can now be found in Volta Grande where up until recently it only occurred below the rapids of Jericoá in the lower Xingu. On a related note, in an attempt to boost the population of *Hypancistrus zebra* closer to home, fishermen released thousands of individuals into the Rio Iriri. However, the introduction failed and there may be subtle and highly specific environmental factors that determine the patchy distribution of this and other plecós in the Xingu.

There are some protected Amerindian areas that might represent source populations for the downstream population. Indigenous communities provide and sell forest products such as cocoa beans and nuts to a wider market, and I have been exploring ways to develop a limited program of controlled harvesting of ornamental species in their lands.



Dr. Leandro Sousa is Professor of Biology at the Universidade Federal do Pará (Campus de Altamira) and a co-Principal Investigator of the iXingu project.

The CSG committee would like to acknowledge the generous support of the many individuals and companies that support the group and its annual convention

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CSG Convention 2015 report

By Michael Hardman

During the mid-morning of March 20th the sun temporarily turned off and summoned aquarists and scientists from across the globe to assemble in the northwest of England for a celebration of catfishes. Cars were parked. Rooms were checked into. Traveling catfishes were unpacked and placed into temporary holding tanks, and drinks were ordered. The Catfish Study Group 2015 Convention had begun.



Kilhey Court, Wigan. Photo: M. Hardman

The day before, CSG committee members Ann and Danny Blundell, Brian Walsh, David Barton, Jacky Lloyd, Colin Eveson, Terry Gargan, Ian Fuller and (eventually) me swarmed on the conference suite at Kilhey Court to begin unloading the stands, tanks, podiums and all the projection and sound equipment that allow us to stage our flagship event. Several hours were spent building the stands, connecting cables, arranging (and re-arranging) the tables and

chairs before the sales and display tanks were filled with 500L of aged water and the filters were turned on.

This year's convention was, as it has been before, an intense three-day cacophony of catfish people chatting, swapping, buying, sharing, listening, laughing and learning about their hobby and the animals we all cherish. This year, our speakers included ichthyologists from Brazil (Dr. Leandro Sousa, Universidade Federal do Pará), and Canada (Dr. Nathan Lujan, Royal Ontario Museum in Toronto) and top aquarists from the UK (Steven Grant, Castleford; Ian Fuller, Kidderminster; Brian Walsh, Darwen; Alex Carslaw, Glasgow) and Germany (Ingo Seidel, Seefeld). Convention attendees came from throughout the UK as well as the Netherlands, Germany, Denmark, Norway, Finland, Greece and the United States.



2015 Speakers. Photo: J. Bennett-Leaver

The popularity of the convention continues to rise, and this year we saw a record number of over 100 tickets sold! Trade stands (British Cichlid Association, GBW Woodart, International Loach Association, Mr. Wrasse



BAP display tanks and entries (detailed in text). Photos: M. Hardman

Apparel, New Era foods, Aquarian/API, The Aquarium Gazette, MicroMan Live Foods and Corydoras World) were popular and enjoyed brisk activity. Participants in the Breeders Award Program (Colin Eveson, Ian Fuller and Mark Walters) presented groups of captive-bred *Corydoras*, *Scleromystax*, *Centromochlus* and *Panaqolus* species, and sales tanks were stocked with an impressive assortment of wild-caught and captive-bred catfishes from Hans-George Evers, Steven Grant, Jan Gundersen, Jacky Lloyd, Lee Meadows, Ingo Seidel and Mark Walters.

As in years past, we were treated to beautiful and informative talks by Steven (*Identification of catfishes in the aquarium*), Leandro (*Pleco collecting in the Rio Xingu and the impact of the Belo Monte hydroelectric dam*), Nathan (*Evolution and biogeography of anicistrine loricariids*), Brian and Ian (*History of the CSG convention*), Alex (*Rainbowfish care and conservation*), and Ingo (*Spawning whiptail and flounder catfishes*).

Coincidentally, March 20th was also the International Day of Happiness when we are all

encouraged to reach out and make a positive connection to someone. In these times when we can communicate instantly with a thousand people half a world away, events like the convention remind me that while the internet has transformed our lives, it remains a distant second to the company of friends.



Rare catfishes disperse from Pier Aquatics. Photo: M. Hardman

Next year's convention will take place 11th-13th March at the same venue (Kilhey Court, Standish), when we will welcome Eric Bodrock (USA), Benny Hubel Hansen (Denmark), Dr. Roberto Reis (Brazil), Regina Spotti (USA) and Daniel Konn-Vetterlein (Germany). We will also hear short talks from several CSG members.

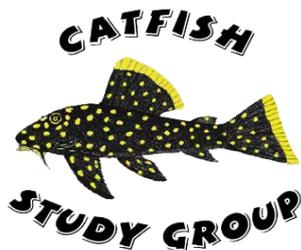


Speaker mementos carved and coloured by Brian Walsh (GBW Woodart). Photos: M. Hardman

Please mark your calendars and join us 11–13th March 2016 for another great time at Kilhey Court!

The CSG committee would like to say a special thank you to Ian Fuller (our tireless convention manager), Neil Woodward at Pier

Aquatics (our main convention sponsor), and the many speakers, traders and hobbyists that make the CSG convention a hugely successful and enjoyable event.



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***Corydoras* sp. CW045**

By Ian Fuller



Fig. 1. Adult male *Corydoras* sp. CW045. Photo: Ian Fuller

It was at the 2014 CSG convention that I first saw this species in the flesh, when fellow CSG member Steven Grant offered me a pair that he had just bought, and after seeing them I could not resist. They were in excellent condition and I was told that there were another three or four still for sale at the shop.

I had knowledge of the species through my website, from where I gave it the code number CW045 (Fig. 1). In most cases, code numbers are allocated on the basis of images and location details, and it is a great feeling when they show up in the hobby.

Knowing there were possibly more specimens still available, once CSG business at the convention hotel on the Monday morning was completed, I headed to the shop and duly purchased the remaining four specimens. Three hours later all six were being acclimated to the water in my fish-house. This is quite a simple process and one I would recommend for any fish. The new fish (including the water they were

transported in) are placed into a polystyrene shipping box (or a large bucket) and water from a mature aquarium is slowly siphoned into the box via a length of 6mm airline. This can take 15–20 minutes and by the time the box is full the fish should be settled and used to the new water conditions. The fish are then netted and released into their new tank. As the CW045 were newly-imported wild fish, I treated them with flubendazole-based treatment to eradicate parasitic worms.

Over the following eight months, the group which consisted of two females (Fig. 2) and four males were fed live *Tubifex* worms, *Daphnia* and occasionally whiteworms (*Enchytraeus*). Weekly 50% water changes were made with aged HMA filtered water of a similar temperature to the aquarium. In early October, the fish were moved from their original tank (45cm x 25cm x 20cm) to a larger (75cm x 25cm x 25cm) aquarium elsewhere in the fish-house. Their new tank is on a rack that is a little higher where the temperature is slightly higher at 25–26 °C.



Fig. 2. Female *Corydoras* sp. CW045. Photo: Ian Fuller.

The new tank is fitted with a Hamburg-Matten filter powered by a 25 mm diameter air uplift tube. Once the group was settled, I decided to change the routine and stopped the weekly water changes for about six weeks and foods were restricted to tablets and pre-soaked flakes. At the end of the six week period, they received a 75% water change and I resumed feeding live *Tubifex* worms. After three days a small patch of eggs was seen in the middle of the front glass, and on further inspection I found several *Anubias* leaves with their upper surfaces completely covered with eggs. Spawning activity took place during the night and was not observed.



Eggs on *Anubias* leaves. Photo: Ian Fuller.

There were 160 eggs in all, each measuring 1.4 mm diameter and with an adhesion rating of 7 out of 10. Leaves were cut from the plants and placed into a 3L container half-filled with water from the spawning tank. An airstone was added and three alder cones (*Alnus glutinosa*). The

tannins that leach from the cones provide protection from fungal attack, then after 24 hours the cones were removed and a 50% water change was made with replacement water from the spawning tank. This was done to reduce the tannin content in the water, and a further water change was made the following day to reduce the tannin levels to a bare minimum.

Fry started to hatch after four days and became free swimming after a further two days. At the end of the second day after hatching, a small quantity of microworms (*Panagrellus redivivus*) was added to the container, and this became the staple diet for the next week in addition to a little soaked powdered flake after three days. Daily 75–80% water changes were made prior to fresh food being given, and after four weeks the fry were moved to a shallow rearing tank.

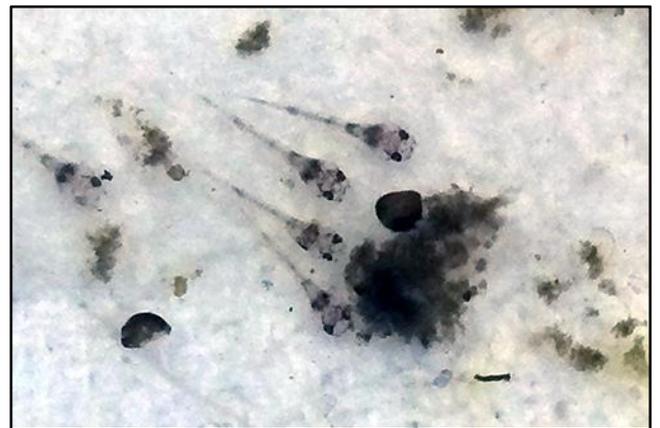


Fig. 3. Fry one week after hatching. Photo: Ian Fuller.

One thing that was noticeable with this species is that initially the young fry could not be seen foraging for food like other corys. There was also high mortality and after six weeks there were only twenty or so fry left. The fry from the second spawning followed the same pattern.



Fig. 4. Fry 5–6 weeks after hatching. Photo: Ian Fuller.

When they spawned for a third time, I changed the feeding regime so that I kept a constant supply of banana-worms (*Panagrellus nepenthicola*) in the tank. This species is smaller than the more popular microworm (*P. redivivus*) and survives for up to 30 h in water. I also added a cloud of creamed powdered flake

food, so that ample food of a small size was abundant in the fry tank. This had the desired effect and there were far more fry surviving through the critical first six weeks. The down side is that there is a lot more work to do to keep the water clean and fresh!



Spawning the Orinoco suckermouth, *Peckoltia lujani*

By Mark Walters



Fig. 1. Adult *Peckoltia lujani*. Photo: M. Walters

Like most aquarists, I have swayed from pillar to post over the years, keeping all manner of fish until settling on catfish. The specialism has increased through South American species only, spurned by breeding success and new challenges, past the Corydoradinae, Auchenipteridae and Aspredinidae, before settling with Loricariidae.

But things have not stopped there. Within the family I have been honing in on my favourite groups of catfish at the genus level, firstly with *Ancistrus*, next *Hypancistrus* and then *Panaqolus*, as well as a variety of other species which may provide a focus for the future.

One group which has always been a mainstay in my tanks, and which remains a firm favourite, is the group of small to medium sized plecos in the genus *Peckoltia*. I have kept numerous species including the most popular – the ‘leopard frog pleco’ *P. compta* (L134) and the

most common – the ‘clown pleco’ *P. vittata* (L015). I have also had breeding success with a number of species including the smallest member of the genus the undescribed dwarf L038, and L211 - another undescribed species similar to the clown pleco.

It was during a CSG auction that my interest with the ‘Orinoco sucker plec’ began. A couple of bags of the fish turned up, without any known identification. I bought the trio for £15 and started to do some research on them.

On first impression they looked like an intermediate genus, somewhere between *Ancistrus* and *Peckoltia*, and further research revealed that they were not formally described and were simply labelled ‘Ancistrini’ L127.

The common name alludes to their origin in the upper reaches of the Rio Orinoco, on the border between Venezuela and Columbia. The

recent description states that the species occurs in the Rio Meta drainage near Villavicencio and in the Orinoco from the mouth of the Meta to around Ciudad Bolivar.

I kept the three fish for a year, after which time one unfortunately died – the female. The other two were likely males. I say ‘likely’ because unlike other *Peckoltia* species, the males do not exhibit obvious sexual dimorphism, with little growth of odontodes except on the leading edges of the pectoral spines. During this time, I hadn’t come across any other specimens to add to the group so sold the remaining males to make room for other fish.



Fig. 2. The generalist mouth of *P. lujani* suggests an omnivorous lifestyle. Photo: M. Walters.

It wasn’t long before I came across the species again and I regretted selling the males. A local aquatic store in Yorkshire had a few specimens hidden away, without any tank label to indicate their presence. I was interested to see the species but didn’t commit to buying them at that stage. Several weeks later the species was formally described (Armbruster et al., 2015) as *Peckoltia lujani*, in honour of Dr. Nathan Lujan, one of this year’s convention speakers.

I was surprised to see the Orinoco sucker plec included in a paper focused on *Peckoltia* as it does not conform to what I consider to be typical of the genus. To me and other local catfish gurus, *P. lujani* is more compressed than other *Peckoltia* and resembles the ‘butterfly’ plecos of the genus *Zonancistrus* (or *Dekeyseria*, which

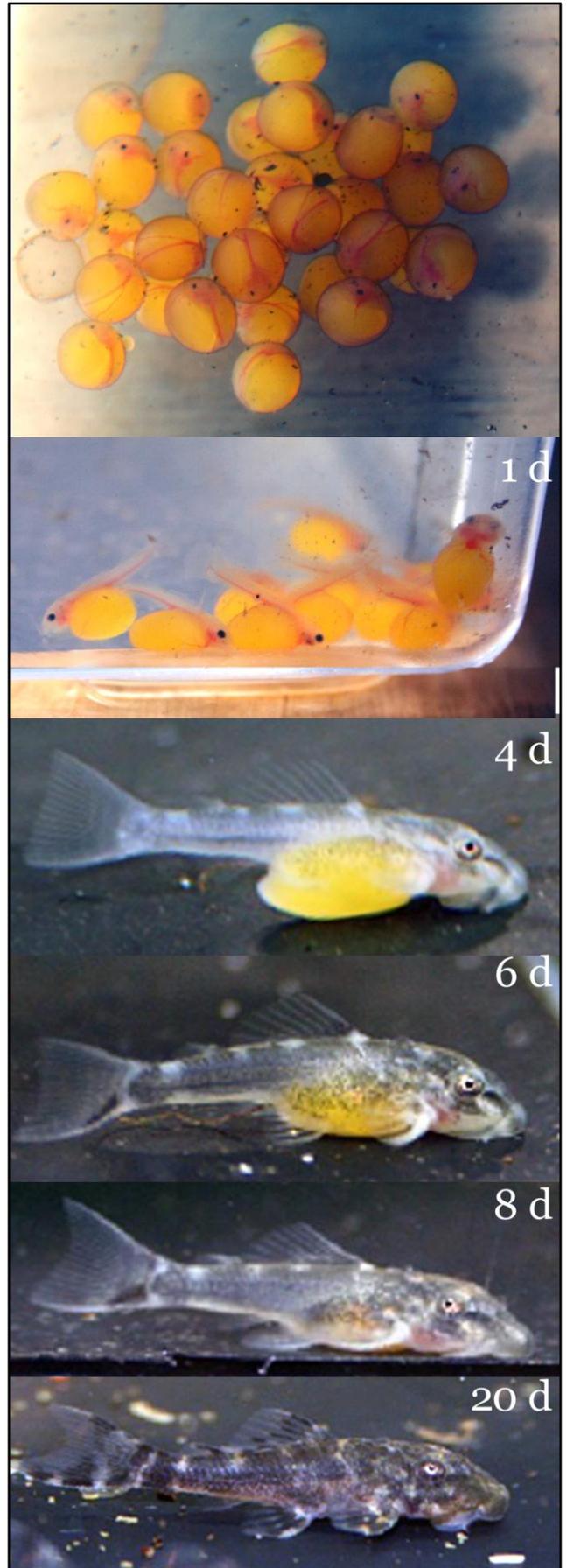


Fig. 3. Development of *P. lujani*. Photos: M. Walters.

coincidentally originate from the same waters as *P. lujani*). If nothing else, the compressed morphology of *P. lujani* suggests adaptation to fast-flowing water, a useful clue when trying to provide suitable conditions. The paper is widely available for aquarists to peruse and understand why this species is now a *Peckoltia*.

The description encouraged me to go back to the aquatic store and buy what they had. After an intense search, we found five specimens across three tanks. One notable feature is that this species seems to be very reasonably priced compared to other *Peckoltia*. This could be a consequence of the true identity not being known. This could change as retailers realise that 'L127' has now been described.

I was unsure of the sex of the specimens and quarantined them for 8 weeks before releasing them into my main centralised system of around 20 tanks, containing many of my groups of Loricariidae. It was during the move that I disturbed a cave and discovered a clump of eggs, followed by a male *P. lujani*. It was too late to try and reunite the eggs with the brooding father (not something I've managed to do successfully with any pleco) so I transferred them to a hatching tub with aeration. The remaining adult fish were moved to their new home. On close

examination it was clear that the eggs were quite well developed and after 24 hours they started hatching.

In total, 24 fry hatched from around 30 eggs. They remained in the hatching container, with daily water changes before they had exhausted their egg sacs after eight days. I then started introducing small amounts of powdered and soaked spirulina flake, followed by powdered Tetra Prima mixed with spirulina powder after day 15. The fry have developed steadily with this 'omnivore' mix supplemented with occasional offerings of crushed garden peas and tablets.

I won't claim to have done anything special to encourage the fish to spawn, much of my 'success' was a pleasant surprise. Typical warm water (28 °C), reasonable flow and plenty of caves seems to have done the trick in this case. I didn't change the tank water prior to the event, so can't pinpoint a particular trigger, although the fish house had been getting gradually warmer lately due to some unseasonable weather.

Interestingly, Armbruster et al. (2015) note that there is some variation in the species between different catch localities. For this reason, it would be advisable to build a group of fish from the same source, if at all possible. Of course it is also likely that fish from different catch localities are mixed together prior to export, making this task difficult. Research on Planet Catfish has indicated additional spawning success with the species by hobbyists in Australia, Continental Europe and North America. I believe this is the first report of successful spawning of *P. lujani* in the United Kingdom, certainly since its description three months ago!

Literature cited

Armbruster, J. W. D. C. Werneke & M. Tan. 2015. Three new species of saddled loricariid catfishes, and a review of *Hemiancistrus*, *Peckoltia* and allied genera (Siluriformes). *Zookeys* 480: 97–123.





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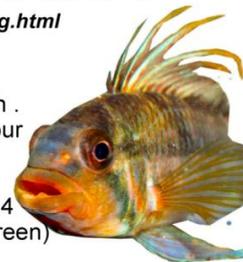
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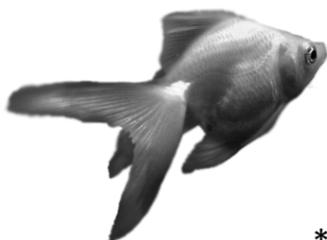
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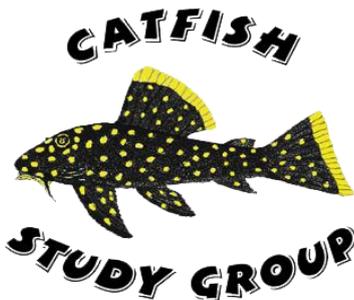
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Diary dates July–September 2015*

<i>Date</i>	<i>Event</i>	<i>Further Information</i>
5 July	YAAS open show & auction	yorkshireaquaristsociety.co.uk/
5 July	Northwest Cichlid Group auction	british-cichlid.org.uk
5 July	West Lothian AS auction	sites.google.com/site/westlothianas/
12 July	CAS catfish & loach show & auction	facebook.com/events/1586164474950890
19 July	NEYG BKA Killifish open show & auction	bka.webeden.co.uk
16 August	Friends of Yorkshire open show & auction	yorkshireaquaristsociety.co.uk/
19 August	Castleford AS evening auction	facebook.com/events/1586164474950890
20 August	Castleford AS evening auction	facebook.com/events/1586164474950890
30 August	Fair City AS open show & auction	facebook.com/events/794372303992035
06 September	BCA convention	facebook.com/groups/BritishCichlidAssociation
13 September	Preston & District AS Convention	northtrop.co.uk
20 September	CSG open show & auction	catfishstudygroup.org
20 September	Robin Hood AS auction	robinhoodaquarists.co.uk
26 September	AAGB members day	aagb.org
27 September	Sheaf Valley AS open show & auction	sheafvalley.co.uk



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If you would like your event listed here, please contact editor@catfishstudygroup.org

A close-up photograph of two snails on a green leaf. The snail in the foreground is larger and has a dark, textured shell with a prominent spiral. The snail in the background is smaller and has a lighter, smoother shell. The background is a soft-focus blue and green, suggesting an outdoor setting. Two speech bubbles are overlaid on the image, one above the smaller snail and one to the right of the larger snail.

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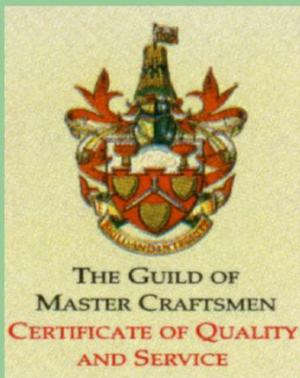
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