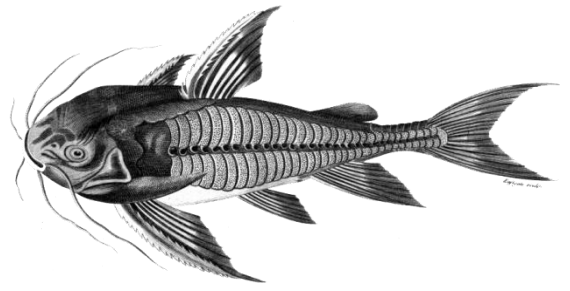


Journal of the Catfish Study Group



March 2015

Volume 16, Issue 1



Spotlight on Xingu doradids



Horabagrus taxonomy



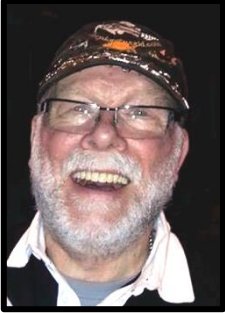
Spawning *Corydoras* sp. C141



UK imports: *Akysis hendricksoni*

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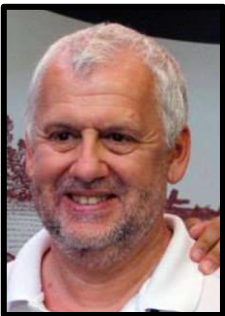
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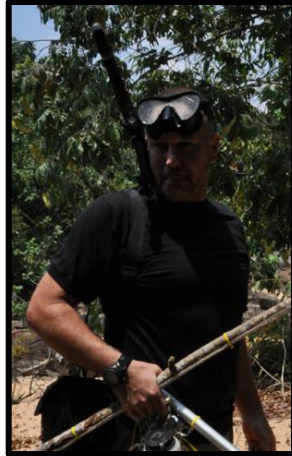
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Editorial

Many thanks for your support of the Catfish Study Group. We are a non-profit and rely on funds raised from sponsorship, auctions, merchandise sales and journal subscriptions to run our events and activities. Your support helps to make the CSG what it is – a great way to meet and learn from other fish-heads, exchange your surplus stock and equipment, and enjoy the company of some of the most passionate, knowledgeable and experienced folks in catfish.



I have recently taken over as Editor of the journal, and must thank Mark Walters, Ian Fuller, Steven Grant and other CSG members for their contributions, dedication and hard work on the journal. The CSG has always published a journal and it has now grown into a professionally-printed quarterly containing articles from top aquarists and field ichthyologists at the bleeding edge of catfish research.

I have been a member of CSG since the late 1990s. Through the early conventions, I

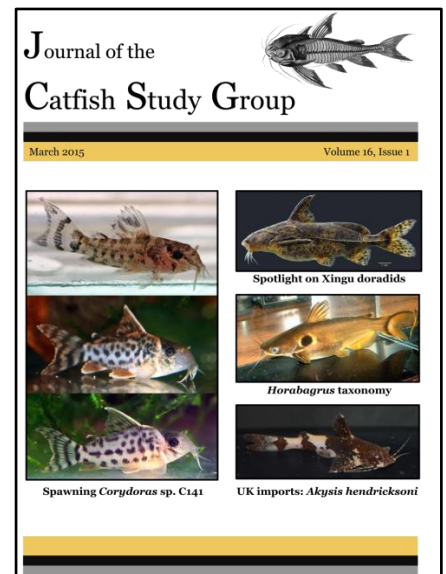
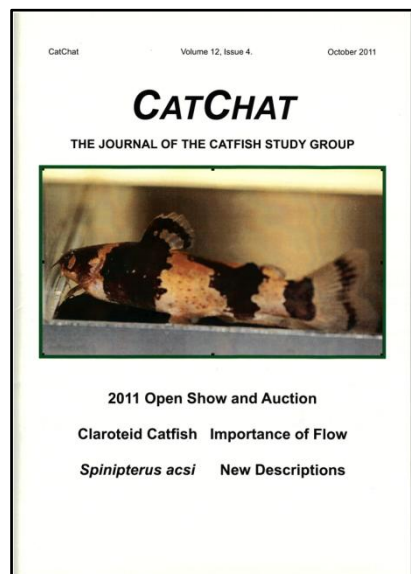
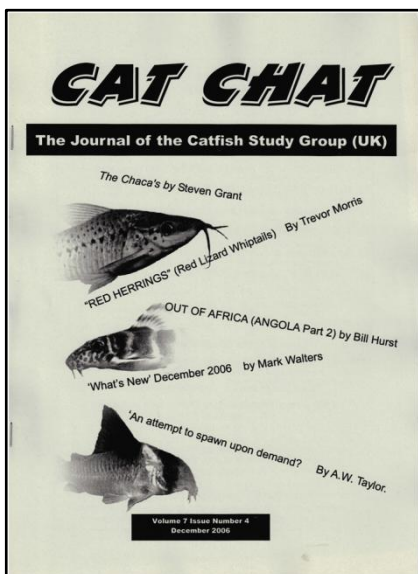
met professional ichthyologists such as Dr. Carl Ferraris Jr. and Dr. Darrell Siebert, both of whom played key roles in my own training that eventually led to a PhD in fish systematics. It has been an incredible journey that began with the CSG, and it shows what the group makes possible. I am grateful and honoured to be able to serve as Editor and will try to build on the legacy left by my predecessors.

The CSG started 2015 with a new constitution and committee that will strengthen and move the group forwards into a new chapter of increased sustainability and reach, and one that will hopefully improve your experience as a member and journal subscriber. A lot of work is currently taking place to achieve these ends, so please bear with us while we make the updates and changes – in the meantime, please tell your friends to join the CSG and subscribe to the journal!

Thanks,

Michael

editor@catfishstudygroup.org



From the Chair

It's been a busy start to my tenure as chairman, following an important Annual General Meeting in January with a new committee and a number of changes to implement as a result of the new constitution. For those who haven't

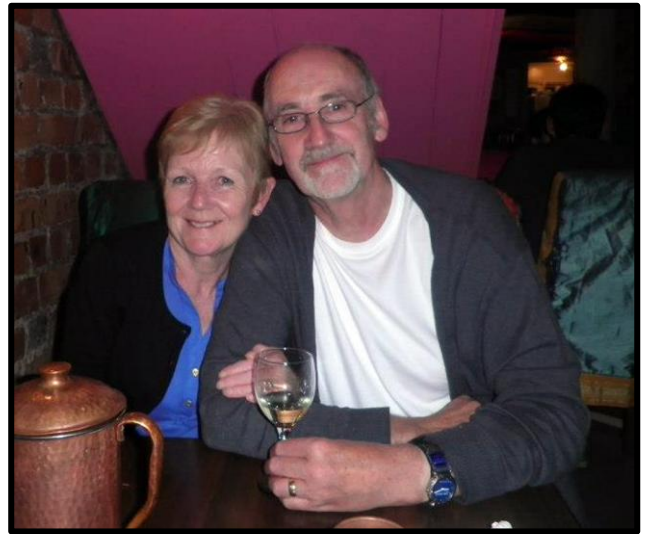


seen the announcements on Facebook and the CSG website, we have adopted a new constitution which will enable the club to communicate with its members and make decisions in an easier way, making everyone feel a part of the operation of the club. Some of these changes will take time so please continue to be patient and look out for ongoing announcements.

Firstly, I'd like to express thanks from the entire membership for many years of hard work by two outgoing committee members; Bob Barnes and Allan James. Bob has held several committee roles over the years and was most recently CSG Chairman. He extended his passion for Rift Valley cichlids to keeping and breeding *Synodontis*, with some notable firsts, and has always been willing to share his experiences with other CSG members. We wish Bob all the best and hope he will continue to be a prominent member of the CSG.

We also owe a debt of gratitude to CSG member Allan James. Allan is a well-known face in the catfish community, but much of his work for the CSG has taken place behind-the-scenes in the development and maintenance of the CSG website. He has quietly and diligently kept things up-to-date with reports and other announcements. The website still provides an essential resource and administrative centre to the CSG

committee and members alike. Allan has also served as a judge at our annual open show. Having stepped down from his role as website manager, Allan is now devoting more time to his own website (www.scotcat.com) that provides articles and reference images to catfish enthusiasts all over the world. Thanks again for all your hard work and I hope you will continue to contribute to the CSG through judging and supporting the annual convention.



Allan and Senga James. Photo: Joanne Avery

The new year brings new committee members to the fold. I am happy to hand over the editorial baton to Michael Hardman. Michael should need little introduction as a regular speaker at CSG events and a past contributor to the journal. I would also like to thank existing committee members for continuing in their long-standing roles and welcome Julian Dignall (General Secretary and IT 'guru'), Jacky Lloyd (Promotions Secretary), Colin Eveson (Breeders Award Programme), and Steven Grant, who is taking on the new position of CSG Archivist.

Jools is known to many of you as the founder of planetcatfish.com and long-time CSG proponent. Jacky is relatively new to the group, but has already made a fantastic

impact promoting events and helping to run our auctions and meetings. Colin is an accomplished breeder and there's a good chance some of the catfish in your tanks were raised by him. Steven is a walking encyclopedia of catfish nomenclature, and a regular contributor to the CSG journal. Please join me in welcoming them all to the committee.

There have been changes for me too, and I gladly accepted the role of CSG Chairman at the last AGM. Rest assured, I will continue to promote the club at all levels and ensure that the core values of the CSG are maintained through a strong committee, effective communication, quality output and an inclusive membership. I am excited to play my part in the new committee while we

work through the new initiatives with a shared vision of a bright future.

Finally, I am looking forward to seeing many of you at our flagship event in March and would like to offer a special thanks to our Convention Manager and President Ian Fuller. Ian has tirelessly performed several key committee roles for the past few years on an emergency basis, helped achieve some of the new initiatives, and continues to promote the CSG at home and abroad.

Sincerely,

Mark

chairman@catfishstudygroup.org

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Staring at the sun(cats): a review of the taxonomy and natural history of *Horabagrus* (Siluriformes: Horabagridae).

By Steven Grant and Michael Hardman

Otherwise known as suncats, *Horabagrus* catfishes are easily recognized by a conspicuous dark blotch surrounded by a halo of golden pigment that resembles an eclipsed sun (Fig. 1). Suncats are found in lakes and streams that drain the Western Ghats in peninsular India.

Horabagrus was first described by Jayaram (1955) to accommodate a fish then known as *Pseudobagrus brachysoma* Günther, 1864 (Fig. 1). Jayaram considered this species to be so different from other *Pseudobagrus* that it should be in its own genus and emphasized the large eyes visible from below and a long anal fin (Jayaram, 1999: 233).



Fig. 1. *Horabagrus brachysoma*, aquarium specimen. Photo: Allan James.

Horabagrus brachysoma (Günther, 1864) (Fig. 1) has been seen sporadically in UK aquatic retailers over the last 15–20 years. This species is known to reach at least 30 cm in aquaria (45 cm in the wild: Jayaram, 2006), and is found in several small river basins of Kerala and Karnataka, where it is known as *manjakoori* (Sreeraj *et al.*, 2006). The golden suncat is harvested for food and the aquarium trade and its natural populations have shrunk by 35% in the last 10 years and are now classified as *vulnerable* by the IUCN red list of

threatened species. Threats faced by *H. brachysoma* are the familiar duo of overfishing and habitat loss.

Golden suncats live in streams and lakes, where they feed on crustaceans, fish, plants, insects, mollusks and detritus. They eat the most after the monsoon season (September–December) and the least during the monsoon season (May–July) when they spawn (Sreeraj *et al* 2006). In nature, males and females mature in their first year of life at around 19 cm and 17 cm, respectively. Gonads show peak maturity during May, indicating a single but prolonged spawning season from March to August (Lekshmi & Prasad, 2014). Like many other tropical catfishes, eggs and sperm mature with increasing temperature and spawning is triggered by the monsoon. Pairs form spawning embraces in the flooded grasslands of the lowlands, where a single female can broadcast up to 62,000 eggs (Lekshmi & Prasad, 2014). Golden suncats have been successfully spawned and raised in captivity with the aid of hormone injections, and fingerlings raised in several aquaculture stations are now being used to supplement natural populations.

In 1994 Pethiyagoda & Kottelat described the second species in the genus, *Horabagrus nigricollaris* (Fig. 2). The collared suncat is only found in the Chalakudy River in Kerala, and is easily distinguished from *H. brachysoma* in that the sunspot behind the head connects across the nape like a collar or saddle, hence its name (*niger* = black; *collaris* = neck or collar). *Horabagrus nigricollaris* also has a shorter head, a larger eye, a broader pectoral girdle, a longer dorsal spine and the lobes of the caudal fin are shorter and more rounded than in *H.*

brachysoma (Pethiyagoda & Kottelat, 1994). Given their similar morphology and habitat preference, we assume that the ecology and reproductive biology of *H. nigricollaris* are similar to those of *H. brachysoma*.



Fig. 2. *Horabagrus nigricollaris*, aquarium specimen. Photo: Julian Dignall.

A third species, *Horabagrus melanosoma*, was recently described from the Manimala River in Kerala by Plamoottil & Abraham (2014). In their description of the new species, these authors claimed that it differed from *H. brachysoma* in terms of body colouration (grayish-black vs. greenish-gold), fin colouration (grayish-black vs. yellowish-orange), a longer anal fin and a shorter pelvic fin, head, dorsal fin and pectoral-fin spine. However, Ali *et al.* (2014) re-examined the type material on which the new species was based and found considerable morphometric and meristic discrepancies with respect to those presented in the original description. Based on a more thorough analysis of morphometric and genetic data drawn from specimens collected in the Manimala River, Ali *et al.* (2014) proposed that *H. melanosoma* should be treated as a junior synonym of *H. brachysoma*. If they are correct, and it seems they are, *Horabagrus melanosoma* Plamoottil & Abraham 2014 may well hold the record for shortest lifespan for a valid fish name in taxonomic history.

While it seems the species diversity of *Horabagrus* is rather low, the relationships of the genus to other catfishes in India and elsewhere are anything but simple. Morphologists (Tilak, 1964; Mo, 1991; de

Pinna, 1993; Vidthayanon & Roongthongbaisuree, 1993) and molecular phylogeneticists (Hardman, 2005; Sullivan *et al.*, 2006) have analyzed the variation among most catfish families and found little evidence to support the notion that *Horabagrus* is a close relative of the African Schilbeidae or the Asian Bagridae, families in which it has been placed in by early authors. Both morphological (Mo, 1991) and molecular data (Hardman, 2005; Sullivan *et al.* 2006) suggest *Horabagrus* is most closely related to *Platytropius* and *Pseudeutropius*. These two Asian genera have historically been placed within a broadly-conceived Schilbeidae containing both African and Asian taxa. While sampling of all genera has yet to be completed, the emerging picture is that *Horabagrus* will be classified in Horabagridae, a family it will likely share with some Asian genera that are currently considered schilbeids.

Acknowledgements

Thanks to Allan James of Scotcat and Julian Dignall of Planetcatfish for permission to reproduce photographs.

Literature cited

- Ali, A., U. Katwate, S. Philip, K. V. Dhaneesh, A. Bijukumar, R. Raghavan and N. Dahanukar. 2014. *Horabagrus melanosoma*: a junior synonym of *Horabagrus brachysoma* (Teleostei: Horabagridae). *Zootaxa* 3881 (4): 373–384.
- Hardman, M. 2005. The phylogenetic relationships among non-diplomystid catfishes as inferred from mitochondrial cytochrome *b* sequences; the search for the ictalurid sister taxon. *Molecular Phylogenetics and Evolution* 37 (3): 700–720.
- Jayaram, K. C. 1955. The Palaearctic element in the fish fauna of peninsular India. *Bulletin of the National Institute of Sciences of India*. 7: 260–263.
- Jayaram, K. C. 1999. *The Freshwater Fishes of the Indian Region*. Narendera Publishing House, Delhi. 551 pp., 18 plates.
- Jayaram, K. C. 2006. *Catfishes of India*. Narendera Publishing House, Delhi. 383 pp., 22 plates.
- Lekshmi, R. C. and G. Prasad. 2014. Reproductive characters of yellow catfish *Horabagrus brachysoma* (Horabagridae) from Periyar River, Western Ghats. *Journal of Aquatic Biology & Fisheries* 2(1): 154–161.
- Mo, T.-P. 1991. Anatomy, relationships and systematic of the Bagridae (Teleostei, Siluroidea) with a hypothesis of siluroid phylogeny. *Theses Zoologicae* 17: 1–216.

- Pethiyagoda, R. and M. Kottelat. 1994. Three new species of fishes of the genera *Osteochilichthys* (Cyprinidae), *Travancoria* (Balitoridae) and *Horabagrus* (Bagridae) from the Chalakudy River, Kerala, India. *Journal of South Asian Natural History* 1 (1): 97–116.
- de Pinna, M.C.C. 1993. *Higher-level phylogeny of Siluriformes (Teleostei, Ostariophysii), with a new classification of the Order*. Unpublished Ph.D. Dissertation, City University of New York, New York.
- Plamoottil, M. and N. P. Abraham. 2013. *Horabagrus melanosoma*, a new fish species (Actinopterygii: Siluriformes) from Kerala, India. *International Journal of Pure and Applied Zoology* 1 (4): 280–288.
- Sreeraj, N., R. Raghavan and G. Prasad. 2006. The diet of *Horabagrus brachysoma* (Gunther), an endangered bagrid catfish from Lake Vembanas (South India). *Journal of Fish Biology* 69: 637–642.
- Sullivan, J. P., J. G. Lundberg and M. Hardman. 2006. A phylogenetic analysis of the major groups of catfishes (Teleostei: Siluriformes) using *rag1* and *rag2* nuclear gene sequences. *Molecular Phylogenetics and Evolution* 41: 636–662.
- Tilak, R. 1964. The osteocranium and the Weberian apparatus of the fishes of the family Schilbeidae (Pisces: Siluroidea). *Proceedings of the Zoological Society of London* 143(1): 1–36.
- Vidthayanon, C., and S. Roongthongbaisuree. 1993. Taxonomy of Thai riverine catfishes family Schilbeidae and Pangasiidae. *National Inland Fisheries Institute, Department of Fisheries Technology* 150: 1-57.



UK Import roundup

By Michael Hardman

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



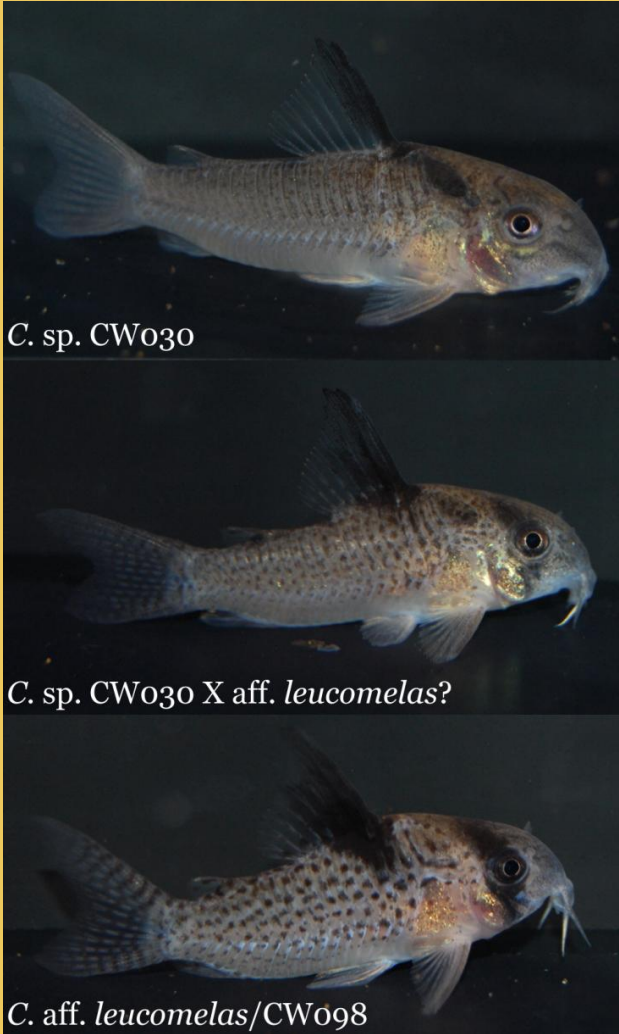
Synodontis cf. caudalis. Photo: Pier Aquatics

In anticipation of the CSG annual convention, our major sponsor (Pier Aquatics) intensified their import activity and obtained some amazing catfishes. This fish was photographed soon after import earlier this year and posted on social media. The catfish world was set alight by this underfed but clearly beautiful *Synodontis* that had been imported from the Congo via France. So began an online debate over its identification, with mochokid specialists such as Birger Kamprath (Canada) and Petteri Palviainen (Finland) suggesting this

might be *Synodontis caudalis*. Although *S. caudalis* is variable, the fish in the photo appears somewhat different from that species as we know it. Birger, Petteri and other experts, including Dr. John Friel (USA), have not ruled out that this could represent a new species!

The fish is currently receiving some much-needed care at Pier Aquatics, but will eventually move to Pailton (UK), where CSG member Richard Smith will hopefully keep us updated on its progress.






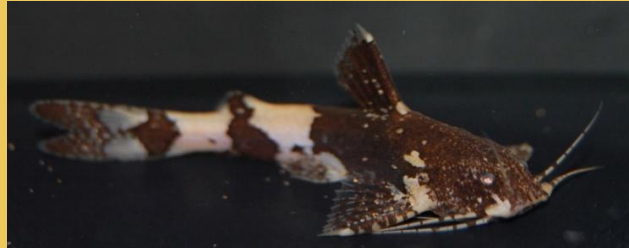
C. sp. CW030

C. sp. CW030 X aff. leucomelas?

C. aff. leucomelas/CW098

Corydoras from the Brazil-Guyana border region.
Photo: Pier Aquatics


In early February, Pier Aquatics imported a shipment of two species of *Corydoras* from Brazil. These fish have subsequently been identified as *C. sp. CW030* (by Ian Fuller) and *C. aff. leucomelas* (by Luiz Tencatt) or *CW098* (by Ian Fuller). Both species reportedly originate from the Brazil-Guyana border region, possibly the Rio Branco drainage. Interestingly, a single natural hybrid was found among the shipment, confirming that crosses between different *Corydoras* species happen in nature as well as in captivity.

Akysis hendricksoni. Photo: Pier Aquatics

Akysis hendricksoni Albert 1966 was imported by Pier Aquatics from Malaysia earlier this year. This fish is native to peninsular Thailand and Malaysia, and can be recognized by the irregular yellow bands around the body between the dorsal and caudal fins. Ng (1996) reported finding *A. hendricksoni* abundantly in the leaf litter and debris that had accumulated in the slower parts of large fast-flowing streams in Terengganu (northeast peninsular Malaysia). After capture in these habitats, *A. hendricksoni* often regurgitated atyid shrimps (*Caradina* sp.). In the aquarium, this species shows its predatory instincts and feeds well on frozen bloodworms and other small invertebrates.

Ng, H.H. 1996. *Akysis heterurus*, a new species of catfish (Teleostei: Akysidae) from eastern Sumatra, with notes on *Akysis hendricksoni* Alfred. *The Raffles Bulletin of Zoology* 44(1): 3–10.




To breed or not to breed, that is the question: spawning tips from the cory king of Denmark

By Michael Hardman



Fig. 1. Benny Hubel Hansen in his preferred habitat. Photo: M. Hardman

I've heard that Denmark is the happiest country in the world and makes probably the best lager. In addition to expensive furniture and delicious pastries, nearly six million Danes are well known for their expertise making and building with toy bricks. Lego – or more specifically *Legoland* – was the main reason I found myself in Billund during the third week of June 2014.

Legoland was having its annual Star Wars weekend, and kids in costume got in for free. This amounted to a saving of around £100, so I reached for the crepe paper and glitter glue and we got stuck in. As much as I like Lego and Star Wars, I like catfish even more, and they were the real reason I drove nearly 2000 miles with three kids aged 5,

7, and 9 in one of the warmest summers on record.

Since moving to Finland in 2005, most of my interaction with other aquarists is through several Facebook groups. A few years ago, I setup *Corydoras Spawning Reports (CSR)* to serve as a simple databank for cory breeders wanting to document their activity, patterns and triggers. The idea was simple enough: each spawning report provides a date, location and other details such as water chemistry, flow rate, temperature, sex ratio, days since last water change, etc. Members can search the group by species to find several reports and compare the conditions across breeders, and use this information to design their own spawning protocol.

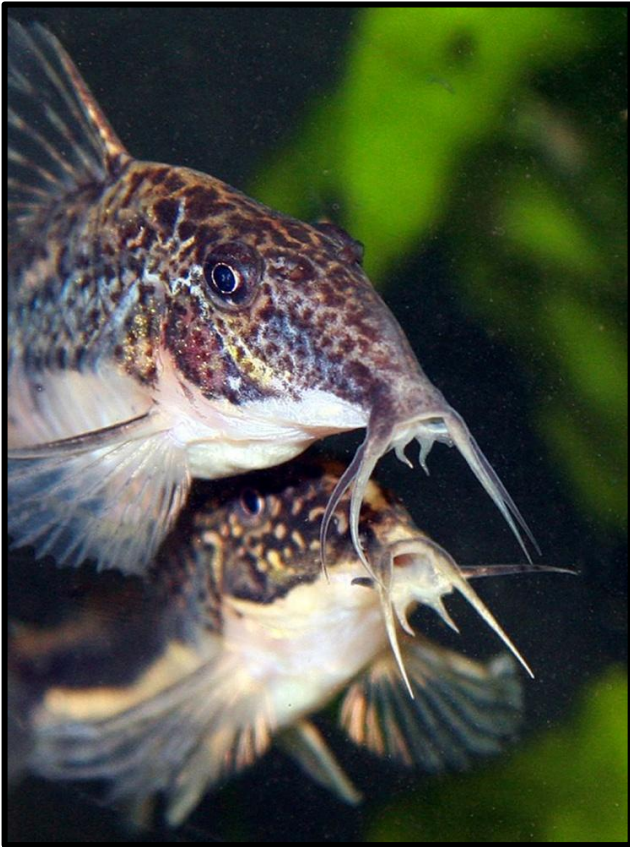


Fig. 2. *Scleromystax kronei*. Photo: B. H. Hansen.

CSR now has over 400 Facebook members, many of whom post regularly and this is one of the groups I check in on nearly every day. Like with most Facebook groups, some members of CSR are more chatty than others. As time went by, I began to notice how often a Dane called Benny Hubel Hansen was posting reports and the impressive diversity of species he was posting on (see Table 1). So, Legoland, Boba Fett and a cory spawning guru all within a 30-minute drive of the happiest country on Earth sounded like my kind of weekend away.



Fig. 3. *Corydoras concolor*. Photo: B. H. Hansen

I contacted Benny to explain that I would be visiting Legoland (only 20 miles

from his hometown) and that I would very much like to meet him and his fishes. Fortunately for me, he was home and happy to let me in and talk about *Corydoras*.

Species	°C	pH	µS
<i>Aspidoras</i> CW052	22.5	6.5	210
<i>Corydoras</i> sp. Co65	22–28	6.0–7.2	180–285
<i>C. sp.</i> C141	22–27	4.2–7.1	70–180
<i>C. sp.</i> CW023	23	6.1	120
<i>C. adolfoi</i>	27	5.5	-
<i>C. burgessi</i>	24	-	190
<i>C. concolor</i>	21–23	5.8–6.5	83–262
<i>C. davidsandsi</i>	22–24	5.9–6.7	180–260
<i>C. duplicareus</i>	24–26	-	110–280
<i>C. eques</i>	20–25	6.0–7.4	251–460
<i>C. melini</i>	23	-	160
<i>C. metae</i>	19–28	6.5–6.8	210–281
<i>C. napoensis</i>	23	-	800
<i>C. panda</i>	27	-	300
<i>C. similis</i>	23	6.0–6.8	100–280
<i>C. tukano</i>	22–24	6.0–6.5	85–198
<i>Scleromystax barbatus</i>	19–24	5.4–5.9	80–272
<i>S. kronei</i>	19–22	5.0–6.8	100–250
<i>S. prionotus</i>	24–27	6.3–7.0	171–420

Table 1. Summary of Benny’s data on CSR.

Benny has a beautiful family home in a quiet neighbourhood with well-tended gardens and a relaxed atmosphere. Like many of us, his hobby grew in the house and, after flooding the living room one time too many, moved to an insulated room in an out-building.



Fig. 4. One of four walls in Benny’s fish house. Photo: M. Hardman

Benny’s fish-house (Figs. 1, 4, 7) does not have any windows, and all four walls are fitted with a mixture of aquariums ranging in volume from small 1-2L raising tubs to larger tanks of a few hundred liters. All aquaria are

heated and filtered separately, allowing Benny to experiment with temperature and flow rate when he is trying to spawn a species for the first time.



Fig. 5. *Corydoras tukano*. Photo: B. H. Hansen.

I visit a lot of fish people and enjoy seeing how they keep fish. At first glance, Benny's fish-house looked similar to others I'd seen except that, on the day I visited, at least four species of *Corydoras* were actively spawning! I've had this happen in my fish-house once in the four years I've had it, but Benny didn't think this was particularly remarkable. Such is Benny's touch with corys that at least one of the 20+ species he keeps is spawning on any given day. I started my interrogation to reveal his technique...

Benny began by showing me how he feeds his corys. I've always thought myself fairly generous with food, dealing out roughly half a tablet per cory per day, plus a variety of other live and frozen foods offered during the week. My jaw dropped as Benny started his feeding round – he was dumping handfuls of tablets and earthworm pellets into 50-100L aquaria with 10-20 corys in them. His fish were huge and had an appetite to equal their size!

I asked him if he was worried about water quality and he said "Of course!", and pointed to large foam filters (Hamburg matten style) and a battery of high-end internal power filters. The tank water was clear and the fish were happy with their environment. Because of the high

conductivity, Benny uses a reverse osmosis filter to generate the water he uses in the fish-house. He adds tap water to increase the mineral content to the level he wants before using it. This gives him precise control of the water chemistry in his tanks, and allows him to simulate the seasonal events that trigger spawning in nature. In winter, the water coming in can be less than 10 °C, but he rarely changes more than 30% each week, less if he is simulating a dry season.

Although he has been keeping *Corydoras* for over 30 years, Benny has only been serious about the group for the past 5–6. During that time, he has spawned at least 36 species and successfully raised 31 of them. When attempting to spawn a species for the first time, he relies on heavy feeding with live *Daphnia* and earthworm pellets, excellent water quality and, most importantly, patience. He doesn't subscribe to the idea that if a certain set of cues are applied to well-conditioned fish, they will spawn like robots. He explained that he tries to think like a cory and provide them with the best environment he can.



Fig. 6. *Corydoras davidsandsi*. Photo: B. H. Hansen

Benny has spawned familiar species such as *C. sterbai*, *C. panda*, *C. metae*, *C. schultzei* and *Scleromystax barbatus*, as well as rarities like *C. tukano*, *C. aeneus* (from Trinidad), *C. sp. 065*, *C. sp. 141*, *C. burgessi*,

C. eques and *S. kronei*. While many of these have been spawned by other cory enthusiasts, *C. sp. 141* (Fig. 7) is a member of the long-snouted group of corys that are notoriously reluctant to spawn in captivity.



Fig. 6. One of Benny’s spawning tanks. Photo: B. H. Hansen.

Variously imported as *C. ornatus*, *C. pulcher*, *C. sp. “white fin”* or *C. cf. schwartzi* “longnose”, rather little is known about *C. sp. 141*. CSG member Steven Grant tells me that *C. sp. 141* is collected in the Rio Purus. Benny has maintained a group of eight adults in a 54L (60x30x30 cm) aquarium and spawned them at least twice last summer (31 July and 18 August 2014). Each time, a large cluster of 100–200 eggs was placed on the glass in an upper corner of the aquarium, all within 10 cm of the waterline.



Fig. 7. Adult *Corydoras sp. 141*. Photo: M. Hardman

Unfortunately, egg fertility was very low, but Benny managed to raise a few juveniles (Fig. 8). The conditions measured during these two spawning events were quite different (31 July: 27 °C, pH 4.2, 70 µS vs. 18 August: 23 °C, pH 6.2, 152 µS), suggesting that this species is cued by other factors or

that they are strongly seasonal and spawn once per year, which has been reported for other long-snouted corys.



Fig. 8. *Corydoras sp. 141* growth stages. Upper = 2.5 weeks. Centre = 5 weeks. Lower = 7 weeks, 24 mm. Photos: B. H. Hansen

Benny and other Danish aquarists like Kim Kastberg enjoy a thriving aquarium scene in Denmark, where well-supported groups organize meetings, conventions, sales expos and other events. Life has its challenges in northern Europe, but warm and humid fish rooms are a welcome retreat in the winter months. Corys are popular in Denmark, where *C. sterbai* and *C. schultzei* “black” can fetch around £10 in the shops. Rarities can be obtained from German importers just a few hours drive to the south. I imagine these club trips over the border help keep Denmark’s cory fans probably the happiest in the world.



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

The collage features the following logos and advertisements:

- CorydorasWorld.com**: A blue banner with two Corydoras fish on either side of the text.
- www.scotcat.com**: A small white banner with a fish icon.
- New Era**: A black banner with a white crescent moon and the text "New Era" and "health · color · vitality".
- Arcadia**: A pink banner showing two aquarium heaters.
- AQUADISTRI**: A logo with green leaves and a blue fish.
- WHARF AQUATICS LTD.**: A logo featuring a blue fish silhouette.
- MIDLAND WATERLIFE**: A blue banner with the text "MIDLAND WATERLIFE".
- PlanetCatfish**: A logo with the text "PlanetCatfish" in a colorful, bubbly font.
- Aqua One**: A yellow and black banner with the text "Aqua One".
- New Life SPECTRUM**: A logo with a blue fish icon and the text "New Life SPECTRUM".
- PIER AQUATICS**: A circular logo with a striped fish and the text "PIER AQUATICS".
- Asiancatfish.com**: A blue banner with a blue fish and the text "Asiancatfish.com".
- AMAZONAS**: A banner with a green background and the text "AMAZONAS" in white.
- Practical Fishkeeping**: A black banner with the text "Practical Fishkeeping" in white.
- EHEIM**: A large red banner with the text "EHEIM".
- EHEIM**: A smaller red banner with the text "EHEIM".
- mp**: A blue banner with the text "mp".
- JÄGER**: A blue banner with the text "JÄGER".
- A-Z Aquatics Ltd**: A banner with various tropical fish and the text "A-Z Aquatics Ltd".
- tropical fish guides tanks accessories Telephone 01270 82 00 73**: Text at the bottom of the A-Z Aquatics banner.
- South American Fish**: A banner with several South American fish and the text "South American Fish".
- Tetra**: A yellow banner with the text "Tetra" and a blue fish icon.
- JBL**: A green banner with a white fish icon and the text "JBL".
- AQUARIAN**: A large blue banner with the text "AQUARIAN" and "ADVANCED NUTRITION", along with images of fish and Aquarian product containers.

***Rhynchodoras*: into the belly of the beast**

By Mark Sabaj Pérez



Fig. 1. *Rhynchodoras xingui* (INPA 43611) collected in the rio Xingu 33 km SSW of Altamira during the iXingu Project high-water expedition (March 2014). Photo: M. Sabaj Pérez.

The bizarre doradid *Rhynchodoras xingui* (Fig. 1) was described by German ichthyologists Wolfgang Klauswitz and Fritz Rösler (1961) based on two specimens from the upper rio Xingu collected by the famous anthropologist Harald Schultz. The generic name comes from the Greek word *rhynchos*, meaning beak or snout, and was inspired by the dorad's uniquely-shaped jaws which somewhat resemble the grasping end of a pair of water-pump pliers.

The scientific discovery of *Rhynchodoras* is credited to British naturalist-explorer Alfred Russel Wallace (1823–1913), better known for proposing natural selection as the mechanism behind evolution. For most people, Charles Darwin (1809-1882) first comes to mind with the mention of natural selection. Darwin began developing his ideas on evolution in 1838. But, just before he was about to synthesize his work, he received a manuscript from Wallace who had independently arrived at the same hypothesis. Both men presented their papers to the Linnean Society of London in 1858, followed by Darwin's publication *On the Origin of Species* in 1859.

Their joint offering of such a novel hypothesis is admirable, and speaks to the integrity of both men. Lesser scientists would have tried to scoop one another to gain first credit!

From 1850–1852, Wallace journeyed up the rio Negro to the sources of that river and the río Orinoco. During the trip he collected numerous specimens and dutifully sketched and took notes on the many fishes he encountered. While sailing back to England on board the *Helen*, however, the ship's cargo caught fire and his collections were tragically lost at sea. One can only imagine the disappointment of being deprived of such a valuable haul. As a person who routinely travels with collections of dead specimens (albeit mostly by plane, not by ship), I am never at peace until those specimens are safely in my lab. Fortunately, Wallace and his notes and illustrations survived, the latter preserved at The Natural History Museum, London. For a beautiful reproduction of Wallace's field notes and drawings see "Peixes do Rio Negro" compiled by Mônica Toledo-Piza Ragazzo and published in 2002.

Wallace's drawing of a species of *Rhinodoras* (originally labeled "*Doras*" and



Figure 2. Highly specialized jaws of *Rhynchodoras*. Photo: M. Sabaj Pérez.

numbered 175) included his comments: "In a small specimen very closely resembling this [*Rhinodoras*] in all other particulars the head is higher towards the snout which turns down and is produced in a sort of proboscis

which is received in a sort of trough formed by the produced lower lip—the teeth are similar but are also continued in a row round the margin of each lip. Perhaps this is the male and the above [*Rhinodoras*] being the female" (Wallace, 2002:332). His wonderful description was certainly based on a specimen of *Rhynchodoras*, the only doradid genus in which the snout ends in a pair of long, vertically oriented jaws (Figs. 2 & 3).

It amazes me that Wallace managed to find this specimen, given its extreme rarity in museum collections. It would be 110 years before another *Rhynchodoras* was properly documented!

Rhynchodoras was recently revised by Birindelli, Sabaj & Taphorn (2007) who recognized three valid species: *R. xingui* (Xingu & Tocantins), *R. woodsi* (Amazon & Essequibo), and *R. castilloi* (Apure basin, Orinoco drainage), the lattermost newly



Figure 3. Skeletonized specimen of *Rhynchodoras* showing how the premaxillary (P) and dentary (D) are oriented perpendicular to the skull. Photo by Mariangeles Arce.

named in honor of Venezuelan ichthyologist Otto E. Castillo. *Rhynchodoras woodsi* is distinguished from congeners by having posterior chambers of the gas bladder expanded into a pair of elongate horn-like diverticula (vs. diverticula absent; Fig. 4).

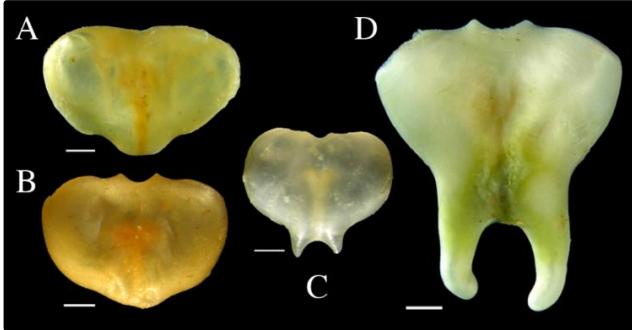


Figure 4. Gas bladders in *Rhynchodoras castilloi* (A), *R. xingui* (B), *R. woodsi* juvenile (C) and adult (D). Photo: M. Sabaj Pérez.

I agree, a lousy characteristic for identifying a *Rhynchodoras* that one prefers kept alive (but then again, all of mine are dead). *Rhynchodoras castilloi* has midlateral scutes (beginning with infranuchal) 34–36 (vs. 33–34 in *R. xingui*), anterior scutes shallow, depth about one-fifth of corresponding body depth (vs. one-third to one-quarter in *R. xingui*), posterior margins of dorsal and ventral scute wings lacking conspicuous serrations (vs. well serrated in *R. xingui*), and all three tympanal scutes poorly

developed and inconspicuous (vs. 2nd & 3rd well developed, latter with medial carina in *R. xingui*).

As noted by Wallace, *Rhynchodoras* is very similar in appearance to *Rhinodoras* (Fig. 5). In fact, the species of *Rhinodoras* and *Rhynchodoras* that occur together are nearly identical in overall coloration, and in the shape of the body and head (minus the jaws, lips and barbels). Based on analyses of morphological data (Birindelli, 2014) and molecular data (Arce et al., 2013), the two genera form a monophyletic clade with the monotypic *Orinocodoras eigenmanni* (Fig. 6). That is to say, the three genera are each other's closest relatives, descended from a common ancestor to the exclusion of all other doradids.

Very little is known about the natural history of *Rhynchodoras*. The genus is found in turbid white waters (Apure, Amazonas, Branco, Essequibo), black waters (Negro) and clear waters (Tocantins, Xingu). Most of the specimens deposited in museums were collected via bottom trawls in large river channels. During the Calhamazon Project, John Lundberg et al. collected *R. woodsi* in the rio Purus (Solimões drainage) at depths ranging from 27.8–35 m. *Rhynchodoras*



Figure 5. *Rhinodoras* from the rio Xingu (ANSP 193091, 111.6 mm SL, probably female). Photo: M. Sabaj Pérez.

woodsii also were trawled up from shallower depths, 1-5 m, in the Solimões-Amazonas. In the rio Amazonas near Iquitos, *Rhynchodoras* are sometimes collected in the main channel by towing a long, deep net along the bottom between two canoes powered by long-shaft motors. *Rhynchodoras* often co-occurs with *Rhinodoras* (think back to Wallace), and the two genera are often collected together. Both genera prefer habitats with ample current and plenty of cavities for hiding during the day.



Figure 6. *Orinocodoras eigenmanni* (ANSP160255, 85.5 mm SL) from a tributary to the río Orinoco, Venezuela.

In the rio Xingu, *Rhynchodoras* has only been collected via diving, and is more often found during the high-water season. A female (88 mm SL) collected in March 2014 was ripe with mature eggs, suggesting that the species breeds during high water. During the day, the divers pluck specimens of *Rhynchodoras* and *Rhinodoras* from cavities in deeply submerged logs. They did collect a single specimen of *R. xingui* during the lower water season at a depth of about 15 m in a channel of the lower Volta Grande. Water conditions taken near the surface by Dan Fitzgerald were: pH 7.8, dissolved oxygen 100.2% (7.41 mg/L), conductivity 22.4 μ S, specific conductivity 19.8 μ S, temperature 31.8°C, secchi depth 2 m.

Carvajal (2005) reported a diet composed entirely of *caddisflies* (Order Trichoptera) for two specimens from the río Apure (Orinoco basin), Venezuela. I recently emptied the gut of one of the specimens collected during our 2014 high-water

expedition, and sent the contents to Oliver Flint at the Smithsonian Institution. Oliver is a world-renowned authority on caddisflies, having published about 160 papers on the Order since 1956. After several hours working on the specimens, he considered them likely to be an unusual and undescribed species of the large and disparate genus *Leptonema* (Trichoptera: Hydropsychidae: Macronematinae).

Hydropsychid larvae do not construct the kinds of cases that caddisfly fans commonly connect with caddisflies. Instead, they spin a silken retreat that remains fixed to the substrate with a “fishing net” attached to its entrance. Oliver recalled getting macronematin larvae from burrows in the hard clay bottom of a Neotropical river. The contents of the *Rhynchodoras xingui* gut were composed entirely of cf. *Leptonema* (Fig. 6), in ample amounts, suggesting a highly specialized diet. The forceps-like jaws of *Rhynchodoras*, fitted with multiple rows of minute teeth, are evidently effective tools for plucking hydropsychids from their silken retreats...or perhaps from their watery burrows, skills first surmised by Klauswitz and Rössel.

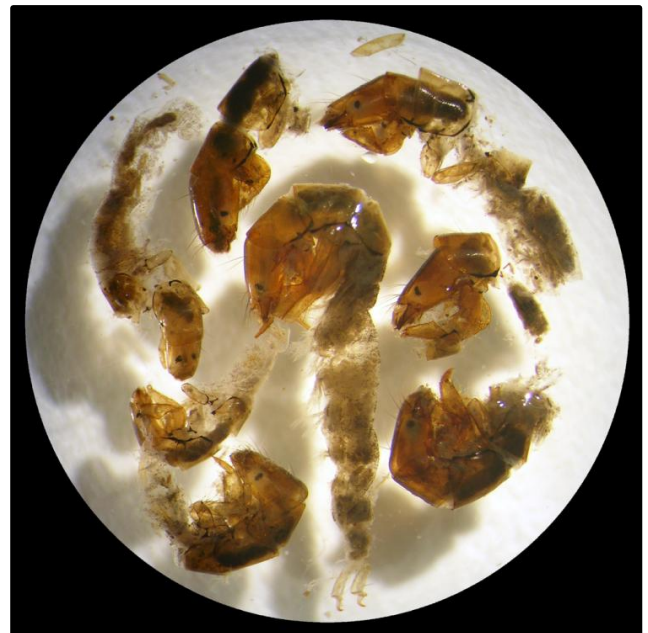


Figure 7. Microscope view of the caddis fly larvae that fill the gut of wild caught *Rhynchodoras xingui*.

For information on *Rhynchodoras* in aquaria, see the excellent on-line article by Kai Arendt: <http://www.aqua-terra-net.de/Hydro/Sonder/welse/Dornwels.htm>. Based on aquarium observations, Arendt confirmed that *Rhynchodoras* are agile, nocturnal feeders that probe crevices and the bottom for hidden bloodworms and Tubifex. If one has ready access to hydropsychid caddisfly larvae...they are likely to remind aquarium kept *Rhynchodoras* of home!

Acknowledgements.

Thanks to Mariangeles Arce for Figure 3, to Daniel Fitzgerald on water quality measurements, to Oliver Flint for identifying gut contents, and to all the members of the iXingu Project for help in the field and lab, especially local heroes Leandro Sousa and Alany Pedrosa Gonçalves. Funding for the iXingu Project provided by the US National Science Foundation (DEB-1257813).

Literature Cited

- Arce H., M., R. E. Reis, A. J. Geneva & M. H. Sabaj Pérez. 2013. Molecular phylogeny of thorny catfishes (Siluriformes: Doradidae). *Molecular Phylogenetics and Evolution*, 67: 560–577.
- Birindelli, J. L. O. 2014. Phylogenetic relationships of the South American Doradoidea (Ostariophysi: Siluriformes). *Neotropical Ichthyology* v. 12 (3): 451–564.
- Birindelli, J. L. O., M. H. Sabaj Pérez & D. C. Taphorn. 2007. New species of *Rhynchodoras* from the Río Orinoco, Venezuela, with comments on the genus (Siluriformes: Doradidae). *Copeia* 2007 (no. 3): 672–684.
- Carvajal, V. A. 2005. Diversidad y dieta de los bagres de la familia Doradidae de Venezuela. Unpubl. bachelor diss., Universidad Nacional Experimental de los Llanos Occidentales “Ezequiel Zamora,” Guanare, Venezuela.
- Klausewitz, W., & F. Rössel. 1961. *Rhynchodoras xingui*, ein bemerkenswerter neuer Wels aus Brasilien (Pisces, Siluroidea, Doradidae). *Senckenbergiana Biologica* v. 42 (nos 1/2): 45–48.
- Wallace, A. R. 2002. Peixes do Rio Negro [Fishes of the Rio Negro]. Organization, introductory text, and translation by Mônica de Toledo-Piza Ragazzo. Universidade de São Paulo, Brazil, 517 p.



Dr. Mark Sabaj Pérez is the Interim Curator of Ichthyology at the Academy of Natural Sciences in Philadelphia, and a co-Principal Investigator of the iXingu project.



CSG Spring Auction

By Mark Walters

I am starting to realise that one of my jobs as Chairman is to step into the breach when gaps appear in the normal running of things! Such was the case with the Spring auction where we needed to find a new auctioneer. Thankfully I've had a bit of experience of running catfish auctions for my local club and was happy to do the same for the CSG.



CSG Spring auction in full swing

Our usual concerns of “would enough people turn up” or “would we have enough stuff to sell” were unfounded and Jacky Lloyd and Dave Barton again proved their worth in attracting both punters and vendors for a good three hours of auctioneering ahead. Thanks also to all the runners, money men (Danny Blundell and Bill Hurst), raffle ticket and merchandise sellers (Terry Gargan, Roy Barton and David Johnson) and of course the hard-working canteen staff under the management of Brian Walsh keeping the wheels oiled with brews and pies!

As auctioneer, I wanted to provide as much information as possible, describing species and their requirements both to inform the public of their needs but also to try and get the best prices possible for the sellers. The result was that most fish were sold to people who knew what they were buying with a general consensus that we achieved good prices for vendors who seemed satisfied at the end of the day. The end result is happy buyers and happy sellers which can only result in more success for the future!

Some of the catfishes offered at the auction:

Callichthyidae

Corydoras aeneus, *C. atropersonata*, *C. carlae*, *C. concolor*, *C. habrosus*, *C. ourastigma*, *C. panda*, *C. pygmaeus*, *C. sterbai*, *C. weitzmani*, *C. sp. CW010*, *C. sp. CW023*, *Scleromystax barbatus*.

Loricariidae

Ancistrus claro, *A. sp. 3*, *A. sp. 4*, *A. sp. “Rio Paraguay”*, *A. sp. “super red”*, *A. sp. “Columbia”*, *Guyanancistrus sp. L106*, *Hemiloricaria eigenmanni*, *Hypancistrus contradens*, *H. debiliterra*, *H. zebra*, *Hypostomus sp. L037*, *Panaqolus L397*, *Peckoltia sp. L038*, *Pseudacanthicus leopardus L114*, *Scobinancistrus aureatus*, *Sturisoma aureum*.

Other families

Synodontis angelicus, *S. decorus*



CSG Summer Lecture and Sales Meeting: Sunday 7th June 2015

Derwent Hall, George St., Darwen, BB3 0DQ

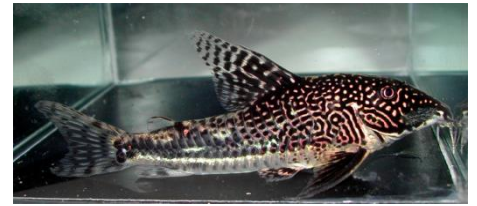
A selection of the catfishes available at the CSG Spring auction. All photos by Steven Grant (reproduced with permission).



Corydoras atropersonatus



Corydoras ourastigma



Scleromystax barbatus



Hypancistrus zebra



Panaqolus sp. L397



Pseudacanthicus leopardus L114



Scobinancistrus aureatus



Peckoltia sp. L038



Synodontis decorus

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Spawning and raising *Panaqolus* sp. L397 (Siluriformes: Loricariidae)

By Mark Walters



Fig. 1. Adult female *Panaqolus* sp. L397, with males in background caves. Photo: Michael Hardman

After keeping and breeding my first member of the Loricariidae, the ‘common’ *Ancistrus*, I was looking for my next suckermouth spawning challenge. Rather than the hugely popular *Hypancistrus*, I was drawn to a rather plain-looking loricariid with an unusual feeding behaviour.

I bought several clown plecs (or *Panaqolus maccus*) from a local fish shop for a few pounds each, and so began an obsession with this interesting genus of dwarf plecos, with the ultimate ambition of spawning some of them.

Some ichthyologists believe that *Panaqolus* are the small cousins of more familiar Royal and Blue-eyed plecs of the genus *Panaque*. These giants are notorious as wood-eating machines and make

aquarium maintenance a real challenge. Plenty of aquarists enjoy keeping *Panaque*, although very few have had any success breeding them. In contrast, many pleco-keepers have reported the captive spawning of *Panaqolus*, which bodes well for my growing interest in the group.

My *P. maccus* seemed to be thriving and a few years later I spoke with Ingo Seidel, the great German catfish-keeper and author. Prior to the 2012 CSG Convention, Ingo informed me he had a few youngsters from his group of L397 (Fig. 1) that he was prepared to let me have. I jumped at the chance and prepared a tank to receive them. The juveniles were around six months old, and had not yet developed any characters that would make sexing them easier (Fig. 2, top). They made their way back to my fish-

house and disappeared into a tangle of bogwood.



Fig. 2. Growth stages of male *Panaqolus* sp. L397. Top: 6 months; middle: 14 months; bottom: 24 months (adult). Photos: Steven Grant.

I didn't provide any special conditions for the new plecs beyond warm, soft and well-circulated water. Their tank was one of several connected through a centralized system shared by other loricariids. They received plenty of green vegetables to supplement the wood they near-constantly grazed, with occasional feeds of good quality flakes, tablets and granules. They grew quickly and developed into two pairs, with the males having more odontode growth along the flanks and around the caudal peduncle (compare Figs. 1 and 2, bottom).

The two males soon chose their favourite caves from those on offer, with the more dominant male spending most of his time inside a large bore-hole drilled into a lump of oak. The females rarely entered the caves and hung around in the bogwood.

Apart from regular feeding, health checks and maintenance, I pretty much left the fish to their own devices for the best part of two years. In early October 2014, without applying any trigger or change in conditions, I suddenly noticed a rapidly fanning tail just inside the cave of the dominant male (Fig. 3). I had not seen any pre-spawning activity or any of the typical trapping behavior that usually precedes a spawning, so this came as quite a surprise. It was quite obvious that the male was guarding eggs and a quick look with a torch confirmed my suspicion.



Fig. 3. Dominant male in spawning cave (bore-hole in oak wood). Photo: Michael Hardman

I was obviously excited at spawning another *Panaqolus* and the prospect of increasing my population of this beautiful species. The fish was still relatively uncommon, and tank-bred fish from European breeders were commanding over £50 each in UK retailers! Prior to mine, I knew of only one other spawning of this species in the UK, and then it seemed the floodgates opened. Two other aquarists reported breeding success within a few days of mine, suggesting some seasonality to this

species or perhaps an atmospheric pressure change had stimulated them to spawn across the UK simultaneously.

After five days of constant fanning by the male, I spotted a newly-hatched fry outside the cave. As is often the case with first-time spawns, I suspected the male was starting to predate the eggs and larvae, so I decided to intervene and remove the remaining fry and raise them artificially. I shouldn't have worried; the male was doing a great job looking after over 50 fry. In hindsight, I should have left him to it, as I found the fry to be rather delicate and difficult to raise by hand.

I transferred the fry into a small tub of tank water and fitted an air-stone. After a few days, they started to develop pigmentation (Fig. 4) and I added a few small pieces of bogwood to give them some cover. After 10 days, the yolk sac was fully absorbed and I began offering small amounts of vegetable-based aquarium foods. A week later, I started losing fry with distended stomachs, pointing to an intestinal problem.

I had experienced this problem with *Panaqolus* fry before, and the prognosis wasn't good, with most fry from that spawning (of L169) dying over a few days. Sure enough despite reducing the food offered, after another week, I was left with only a few fry. Less food and the addition of more wood and oak leaves seemed to help and the remaining fry grew without any similar problems (Fig. 4).

I hope to repeat the success with this species and will learn from my experience. In the meantime, I've picked up another new *Panaqolus* to work with and there a couple of other members of the genus I'm hoping to see in UK retailers soon!

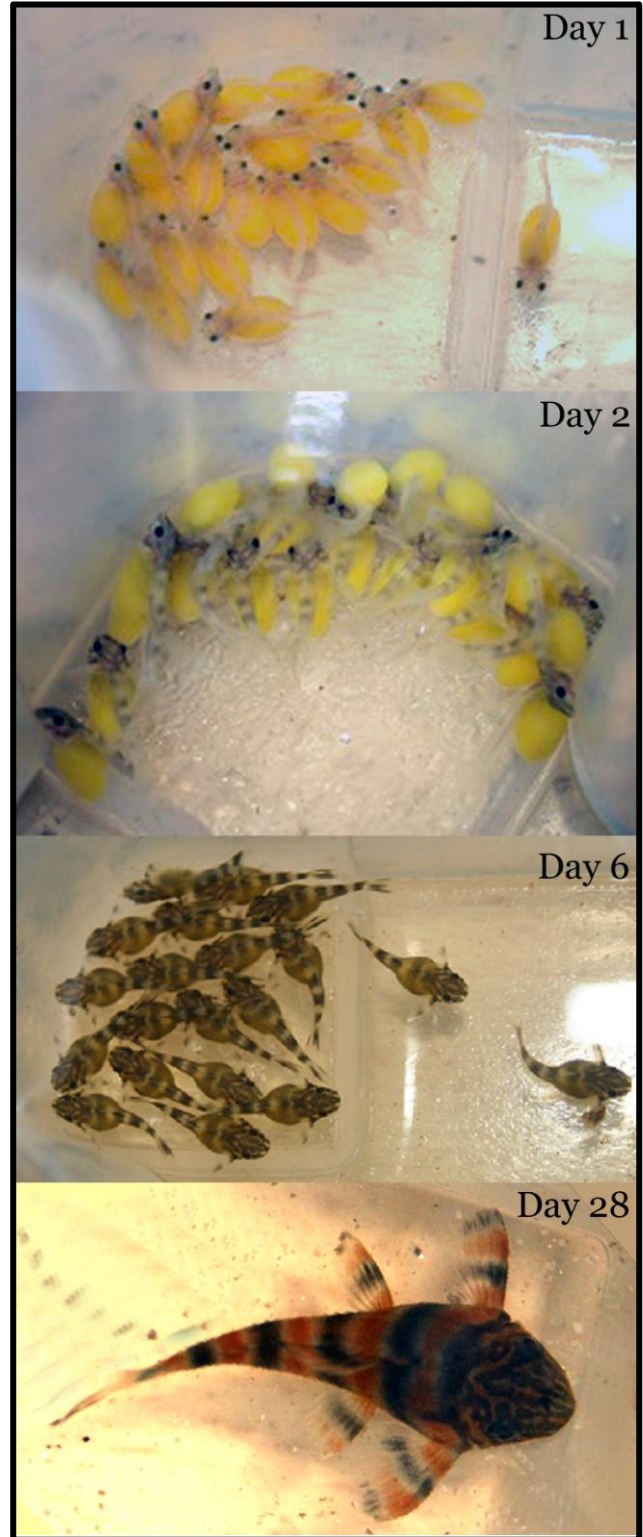
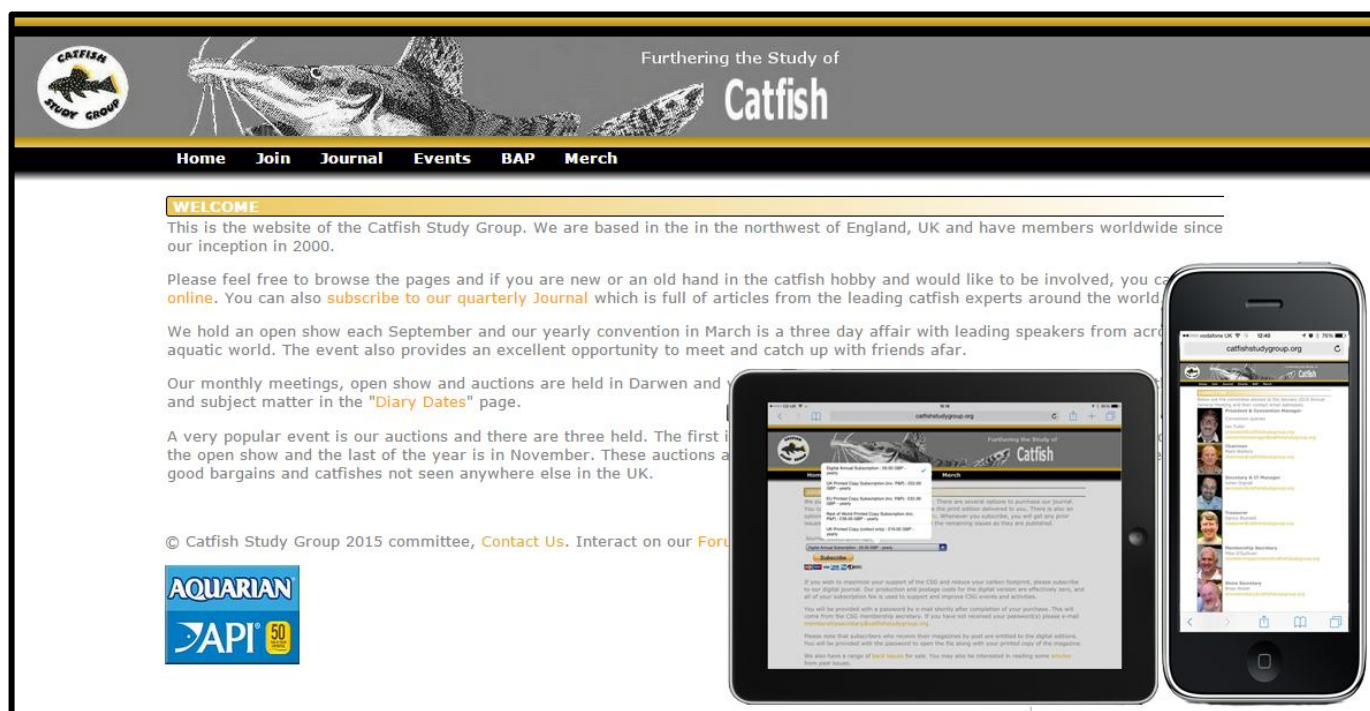


Fig. 4. Fry development of *Panaqolus* sp. L397. Days post-hatching shown to the upper right of each image. Photos: Mark Walters.



IT update

By Julian Dignall



New look Catfish Study Group website (www.catfishstudygroup.org)

The Catfish Study Group had its Annual General Meeting in January. This year, a completely new constitution was approved and a number of individuals were appointed to the various committee positions. I was happy to be voted in as General Secretary and IT Manager. I formed the latter position originally to facilitate the development of the CSG website and online payment system. Allan James took over the responsibilities of that position from me and has done a great job of maintaining and updating the site since then. If for no other reason, this article recognizes Allan and thanks him for the many years he has freely given the CSG to fulfill this task.

In the first few days of taking over from Allan, there was a lot to understand – I hadn't seen some of the pages for almost a decade! I began with tracking usage of the website. At the time of writing, 70% of visitors do so using their computer, 20% using a smartphone and 10% using a tablet. Several sections of the site were not

receiving much attention if at all, e.g., event reports and the forum. The majority of smartphone visitors were looking for directions, so it was clearer how people are using the site nowadays.

In the first couple of months, we've refreshed the web pages to be much faster to load, more standards compliant (that means they work better across a range of devices) and are responsive to a range of screen sizes used to view them on. With the increasing popularity of the digital version of the quarterly journal, it also seems that there is little sense maintaining a large amount of older content that had few visitors. So, the site has been reduced to six main topics containing some sub-directories.

Home – The welcome page introduces the CSG and its activities. At the bottom of this and every page is a link to the (updated) committee page which now contains email links to get in touch with any committee member directly.

[Join](#) – Now that it is free to join the CSG, a simple form for permanent membership is available. This updated page generates a membership directory and helps us track activity and interests so we can serve you better.

[Journal](#) – The journal page allows member and other visitors to subscribe to and pay for digital or printed versions of the journal. This page also provides links to back issues and a sample articles from the archives.

[Events](#) – Here you will find a list of our annual auctions, meetings and sales events as well as links to its world-class convention. This page has also been re-designed with smartphone and other navigation systems in mind.

[BAP](#) – The Breeders Award Programme invites aquarists to report captive breeding events for publication in the journal. Breeders accumulate points to attain experience levels and their accomplishments are recognised at events and through a league table.

[Merch](#) – Last to be refreshed was the CSG online gift shop which offers a range of quality apparel and exclusive CSG badges.

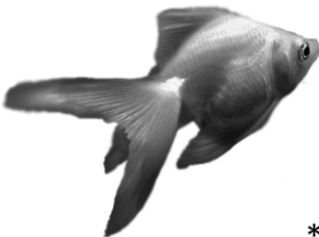
One of the results of my usage study is that the forum has been inactive for a long time and shows little sign of reversing that trend in the face of other social media platforms. For now, the forum remains but I will recommend it be archived soon as it represents a cost and requires maintenance. Of course, I am happy to discuss this and any other matters concerning the website via the [member's Facebook page](#).

Finally, the scope of the IT Manager extends beyond the website. Essentially, the post also provides support, advice and guidance on IT matters to a committee that now resides across Europe. Over the coming year, I hope to introduce online meetings for the committee and pull together a comprehensive IT strategy.



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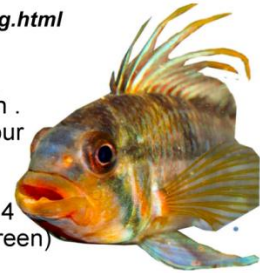
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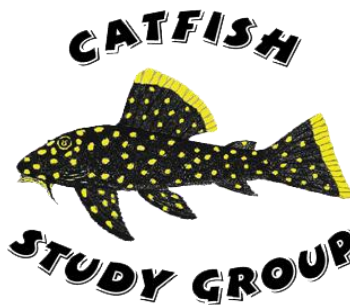



Diary dates March–June 2015*

<i>Date</i>	<i>Event</i>	<i>Further Information</i>
29 March	Ryedale AS 30 th anniversary day	facebook.com/groups/248698435295963
29 March	British Livebearers Assoc. auction	britishlivebearerassociation.co.uk
29 March	Gtr. Manchester Cichlid Group auction	facebook.com/groups/BritishCichlidAssociation
12 April	Robin Hood AS auction	robinhoodaquarists.co.uk
12 April	Ashby AS open show & auction	Tel: 01724 347995
12 April	Preston & District AS auction	northtrop.co.uk
12 April	Kirkcaldy AS open show & auction	kirkcaldyaquaristsociety.co.uk
19 April	Castleford AS open show & auction	facebook.com/groups/CastlefordAS
19 April	CSG meeting: Pimelodidae	catfishstudygroup.org
25–26 April	Anabantoid Assoc. GB members weekend	aagb.org
26 April	Mid-Sussex AS open show	msas.org
26 April	Northeast Tropical open show & auction	Tel: 0191 420 1306 or 0796 775 8435
03 May	British Cichlid Assoc. convention	facebook.com/groups/BritishCichlidAssociation
09 May	Eastleigh & Southampton AS open show	fishgeeks.org.uk
10 May	Bradford A.S. open show	facebook.com/BradfordDistrictAquaristsSociety
17 May	CSG meeting: Loricariidae	catfishstudygroup.org
24 May	DJAY/Aqua Factor Betta open show	facebook.com/groups/bettashow
30 May	Southend, Leigh & District AS open show	facebook.com/groups/181515255319981
31 May	Gtr. Manchester Cichlid Group auction	facebook.com/groups/BritishCichlidAssociation
07 June	CSG Summer lecture & sales meet	catfishstudygroup.org
13 June	Bracknell AS open show	facebook.com/Bracknellaquaristsociety
14 June	Ryedale AS open show & auction	facebook.com/groups/248698435295963
28 June	Preston & District AS auction	northtrop.co.uk

* Please note that dates and events are correct at the time of printing and the CSG assumes no responsibility for cancellation or rescheduling of any non-CSG event listed here. Always be sure to check the date and venue of any event well in advance and again before traveling (see Further Information).

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





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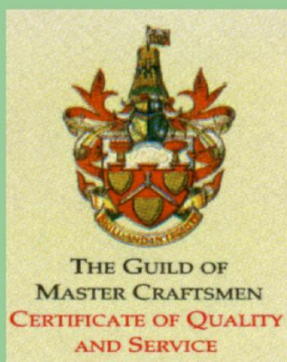
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