

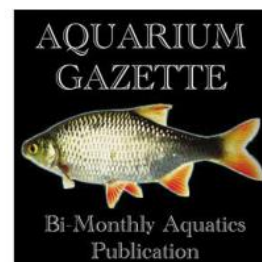
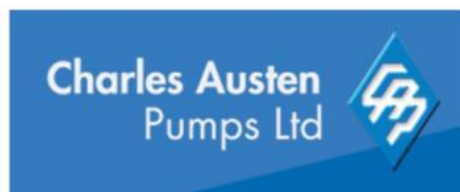
# Journal of the Catfish Study Group



June 2021

Volume 22, Issue 2

**In this edition: Breeding *Hypostomus faveolus*; Breeding Colour changing *Hypostomus jaguribensis*; Breeding *Trichomycterus*.**





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Cover image: *Tetranematichthys wallacei*. Photo: Nathan Chiang

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Convention 2020 logo – *Hara mesembrina* original artwork by Coral Vane Wright,  
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## Chairman's Report - Mark Walters

I am looking forward to reading the latest CSG Journal brought together by our hard-working editor Steve Grant. If you hadn't already noticed, Steve has been busy in recent years producing his first hardback book, with the publishing support from our regular Convention speaker Andreas Tanke. Many of you will have received a copy of the book, issued this month and reviewed in this edition of the Journal by Rebecca Bentley. I'm still waiting to receive my copy but am excited to learn more about the *Pimelodoidea*. I've heard Steve may be thinking about another book in the future which will be much anticipated, I'm sure!

Other great news in the last month has been the formal description of a new *Corydoras* species in honour of CSG member and former President, Chairman and most other Committee roles available - Ian Fuller. Ian is a titan in the catfish world and expert in the field of Corydoradinae who has done so much to further our understanding of the behaviour, morphology, reproduction, identification and taxonomy of most peoples' first introduction to catfish keeping. Not to mention the huge contribution Ian has made to the hobby of fishkeeping through his roles in aquarium clubs, websites, social media and publication of essential Corydoradinae books and articles. *Corydoras fulleri* was previously given the codes C115 and C116 as a consequence of the different colour forms presented by the species. This species is one of the long snouted 'true *Corydoras*' and if the genus is divided as expected should retain the *Corydoras* genus name. It's also fitting that this species has been collected by Ian on his many field trips to the Madre de Dios drainages of Peru. More information can be found in Markus Kaluza's article in this Issue.

I have penned an article on my success breeding a *Hypostomus* species, *H. faveolus* which bred for me earlier this year. I am overrun currently with young plecos and *Corydoras* so can't wait for the resumption of CSG auctions. I haven't committed to formal announcement of the next meeting, which we hope will be in September,

but still await Government announcements on the end to lockdown restrictions. Similarly, although we have now paid our deposit and secured our Convention venue for March 2022 (18-20<sup>th</sup>), we haven't advertised Convention details formally until we know what will happen. Watch this space for more updates and continue to visit our Facebook site where our members can freely engage.

Mark

### Editorial

I can echo Mark's sentiments about *C. fulleri* and congratulate Ian on this honour.

As well as the article on the new *Corydoras*, once again there are three fantastic articles on breeding catfishes. One of these relates to breeding a *Trichomycterus* which I never thought I would see happen. All three authors should be proud of their achievements in breeding unusual catfishes. I encourage anyone who also breeds catfishes, even if it is a partial success, to send me an article.

One of the breeding articles is about another Hypostomin that exhibits Chronic Recurrent Colour Change (CRCC), which I discussed in detail in the Journal in 2019. The evidence from the article in this issue provides further evidence that CRCC is common in the wild in some populations, and not just in *Parancistrus*. This adds further weight to my hypothesis, and less weight to the suggestions that it is due to food. I am hopeful that a biologist will conduct a study into CRCC as it is a fascinating phenomenon.

Steve Grant

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## Successful spawning of the Honeycomb Pleco – *Hypostomus faveolus* Mark Walters



*Hypostomus faveolus* L037. Image by Ralf Heidemann

I previously recounted my experience in the breeding of another *Hypostomus* species L346, a few years ago and promised I would try my hand at other members of the genus. I focused my attention on a medium sized (and attractively marked for the group) species which became available at Pier Aquatics (aquatic retailer – Wigan, UK). *Hypostomus faveolus* (Zawadzki, Birindelli & Lima 2008) is a relatively newly described species, previously identified in the hobby as L037. It is occasionally imported from Brazil, hailing from drainages of the Rio Tocantins and Xingu.

I picked up 4 specimens of *Hypostomus faveolus* in December 2018 which over the next 3 years were housed in a number of aquaria until finding their own home in a 150-litre tank, part of a larger 1500-litre centralised pleco system. Experience has shown to me that species-only tanks are the best approach to successfully breeding any member of the Loricariidae, with plenty of cave options and excessive flow – in the form of a 6000lph wave maker. Giving the group their own quarters and plenty of space,

reduced competition for food and gave more room to grow and this was evidenced in their accelerated growth over the course of 2020, to their current size (around 14cm SL).



*H. faveolus* male

Not a huge species of the genus, and coupled with the attractive honeycomb markings certainly a strong candidate for anybody considering a reasonably sized and robust sucker-mouth addition to any tank. My assumption is that aquarists are put-off



considering most *Hypostomus* species due to the unfounded reputation of being unmanageable bulldozers (and often confused with *Pterygoplichthys* and other tank busting plecos). Part of the confusion lies in the moniker associated with big plecos – ‘Plecostomus’, derived from the species name of *Hypostomus plecostomus* – which is a rarely seen pleco from the little-collected Guianan coastal drainages. Unfortunately, this bad reputation has stuck with *Hypostomus* in general and as a result they are not frequently imported or sold by aquatic retailers.

Hence, not too many serious aquarists acquire the fish or devote much tank space and attention to *Hypostomus* species, making breeding accounts relatively sparse. Personally, I am drawn to the drab and relatively mundane and the prospect of cracking a species which is often overlooked. My overall experience with *Hypostomus* is that they are no more difficult to breed than other similar sized plecos (e.g., *Peckoltia*), you just need to devote some suitable tank space and have a go!

So, after 2 full years of maintaining my honeycomb plecos, I started to notice interaction between the 2 pairs of fish. They exhibit quite obvious sexual dimorphism, with the males being darker in overall colouration. Not much to go on when selecting specimens in a shop, but other characteristics could be applied (head shape, ventral fin size, general body shape) in choosing a potential breeding group. At least by buying a few the chances of a pair are increased, and they do appear to be relatively sociable (at least they don't exhibit aggression towards each other, like *Pseudacanthicus* for example).



*H. faveolus* male on eggs

After a few false starts, a pair started trapping in December 2020 and not thinking too much about it (and being busy with the seasonal

festivities), I didn't notice a successful spawning had occurred until I discovered a well-developed ball of eggs between Christmas and New Year.

I hadn't made any significant changes to the usual maintenance routine although typically my fish house is cooler during the winter, with average tank temperatures between 22-24 Celsius. During the summer, temperatures rise to 24-26 Celsius. I had recently installed an HMA (heavy metal reduction) tap water filter to my set up, enabling me to trickle filtered water to individual tanks. I expect the use of HMA filtered water has contributed to a few successes in the last year, ensuring availability of good quality water especially when rainwater is in short supply.

Considering the great job the male had done so far, I left him to it and only needed to intervene to 'rescue' a couple of fry which were inadvertently kicked from the cave – giving me an opportunity to get the necessary fry photos. I did eventually relieve the male of his duties and collected the developing young after about 7 days to continue the rearing process in a hatching container. After they had fully consumed their yolk sacs, the 60+ fry were moved to a hanging glass rearing container.



*H. faveolus* 1-day old



*H. faveolus* 3-days old

The fry proved to be voracious feeders, consuming as much newly hatched *Artemia* and powdered granular foods as I could provide – usually feeding 2 or 3 times a day. Growth in the first 2 months was rapid and then plateaued for the next few months. I haven't experienced any

significant issues with raising the fry, and little aggression between siblings.



*H. faveolus* 2-weeks old



*H. faveolus* 4-weeks old showing ridged scutes



*H. faveolus* 7-weeks old



*H. faveolus* 6-months old

At the time of writing, the fry are over 6 months old and have reached up to 5cm SL. I have since

observed repeated trapping by one of the males and expect new spawns to come, although with so many mouths to feed in the fish house, I'm happy to let them spawn (or not) when they are ready!

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Journal of the Catfish Study Group. Vol 19 issue 2.

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**A review of 'Pims: Pimelodidae, Heptapteridae and Pseudopimelodidae Catfishes' by Steven Grant**

Rebecca F. Bentley

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# Pims

## Pimelodidae, Heptapteridae and Pseudopimelodidae Catfishes

Steven Grant



There are few books on freshwater fishes that build a bridge between the science and the aquarium hobby. It can be difficult to avoid complex terminology, losing people in long explanations. No one is better at communicating science to the catfish enthusiast side of the aquarium hobby than Steven Grant. He has opened the world of science to many through this journal, *Catfishes of the World* and our yearly convention. 'Pims' is no exception to the

work of Steven Grant; it is accessible to everyone in an interesting way. One could use it as a book to read through or as reference, most likely both.

Andreas Tanke has done a brilliant job publishing the book and his work on the layout. As with Andreas' previous work this book is something you can treasure in your collection. The book is laid out in a logical manner, species are divided first into the three families then by

genus. Under each taxa mentioned is a paragraph on how to identify one genus from another and between species. For hobbyists I feel this is important, often we are confronted with fishes that aren't what they are meant to be. Often, we have to sift through journals and comparing scientific papers, some papers being difficult to read or expensive to access, this book makes identification easily accessible. I found myself in looking at the book it makes me question previous identifications and rethink what I thought I knew. While many books are quickly out of date by the time they are published, this book is completely different, the taxonomy is superb and it is aware of where taxonomy is likely to change.

The images provided in the book are nothing short of amazing, incredibly useful in identifying species. The clear imagery helps with identification providing an honest visual representation of species and genera. Where juveniles are morphologically different from the adults, images of both life stages are provided which is useful in identification; *Brachyplatystoma* being a prime example where they change so much with age, there is a picture provided for each of those. It is also brilliant to see a book show photos of the leviathan adults of the gigantic species, letting people know what they might be getting into should they obtain individuals of such species.

For all of us I think we value the care of our fishes within the aquarium. 'Pims' mentions aspects of care often missed particularly feeding large volumes resulting in obesity and inactivity affecting growth. Unlike many sources aquarium stocking is in footprint size, something many could argue is more important than the listing of volume. While those of my generation would rather it be in the metric system, a conversion is provided at the beginning. Uniquely, volume and frequency water changes are mentioned, something I think is vital.

It is refreshing to see a book that has science in mind. This book is certainly worth adding to any collection with information that can be useful for any aspect and stage of catfish keeping.

## Spawning of *Trichomycterus punctulatus* Valenciennes, 1846

Matthew Penney



Freshly imported *T. punctulatus*. Oliver Lucanus

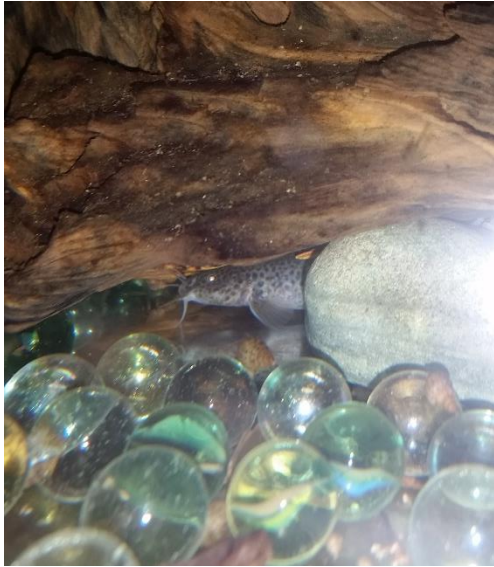
In 2020 I received a group of thirteen *Trichomycterus punctulatus* from Oliver Lucanus at Below Water. The group shipped perfectly and started feeding within hours of being added to the aquarium. They are a very active species both during the day and night. The group consisted of various sizes, ranging from approximately 3" up to 5", with the larger of the group displaying more of the blueish spotted pattern while the smaller displayed more of the dark striped markings.



4" specimen. M. Penney

After only what may have been 7 to 10 days, I had been doing some canister filter maintenance and when I poured the remaining water out of the filter into the fish room sink, I noticed five 1/4" fish swimming around in the sink. I quickly plugged the sink and placed the five fry into a 5 gallon grow out. I was excited to say the least as my fish room is essentially based upon breeding various species of fish, with a heightened interest in catfish in particular.



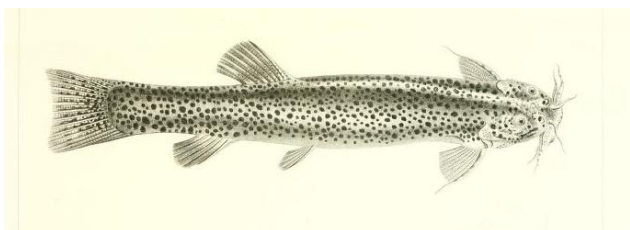


The usual sight when looking for these catfishes.

M. Penney



5.5" specimen. M. Penney



Original drawing from Cuvier & Valenciennes, 1840

Although this was a spawning of chance, I will share what details I know and have observed with relation to this species and perhaps any assumptions I have come up with through said observations.

#### Collection Point

Speaking with Oliver Lucanus, the collection point for this particular batch was a small creek in the Rio Pisco drainage basin, Peru.

#### Aquarium Setup



Breeding tank. M. Penney

The setup that the spawning had taken place in, is as you will see in the below picture is very simple. 55G bare bottom, with some java moss and local driftwood, this is a similar setup I use in most of the fish room tanks, simply for the purposes for maintenance. Marbles can be noticed scattered throughout which is remanence of an attempted spawning setup I tried to encourage further spawning, which I will touch on later. Filtration is a canister filter (or fry collector as it would seem), internal filter and a sponge filter. I have always been a big promoter of flow and circulation in the water column so I often use multiple filters on each setup to optimize water movement, especially with various river species.

#### Feeding

As I found with most if not all species of catfish I have kept, feeding is never an issue; this *Trichomycterus punctulatus* group are no exception. As previously mentioned, this group started feeding within hours of being acclimated. They will readily accept food with lights on or off with the same vigor and mainly feed off the bottom with a few sprints into the water column to snatch some slowly sinking morsels. As for types of food, I have been feeding them from the start flakes, sinking pelletized food such as Bug Bites in particular and various frozen foods such as brine shrimp, Mysis shrimp and bloodworms.

## Water Parameters

The water in all my setups is directly from an artesian well so I have the luxury of not having to treat it in any way. As for the actual numbers, they are:

pH 7.4; GH 140; KH 110; Temperature 78F-80F

## Spawning Behavior

Unfortunately, as mentioned this was a spawning by chance so I cannot confirm 100% what courtship behavior may look like. However, I will comment on what I observe that I would consider out of the ordinary more so for most species. Usually, the members of the group I have can be seen frantically sprinting around the tank only taking intermittent rests under cover, however every now and then there will be two to three individuals break away from this behavior and be chasing each other in a circular formation, head to tail with a scattered instance where two specimens line up along one another during the chase. Oddly enough I usually only see this behavior occur around the intake of the canister filter. I'm not sure if this is why I found the fry in the filter or not. Although I could not find much in the way of spawning behavior through online research, I suspect this species is a form of egg scatterer as with most of this nature, eggs or fry can often be found in filter housing as I have come to learn over my years in the hobby. Secondly, I have not noticed much in the way of territorial behavior that may warrant a nest building behavior nor have I seen the fish pay any attention to the java moss. Under this assumption I placed a tray of marbles as I have in the past with other egg scattering species in attempts collect some eggs or fry, but no success thus far. But as mentioned, they fish does like to root around the marbles which explains the presence of the loose marbles strewn throughout the tank currently. Since the initial and sole spawning, I have been attempting to trigger spawning by feeding heavily with cool or warm water changes, but no luck thus far. However, I will continue to try various combinations and egg collection methods in attempts to at least observe what could be considered a definite spawning ritual or confirm that the circular chase behavior is or is not a ritual at all.

## Sexing

Again, as I did not witness the actual spawning event or perhaps knew I had been, I cannot comment on the sexing process of this species. I have made close observations of the specimens as they rested for 2 to 3 seconds and could not notice any obvious features that stand out. Even while trying to observe the individual partaking in the circular chasing activity, I do not see any clear differences that may lend to sexing them. As some are still juvenile, time may tell but as of right now I do not see any differences in fins, body shape or pattern. However, I suspect that a gravid female may be obvious provided I actually have the opportunity to witness the spawning event.

## Fry Care

I treated the care of these fry just as I to with many other species. Initially a 5G grow out was used with sponge filtration with water changes every 2 days. As for feeding, I first used boiled egg yolk, along with micro worms later followed by baby brine shrimp and powdered flake. As the adults are difficult to get a picture of, one can imagine how hard the fry are to, so while transferring the fry to a larger grow out I took the opportunity to take a quick snap of one in the bag while acclimating.



Juvenile *T. punctulatus*. M. Penney

Hopefully I can begin to turn this spawning of chance into a controlled process that will shed more light on the spawning behavior of this very interesting catfish, and be able to give back to the catfish community that has provided me with a countless amount of husbandry information, that I have used to spawn so many other catfish species.



# Length evolution in Loricariidae; where is it going?

Rebecca F. Bentley



*Acanthicus adonis*. Image courtesy of Gino DiNella.

There is no doubt Loricariidae shows a wide diversity in body size. The smallest being *Parotocinclus halbothi* Lehmann *et al.*, 2014, at a maximum of 19.9mm SL (Standard length). The largest is between *Pseudacanthicus major* Chamon and Silva, 2018 and *Acanthicus hystrix* Spix & Agassiz, 1829 both reaching around 60cm SL according to the literature (Chamon, 2016; Chamon and Silva, 2018). *Acanthicus hystrix* and *A. adonis* according to Planet catfish (Dignall, 2020) and many hobbyists reach over a meter long.

Few studies have looked into the evolution of body length in Loricariidae. We can model and predict the evolution, although however reliable it may be. It isn't randomly distributed with some taxa prone to miniaturisation whereas others will evolve towards increased body length (Albert and Johnson, 2012). We see that in Loricariidae and possibly the subfamily Hypostominae. Loricariidae as a whole displays a weak trend of directional evolution, moving

towards an optimum body length (Bentley, 2020).

Hypostominae contains the largest number of species of all the subfamilies, within multiple tribes. The subfamily displays a weak directional evolution towards an optimal body length (Bentley, 2020), possibly due to the large number of species and the different tribes this could dilute the strength of modelling the subfamily. The *Acanthicus* clade displays gigantism (Chamon and Silva, 2018), along with many genera displaying smaller sizes or larger sizes. Increasing fish length evolution is suggested to decrease the rate of shape evolution, perhaps explaining what we see in the *Acanthicus* clade and perhaps other genera such as *Scobinancistrus*. This could create a selection reducing species diversity in these clades and making it more difficult to compare the larger taxa as a whole. It would certainly be interesting to see a study looking into the body size evolution of each genus.



*Parotocinclus halbothi* Lehmann *et al.*, 2014

Hypoptopomatinae displays a trend of directional evolution (Bentley, 2020) likely towards miniaturisation given the small size of many of its members in comparison to the other subfamilies in Loricariidae. The genus *Otothyris* Myers 1927 has been suggested to display miniaturization, and has displayed bone modification or loss of bones, with other anatomical features displaying reduction or simplification (Rosa *et al.*, 2014).

Loricariinae body length displays a trend in which body size evolution is random followed by pulses of directional evolution, according to Landis and Schraiber (2017). My Master's thesis (Bentley, 2020) contrastingly concluded that Loricariinae had strong directional evolution towards an optimum body length. I cannot currently conclude whether that is gigantism or miniaturisation. I find it curious that Loricariinae, while like Hypostominae contains a large number of very small species, contains some larger species as well, perhaps the sample species were a heavy influence on the results.

The other subfamilies within Loricariidae: Delturinae, Rhinelepineae and Lithogeninae, contain very few members with data that can be used, this meant for my thesis it prevented me from reliably modelling their body evolution.

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# Breeding the colour changing *Hypostomus jaguribensis* (Fowler, 1915)

Hudson Crizanto Gonçalves



Fully colour changed *Hypostomus jaguribensis*. H. C. Gonçalves

In 2017 I was surprised by an aquarist friend who told me that he had bought a yellow *Hypostomus* and that it was caught in a small lake here in the state of Ceara, north-eastern Brazil. I was curious to see the different and abnormal characteristic of the fish, even thinking it was from another species, but after a researcher identified it for me, I was sure that it was *H. jaguribensis* that'd had the same colour change as LO56 *Parancistrus* (see Grant, 2019).



Lake near Fortaleza. H. C. Gonçalves

In 2018 I organized a trip to this lake, which is in a mountain area, near the city of Fortaleza. It is a very small lake, and after investigating with some residents of that locality, I discovered, that this

species was introduced into this lake more than 45 years ago, from the Acarau River, where they were fished and brought to put in that lake. I photographed the lake and I also dived with the local fishermen, using a snorkel, but the water was very cloudy and I could not see the fish in the holes in the lake wall. However, I was able to catch several adults.

About 5% of the fish had a solid yellow colour when caught, 35% with yellow spots in several parts, and the rest black or dark grey. The most curious thing is that some, soon after transport, lost some of the yellow colour and became with some yellowish spots, and some changed totally black. Others that were totally black showed yellow spots. It made me more curious and I decided to try breeding these fish, so I sent them to an ornamental fish breeding farm and established a partnership with the owners, my friends Ivan and Blanchard.



Breeding ponds. H. C. Gonçalves





Wild caught breeding stock. H. C. Gonçalves

We put between 6 to 12 of the fish that had yellow pigment in outside, open air masonry ponds. After nearly two months, we obtained the first spawning, with the advent rainwater changes. It was not easy, but we achieved a great spawning. The spawning took place in caves that we made from large rocks.



Freshly laid egg clutch (first). Developing egg clutch (second). H. C. Gonçalves

We had a high survival rate, but only 2-3% of young had the yellow colour change despite 100% of parents having it, and some of those young changed back to black, leaving me with less than 10 out of 500 that were yellow. This meant that their commercial value was low. Another factor that is not favourable is the growth of this species is very slow. After 2 years of spawning, they are only 8-10 cm long, even with great food. I could not understand this slow growth.



1.5 years of growth, 6 - 8 cm. H. C. Gonçalves

Grant, S., 2019.  
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*Journal of the Catfish Study Group*, vol 20, Issue 2: 11-20.





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both trade and general public*

## ***Corydoras fulleri* - Honour to whom honour is due!**

**Markus Kaluza**



*Corydoras fulleri*. Markus Kaluza

The long-snouted *Corydoras* sp. C115 and 116 from the tributaries of the Rio Manuripe and the Río Madre de Dios, from Peru were described as *Corydoras fulleri* by Luiz Fernando Caserta Tencatt, Sergio Alexandre dos Santos, Hans-Georg Evers and Marcello R. Britto.

*Corydoras* sp. C115 and C116 were initially thought to be two different species, which could be distinguished by the presence of a large black spot on the front part of the lateral side. The spot was present in C116, but not in C115. However, by keeping and reproducing the two species, it was quickly concluded that they were probably two different morphotypes of probably the same species. The work of Tencatt *et al.* confirmed this and described the very popular *Corydoras* of Linage 1 in the hobby as *Corydoras fulleri* in honour of Ian Fuller.

The species is dedicated to Ian, who was for many years an official of the Catfish Study Group, for several reasons: Firstly, in recognition of his services to aquarists, especially with regard to the keeping, propagation and identification of *Corydoras* species. In addition, on his website [CorydorasWorld.com](http://CorydorasWorld.com), Ian has meanwhile given a CW number to over 160 forms of the subfamily Corydoradinae, which, after the DATZ stopped giving C numbers, has given undefined species a provisional but unambiguous label. The naming is particularly appropriate as Ian himself discovered various new *Corydoras* from the Madeira basin, brought them into the hobby and propagated them. The description of *Corydoras fulleri* raises the number of *Corydoras* species from the rio Madeira basin now up to 45, which represents one quarter of species within the entire genus.





Juvenile *C. fulleri* immediately after capture in a swamp stream, Manuripe River. Steve Grant

As already mentioned, *Corydoras fulleri* is a very popular *Corydoras* species of lineage 1. It still enters our hobby as 'wild caught' and has also been regularly propagated by hobbyists for years. In addition to the two C-numbers assigned by Datz, the animals were described by some wholesalers as *Corydoras* sp. "Manu 1 long nose", which makes it quite good that no further tradenames have to be assigned from now on. In Peru at the stream tributary of the río Manuripe locally known as "Cheese Creek", the species occurs syntopically with *Corydoras* sp. CW062, so it is also possible to socialise these two species in the aquarium.

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Schoenherr K: <https://www.l-welse.com/reviewpost/showproduct.php/product/1265> (Call-off date: 12.06.2021)



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## Corneal crypsis in *Tetranematicthys wallacei* Vari & Ferraris, 2006? Steven Grant



*Tetranematicthys wallacei* eye. Nathan Chiang

In April 2021 the author noticed social media posts by Nathan Chiang about some *T. wallacei* specimens he had, that all had strange brown marks on their eyes. Nathan and others wondered if the marks were due to parasites, such as *Epistylis* or the eye fluke *Diplostomum*.

Not long before the photos were posted the author had published a ten-page discussion on corneal and irideal adaptations and colours in fishes, particularly in Hypostominae (Grant, 2021).



The shape of the head in ventral view identifies this as *T. wallacei*. Nathan Chiang.



*T. wallacei*. Nathan Chiang.

Rather being pale markings on or inside the eye that would denote parasites, the markings are the same colour as the head of the fish, and when looked at closely look like dendritic markings on the cornea. The markings cover the pupil/lens, the iris, and the skin around the orbital rim.



Based on the author's knowledge of catfish eye morphology (Grant, 2021) and chromatophores (Grant, 2019), it appears that these are corneal chromatophores, specifically melanophores. They are the same shape and colour of the melanophores on the skin of the fish. If one looks at the abdomen one can clearly see the individual melanophores and they match the ones on the eyes.

But if this is correct, why haven't they been noticed before and not evident on other images of this species? The author checked his images of the species, and those by others, such as top fish photographer Ben Lee (amiidae.com). Having checked, the chromatophores can be seen, but exhibit as small brown, black or pale spots.



*T. wallacei* male. Steve Grant



*T. wallacei* another male. Steve Grant

As the marks can be rounded and small, or dendritic and larger, it is clear that they are dendritic melanophores. The difference in shape will be due to the cells being aggregated or dispersed. This change in size and shape is under physiological control of the fish (Grant, 2019). Based on the cryptic behaviour of laying still during the day on and amongst brown

leaves, wood etc, it is very likely that the ability to make the eye less conspicuous is a form of crypsis. It is the pupil/lens shape (round) and colour (dull black) that is visually recognised and used by predators to locate prey, so anything that breaks up the shape and colour aids in camouflaging the fish from predators, or prey (Grant, 2021). However, it may also serve as another function like it probably does in some Hypostomins (Grant, 2021). The other function could be to filter light into the eye as is the cases in other fishes with corneal chromatophores.

In addition, one can also see that on the ventral portion of the eye there is some eyeshine. The eyes of *T. wallacei* are angled slightly downwards and in some cases can be seen from below. The eyeshine will likely serve a function, which could be crypsis or intraspecific communication.



All of the eye on the upper side of the image can be seen from below. Steve Grant

## Acknowledgements

Nathan Chiang for the use of his photographs.

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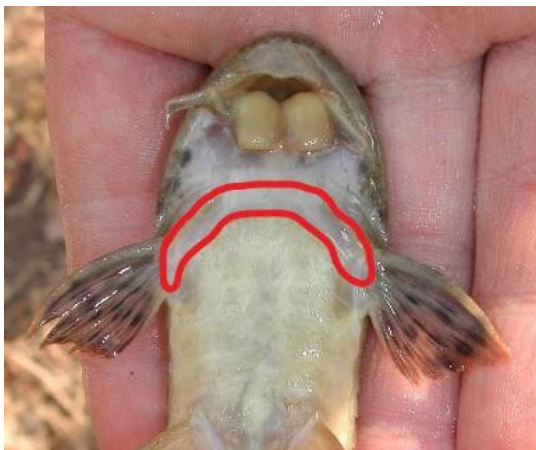
# The enigmatic *Loricariichthys hauxwelli* Fowler, 1915 (Siluriformes: Loricariidae) – Part II

Steve Grant



*Loricariichthys hauxwelli*. Luis Enrique, Green Fish Aquarium, Peru

In this Journal (Grant, 2017) the author stated why *Loricariichthys hauxwelli* Fowler, 1915 didn't seem to fit the genus *Loricariichthys* Bleeker, 1862. This was because this species has a triangular and more extended head in dorsal view, and the abdominal plates at the level of the pectoral girdle are angular with a depression in the anterior edge versus large rounded head in dorsal view, and a perfect elliptical area of abdominal plates at the level of the pectoral girdle (see red area on image below) in typical *Loricariichthys* (Covain & Fisch-Muller, 2007).



*Loricariichthys platymetapon* showing the elliptical area outlined in red. Steve Grant

In view of this and the poor state of the holotype, the author placed this species in *Rineloricaria* Bleeker, 1862.

In 2021 some loricariins with long and flat snouts were exported by Green Fish Aquarium,

Peru. Luis Enrique advised that they were caught in the Itaya River, Peru. Norman Behr is an aquarist and explorer specialising in Loricariinae. He advised that they were *L. hauxwelli*. Norman caught them in 2012 in the Río Momon, Peru.

Looking at photographs of live specimens the snout and abdominal plates match the drawing of the holotype of *L. hauxwelli*. And being able to see live specimens proves that they too have the perfect elliptical area of abdominal plates at the level of the pectoral girdle (holotype is damaged). Raphael Covain confirmed that despite the long snout, they currently still sit within *Loricariichthys*. So, the conclusion drawn by the author in 2017 was incorrect.

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Thanks to Luis Enrique (Green Fish Aquarium, Peru), Norman Behr and Raphael Covain.

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# Catfish Myths

James E. Burgess



## Abstract

Various reports from internet resources and interviews from individuals in person and through e-mail have been collected and examined. The purpose of which is bring to light the various stories and determine if there is any basis in fact.



## Introduction

Myths, legends, folklore, stories all mean one thing. To explain the goings on throughout history. Mythology is the study of stories that have been told throughout the ages for the tellers to explain how things worked with regards to nature, and why things happen to be the way they are. Most of these stories have been verbally handed down through generations.

This series of stories have been collected from the internet and researched as thoroughly as possible. These tellings do not have a point of origin, but have been retold countless times. Sometimes these myths are interlaced within their religions.

Are they real? Do these myths have any basis in fact? Could be.

A relatively new science devoted to investigating mythical exploits of animals has been recognized. Cryptozoology is that science. Unfortunately; this science has been frowned upon by the mainstream scientific community. The subjects of Bigfoot, and other such beasts has not lent any credibility to Cryptozoologists.

There are a great many myths or stories surrounding the various species of catfish, both small and large. They range from how to catch them, when to catch them, and their relationships to natural phenomenon. These stories are from all over the world from America and the Native Americans to the Japanese figuring out earthquakes.

## Catfishing

Catfishing has its many tales on what works best to catch the "big ones". When to fish, how to fish, and what baits to entice the fish all have the basis in fact. Fishermen have longed been acknowledged for being superstitious to the point of only fishing on certain days, times of the day, baits, and other little titbits that supposedly guarantee the capture of the monsters of the waterways.

The generalized thought that catfish are only active at night. This is a very prevalent story. Many a catfisherman will tell you that you have to fish at night to catch your prey. This is mostly bogus. While it is true that certain species are more active at night, *Ameiurus natalis*; there are species that are active during the day, such as *Ictalurus punctatus* and *Pylodictis olivaris*. During field tests all three of the species above have been caught during daytime hours.

Another story told throughout is that in order to catch catfish one must use a stinkbait or bloody bait. That is not necessarily always the case. It is true that catfish have a propensity to prefer such food as the catfish group have the abilities to detect these foods more readily, but they have been known to take lures on occasion and other types of bait. Dough baits made from rolled up bread, oatmeal balls, and corn have also been taken by various catfish species. A general good bait that I personally use is worms or nightcrawlers. The different species of catfish that I have caught; has been caught on this bait.

A person that I once fished with would not throw his line into the water without spitting on the worm. He swore that he had never caught a catfish when he didn't spit on his bait first.

While living and fishing in San Angelo, Texas a number of *Ameiurus* species were captured during the day fishing in the Concho River and in the Red Arroyo. The different areas required different baits and methodologies. The Concho River *Ameiurus* would only feed on nightcrawlers whereas the species in the Red Arroyo would only take the hook when shrimp was offered. The methods for taking the bait were also different. The Concho River specimens would simply take the bait and run, but the Red Arroyo specimens would only tug on the line once and just lay there until the line was brought in.

So now that the first myths of fishing for these majestic specimens have been dealt with; it should be noted that there is some shred of truth behind them. The catfish can home in on odorants that would be revolting to fisherman, but they can also feed on other non-odour food. Daytime brings results of capture, whereas

fishing in shallow areas produce better results in the late afternoon or evening. It all depends on how deep the water is and if the catfish is hungry or not. In reality that is what determines how, when, and what bait to fish with.

### How's and Why's and What's

There are several stories told depicting how the catfish got their shape among other things.



The more pronounced depicts why the catfish has a flat head. It comes from the Native Americans. It seems as though the chief of the catfish was tired of eating scraps from the mud and muck. He wanted to eat meat like the wolves do. So, he called a council and laid out his plan for getting the meat that they wanted. They planned to hide in the grasses and lilies and when the moose came to drink in the early morning the chief catfish would spear him first. The other catfish would then attack and kill the moose once it got into deep enough water. The chief catfish hit his mark. The moose was very angry. He raged war on the catfish. The moose started thrashing in the water trampling the catfish tribe into the mud. They were not killed, but only stunned. Once the moose was satisfied, he left leaving the catfish struggling in the mud. Most of them wriggled out and from then on, the catfish all have flattened heads with their spears attached to their fins. Now these catfish are so frightened that they only come out at night to avoid any further retribution from the moose.





This story talks about how a giant catfish lived at the bottom of a lake. He was known to be very mean to the other animals so they lived more towards the top. The catfish finally got tired of not having any friends so he started being nicer and helpful. That helped and he made friends of the other fishes. A human fell into the water and started drowning as he could not swim. The giant catfish heard this happening and so he caught the human and took him back to the surface and made sure he was safe. The other fishes respected him and named him Legend.



The Namazu has been known to help people. Once was when a huge snake was killing people at night. A couple of people (an adult and child) were out fishing one night when this snake came out to enact his ruthless plan. The people saw the snake coming and started praying for help. Help did come in the shape of a Namazu. It intercepted the snake and swallowed it whole. The village found the Namazu laying on the shore with a swollen stomach. It was cut open to

reveal the snake inside. The villagers were so grateful they forbade anyone from killing or eating any Namazu. The catfish was pledged to the Yodohime Shrine.

The Tochigi Prefecture legends talks about a farmer saving a young Namazu by throwing it in the river during a bad drought. That kind act by the farmer caused rain to fall for three days causing the drought to end. Three years later the child of the kind farmer was playing near the water. The child fell into the water and not knowing how to swim was in danger of drowning. The kindness of the farmer to the Namazu reciprocated by the child being supported by twenty or so Namazu catfish and prevented the child from drowning. The villagers offered prayers to the Namazu for healthy children and protection of the crops. The children were given toy Namazus when they were born.

In Japanese tradition; the Namazu (*Silurus asotus*) plays a very important role. A giant catfish is thought to cause earthquakes. The story goes that this giant catfish is so big that the god Kashima must keep this fish under control. He supposedly accomplished this by keeping the catfish trapped under a very powerful capstone.



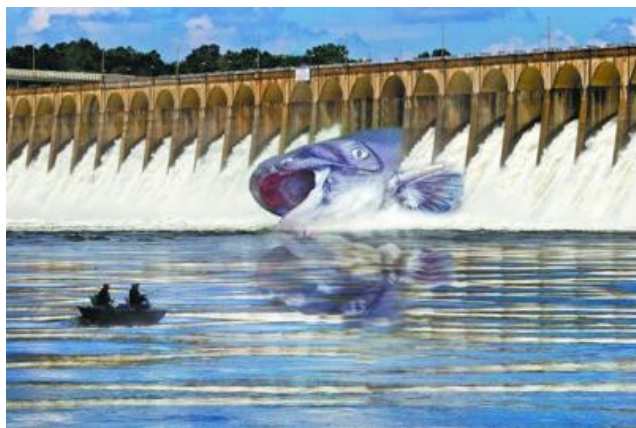
Once in a while the Kashima got tired or distracted and the Namazu would be able to

move supposedly causing the earthquake. The Catfish has been reputed to causing havoc shaking up the world causing the people to redistribute their wealth. In this manner the Namazu was regarded as a deity that would punish greedy people. An interesting note here is that the catfish are actually kept for detecting earthquakes. It seems as though the electro-magnetic abilities of the catfish causing the fish to react to changes in the magnetic fields before an earthquake.

Of course, these stories cannot be verified and maybe they shouldn't. Instead of attempting to verify the truthfulness of these stories just accept them as do the people who accept them into their own traditions.

### Giants and Maneaters

The most notable and most enduring of all the catfish legends and lore is the ones concerning these massive specimens that live at the base of dams. These catfish have been described in many different formats, but the basic outline always remains the same.



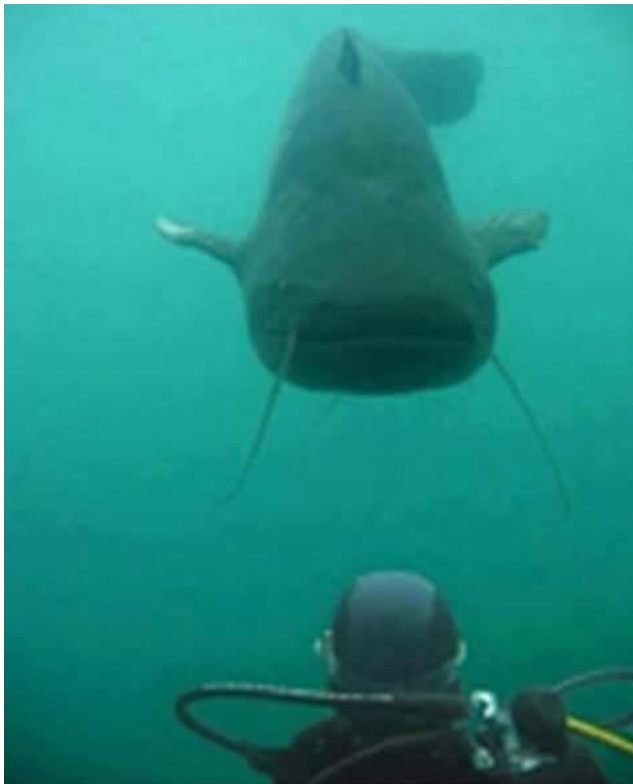
They can be told as a friend of a friend of perfect reputation tells of a diver that goes down to either clean out turbines or repair portions of the dams. As the individual is working, as there is no partner with him and no amount of substantiation, this massive brute of a catfish comes face to face with the diver. The diver is so scared that he has to be brought up, hospitalized, and vows never to go back. A few variations to this are the size, some say the size of a Volkswagen or a school bus. In addition,

some individuals have said that the catfish started to swallow them whole, but spit them out. These monster catfish have been reported throughout the country, Georgia, Texas, Colorado, Tennessee, Kentucky have all had their fair share of these occurrences. The sizes of the catfish have grown throughout time. In the 1960's was the size of Ford Falcons, but now they have been reported as big as school buses.

The majority of these sightings have not rendered any type of proof. The tendency of people around is just to accept the word of these victims. There have been some photographs put out.







These pictures that have been circulated throughout the years as proof of these monsters are good, but fakes non the less. Upon looking at this one can tell that they have been edited to suit the purpose.

There are also pictures of these types of catfish going as far as swallowing some victims.



Taking all of this information in leads one to wonder if there are any actual monster catfish lurking in our waters. There are some enormous catfish species that could lend some credibility. The Mekong Giant Catfish (*Pangasianodon gigas*) and the Wels Catfish (*Silurus glanis*) are both extra-large catfish, but they both reside in lakes and rivers in Europe and Asia. There have not been any reports of these catfish caught in America.



My investigation has led to a contact with the Kentucky State Fish and Wildlife. The response that I received is as follows from Ron Brooks.

“Good Morning James,

The world record catch for flathead catfish is 143 pounds; ... I would doubt very much that either flathead or blue catfish can grow much bigger than that. No, they do not get as big as even the smallest car or even an average man. I’m sure that, in the water, they appear much bigger; but in reality, there are no “monster” catfish endemic to North America.  
Ron”

Well that just about says it all. One final note here somewhat sums up all of these reports and mythologies. Some biologists, when referring to

the catfish that had been trapped in a spillway, have given this particular species an actual scientific classification. It has been dubbed LoofLirpa. They are only known to make appearances and cause problems on one certain day of the year. What day would that be?

### Mistaken identity

Some time ago; I was presented with some photographs with the headline saying “Giant man- eating Catfish Found in Guangdong Reservoir”. The person wanted to know if this story was true or not. The pictures that were supposedly smuggled out depicts a small Whale Shark and definitely not a catfish. The report states “It’s a 3 metre long man-eating catfish whose head alone is 1 metre wide!” Well of course it would as it belonged to a small *Rhincodon typus*. These pictures posted on this story definitely showed a Whale Shark, but to substantiate my findings; Dr. Richard Vari of the Smithsonian was contacted. He confirmed my findings.



### Conclusion

There are many stories, be it urban legends, myths, fables, legends, or folklore that are investigated only to reveal that many if not all are made up. These stories can be attributed to Fisherman Stories. To make matters worse is there is actually a piece of computer software that helps one to embellish stories and posts them on the internet to distribute.

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# *Corydoras grafi* Holly, 1940

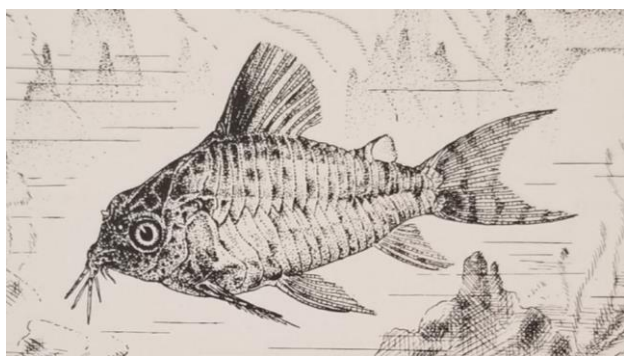
Steve Grant



1. Holotype of *Corydoras grafi* NMW 84287 (ex NMW 61111). Copyright of Naturhistorisches Museum, Wien.

*Corydoras grafi* was described by Holly in a publication of the Academy of Sciences in Vienna, Austria (Holly, 1940). The description was based on one specimen that had been imported by the Munich Zoo in 1938 from Amazonian Brazil.

The specimen was later shown alive in a drawing in Holly, in Holly *et al.*, presumably shortly after its description in 1940 (see Fig. 2).



2. Drawing of holotype in life, in Holly, in Holly *et. al.*



3. Dorsal view of holotype of *C. grafi* NMW 84287. Copyright of Naturhistorisches Museum, Wien.

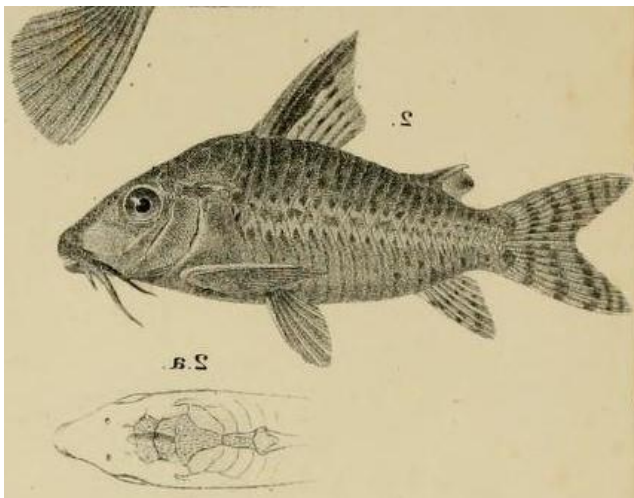


4. Ventral view of holotype of *C. grafi* NMW 84287. Copyright of Naturhistorisches Museum, Wien.

Nijssen & Isbrücker, 1980 designated it as a junior synonym of *Corydoras ambiacus* Cope, 1872 and declared the holotype lost in WWII. Ferraris (2007) listed NMW 84287 as possibly the holotype. Anja Palandacic of NMW was kind enough to send images of the specimen (figs. 1, 3 and 4) and stated that the database says that it was found without data in the basement and “see the letter from Nijssen”, which she could not find. The specimen is 44.7mm SL and approximately 62.8mm TL. Holly (1940) and Holly, in Holly *et al.* states that the specimen was 63mm. Based on the size of the specimen and it being for an exact match for the description and the drawing, the author considers it to be the holotype of *C. grafi*.



5. Holotype of *Corydoras ambiacus* ANSP 8291. Kyle Luckenbill / ANSP.



6. Lectotype of *Corydoras agassizii* NMW 61112 (reversed).

In addition to synonymising *C. grafi* with *C. ambiacus*, Nijssen & Isbrücker (1980) also synonymised *C. melanistius longirostris* Hoedeman, 1953. The latter species was again described on the basis of a single, imported specimen and the holotype appears to be lost.

I wrote about this subject 21 years ago (Grant, 2000) and even now the issue of the identities of *C. ambiacus* and *C. agassizii* Steindachner, 1876 are still unresolved, appearing on a regular basis on internet posts asking ‘what is my *Corydoras*?’.

The way in which we try and identify them is by the subtle purported differences in the colour pattern. *C. ambiacus* having many small brown spots scattered over its body, while *C. agassizii* has a spotted horizontal line along the midline where the dorsolateral and ventrolateral body scutes meet, and a pale area above and below this line. Another purported difference is the black blotch on their dorsal fins. *C. ambiacus* allegedly tend to have the blotch on the first three or four rays and membranes of the fin, not reaching the distal edges, and also down into the top half of the body, whereas *C. agassizii* tends to have it more concentrated on the first one or two rays and membranes of the dorsal fin, reaching to the distal edge of the fin, and no patch on the body below. The colour pattern of the holotype of *C. ambiacus* was never depicted but was described by Cope. On the pattern of the dorsal fin, he states “Dorsal fin with a large black spot covering anterior half, which also expands on the dorsal region round the base of the fin”. Note that he does not state that it is only confined to the basal half of the fin. However, the author has noted aquarium specimens can vary, particularly when they are not fully matured as they can have the distal rays and membranes of the anterior 3 or 4 dorsal fin rays black (see figs. 7 and 8), like *C. grafi* holotype.



7. Subadult *C. ambiacus*. Steve Grant.





8. Small adult *C. ambiacus*. D. M. A. Wright.



9. Small *C. ambiacus*. Steve Grant.

*C. ambiacus* was described by Cope as "slightly concave on the elongate muzzle" which can be seen on fig. 5, something which it shares with *C. grafi* holotype. Based on the drawing of the lectotype (fig. 6.) the snout of *C. agassizii* seems to have a more linear shape. The author has noticed that in aquarium specimens there are some that have more of a concavity than others and this can sometimes be due to size/age.

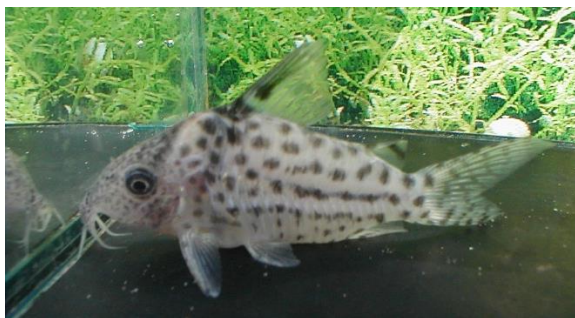
The great Dr. Luiz. F. C. Tencatt will no doubt resolve this issue for us at some point.



10. Large adult *C. ambiacus*. D. M. A. Wright.



11. Fully grown adult *C. ambiacus* (which may match with *C. m. longirostris*). D. M. A. Wright.



12. *C. agassizii*? D. M. A. Wright.



13. Fully grown adult *Corydoras* sp. D. M. A. Wright.

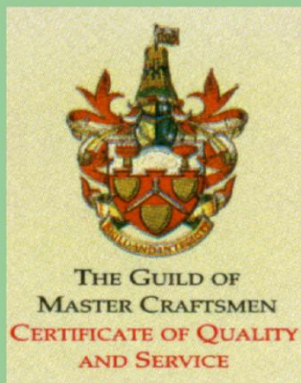
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