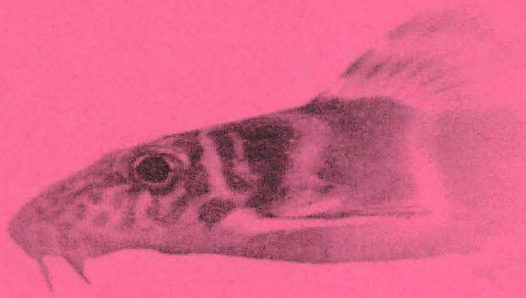
CAT CHAT

The Journal of the Catfish Study Group

Underground Catfish

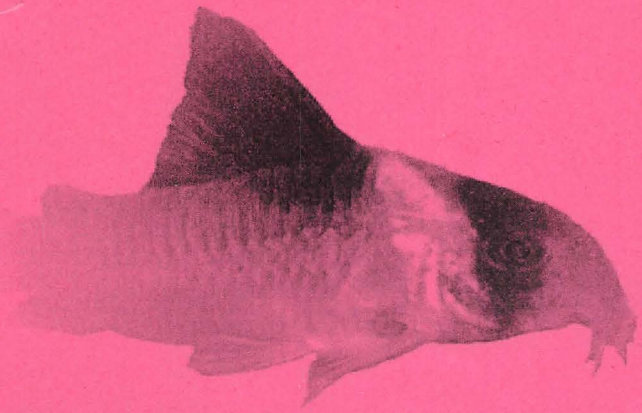
Spawning Farlowell vittata

Dwarf Corydoras Species



Identifying Pseudomystus stenomus

The Genus Platydoras



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Where We Meet:

The Group normally meets at the Highfield Working Men's Club, 1 Ratcliffe Street, Darwen, Lancs, BB3 2BZ on the third Sunday of each month from 1pm. The exceptions are the December meeting, which is held on the second Sunday at the usual place, and the annual Convention, held in the Spring at the Britannia Hotel, Almond Brook Road, Standish, Wigan.

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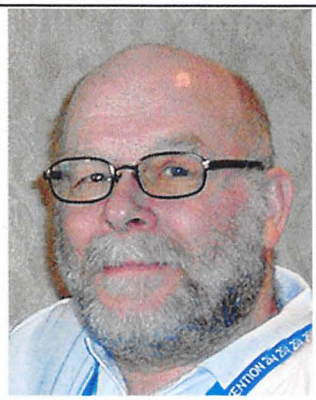
From the Chair

Ian Fuller



Welcome to this our anniversary year. In fact we are actually celebrating a double anniversary. It was thirty years ago, in 1979, that the group formerly known as the Northern Area Group was formed as an area group of the now-defunct Catfish Association of Great Britain. In the early 1990's, after the demise of the CAGB, the name was changed to Northern Area Catfish Group. In the year 2000 the name changed again and became the Catfish Study Group UK but changed again, to reflect the international interest, when it was decided to remove 'UK' from the name.

Since the re-naming of the group in 2000 the group has gone from strength to strength and expanded into a truly worldwide group. Our activities, especially the conventions, have developed from a Sunday afternoon affair with one or two talks, into a full weekend extravaganza, with five or six internationally renowned speakers. By the time you read this issue, our 2009 30th anniversary event will be over. There will be reports of how things went in the forums on our web site , in the aquatic press and in depth in the next issue of Cat Chat. However, the best way to know how it was would be to be there and I hope many of you will be saying, "Yes I know it was good, I was there".

At the AGM Mr Bob Barnes was duly elected as our new membership secretary and I am sure he will get all the problems we have been having in that department sorted and back on an even keel. To those members that have been affected I can only apologise and endeavour to see that the problems do not happen again.

At the February meeting the topic of the day was "Feeding Catfishes" and Danny Blundell put on a programme, in which he explained and demonstrated some of the foods and feeding techniques he uses. Afterward the break, the members then went on to discuss in depth the wide variety and diversity of the dietary needs of many of our favourite Catfish species.

Not very much from me this time, but I am quite busy with convention bookings and the mass of things that need to be planned and sorted before the event takes place and hopefully without a hitch.

Till next time, Happy Catfish Keeping.

CATFISH STUDY GROUP

OPEN SHOW AND AUCTION

20th SEPTEMBER 2009

Highfields Working Men's Club
1, Ratcliffe Street, Darwen
Lancashire, BB3 2BZ

Editorial

Keith Jackson

Here we are at issue five of my stint already, with the 30th Anniversary Convention upon us, if not past us. Let's hope it will be/has been a good one!

However, at the distinct risk of sounding like a broken record. it's my unhappy duty to say that this issue has been the hardest to get ready so far. I had very little copy in reserve and nothing in the offing. Luckily for you, a few stalwarts responded to my pleas in the Group's forum and we have a decent-sized Cat Chat after all but, if more of the membership don't write things for the Journal, before long an issue will be just a few pages long. Special thanks to everyone who contributed but particularly must go to Steve Grant who came up with two excellent pieces.

As I write this, the AGM took place a few days ago and it was a good one. Business was conducted quickly and efficiently and, believe it or not, *it wasn't boring!* We saw three new faces arrive - well, two new faces and one returnee if truth be told - and two of them were volunteers. That was the shock of the decade! ☺

So I'd like to welcome Bill Hurst back to the Committee as a Lay Member, Bob Barnes as Membership Secretary and Lee Fearnley as Publicity Officer.

I'd like to remind members that they are welcome to attend our Committee Meetings as observers and may speak , though only at the discretion of the Chairman, but may not vote. We hold our meetings after most Group meetings, the two exceptions being the Christmas Social and the Convention. Come and keep an eye on us!

I've recently had one of those distressing periods when nothing you do in the fish-house seems to go right. I had an outbreak of flukes in one tank that took a lot of shifting, mainly because I had trouble timing the second dose properly. The packet suggested a seven-day interval but I found the first reappearance of the little blighters at about five days. After a useful discussion with the supplier I dosed after four days and finally cleared things up. Strangely, although there are quite a few species in that tank the flukes were particularly attracted to my *Corydoras panda* and my *Corydoras aeneus sp Colombia*, aka Gold Shoulder. I lost a couple of smaller pandas, who very rapidly suffered. Their eyes just vanished into their heads, poor little devils.

Whether it was the amount of chemicals I'd had to use or just bad luck I don't know but the water went cloudy, my plants started to die off and the fish looked below par, especially the plecs. A water check revealed the worst: a very low pH and negligible carbonate hardness, with traces of ammonia and nitrite. I'd had a bacteria crash, too.

Increasing my water changes to twice a week seemed to improve the fish but I was still seeing the pH fall between changes, although the bacteria seemed to have re-established themselves, thank goodness! In the end, though, I couldn't get things right again fast enough and I lost a small *Panaque,* a *Scobiancistrus* and several long-established *Otocinclus*. I was <u>not</u> happy.

My tanks and my pond have always been rock steady, with a pH around 6.5-7.0, KH=3 and GH=10. When fish in other tanks started to show signs of illness I got really worried and did a mass water-testing run. All the tanks were running low on KH and the pH was lower than usual in most of them so what was the common factor?

My first response was to add coral sand to every tank to improve the buffering but I was at a loss to explain why these very stable tanks had turned so sour. It was only when I realised that the one tank I keep that isn't in my fish-house was absolutely fine that the possible culprit presented itself. The tank in the house had always had its change-water treated chemically for chlorine, etc. For several months, however, I'd been using a charcoal filter in the fish-house that I'd bought to use with my pond and thought it could save money on de-chlorinator indoors, too.

Now I couldn't say for sure whether the charcoal filter is to blame but I stopped using it and reverted to chemically-dosing the change-water in the fish-house. Whether it was that or the addition of coral sand I don't know and, quite frankly, I don't care but the pH in all the tanks slowly rose and all my fish looked happier. I had occasional losses but also got spawnings from species that have been idle for ages.

I'm not trying to prove anything one way or another but please beware of changing things that aren't broken *without* regularly testing things until you're sure that there's been no unexpected side-effect.

Some weeks after I originally wrote this, the Derby & District AS Secretary circulated an email from one of our members who'd recently had a similar experience and lost a number of valuable fish. He traced that back to his tap-water, which was acidic from the tap! He always uses the maximum recommended dose of dechlorinator so, luckily, no copper from the pipes should have got into his tanks but the low pH and KH from his tap still caused chaos in his tanks.

In summary, even if we have a routine for tank maintenance and, generally speaking, our fish are doing well regular water-testing is a necessity. I'm now using a pH meter very regularly and wish I had done earlier.

Underground Catfish

David J Price

Most aquarists will be very familiar with the Mexican blind cave fish *Astyanax jordani*. Subterranean populations of these fish were first discovered in 1936 in San Luis Potosi and Tamaulipas, Mexico and described by Hubbs and Innes. The vestigial eyes and reduced pigmentation of these fishes result in the "blind, white fishes" which we think of being typical of cave dwelling fish which live in perpetual darkness. The question as to whether or not the physical changes in fish associated with life underground are the result of selection or chance effects has exercised the minds of scientists for a good number of years. Research by Jeffery (2005) suggests an adaptive role. The same genes which enable specific cave adaptations, such as enhanced taste buds and modified craniofacial structures, are inhibitory to eye development. Although *Astyanax jordani* is perhaps the best well known example, there are a significant number of

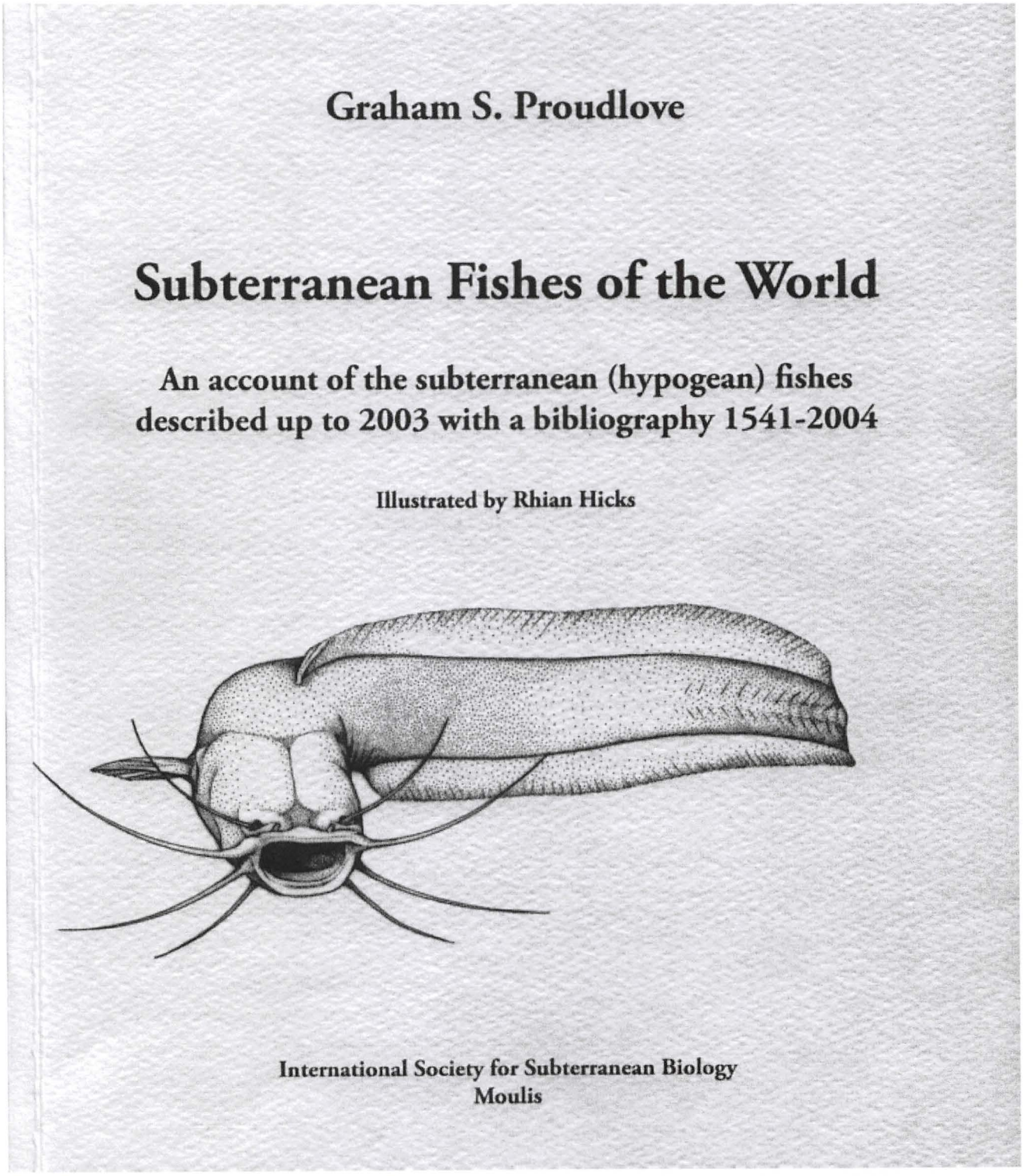


Figure 1. The frontispiece of the book pictures a display of aggressive behaviour by *Uegitglanis zammaranoi*, a Clariid catfish from Somalia.

other species of fish, including catfish, which inhabit the subterranean world. For those interested, a useful review on the ecology of underground fishes is provided by Trajano (2001).

A recent book (Figure 1), written by Graham Proudlove (2006) who works at the University of Manchester, sets out to catalogue all of those underground fish species which have been described up to the end of 2004. The book is primarily concerned with those species that are restricted to living in true subterranean (hypogean) environments. Aquatic animals restricted to living in hypogean environments are known as stygobites. Of course, research is an ongoing process, and the book is meant to be a foundation for further work. It is envisaged that future editions may incorporate more information on various aspects of the biology of these fishes as they become better studied.

There is a 49 page introduction to the book which consists of a general introduction, a checklist of species, notes on the coexistence of hypogean fishes, and sections on distribution and conservation status of these fish, the occurrence of non-stygobitic fish in underground habitats, and a brief history of investigations on subterranean fishes. At the back of the book, there is an extensive bibliography, various appendices, and 20 colour plates including 7 of catfish. The main part of the book is devoted to species accounts. For each species, the currently accepted name is given together with the author(s) and date of description. Included also is information on taxonomic revisions and synonyms, type specimens, systematics, distribution, habitat, conservation status, museum holdings, and some key references. The majority of species are illustrated by drawings.

The book itself catalogues 104 species, but a note added in proof mentions that by March 2006 there were now 125 described species. The latest information, listed in December 2008 in a supplementary checklist (Proudlove 2008), currently records 152 species of subterranean fishes. These underground fishes are a diverse group. In the 2008 checklist, there are fish recorded from 10 orders and 21 families. Catfishes are well represented (Table 1) with 8 families and 50 species (a third of the total). These include a few undescribed species, and three *Phreatobius* species whose taxonomic placement is still uncertain (incertae sedis).

The earliest subterranean catfish to be described were two species from Brazil: *Phreatobius cisternarum* in 1905 and *Typhlobagrus kronei* (now *Pimelodella*) in 1907. However, Proudlove (2006) discusses the possibility that the German explorer Alexander von Humboldt may have seen cave-dwelling catfish when he visited South America between 1799 and 1803. Certain authors have suggested that a catfish illustration (Figure 2) made by Humboldt most closely resembles the stygobitic species *Astroblepus pholeter*.

The majority of these catfish have so far been found in the Americas, but examples are also known from Asia (China, Thailand, and Vietnam), India, and Africa (Namibia and Somalia). There are 3 monotypic cave-restricted genera (*Satan*, *Trogloglanis* and *Uegitglanis*) and another 3 cave-restricted genera with two or more species (*Horaglanis*, *Phreatobius* and *Prietella)*. There are 20 species where the fish is known only from its type locality. The restricted distribution of these catfishes is partly the reason why most species are classified as "vulnerable" from a conservation viewpoint. A few examples are known where subterranean catfish species coexist together. These are *Satan eurystomus* and *Trogloglanis pattersoni* in Texas (USA), *Rhamdia reddelli* and *Rhamdia* sp. undet. in Acàtlan (Mexico), and *Ancistrus cryptophthalmus* and *Itulglanis passensis* in Goias (Brazil). Two other species, *Horaglanis krishnai* (Kerala, India) and *Pterocryptis buccata*

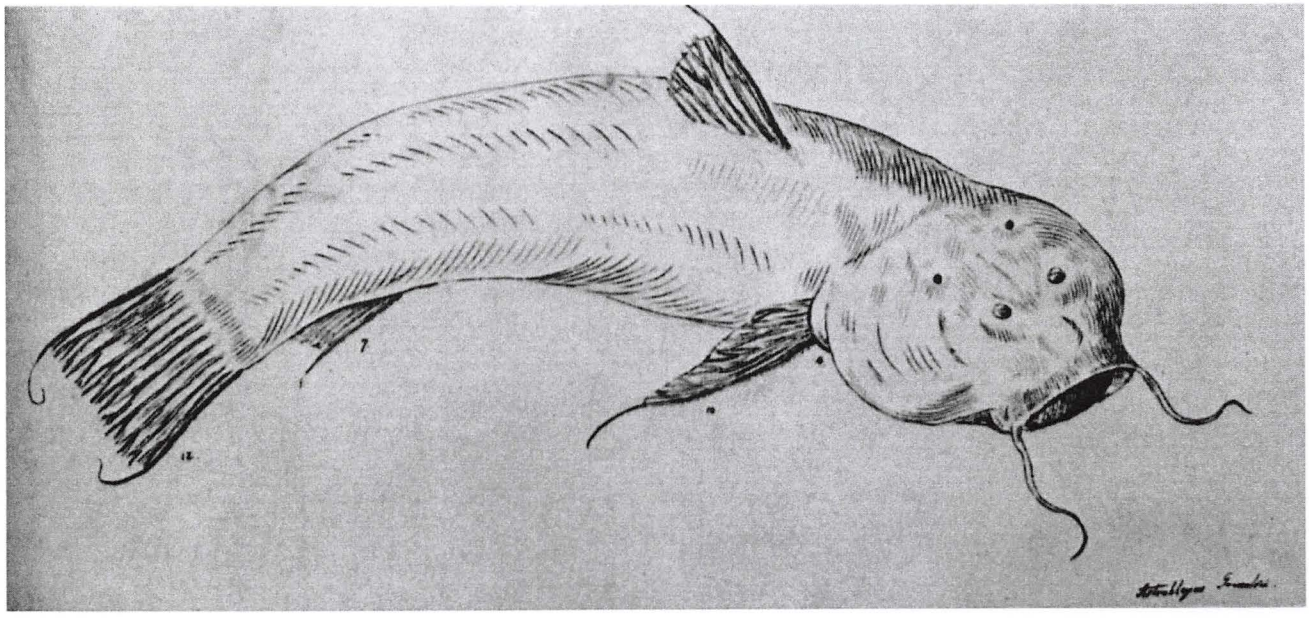


Figure 2. A sketch of a South American catfish from Humboldt's journal.

(Kanchanaburi, Thailand), both coexist with non-catfish species.

Finally, the book contains information, based on the work of Poly (2001), of non-stygobitic species which have been seen in caves and other subterranean habitats. Most of these are accidental occurrences, but such events can provide clues to the initial stages of cave colonisation. More than 20 non-stygobitic species of catfish have been recorded in this way. There is a strong suggestion that certain populations of two of these species, *Ictalurus natalis* in Florida, USA and *Trichomycterus straminius* in Colombia, have evolved to become truly stygobitic also, but the jury is still out.

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Jeffery, W. R. 2005. Adaptive evolution of eye degeneration in the Mexican blind cavefish. Journal of Heredity, 96, 185-196.

Poly, W. J. 2001. Nontroglobitic fishes in Bruffey-Hills Creek Cave, West Virginia, and other caves worldwide. Environmental Biology of Fishes, 62, 73-83.

Proudlove, G. S. 2006. Subterranean fishes of the world. An account of the subterranean (hypogean) fishes described up to 2003 with a bibliography 1541-2004. Moulis: International Society for Subterranean Biology. 300pp. ISBN 13 978-2-9527084-0-1.

Proudlove, G. S. 2008. Checklist of subterranean fishes of the world to December 2008. Personal communication.

Trajano, E. 2001. Ecology of subterranean fishes: an overview. Environmental Biology of Fishes, 62,133-160.

Table 1. Checklist of subterranean catfish. Adapted from Proudlove (2006, 2008).

Family	Species	Country	Illustration	
			B & W	Colour
Astroblepidae				
	Astroblepus pholeter	Ecuador	•	
	Astroblepus riberae	Peru	•	
Callichthyidae				
	Aspidoras undescribed species	Brazil		
Clariidae				
	Clarias cavernicola	Namibia	•	
	Horaglanis alikunhii	India		
	Horaglanis krishnai	India	•	■
	Uegitglanis zammaranoi	Somalia	•	■
Heptapteridae				
	Pimelodella kronei	Brazil	•	■
	Pimelodella spelaea	Brazil		
	Rhamdia enfurnada	Brazil		
	Rhamdia guasarensis	Venezuela		
	Rhamdia laluchensis	Mexico	•	
	Rhamdia laticauda typhla	Belize		
	Rhamdia macuspanensis	Mexico	•	
	Rhamdia quelen urichi	Trinidad	•	
	Rhamdia reddelli	Mexico	•	
	Rhamdia zongolicensis	Mexico	•	
	Rhamdia undescribed species 1	Brazil		
	Rhamdia undescribed species 2	Brazil		
	Rhamdia undescribed species 3	Brazil		
Ictaluridae				
	Prietella lundbergi	USA	•	
	Prietella phreatophila	USA	•	
	Satan eurystomus	Mexico	•	
	Trogloglanis pattersoni	Mexico	•	

Family	Species	Country	Illustration	
			B & W	Colour
Loricariidae	*Ancistrus cryptophthalmus*	Brazil	•	■
	Ancistrus formoso	Brazil	•	■
	Ancistrus galani	Venezuela	•	
Siluridae				
	Pterocryptis buccata	Thailand	•	
	Pterocryptis cucphuongensis	Vietnam	•	
	Pterocryptis undescribed species	China		
Trichomycteridae				
	Copionodon undescribed species	Brazil		
	Glaphyropoma spinosum	Brazil		
	Ituglanis bambui	Brazil		
	Ituglanis epikarsticus	Brazil		
	Ituglanis passensis	Brazil		■
	Ituglanis ramiroi	Brazil		
	Ituglanis undescribed species	Brazil		
	Silvinichthys bortayo	Argentina		
	Trichomycterus chaberti	Bolivia	•	
	Trichomycterus itacarambiensis	Brazil		
	Trichomycterus sandovali	Colombia		
	Trichomycterus santanderensis	Colombia		
	Trichomycterus spelaeus	Venezuela		
	Trichomycterus uisae	Colombia		
	Trichomycterus undescribed species 1	Brazil		
	Trichomycterus undescribed species 2	Brazil		
	Trichomycterus undescribed species 3	Venezuela		
Siluriformes incertae sedis				
	Phreatobius cisternarum	Brazil	•	
	Phreatobius dracunculus	Brazil		
	Phreatobius sanguijuela	Bolivia		

Breeders Award Programme- December 2008

Mark Walters.

One of the most successful quarters since the programme began has seen over 20 new registrations for some rare and uncommon catfish species. It is especially welcome to record spawnings from new members.

There will be a BAP workshop at the convention to encourage even greater participation and address any queries and concerns, but most importantly to share our experiences in keeping and breeding our fish. The table below lists the new species and the points accumulated by members.

A silver award is due for Mark Walters for achieving over 1000 points for over 6 genera (Corydoras, Aspidoras, Scleromystax, Ancistrus, Hemiloricaria, Sturisoma, Farlowella).

To remind members of the awards:

For a BRONZE award a total of *500* CSG BAP points must be gained and species bred must be from at least three Catfish Genera.

For a SILVER award a total of *1000* CSG BAP points must be gained and species bred must be from at least six Catfish Genera.

For a GOLD award a total of *2000* CSG BAP points must be gained and species bred must be from at least ten Catfish Genera.

KJ10	06/11/2008	Hemiloricaria lanceolata	Keith Jackson
AT15	08/12/2008	Corydoras diphyes	Adrian Taylor
AT16	01/01/2009	Corydoras metae	Adrian Taylor
AT17	29/12/2008	Aspidoras sp. C118	Adrian Taylor
IF18	11/01/2009	Aspidoras albater	Ian Fuller
IF19	03/01/2009	Corydoras sp. CW09	Ian Fuller
IF20	00/12/2008	Corydoras eques	Ian Fuller
IF21	00/12/2008	Scleromystax sp. 'CW038'	Ian Fuller
KJ11	22/01/2009	Corydoras sp. C42	Keith Jackson
DP7	30/01/2009	Corydoras pygmaeus	Dave Penney
DP8	30/01/2009	Corydoras nattereri	Dave Penney
DP9	31/01/2009	Corydoras sp. C127	Dave Penney
PH1	06/02/2009	Corydoras septentrionalis	Paul Hards
PH2	06/02/2009	Corydoras panda	Paul Hards
PH3	06/02/2009	Corydoras paleatus	Paul Hards
PH4	07/02/2009	Scleromystax kronei	Paul Hards
DAB5	20/02/2009	Ancistrus temmincki	Danny & Ann Blundell
IF22	19/02/2009	Corydoras sp. C65	Ian Fuller
AT18	11/02/2009	Corydoras similis	Adrian Taylor
DAB6	03/02/2009	Hemiodontichthys acipenserinus	Danny & Ann Blundell
DAB7	07/02/2009	Hypancistrus sp. L260	Danny & Ann Blundell

Breeders points To March 2009

Name	Points to date
Ian Fuller	1065
Mark Walters	1480
Dave Penney	360
Adrian Taylor	815
Keith Jackson	220
Eric Bodrock	80
Frank Falcone	20
Allan James	40

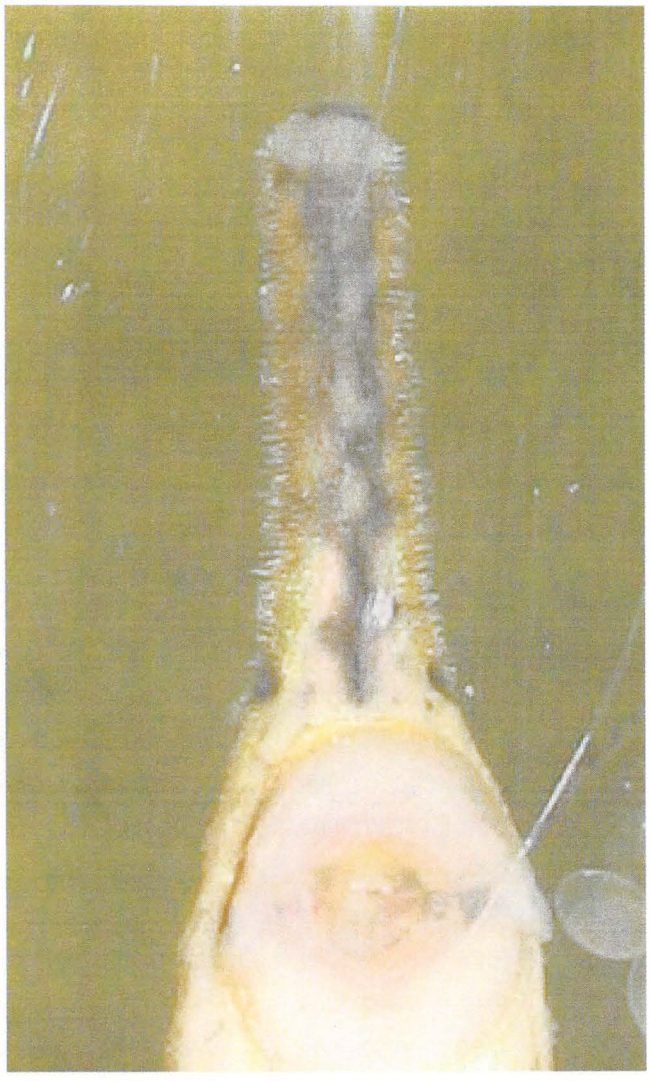
Breeding Farlowella vittata – The Twig Catfish

Presented for the CSG B.A.P by Mark Walters.

This brief article describes my experiences keeping and breeding the twig catfish, *Farlowella vittata*. Twig Catfish are frequently imported and often mistakenly identified as *F. acus*. The true *acus* is a very rare fish, both in the hobby and the wild. The most commonly imported species is *F. vittata*, although occasionally, *F. mariaelenae* finds its way into dealer's tanks. The two species can be distinguished by the number of rows of ventral plates, in *vittata* there are two rows, in *mariaelenae* there are three.

I picked up two young fish in the Summer of 2007 and another two a few weeks later. They were housed in their own 25 gallon tank on the top rack of my fish house which enjoys a temperature around 28C. The tank was filtered with an external power filter and an internal sponge filter with additional aeration from an air stone. Typically the tank has a pH of 5.5, which sounds low but is typical for many of my tanks, where buffering capacity is limited through the use of rain water in water changes. Recently I have started using limestone chippings (from my driveway!) to prevent significant pH crashes.

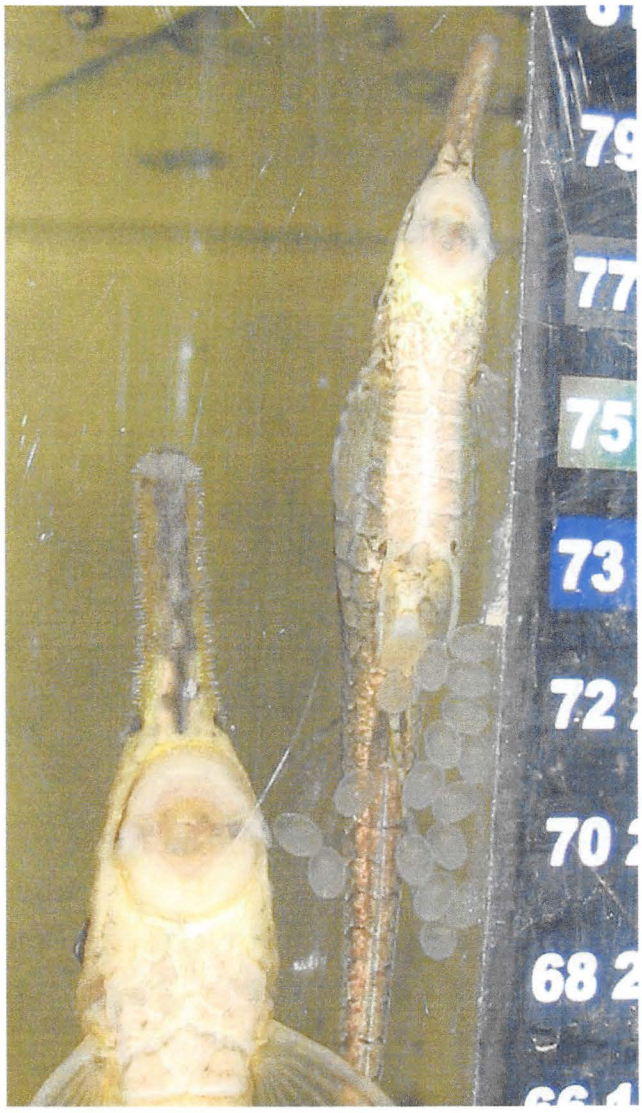
In the autumn, I was lucky to come across a full grown 20cm male Farlowella in a local fish shop, which had come from a customer. Although I had intended growing on my existing fish, I couldn't resist this opportunity. The decision was well founded with that male pairing off with the largest of the existing group to form a breeding pair. Sexing adult fish is relatively straightforward with the males developing pronounced odontodes (bristles) along the rostrum (or nose). The picture below illustrates this feature.



With regular feeding of courgette, shelled peas and proprietary dry foods the twig catfish soon came into condition. The common view is that Farlowella are strict vegetarians, however like other related genera such as *Sturisoma* and *Hemiloricaria* they enjoy a wide range of foods, including bloodworm, whiteworm, Tetra Prima (enjoyed by most fish) and, of course, algae wafers. Prior to spawning I increased the frequency of water changes from fortnightly (10%) to weekly (30%), using 50:50 tap and rain water.

The indication that they could reproduce in my tank was evident in the size of the female, who ballooned in size as if fit to burst. Early in January 2008 she busied herself in selecting a suitable spawning site and spent a couple of days cleaning and parading in front of the very reluctant male. It was noticeable just how much convincing the male needed and subsequent spawns

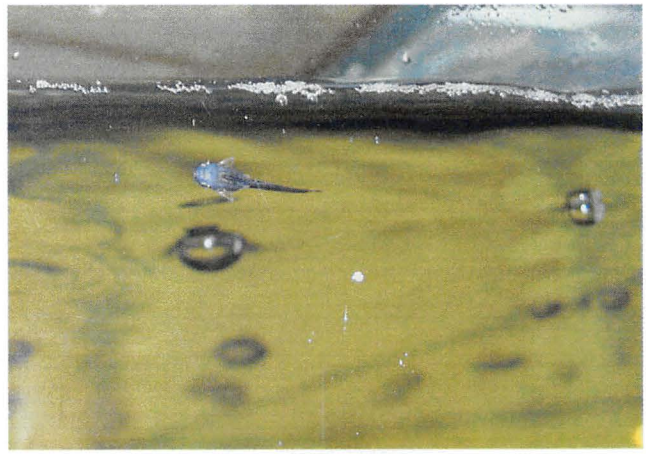
have enforced my view that the female does all the hard-sell in courtship. The male does make up for an apparent lack of interest in his mate in the devotion he shows to the eggs and will brood them for nearly 2 weeks, apparently without feeding, before they hatch.



I have witnessed a number of spawns thanks to the pair engaging in the prolonged egg deposition during the day. Indeed the full sequence from first egg to last often takes over 12 hours. Once the male has finally roused himself to participate in the spawning he appears to use his nasal odontodes to stimulate the female, finally shimmying alongside her as an egg or two are released. The role of the odontodes is not entirely clear, although a second function appears to be in facilitating the young to break free from the egg membrane, by gently rubbing his rostrum over the eggs when hatching is imminent.

On release of the large 4mm egg, the female pressed them to the glass and during the course of the spawning 40 eggs were deposited against the tank side. After the eggs were laid, the female played no further part in brood care and the male assumed his responsibilities. I assume that the male is more concerned with defending the eggs from predators rather than keeping them clean or well oxygenated and doesn't appear to fan the eggs as obviously as other loricariids.

I was lucky in that the pair decided to lay their eggs on the front glass, alongside a digital thermometer. This allowed me to take some reasonable pictures of the spawning sequence, egg development and fry growth. No attempts have been made to remove eggs or fry from the tank, safe in the knowledge that the tank inhabitants do not regard them as food. Indeed, after 12 days in the egg, the 6mm fry were developed sufficiently to fend for themselves, immediately adhering to the tank glass near the surface where flow is greatest. The egg sac was utilized after only two days and fry were seen to migrate over the tank, grazing on java moss and the tank sides. No special fry foods were offered and the fry soon developed



into miniature adults relying on the accumulated debris typical of most established aquariums.

The pair spawned 5 times between January and April and the result has been a tank full of young Farlowella. The only significant losses have been through youngsters getting trapped in the filter intake, although a sponge pre-filter has reduced this hazard.

Growth of the youngsters is best described as steady, with young twigs reaching 5cm after 6 months, about the minimum size to share them with other hobbyists.

CSG Auction Rules

1. All items offered for sale to be for the fish-keeping hobby only.
2. All electrical goods MUST display the name and telephone number of the vendor and a statement of the condition of the item i.e. working; spares or repair only etc.
3. All plants and fish offered for auction should be in clear plastic bags, jars or buckets suitable for the size of fish/es being offered for sale.
4. Catfishes, Loaches and Cichlids, MUST be double bagged; failure to comply will result in the item being returned unsold to the vendor.
5. GM, Painted, Tattooed or colour injected fish WILL NOT be auctioned.
6. All fish offered for sale must be identified by their common or scientific name.
7. All fish should be presented in suitable boxes and, for health & safety reasons, each box should weigh no more than 17kg. Any boxes over 17kg will be returned to the vendor with contents unsold.
8. Any fish offered for auction requiring re-bagging WILL incur a re-bagging charge of 50p
9. A 15% commission charge will be levied on all sales. Settlement to vendors will be made at times suitable to the CSG's officiating teller before the close of the day's activities.
10. If in doubt, only bid for an item as seen. In the event of a problem, the vendor's name will be made available to the purchaser only on the day.

The CSG accepts no responsibility for the condition of items sold at any of its auctions and is in no position to exchange or make a refund for an item.

Oaks From Little Acorns Grow

Reproduced from the CAGB Magazine, Issue 3/85

With the 30th Anniversary Convention close at hand, here is a look back at one. We've come a long way since then!

CONVENTION 1985

With so few clubs or societies able or capable of organising conventions our experience at staging these events is undeniable. The reputation has spread that now the Catfish Association Convention is 'the' event for the aquatic enthusiast, whether or not his direct-interest is catfish.

This reputation must have been further enhanced by the excellence of this years two speakers, Dr. Michael Goulding and Freek Schmidt, each leaders in their own field.

Freek Schmidt, a Dutchman, has many years of experience living with the 'Dutch' style of furnished aquaria, both as a national judge and through practical experience. He has for many years written and lectured on the subject of beautiful aquaria, and gave us the benefit of his knowledge on their design and planting with emphasis on the needs of the catfish.

With the aid of slides he demonstrated that the well planted furnished aquarium is the ideal environment for all small catfish. The plants, wood and rock giving them the desired seclusion. The amount of lighting required for such a tank sent palpitations through some of the audience, but Freek explained that this was necessary for good plant growth and propagation.

For aquarists with an interest in ecology the name Dr. Michael Goulding is familiar through his books on South American forest propagation and the part migrating fish play in their dispersal. Through two talks the subject matter of these books was explored in depth. All the photographs were taken in the field and demonstrated man's effect on the forest and its rivers through mining and agriculture. Many of the once clear water rivers have become little more than muddy drainage channels as miners wash away topsoil in their search for gold. Minerals are leached from the soil and washed into the water courses as deforestation allows massive open cast mining projects for iron ore and copper. However, the Amazon Basin has a wealth of natural resources and one of these is the fish. Dr. Goulding explained how fish are an important part of the diet eaten by the locals. Fish markets proved to be a good place to discover what fish were migrating and at what time of year. Large Brachyplatystoma would follow spawning runs of Prochilodus, other catfish such as Callophysus would be found near towns feeding on waste material.

Besides studying the migratory habits of larger fishes, Dr. Goulding made a detailed study of the fauna of the Teotonio cataract on the Madeira River. Here he found smaller species living at different levels within the cataract. Fishing was difficult, but with the aid of the natives even the impossible is achievable and, amongst others, small pimelodids and loricariids were captured.

We would like to extend our thanks to Michael Goulding and Freek Schmidt for a magnificent afternoon.

Dwarf *Corydoras*

Chris Ralph.

Illustrations courtesy of Ian Fuller

There are numerous species of *Corydoras* available to the hobbyist, many of which have been described for years, some of which have only recently been discovered and are awaiting identification and subsequent naming. I think that this is something which will always fascinate me, the fact that there are new species potentially awaiting discovery from remote corners of the South American continent. The thing that concerns me personally however, is the rate at which the rain forests are disappearing, which not only impacts upon the natural habitats of these wonderful catfish and the associated other forms of fauna and flora, but also upon us the human population as well. With all the doom and gloom surrounding climate change I wonder how long it will be before the situation reaches its conclusion, and where all life will feature? As many of you are aware I have been fortunate enough to visit the Amazon and some of its many tributaries in order to observe some of our aquarium fishes natural habitats, which will form part of some future articles.

It is my intention to cover some of the often overlooked species of *Corydoras* - the 'dwarf' or 'pygmies' as many aquarists refer to them as. I have kept many species of *Corydoras* and to this day still find them very fascinating to watch and observe. As you are most likely aware *Corydoras* belong to the family Callichthyidae, sub-family Callichthyinae, which also includes the genera *Aspidoras*, *Brochis*, *Dianema*, *Hoplosternum*, *Lepthoplosternum*, *Megalechis* and *Scleromystax*, and just to keep us on our toes the taxonomists like to cause more confusion when they review the families as has happened during recent years. This has resulted in some species of *Corydoras* being reclassified as *Scleromystax*. I guess

that it is this confusion within taxonomy, as well as the observations made over many years which makes this family of catfish so interesting and fascinating to keep.

When keeping these catfish the following information might be of use especially to those of you venturing into keeping *Corydoras* for the first time:

Water parameters – *Corydoras* prefer to be kept in water which has a pH in the range of 6.0-7.2, and hardness in the range of 2-25°dGH. This catfish is ideally suited to temperatures in the range of 23-27°C or 73-81°F.

Feeding – As with all the other catfish that I have had the pleasure to keep over the years, *Corydoras* readily accepts a mixed and varied diet which includes granular foods, frozen bloodworm and good quality flake to name but a few. Due to the relatively small size of these catfish I would suggest that the dry foods offered are slightly crushed to make them smaller for these fish to eat.

Aquarium size – I would suggest a minimum size of 18" x 12" x 12" or 24" x 15" X 12" for a small shoal of these catfish, with plenty of hiding places amongst bogwood and rocks. These magnificent tiny catfish might also be suitable for adding to a 'Nano' type aquarium in smaller numbers. The ideal aquarium substrate to use with these catfish is aquarium sand such as BD Aquarium Sand. As with all other species of fish, water quality and general husbandry is very important, and I would recommend that a minimum of 25% water is changed on a weekly basis.

Compatibility –Wherever possible I would recommend that the aquarist keep these catfish in a community aquarium in small groups of six or more, but as the absolute minimum I would suggest three specimens. In their natural habitat *Corydoras* would be found in relatively large shoals.

Sexual differences – The males tend to be more slender than the females.

Breeding – There are numerous documented reports of aquarium spawnings of *Corydoras*. The majority of *Corydoras* adopt the typical "T shape" breeding clinch when spawning. The spawning activity follows on from a period of conditioning with foods such as *Daphnia* and bloodworm, and a partial water change using cooler water, which replicates the lead up to the rainy season in their natural habitats – the trigger for breeding activity to take place.

For the purpose of this article I have documented four species of *Corydoras* which do not attain lengths above 40mm standard length which is the measurement from the tip of the snout to the base of the caudal peduncle. All sizes quoted are in mm standard length.

Corydoras pygmaeus – Knaack, 1966

Common Name – Pygmy Cory

Natural Habitat – South America namely Brazil, Est. Rondônia, surroundings of Calama, along Rio Madeira near the mouth of Rio Jipiraná (Rio Machado). Also found in Ecuador, Napo Province, Rio Aguarico, Peru, Loreto Province, and Rio Nanay near Iquitos.

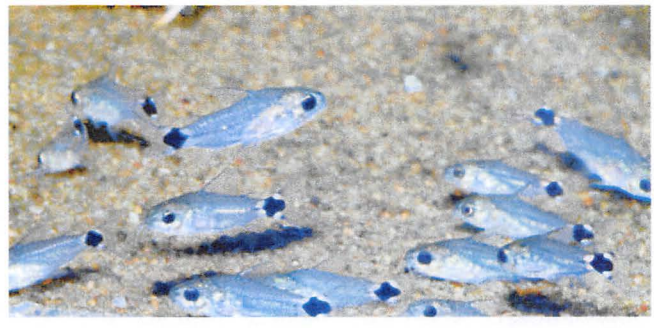
Size – Males 25mm & females 32mm

Body – Typical triangular body shape with the head being short and compact.

Colour – Base colour of head and body grey/green. Blackish coloured line running from the tip of the snout through the junction of the body scutes ending at the caudal peduncle, where it broadens out into a triangular shape. Dorsal parts of dorsolateral body scutes with darker pigment on the posterior edges. Ventrolateral body scutes are creamy white with the exception of a dark line which runs from the ventral fins to the anal fin. All fins are described as being clear.

Remarks – This species is often mistaken for *Corydoras hastatus* within the aquatic trade. *Corydoras pygmaeus* lacks the lozenge-shaped blotch at the root of the tail along with the white to yellowish coloured margin above and below. This species sports a black band that runs the full length of the body, ending just short of the tail end, and ending in a slightly broader band when compared to *Corydoras hastatus*.

Etymology – *Cory* meaning helmeted, *doras* meaning leathery skin (helmeted Doras) cuirass. *Pygmaeus* from Latin meaning dwarf.



Corydoras hastatus – Eigenmann & Eigenmann, 1888

Common Name – Dainty *Corydoras*

Natural Habitat – South America namely Brazil, Est. Amazonas, Villa Bella, Parintins. It is suggested that this locality is doubtful as there are several Villa Bellas

(Vila Bela) in Brazil and the species is common within the Rio Paraguay drainage in Brazil and Paraguay

Size – Males 25mm & females 32mm

Body – Typical triangular body shape with the head being short and compact. The dorsal fin has 1 hard ray and 7 soft rays. The anal fin has 2 hard rays and 5-6 soft rays. There are 22 bony scutes in the upper lateral series and 20 in the lower lateral series.

Colour – The base colour of the body and head is grey-green to golden yellow. The back is olive green; the flanks are yellowish with a whitish coloured belly. The head, body and fins are sprinkled with small dark spots. A black longitudinal band runs from behind the gill cover to a lozenge-shaped blotch at the root of the tail; the latter blotch having a white to yellowish coloured margin above and below. A second broader streak runs along the lower edge of the caudal peduncle. The fins are dull grey. The base of the caudal fin is blackish in colour.

Remarks – This species is said to prefer a specific habitat which is called the 'swimming meadows' of the Pantanal and Choco region. In its natural habitat this catfish is generally found in small groups of 15-20 specimens. There is a characin –*Serrapinnus kriegi* which closely resembles this catfish and is often found in amongst shoals of the catfish. This is a very small mid-water shoaling species, which does not spend as much time on the substrate as other species do, preferring to sit on the leaves of aquarium plants rather than sitting on the substrate.

Etymology – *Cory* meaning helmeted, *doras* meaning leathery skin (helmeted Doras) cuirass. *Hastatus* from Latin meaning armed with a spear.

Corydoras habrosus – Weitzman, 1960

Common Name – Dwarf *Corydoras*

Natural Habitat – South America namely Venezuela, State of Cojedes, Rio Salinas, tributary of Rio Pajo Viejo, El Baúl.

Size – Males 32mm & females 35mm

Body – Typical triangular body shape with the head being short and compact. The dorsal fin has 1 hard ray and 7 soft rays.

Colour – Base colour of head and body pale tan. There are three dark blotches along the middle of the body, the first below the dorsal fin, the second between the dorsal and adipose fins; the third and darkest blotch is on the caudal peduncle. The three azygous scutes before the adipose fin have dark pigment on them. There is scattered dark pigment on the dorsolateral body scutes, the ventrolateral body scutes are without pigment except for the upper portions of those scutes associated with the three dark midside blotches. The dorsal fin is clear except for two dark rows of fine spots. The adipose fin membrane is clear with some dark pigment on the spine. The caudal fin has four light rows of spots in the upper lobe and three in the bottom lobe. The pectoral, ventral and anal fins are clear.

Remarks – Some older aquatic literature refers to this species as *Corydoras cochui*, sharing a similar colour pattern. *Corydoras cochui* has a more slender body than *Corydoras habrosus* and one more blotch on the side of the body. *Corydoras habrosus* has no spot at the base of the ventral fin, and the pectoral fins are not barred.

Etymology – *Cory* meaning helmeted, *doras* meaning leathery skin (helmeted Doras) cuirass. *Habros* from Greek meaning pretty, delicate or dainty.

Corydoras cochui – Myers & Weitzman, 1954

Common Name – Pygmy Catfish, C022, Barred-tail *Corydoras*, Cochu's Catfish.

Natural Habitat – South America namely Brazil in the Upper Araguaia River basin. Also documented as being found in the Rio Araguaia, Santa Maria Nova and State of Goyaz (Goiaz).

Size – Males 30mm & females 35mm

Body – Slender with a rounded snout, although it does still have the typical triangular appearance which makes this family distinct.

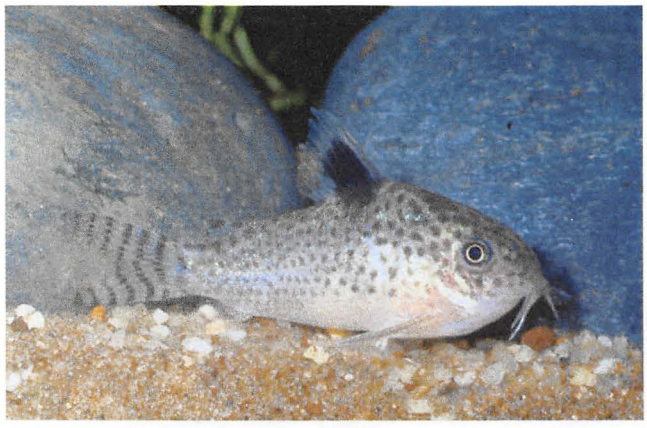
Colour – Base colour of body and head is light brown. There are four dark coloured blotches along the flanks; one below the dorsal fin, one between the dorsal and adipose fin, one below the adipose fin and one on the caudal peduncle. There is a dark streak along the back of the fish which extends from below the dorsal fins spine, ending in a dark spot on the upper edge of the caudal peduncle. The top of the head is dark in colour

which continues just below the eye. The upper and anterior portion of the opercle is also dark in colour. The caudal fin has five narrow irregular dark coloured cross bands. The base of the anal fin has a dark coloured spot extending into the body. Ventral fin is clear. Pectoral fin rays with a few dark coloured scattered spots. Dorsal fin rays with a scattering of dark coloured spots forming two irregular rows. Dorsal and pectoral fin spines having a narrow dark line along them.

Remarks – This particular species is not commonly available, but is well worth looking out for and is ideal for smaller aquariums.

Etymology – *Cory* meaning helmeted, *doras* meaning leathery skin (helmeted Doras) cuirass. *Cochui* named in honour of Mr Fred Cochu.

In addition to those species detailed above the excellent book - Identifying Corydoradinae Catfish by Ian Fuller and Hans-Georg Evers mentions the following two species, which to date I have not had the pleasure to see for sale:



Corydoras paragua - Knaack, 2004. A species from Bolivia. Males attain a length of 35mm, and females 40mm.

Corydoras multimaculatus - Steindachner, 1907. A species from Brazil. Males attain a length of 35mm, and females 40mm.

The next time you are looking to purchase some smaller fish spare a thought for these miniature catfish, you will not be disappointed!

Glossary of Terms

Caudal is defined as the tail fin. Pectoral fins are defined as paired lateral fins. Dorsal fin is defined as the medial fin on top of the back. Adipose is defined as a second dorsal fin which in the case of *Corydoras* consists of fatty tissue with a single spine supporting a thin membrane. Dorsal is defined as being top or above. Ventral is defined as bottom, below or underneath. Opercle is defined as the large bone forming the gill cover. Caudal peduncle is defined as the usually narrowing posterior part of the body between the anal and caudal fins. Scute is defined as a bony plate. Dorsolateral is defined as extending from the top to the side. Ventrolateral is defined as extending from below and to the side.

References:

Catfish Association Great Britain – Volume 1

Catfish Association Great Britain – Information Book 6

Identifying Corydoradinae Catfish – Ian Fuller & Hans-Georg Evers

www.scotcat.com

www.fishbase.org

www.planetcatfish.com

This article first appeared in the British magazine Practical Fish Keeping.

On the identity of *Pseudomystus stenomus*, (Valenciennes in Cuvier and Valenciennes, 1840), with comments on some related Bagrids.

Steven Grant

Introduction

The name *Pseudomystus stenomus* (Valenciennes, 1840) has been given in scientific literature and in the aquarium trade to certain bagrids from some or all of the following: Java, Sumatra, Borneo, the Malay Peninsula, Thailand, and Cambodia (Kottelat et al., 1993; Mohsin & Ambak, 1983; Smith, 1945; Rainboth, 1996; Vidthayanon, 2004; Suvatti, 1981; Ng & Rachmatika, 1999; Ng & Tan, 1999). It has however been queried for a few years now by some of these authors (Kottelat, Ng) whether the true *P. stenomus* is present on the mainland. I (Grant, 1999) also queried this. In this article I have located what I consider to be the syntypes of *Leiocassis ellenriederii* Bleeker, 1860 (which were considered as "whereabouts unknown" - Ferraris, 2007) and compared them with holotype of *P. stenomus*. The two species have been considered as synonymous since Bleeker, 1862; the problem being since then has been the unknown location of the syntypes of *L. ellenriederii* so comparisons could not be made. Pending a fuller redescription I provide some details of *P. stenomus*. I also make some comparisons with some other species of *Pseudomystus*, and briefly discuss the possibility of both *Pseudomystus* and *Leiocassis* requiring new genera or sub genera.

Materials and Methods

Unfortunately I have not been able to physically examine the specimens. Comparisons have been made using images (including some x rays) from Morris & Sabaj (2006) and also images (including some x rays) kindly provided by RMNH, USNM, MNHN, and BMNH; certain measurements have also been provided by these institutions. Some measurements are circa however, and that means that some of the morphometric figures will not be exact; although some morphometric comparisons can still be made with the images. It has not been easy to measure the eye length in view of it being subcutaneous. When comparing *Pseudomystus* species I have found that the most useful comparators are: a visible posttemporal supracleithrum[1] (referred to as the post-temporal); the shape, prominence and angle of the post-temporal (if visible); the presence or absence of a post-temporal process; the shape of the nuchal shield (consisting of the anterior and median nuchal plates); whether the supraoccipital process reaches the anterior nuchal plate; and the shape of some of the cranial bones (supraoccipital, pterotic, sphenotic, frontal). Where original images of specimens were not available, this information was gleaned from original descriptions and subsequent papers.

[1] The dorsomedial limb, ventrolateral limb, and (if present) a posterior process.

Museum abbreviations follow Eschmeyer (1998).

SN = Snout Length, HL = Head length, SL = Standard Length, TL = Total Length, Pec = Pectoral fin spine, AFB = Anal Fin Base.

Pseudomystus stenomus (Valenciennes, 1840)

Figs 1-5, & 8. Tab. 1.

Bagrus stenomus Valenciennes *in* Cuvier & Valenciennes, 1840:415 (type locality: Java)

Leiocassis ellenriederii Bleeker, 1860:10 (type locality: Lahat, Palembang Province, Sumatra, Indonesia)

Leiocassis stenomus Bleeker, 1862:54, Tab LXVII, Fig 3.

Leiocassis (*Pseudomystus*) *stenomus* Jayaram, 1968:364, in part.

Pseudomystus stenomus Mo, 1991:140

Leiocassis stenomus Roberts, 1993:27, Fig. 61.

Specimens used

Holotype of *Bagrus stenomus*: RMNH 2986, 71.6 mm SL, male, Java, Kuhl and van Hasselt coll.

Probable syntypes of *L. ellenriederii*: BMNH 1863.12.4.156, 82 mm SL, female, Lahat, Palembang Province, Sumatra, Indonesia; RMNH 6874 (2 specimens), 77 mm SL, female; 80 mm SL, male; same locality as BMNH specimen.

Diagnosis: Can be distinguished from congeners by the combination of cranial elements not all exposed, under a thin layer of skin; posttemporal supracleithrum free from dorso-basal edge of the post-cleithral process, and visible with naked eye, and reduced; small post-temporal process present; the absence of long hair-like epithelial projections on the skin; procurrent caudal fin rays not well developed; nuchal shield pointed, meeting or not quite meeting short supraoccipital process.

Description: Head depressed; dorsal profile evenly sloping and ventral profile almost straight; snout rounded to truncate when viewed dorsally. Bony elements of dorsal surface of head mainly covered with thin skin; but some bones on posterior half of neurocranium still visible. Midline of cranium with anterior fontanelle extending from behind snout to beyond level of posterior orbital margin. A small, round, posterior fontanelle is present on the supraoccipital. Supraoccipital process moderately narrow, with tip blunt or slightly extended; reaching or almost reaching the nuchal plate. Posttemporal supracleithrum visible, reduced, not procurrent with dorso-basal edge of post-cleithral process, pointing diagonally downwards. Small post-temporal process

present. Eyes ovoid, horizontal axis longest, subcutaneous; located entirely in dorsal half of head. Gill openings wide, extending from post-temporal to beyond isthmus. Gill membranes free from isthmus, with 9 branchiostegal rays.

Mouth subterminal. Teeth in jaws and on palate in curved bands; barbels in four pairs, nasal barbels reaching beyond eye or hind border of opercle; maxillary and mandibular pairs extending extending to end of pectoral fin or post-cleithral process, mental pair to post-cleithral process or shorter[2].

Body compressed, becoming more so toward caudal peduncle. Dorsal profile rising slightly, not steeply, from tip of snout to origin of dorsal fin and sloping gently ventrally from origin of adipose fin to end of caudal peduncle. Ventral profile slightly convex to anterior to anal fin base, then sloping slightly dorsally to end of caudal peduncle. Skin smooth; lateral line complete and midlateral in position.

Dorsal fin with spinelet, spine, and 7 rays. Origin of dorsal fin anterior to mid-body, just less than a third of body. Dorsal fin margin convex, usually with fin rays longer than membranes. Dorsal fin spine short, straight and slender, posterior edge with 4 serrations on the distal half[3]. Nuchal shield moderately narrow, with anterior plate long and pointed.

Pectoral fin with stout spine, sharply pointed at tip, and 7 rays. Anterior spine margin smooth; posterior spine margin with 13 large serrations along entire length (serrations may be fewer in smaller specimens). Postcleithral process [sometimes referred to as the humeral process] moderately broad, tapered posteriorly and shorter than pectoral fin spine.

Ventral fin origin posterior to vertical through posterior end of dorsal-fin base, with ii.5 rays and slightly convex margin; tip of adpressed fin not reaching anal fin. Anus and urogenital openings located posterior third to tip of adpressed ventral fin. Males with a thick conical genital papilla reaching to base of third or fourth anal fin ray.

Adipose fin with convex margin for entire length (albeit not as greatly at anterior portion), and origin slightly anterior to vertical through base of first anal-fin ray; fin-base moderate, spanning about two-fifths of postdorsal distance. Anal fin origin posterior to vertical through origin of adipose fin, with iv. 11-13 rays and curved margin.

Caudal peduncle moderately deep. Caudal fin deeply forked, with i,7,8,i principal rays; upper and lower lobes slender and lanceolate, upper lobe slightly longer than lower; outermost non principal ray slightly extended and sometimes curved. 16-18 procurrent rays; greatly reduced.

For colour and pattern, see discussion below.

[2] As per Weber & de Beaufort (1913)

[3] Data from BMNH specimen only

Discussion:

The holotype of *P. stenomus* came from Java, Indonesia and was collected by Kuhl and van Hasselt between 1820 and 1823. Roberts (1993) listed the Standard Length of the holotype (RMNH 2986) as 71.6 mm. He stated that *P. stenomus* "evidently is a rare species, perhaps known only from the holotype....." . There was no drawing etc. of the type specimen printed in the original description but Roberts (1993) included a printer's proof of an original drawing of the type specimen. The drawing had remained unpublished since the early 1800s until Roberts did so in 1993. The drawing shows no markings, just the general shape of the fish and its basic morphology but it is still very important because it shows the holotype whilst relatively recently preserved. The drawing also shows that the holotype is a male (due to the genital papilla). Other than the drawing I am not aware of any published photographs of the holotype. Thanks to Ronald de Ruiter of RMNH I am able to exclusively show images of the holotype here for the first time. Using the images provided, the holotype does indeed appear to measure 71.6mm SL, and appears to be 90mm TL. The drawing is reasonably accurate in relation to the specimen itself.

Since its description in *Bagrus* Bosc, 1816 it has been placed in *Leiocassis* Bleeker, 1857, and then finally in *Pseudomystus* Jayaram, 1968 (as its type species).

Bleeker (1860) described *Leiocassis ellenriederii* based on 3 specimens from Lahat, Palembang Province, Sumatra (I believe Lahat is in the modern day province of South Sumatra). No drawings were produced in the original description but, as well as the description of the morphology and meristics of the specimens, Bleeker stated that they measured between 105 and 120 mm long. In 1862 Bleeker produced an uncoloured line drawing (captioned as *Leiocassis stenomus*), although it is not certain if it is of one of the syntypes of *L. ellenriederii* (he clearly states that he had already examined the holotype of *P. stenomus*). In the same account he synonymised *L. ellenriederii* with *L. stenomus*, and this has stood since. However, he makes it clear that he was not certain that they were synonymous. Unfortunately since then the syntypes of *L. ellenriederii* have not been identified (Ferraris, 2007), Bleeker's 1862 synonymy has stood since. Weber & de Beaufort (1913) appear to have examined the holotype of *P. stenomus*, and also what they called Bleeker specimens of *P. stenomus* at Leiden, which are probably RMNH 6874.

I decided to try and trace the missing syntypes of *L. ellenriederii* and my initial hunch was that they would either be in BMNH or RMNH or both, in view of the many Bleeker type specimens in those institutions. A species search on the BMNH type catalogue for '*ellenriederii*' under any genus came back blank. I decided to search under the species name '*stenomus*' in view of Bleeker's synonymy in 1862, and came up with BMNH 1863.12.4.156. The single specimen had

no type locality but upon checking with James Maclaine at BMNH it was listed as being purchased from Bleeker. Its accession year of 1863 ties in with other Bleeker specimens in the BMNH that have been confirmed as type specimens of various Bleeker species (see Eschmeyer, 2008). The specimen measures 106 mm TL.

I also noticed two specimens listed in Jayaram (1968) – RMNH 6874, without locality data, but listed as Bleeker specimens. My hunch was that these could be the two remaining syntypes. The specimens were purchased in an auction of Dr Bleeker's collection, this time in 1879 (de Ruiter, personal communication). RMNH inform me that these specimens measure 100 mm & 92 mm TL, although on the first specimen there is another approx. 5 mm on the upper caudal fin lobe to be added, and the caudal fin is short due to damage on the second specimen.

The size of all three specimens and the fact that they are Bleeker specimens makes me consider that they are the syntypes of *L. ellenriederii*. One issue is that the drawing of 1862 under the name *Leiocassis stenomus* appears to differ slightly to the three specimens, particularly the extensions to the rays of the caudal fin. It is not clear if this drawing (which is far less detailed and superior to his other drawings) is directly taken from one of the syntypes. Because I have not been able to physically examine the specimens and get accurate and all morphometric and merisitic information from them I am unable to check their details against the details provided by Bleeker in 1860 (the account in 1862 merges some information from *P. stenomus* so should not be followed). This needs to be done but until then I consider that they are the syntypes.

Colour and pattern info in 1860 for *L. ellenriederii* is (roughly translated from Latin) "body colour, darkish superiorly, lower pearly; 3? diffuse blackish irregular, transverse, wide body bands, fin rays rosy, membranes rosy-hyaline, scattered with[?] many small dark spots; adipose fin darkish-olive." In his 1862 account of *L. stenomus* he added a question mark after the colour of the adipose fin, and missed out some words. The pattern of the holotype of *P. stenomus* was described by Valenciennes as (roughly translated from French) "His body seems to be brown, dotted blackish and its dorsal and tail are edged with blackish; his anal is blackish, edged with white." On the face of it there are some discrepancies between these two accounts, but it has to be borne in mind that when Valenciennes described the colour and pattern the specimen had been preserved for some time, so the colour and pattern could have faded. I am also aware from personal experience that some *Pseudomystus* can alter their colour and pattern depending on the level of lighting (Physiological Colour Change). I have kept various species over the years and when some have been in darkness for some time and the lights are turned on, the fish can be a pale brown or even pinkish colour and the body bands are not visible; usually just a few scattered small black melanophores are visible. The state of preservation and/or a Physiological Colour Change (which could have occurred when the specimen was caught or being preserved) probably account for the absence of visible body bands on the holotype of *P. stenomus*.

Weber & de Beaufort (1913) list some colour and pattern information. It is not clear if it is from the RMNH specimens (unlikely to be from the holotype of *P. stenomus* as no bands showed in 1840 when Valenciennes examined it, so if from specimens, probably the two RMNH syntypes of *L. ellenriederii*), or whether it is from the literature sources. Certainly the fin colours don't seem to match with Bleeker's account. However, it may be important so I will quote it here: "Darkish brown above, lighter below, with lighter cross bands. A narrow one on occiput, a broader one before adipose fin and a narrow one at caudal peduncle. Dorsal with a black intramarginal band. Adipose fin darkish with a light margin, other fins brownish."

Comparing the four specimens (on the comparators available to me from images) it is clear to me that they are conspecific. The morphometrics are very close, close enough not to suspect a different species. Also the head and body shape; the size, shape and placement of the fins; the shape and arrangement of the neurocranium plates, fontanels, post-temporal, and nuchal shield all match (Table 1).

I have also had the opportunity to look at images of some other specimens that have been listed as *P. stenomus* (see further details under 'Other specimens used'). ZMA 121.531 from Batang Hari drainage, Sumatra were listed by Tan & Ng (1999) as representing *P. stenomus*. I have some reservations about their identity and therefore their details haven't been used in this account of *P. stenomus*. They appear

Table 1

	Holotype	BMNH	RMNH	RMNH
	P. stenomus (m)	*L. ellenriederii* (f)	*L. ellenriederii* (f)	*L. ellenriederii* (m)
SN in HL	4.12	3.54	3.33	3.9
Eye in HL	4.31	4.87	5.71	5.37
HL in SL	4.75	5.07	4.47	4.74
Pec in SL	5.86	5.37	5.1	5.18
AFB in SL	7.2	7.40	7.28	7.63

to have a more convex ventral profile than *P. stenomus*; their head and snout shape when viewed dorsally appears to be more rounded; they have a proportionately wider head width in predorsal length (0.73 – 0.96 versus 0.59 – 0.66 in *P. stenomus*); and their ventral fins reach the base of the first anal fin ray. I will list them as *Pseudomystus* sp. 'Batang Hari'; I cannot match them to any other known *Pseudomystus* so they may represent a new species. RMNH 15969 were included in Jayaram's (1968) account of *P. stenomus*. This lot consists of seven specimens from Karawang, Java. Looking at these specimens it appears that they are a mixed lot. Four of the seven specimens have a very wide head and may be juveniles of *P. leiacanthus* (Weber & de Beaufort, 1912); whereas the remaining three do have morphology and morphometrics reminiscent of *P. stenomus*. However, their skin appears to be tuberculate rather than smooth. Until further study I have listed the three specimens as *Pseudomystus* sp. 'Karawang'.

One species that appears very similar to *P. stenomus* is *P. breviceps* (Regan, 1913), also from Sumatra; in fact I initially considered it as a junior synonym. I have only had sight of two of the three syntypes (BMNH 1889.11.12.64-65), one a male and one a female. The female specimen appears to have a slightly different post-temporal to that of the male holotype of *P. stenomus*, albeit its post-temporal matches that of the female BMNH *L. ellenriederii* syntype. The male *P. breviceps* syntype however, has a post-temporal that matches the male holotype of *P. stenomus*, and also both the male and female RMNH syntype of *L. ellenriederii*. The nuchal shield of the female syntype of *P. breviceps* matches that of *P. stenomus*, but the male *P. breviceps* has a nuchal shield that is different to the female syntype, and to *P. stenomus*. It also has a slightly different shaped and sized supraoccipital process to the female syntype. Even with these differences between the 2 syntypes of *P. breviceps* I do consider that they are conspecific with each other, but not with *P. stenomus*. The two *P. breviceps* syntypes both have a similar overall morphology, and both have the supraoccipital, pterotic, sphenotic, and posterior portion of the frontal, all exposed, and rugose, without any covering of skin. This is not the case in *P. stenomus*. They both also appear to have a proportionately larger anal fin base in SL than *P. stenomus* (6.3 - 6.5 versus 7.2 – 7.63), and the males of *P. breviceps* have a thin, long, genital papilla, whereas in *P. stenomus* it is thick and conical.

I now turn to the species from Borneo, the Malay Peninsula, Thailand, and Cambodia. Are they also *P. stenomus*?

Roberts (1989) did not positively list *P. stenomus* as occurring in Borneo, in fact he listed the specimens from Kapuas basin (some of which had been identified by Vaillant in 1893 as *P. stenomus*) as sp. undet. Certainly the one in Fig. 94 in Roberts is not *P. stenomus*. Inger & Chin (2002) do not list it from North Borneo. Kottelat et al (1993) list it from Borneo but this appears to be based on Weber & de Beaufort (1913), who list it as occuring in Kapuas, Mahakam, Seminis. However this is not based on specimens they examined and is from literature sources, some of them Vaillant, as discussed already by Roberts (1989). Therefore I have doubts about its presence in Borneo; it is unlikely to be there. It may well be that Weber & de Beaufort were confusing it with what eventually turned out to be *P. flavipinnis* Ng & Rachmatika, 1999, a similar looking species. I am not sure of the locality of the specimen in Kottelat et al (1993) Plate 31, but the specimen does not appear to tie in with *P. stenomus*. Mohsin & Ambak (1983) list *P. stenomus* as occurring in Peninsular Malaysia but have no specimens to back this up, so again this is probably from literature sources. Ng & Rachmatika (1999) list specimens from Sungai Kahang, Johor (Peninsular Malaysia). Certainly I am aware that in the past (before some species declined due to man-made problems) that some species present on the Indonesian archipelago were present in parts of Peninsular Malaysia (Grant, 2007:43), so it may be that *P. stenomus* is present there. However, shortly after Ng & Rachmatika (1999) listed the specimens, Tan & Ng (1999) list the same specimens but caption them as "*Pseudomystus stenomus* Fowler, 1938". This may be a printing error, or it may be that they acknowledge that the specimens are the same as those from Thailand; which I will now turn to. Smith (1945) documented a specimen from the Chanthaburi River, south-eastern Thailand that had been caught in 1927. He provided a description of the specimen (including its colour and pattern when it was caught) and a drawing of it (reproduced in Suvatti (1981) and Rainboth (1996)). Taylor (1983), Sands (1985), Grant (1999), and Vidthayanon (2004) also provided colour images of this species. There are two variants available in the aquarium hobby, one being the Smith species and another with wider marks on the body. However, I am not certain where the ones with the wider body marks come from. They may not be from Thailand, they may be from Borneo. I have provided images here of both (Figs. 6-7). I have witnessed what appeared to be a pre-spawning ritual between the two specimens. Within a few days of a large water change (and consequent drop in temperature) and the addition of a fast flow from a large internal power filter, the male (Fig. 6) started to swim in mid-water with the female, and was gently mouthing the area around the base of her pectoral fin and gill openings, whilst their bodies undulated together. They also rubbed their pectoral fins together whilst undulating against, and wrapping around each other.

The species in Smith is obviously present in Thailand, (only in a small area in the south-eastern tip of the mainland according to Vidthayanon (2004:167)) but apart from the inference of by its inclusion in Rainboth (1996) I am not aware of any confirmed presence in Cambodia. I have been provided with images and x rays of the specimen from Smith, which is USNM

109592 (Fig. 9). Whilst some of its morphometrics are within the same range as *P. stenomus*, and it has a similar nuchal shield and supraoccipital process, it can be differentiated from *P. stenomus* by the lack of a readily visible post-temporal and post-temporal process; when viewed on x ray the post-temporal is reduced and is procurrent with the dorso-basal edge of the post cleithral process; larger anal fin base in SL (6.34 versus 7.2 – 7.63); smaller eye in HL (6.15 versus 4.31 – 5.71); male genital papilla is thick, but not conical; and apparently distributed on mainland only.

Generic placement of *Pseudomystus* and *Leiocassis* species

This discussion includes the genera *Leiocassis* Bleeker, 1857; and *Pseudomystus* Jayaram, 1968. It does not include other species from outside Southeast Asia that have previously been included in *Leiocassis*. As per Ng & Freyhof (2007) and Ng & Kottelat (2007), all such East Asian species are currently in the genus *Tachysurus* La Cepède, 1803. I would also hazard a guess that the Southeast Asian species from Vietnam described as *Leiocassis* in Nguyen (2005) are also species of *Tachysurus* (as it is currently understood).

Jayaram (1968) proposed *Pseudomystus* as a subgenus of *Leiocassis*, in which *Bagrus stenomus* was placed (in fact it is the type species). Jayaram differentiated the two subgenera on the basis of differences in the snout shape and length, and mouth placement. Mo (1991) elevated *Pseudomystus* to full generic status, thus making the name correct name *Pseudomystus stenomus*, and gave more detailed characteristics of both genera.

In numerous works Ng makes it clear that a revision of *Pseudomystus* and *Leiocassis* is required. Certainly *Leiocassis robustus* Inger & Chin, 1959 appears to have very large and broad post-temporal when compared to other *Leiocassis*, and further study of it may show other differences.

My (1999) doubts about the identity and zoogeography of *P. stenomus*, and my findings outlined above on the matter have led me to have my own basic view on *Pseudomystus* as a genus. I too am not convinced that all species currently placed in *Pseudomystus* belong there. As far back as 1968 Jayaram recognised species complexes within *Pseudomystus*, and these have also been mentioned by Ng and co-authors. Below I have listed species in what I consider to represent morphological groups/complexes. It is my opinion that one or all of the groups represent new genera or perhaps subgenera. Further work is required though and this is best left to professional workers such as Ng & Lim, who specialise in this family.

<u>*Pseudomystus* sensu stricto – *stenomus* complex</u>

Post-temporal visible, free from post-cleithral process, and not prominent/thickened, small post-temporal process present – see Fig. 8.

Pseudomystus stenomus (Valenciennes, 1840)

Pseudomystus breviceps (Regan, 1913)

P. sp. Batang Hari

P. sp. Karawang

<u>Undescribed genus 1 – *siamensis* complex</u>

Post-temporal not readily visible, reduced, procurrent with dorso-basal edge of post-cleithral process, post-temporal process absent – see Fig. 9. (Additional evidence, although not a defining character, is that all these species are confined to the mainland).

Liocassis siamensis Regan, 1913

Pseudomystus bomboides Kottelat, 2000

Leiocassis bicolor Fowler, 1934

Leiocassis albicollaris Fowler, 1934

Pseudomystus sobrinus Ng & Freyhof, 2005

Leiocassis stenomus nec Valenciennes, Smith, 1945 – sp. 'Chanthaburi' / sp. 'Smith'

<u>Undescribed genus 2 – *mahakamensis* complex</u>

As diagnosed by Ng & Siebert (2005:3).

Leiocassis mahakamensis Vaillant, 1902

Pseudomystus stenogrammus Ng & Siebert, 2005

<u>Undescribed genus 3 – *moeschii* complex</u>

Post-temporal visible, prominent/thickened, post-temporal process absent – see Fig. 10; nuchal shield large, usually rounded, acorn shaped – see Fig. 11, and compare with Fig. 2; prominent procurrent caudal fin rays.

Liocassis rugosus Regan, 1913

Liocassis vaillanti Regan, 1913

Liocassis moeschii Boulenger, 1890

Pseudomystus fumosus Ng & Lim, 2005

Pseudomystus carnosus Ng & Lim, 2005

Liocassis inornatus Boulenger, 1894

Leiocassis myersi Roberts, 1989

Pseudomystus flavipinnis Ng & Rachmatika, 1999

Leiocassis leiacanthus Weber & de Beaufort, 1912

Pseudomystus heokhuii Kim & Ng, 2008

P. sp. aff. *heokhuii* – Kalimantan Tengah, Borneo.

Other specimens used

Leiocassis albicollaris. ANSP 60178 (holotype), 80 mm SL, Bangkok, Thailand.

L. bicolor. ANSP 59284 (holotype), 41.5 mm SL, Chieng Mai [or Mae Nam Ping], northern Thailand.

Pseudomystus breviceps. BMNH 1889.11.12.64-65 (2 of 3 syntypes), 1 male – 75.8 mm SL, 1 female – 67.9 mm SL, of Deli [River], Sumatra, Indonesia.

P. flavipinnis. MNHN 1891-0475 (1 paratype), 75.1 mm SL, Borneo, Kenepai.

P. flavipinnis?. MNHN 1903-0187, 35.2 mm SL, Sintang, Kalimantan, Indonesia.

P. inornatus. BMNH 1893.3.6.179 (holotype), 118.3 mm SL, Senah, Sarawak state, Borneo, East Malaysia.

P. leiacanthus. ZMA 112671 (syntype), 43.3 mm SL, Indragiri [Kwantan] River, Ringat and Taluk, Sumatra, Indonesia; USNM 101263, 34 mm SL, Malay Peninsula: Outlet of Lake Chin Chin, Jasin, Malacca, Malaysia.

P. moeschii. BMNH 1889.11.12.66 (lectotype), 71.0 mm SL, Deli [= Medan] River, Sumatra, Indonesia.

P. myersi. MZB 3588 (holotype), 71.2 mm SL, Indonesia, Kapuas River, Kalimantan Barat; CAS 49375 (1 paratype), 46.8 mm SL; USNM 230280 (1 paratype), 44.8 mm SL; MNHN 1982-0703 (1 paratype), 44.6 mm SL; all same locality as holotype.

P. rugosus. BMNH 1893.3.6.172 (holotype), 101.5 mm SL, Puh [Poeh], Sarawak, Borneo.

P. siamensis. BMNH 1897.10.8.126 (holotype), 76.5 mm SL, Bangpakong River, Chao Phraya basin, Thailand, MNHN 1963-0145, 41 mm SL, Endau River, Johor, Peninsular Malaysia.

P. sp. aff. *leiacanthus*. RMNH 15969 (4 of 7), 21.4 – 35.7 mm SL, Krawang [Karawang], Java.

L. sp. 'Smith'. USNM 109592, 65.8 mm SL, Chanthaburi River, South-eastern Thailand.

P. sp. 'Karawang'. RMNH 15969 (3 of 7), 32.8 – 38.7 mm SL, Karawang, Java.

P. sp. 'Batang Hari'. ZMA 121.531 (3 specimens), 45.9 – 58.6 mm SL, Batang Hari drainage, Sumatra.

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Figure 1 – *Pseudomystus stenomus*, RMNH 2986, holotype, 71.6 mm SL; Java.

Image courtesy and copyright of RMNH

Figure 2 – *Pseudomystus stenomus*, RMNH 2986, holotype, 71.6 mm SL; Java.

Image courtesy and copyright of RMNH

Figure 3 – *Leiocassis ellenriederii*, BMNH 1863.12.4.156, probable syntype, 82 mm SL. Image

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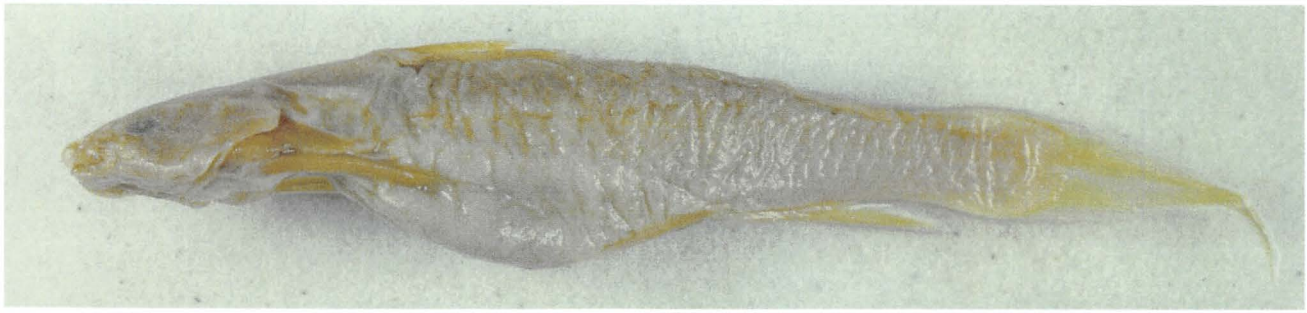


Figure 4 - *Leiocassis ellenriederii*, RMNH 6874, probable syntype, 77 mm SL, female.
Image courtesy and copyright of RMNH

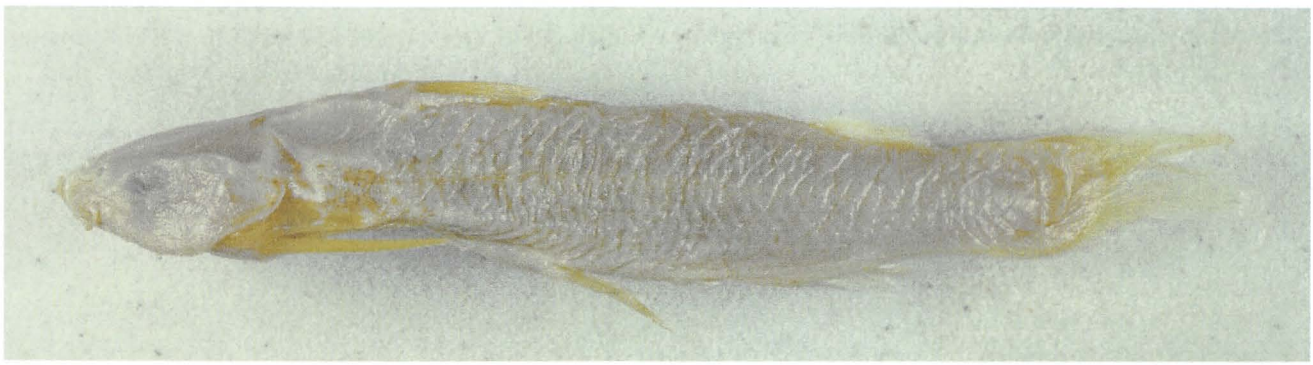


Figure 5 - *Leiocassis ellenriederii*, RMNH 6874, probable syntype, 80 mm SL, male.
Image courtesy and copyright of RMNH

Figure 6 - *'Leiocassis' stenomus* nec Valenciennes, male. Image by Steve Grant

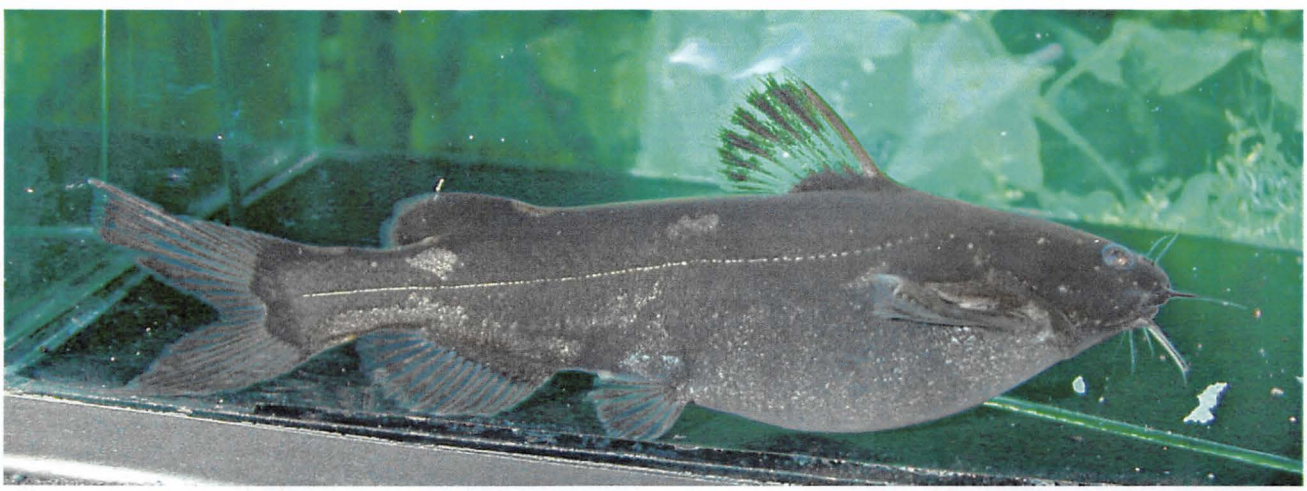


Figure 7 – *'Leiocassis' stenomus* nec Valenciennes, Smith, 1945 / sp. 'Chanthaburi' / sp. 'Smith', female.
Image by Steve Grant

Figure 8 - *Pseudomystus stenomus*, RMNH 2986, holotype. Showing post-temporal and small post-temporal process. Image courtesy and copyright of RMNH

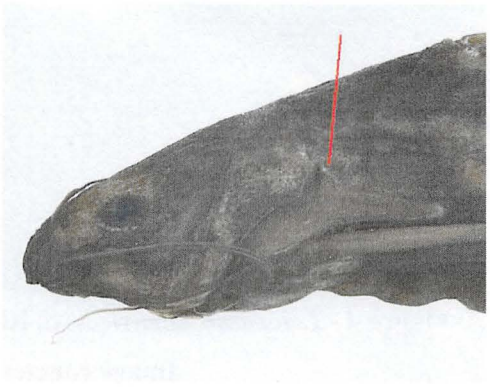


Figure 9 - *'Leiocassis' stenomus* nec Valenciennes, Smith, 1945, USNM 109592, 65.8 mm SL. Showing reduced post-temporal. Image courtesy and copyright of USNM.

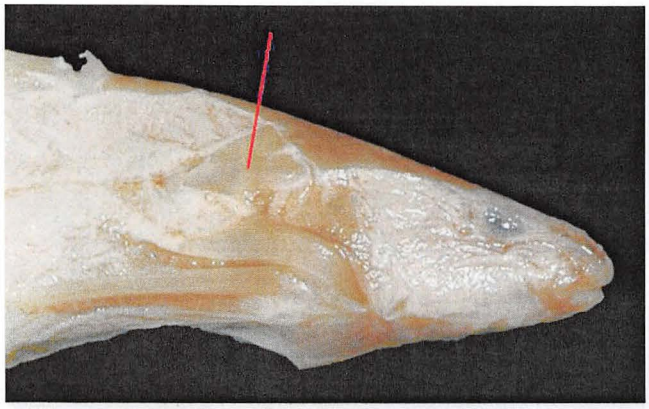


Figure 10 – *Pseudomystus moeschii*, lectotype, BMNH 1889.11.12.66, 71 mm SL. Showing prominent post-temporal. Image by and copyright of Mark Allen.

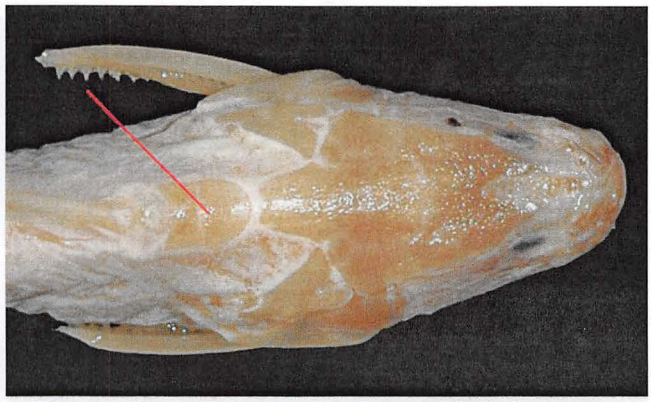


Figure 11 - *Pseudomystus moeschii*, lectotype, BMNH 1889.11.12.66. Showing acorn shaped nuchal shield. Image by and copyright of Mark Allen.

What's New - March 2009

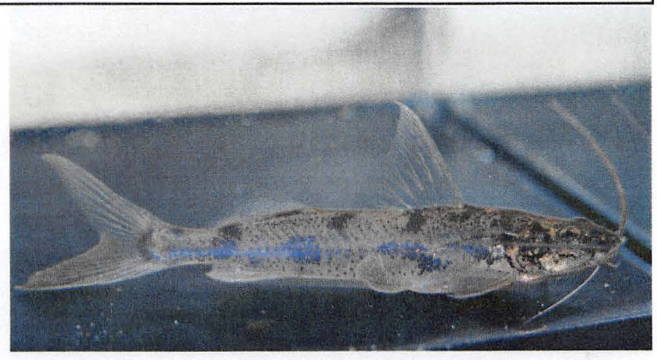
Mark Walters

This article presents sightings of newly available (or reappearing) species and abstracts for five recently published scientific papers for which further details are available.

Catfish sightings: Following on from the list of not-usual or new species available in the hobby, the following have been sighted: *Imparfinis cf. pseudonemacheir* , *Corydoras melini, C. imitator, Aspidoras pauciradiatus, Corydoras gracilis, Corydoras tukano, Entomocorus benjamini, Scleromystax cf. Lacerdai*

Brief details are given for the following selected scientific papers:

Sabaj, MH, DC Taphorn and OE Catillo G (2008) Two new species of thornycats, from the genus *Rhinodoras* have been described. The descriptions of *R. armbrusteri* and *R. gallagheri* bring the total number of *Rhinodoras* to five, with R. *thomersoni, R. boehlkei* and *R. dorbignyi*. The two new species have he common names of dirty thicklip-thornycat and Orinoco thicklip-thorny cat.



Imparfinis cf. pseudonemacheir

Rhinodoras is a genus of doradid catfishes distinguished by a combination of coloration and lip morphology. There are some excellent photographs which can be viewed in the description.

Almirón, A, J Casciotta, J Bechara, FR Díaz, C Bruno, S D'Ambrosio, P Solimano and P Soneira (2007) Following the sightings of *Imparfinis* in the hobby, brief details of a new species to the genus seems appropriate. The genus is a member of the Heptapteridae, which also contains the more commonly available *Brachyrhamdia* species. *I. mishky*

is described from The new species is known from the Paraná and Uruguay river drainages in Corrientes province, northeastern Argentina, and has been collected from the edges of swift-flowing rivers.
In some of the rivers where the fish were caught, the authors write, "...the bottom was generally sandy with variable content of gravel and silt..." while in another habitat, cobble predominated. The pH of the habitats was around 6.6–7.4, and dissolved oxygen concentrations were high (slightly below saturation or supersaturated). The collection locality would indicate that this species would be suited to cooler conditions than other members of the genus, if ever available to fish-keepers.

Armbruster, JW and DC Taphorn (2008) A new species of *Pseudancistrus* has been described from the Río Caroní, Venezuela. *P. reus* is named after its barred colour pattern and is only known from two specimens collected from the Caroní River (part of the Orinoco River drainage). The authors describe how the new species, P. reus, could be under threat from a recently-constructed dam that has already flooded its type locality. At the time of capture, the water conditions of the type locality were: "...water tea-colored, low conductivity, moderate current, pH 6.6, temperature 28°C".

Reis, RE and TAK Borges, (2006) The South American catfish genus *Entomocorus* is reviewed in this paper, with the description of a new species from the Paraguay River basin.

The genus *Entomocorus*, woodcats from the family Auchenipteridae, now includes four species widely distributed in lowland cis-Andean South America. *E. benjamini* is found in the Madeira River, *E. gameroi* occurs in the Orinoco River, *E. melaphareus* is from the lower Amazon River, and a previously undescribed species, *E. radiosus*, inhabits the upper Paraguay River. *E. radiosus* is diagnosed by the unique combination of a long anal-fin base, 18–22 branched anal-fin rays, unpigmented pectoral and pelvic fins, and caudal fin hyaline, with distal half of dorsal and ventral lobes pigmented with black. All four species are diagnosed and illustrated, and a key to species is provided.

Kong De Ping, Chen Xiao Yong and Yang Jun Xing (2008) have named two new species of Sisorid catfish from the genus *Oreoglanis*. *O. jingdongensis* and *O. immaculatus*. The catfishes were discovered in the Mekong and Salween River basins in Yunnan Province, China, and reach a size of around 10-11cm. *O. jingdongensis* is known only from the upper Mengpian River, a tributary of the Mekong River, in Jingdong County, Yunnan. It is a riverine species with a long slender body, and broad flattened head, which allow it to hug the bottom in fast-moving water. *O. immaculatus* was discovered during the examination of specimens of *Oreoglanis delacouri* from the upper Salween in Yunnan.

The *Oreoglanis* genus is part of the family Sisoridae, and contains around 10 species

If you have any sightings you would like to share or would like to track down a paper featured, contact me for the full reference: mark.walters100@yahoo.com. Acknowledgement is made to Planet Catfish, Practical Fishkeeping and the All Catfish Species Inventory (ACSI) database for the original source of information on papers.

Fishes of the genus *Platydoras* Bleeker, 1862

Steve Grant

Up until recently, most hobbyists considered the Striped Raphael Catfish / Dora as being *Platydoras costatus* (Linnaeus, 1758). However, Piorski et al (2008) brought to aquarists' attention that the fish that is usually found in the hobby is actually *Platydoras armatulus* (Valenciennes, 1840); their work also discussed some other species of *Platydoras* (one new). An unfortunate side effect of Piorski et al's paper is that most hobbyist and even specialist catfish sites are now mislabelling a / some species of *Amblydoras* Bleeker, 1862 as *Platydoras hancockii* (Valenciennes, 1840). Hopefully this short article will rectify this.

Platydoras costatus (Linnaeus, 1758)

Possible junior synonyms:

? *Doras dentatus* Kner, 1855 - (Fig. 1)

? *Doras helicophilus* Günther, 1868 - (Fig. 2)

This species was described on the basis of the earlier (pre Linnaean) account in Gronow (1756) which showed a specimen without the midlateral light stripe which is present in the Striped Dora in the hobby (see Piorski et al, 2008 for a full discussion). Therefore the true *P. costatus* does not have the pale midlateral stripe. See Sands (1985: 38b) for a picture of a live specimen of what is possibly *P. costatus*, although the midlateral scutes may be too deep to tie in with the key in Piorski et al (2008)? The midlateral scutes in the syntypes of *Doras helicophilus* (Fig. 2) are relatively deep, as are the ones in Sands (1985), but in the syntypes of *D. helicophilus* the dorsal fin spine appears to be relatively short, which doesn't appear to be the case in the picture in Sands.

Le Bail et al (2000:51) show a specimen labelled as *Platydoras dentatus* (Kner, 1855). If this identification is correct then *P. dentatus* may well be valid. They show a specimen which is greyer in colour than the darker, blacker *P. costatus* (although it could be a faded *P. costatus* or *P. hancockii*), and it has a relatively longer dorsal fin spine than *P. helicophilus*. However, the relatively shorter dorsal fin spine, and wider post cleithral process and posttemporal supracleithrum in the syntpes of *D. helicophilus*, when

compared to the holotype of *D. dentatus* (Fig. 1), may be due to the much larger size of the former.

Platydoras brachylecis Piorski et al, 2008 - (Fig. 3)

This species differs from *P. costatus* by the presence of the pale midlateral stripe, and from *P. hancockii* by the absence of black melanophores on the midlateral scutes. See under *P. armatulus* for differences between the two species.

Platydoras armatulus (Valenciennes, 1840) – (Fig. 4)

This is the fish we normally see in the hobby. When I first saw the holotype (Fig. 4) I thought it had armour plating along the ridge of the back, but I think they are actually the neural spines that are showing due to the poor condition of the specimen.

It differs from *P. costatus* and *P. hancockii* by the same differences as does *P. brachylecis*. It differs from *P. brachylecis* by having deeper midlateral scutes, and the midlateral scutes on the caudal peduncle are usually in contact with or overlapping the small plates that are present on the upper and lower ridges of the caudal peduncle (in *P. brachylecis* there are gaps).

Platydoras hancockii (Valenciennes, 1840) – (Fig. 5)

Now that the identity of *P. armatulus* has been resolved, we know find that what we used to call *Amblydoras hancockii* (Valenciennes, 1840) in the hobby is now being labelled as *Platydoras hancockii* (Valenciennes, 1840). Now it is correct that the species described as *Doras hancockii* by Valenciennes in 1840, is a species of *Platydoras* – see image of the holotype which is clearly a *Platydoras*. However, the fish in the hobby and in hobbyist (and many scientific) books that were labelled as *Amblydoras hancockii*, are not actually the species described by Valenciennes. As you can see from the image of the holotype of *P. hancockii* (Fig. 5), and from the description of its colour and pattern in Piorski et al (2008), *P. hancockii* is a dark bodied, blackish fish, with pale midlateral band, and some black melanophores on the pale band, which is not the case for the fish in the hobby. Le Bail et al (2000:49) shows a live specimen labelled as *P. costatus*; however this has the hooks on the midlateral body plates with black melanophores, and a dirty pale band along them, so this is possibly *P. hancockii*. Also, the locality data in Le Bail et al (2000:48-49) ties in with the distribution markers in Piorski et al (2008).

The fish formally named in the hobby as *Amblydoras hancockii* (see Figs. 6-8) are actually 3 or more different species, and are not members of the genus *Platydoras*. For a start they do not have the right colour and pattern (as discussed above). As far as I am aware the main difference between *Amblydoras* and *Platydoras* is that the former only has one chamber to the swimbladder, the latter has two (Eigenmann, 1925). Obviously this character cannot be used in live specimens, but I have noticed an external morphological difference between *Amblydoras* and *Platydoras*. In *Amblydoras* the opercle is usually depressed and smooth (Fig. 9), whereas in *Platydoras* it is not depressed and it has visible striate grooves (Fig. 10). Using these characters and the descriptions of *Amblydoras* species, it is obvious that the fish in the hobby formally included in *Amblydoras* and now relabelled as *Platydoras* are actually members of *Amblydoras*. All fish that were labelled on hobby sites as *Amblydoras hancockii* and are now labelled as *Platydoras hancockii* should be relabelled as *Amblydoras* species. As to which *Amblydoras* species they are is not easy to say at this point; *Amblydoras* is badly in need of revision. As stated above there are at least 3 species in the hobby, but based on descriptions and localities it is possible that the ones we see are a combination of *Amblydoras monitor* (Cope, 1872), *Amblydoras gonzalezi* (Fernandes -Yepez, 1968), *Amblydoras bolivarensis* (Fernandes -Yepez, 1968), and *Amblydoras affinis* (Kner, 1855).

Acknowledgements

Thanks to Mark Allen for permission to use his image of the holotype of *Platydoras hancockii* and syntypes of *Doras helicophilus*; to Mark Henry Sabaj Perez for permission to use the image of the holotype of *Doras dentatus*; to Mariangeles Arce for permission to use the image of *Platydoras brachylecis*.

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Figure 1 - Holotype of *Doras dentatus*, NMW 46869. Image copyright of Mark Sabaj Perez and Kyle Luckenbill.

Figure 2 - Syntype of *Doras helicophilus*, BMNH 1866.8.19.1-3. Image by and copyright of Mark Allen.

Figure 3 - Holotype of *Platydoras brachylecis*, MZUSP 43593. Image by and copyright of Mariangeles Arce.

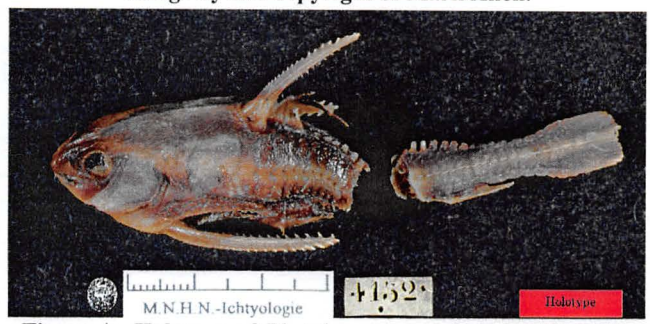

Figure 4 - Holotype of *Platydoras armatulus*, MNHN 0000-4152. Image by and copyright of Melyne Hautecoeur.

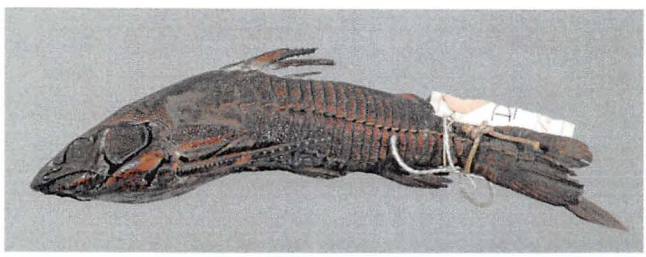

Figure 5 - Holotype of *Platydoras hancockii*, BMNH 1857.6.13.163. Image by and copyright of Mark Allen.

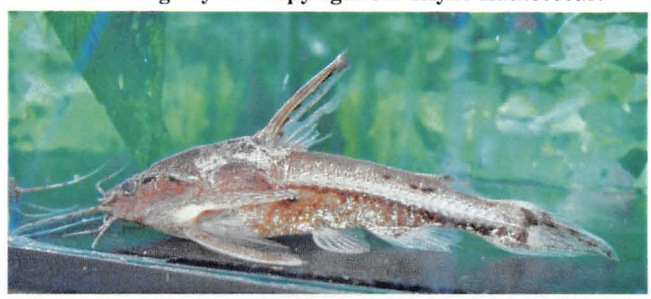

Figure 6 - *Amblydoras monitor* ? Image by and copyright of Steve Grant.

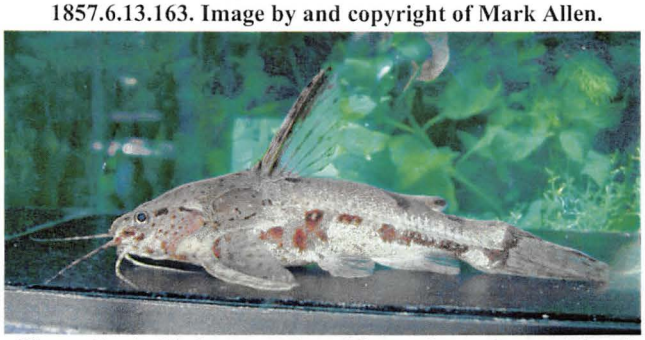

Figure 7 - *Amblydoras nauticus* ? Image by and copyright of Steve Grant.

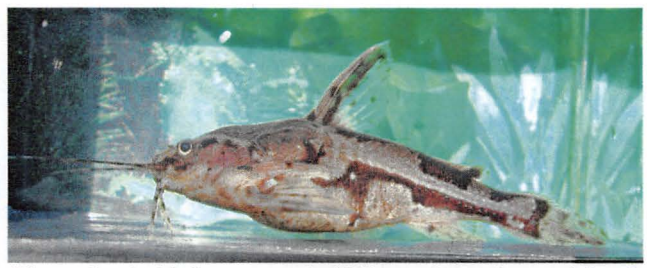

Figure 8 - *Amblydoras gonzalezi* ? Image by and copyright of Steve Grant.

Figure 9 -*Amblydoras* depressed opercle. Image by and copyright of Steve Grant.

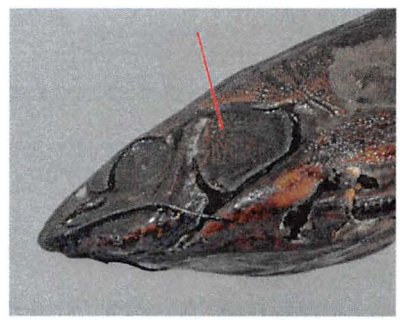

Figure 10 - *Platydoras* prominent striated opercle. Image by and copyright of Mark Allen.

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2009

April 19th	BAP Reports and Discussion
May 17th	Catfish Health
June 21st	Catfish Habitats
July 19th	Migration in Catfish
August 16th	Setting Up a Catfish Aquarium
September 20th	Annual Show and Auction
October 18th	Plants for the Catfish Aquarium
November 15th	Autumn Auction (Pre booking Roy Barton 01942 248130)
December 13th	Christmas meeting - not to be missed :-)

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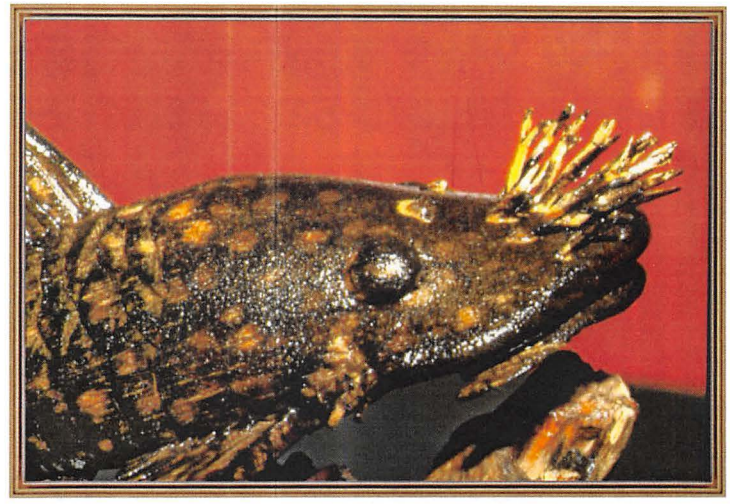

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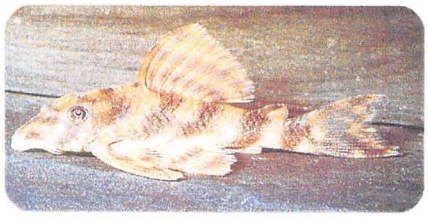

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