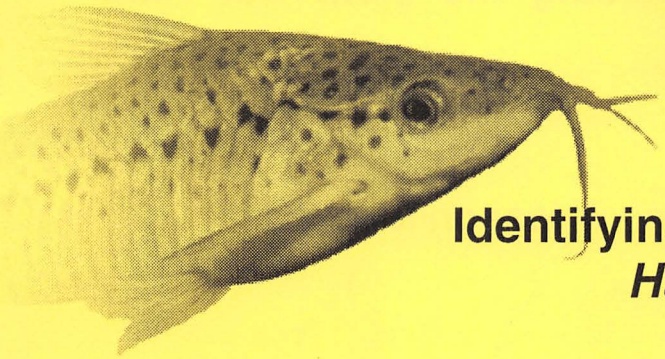
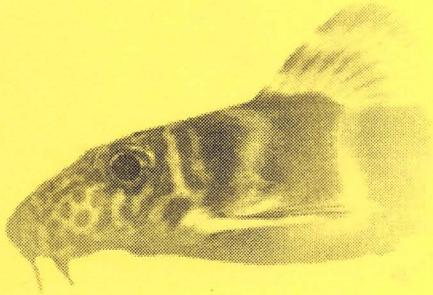
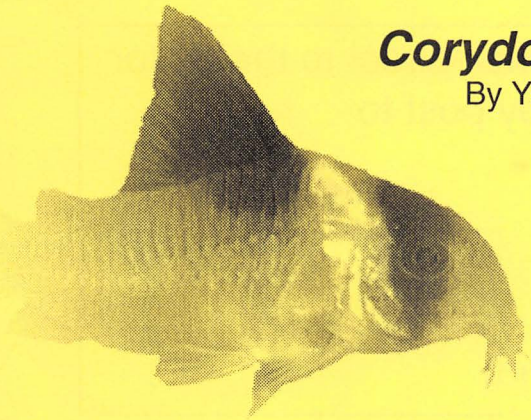
CAT CHAT

The Journal of the Catfish Study Group (UK)

In this issue







Volume 4 Issue Number 2
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From the Chair

Welcome to this the second issue of this year's Cat Chat.

I hope you are enjoying what we are putting in it. I know I have said this before and will, without a doubt, say it again but if there is any thing at all that you would like to see in the magazine, or indeed something that you do not like about it please let us know. It is important for us to know how you feel about what we are providing.

March: Our traditional Spring Auction proved to be equally as successful as the Convention. In fact it was one of the most successful auctions we have had for some time. I just love to see the room packed full of people desperate to part with loads of money.

April: Unfortunately I was unable to attend this meeting due to the effects of a bug picked up on the flight back from New York. The day's programme consisted of three films of Amazonian expeditions which showed habitats, fish and some very interesting fish activity.

May: 'A Visit to Venezuela' presentation given by Membership Secretary, Julian Dignall. The talk, with the aid of some excellent slides, showed many of the different habitats he and fellow member and Cat Chat contributor, Shane Linder, explored and the various methods and equipment used to catch fish.

Till next time, happy Catfish keeping.
Ian Fuller

An Update for - A pictorial guide to Microsynodontis catfish

By Steven Grant

Further to my article which appeared in Volume 3 Issue 3 of Cat Chat, Heok Hee Ng had originally changed my 1999 identification of the 'Nyong syno' as Microsynodontis batesii to what he said was an undescribed species (captioned as Microsynodontis sp. 'Gabon' or sp. 'Nyong' in the article).

Heok Hee has since altered his opinion and has reverted back to my original identification which I had made in 1999. Therefore the fish captioned as Microsynodontis sp. 'Gabon' or sp. 'Nyong' (on page 9) should be regarded as the true Microsynodontis batesii.

The fish captioned as Microsynodontis batesii in the article (on page 7) should now be regarded as representing Microsynodontis christyi.

Sorry for any confusion caused!

Information Sheets

A number of members have asked for back issues of the Information Sheets.

In response to this, it has been decided to compile a book of the first 36 Sheets.

The Information Sheets will be identical to those currently issued, with colour pictures and line drawings but they will be loose-leaf in a ring binder.

Prices have not been finalised but it is anticipated to be in the region of £10.00.

Further details of how to order your copy will be in the next issue of Cat Chat.

The identity of Moth Cats of the genera *Hara* Blyth, 1860 and *Erethistes* Müller & Troschel, 1849 (Pisces: Siluriformes: Erethistidae)

By Steven Grant

Species of the above genera can be found from time to time in aquatic shops and on the show bench, but the identity of some of them is sometimes unclear. Hopefully this article, which is a shortened and updated version of Grant (1999a), should act as a guide for their identification.

Firstly, why are they sometimes called moth cats? Their resemblance to moths was first noted by Hamilton in 1822 when he described *Hara hara*, when he remarked on the colour and pattern of the fins being similar to that of the wings of certain moths. They are also sometimes called anchor cats due to their shape when viewed from above, but this is more appropriate for *Hara jerdoni*.

Familial placement

For many years they were included in the family Sisoridae but de Pinna (1996) re-established the family Erethistidae (first established by Bleeker in 1862), and moved the following into it:

Erethistes Müller & Troschel, 1849
Hara Blyth, 1860
Erethistoides Hora, 1950
Laguvia Hora, 1921
Pseudolaguvia Misra, 1976
Conta Hora, 1950

Until my 1999a work was published most aquarists will have known them as sisorids, but they should be known as erethistids. Some ichthyologists still include them in Sisoridae but de Pinna's thorough work shows that Erethistidae is warranted. In fact his work showed that the erethistids are physically more closely related to the banjo cats of the family Aspredinidae than they are Sisoridae. If one looks at the texture of erethistid skin, and the fact that it is shed; and also how they propel themselves through the water (by jet propulsion using an intake of water into their mouths then out of the gills, and also using the ventral fins as 'feet' to push forward), you can see why de Pinna's hypothesis is correct as these features are mirrored in aspredinids. He further divided Erethistidae into two subfamilies: Erethistinae for the first five listed above, and he erected a new subfamily – Continae - for the last genus.

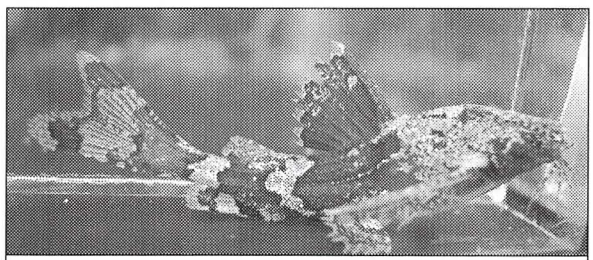
Identification and validity of the genera

You can separate *Conta*, *Laguvia* and *Pseudolaguvia* from the other three genera as the former have an adhesive apparatus on their abdomen, which looks like small corrugations. *Erethistoides* are much more laterally compressed than *Hara* and *Erethistes*. Also, the serrations on the outer edge of the pectoral fin spines in *Erethistoides* differ from *Hara* and *Erethistes*. In *Erethistoides* they point towards the base of the spine on the basal half, then they point towards the tip on the distal half. In *Hara*, the serrations on the outer edge of the pectoral fin spine all point towards the tip, whereas in the type species of *Erethistes* they are arranged in pairs of divergent denticles, one pointing towards the base the next towards the tip and so on. To see the formation of the serrations in live fish you need to turn the fish on its back and hold it to the light.

Hara has and sometimes still is considered to be a junior synonym of *Erethistes*. De Pinna did not list any features (except the above differences in pectoral fin spine serrations) that differed between *Hara* and *Erethistes*, out of the 112 physical internal and external structural characters that he used for comparative purposes. So in essence the only difference between two is the pectoral fin spine serration formation. Is this enough to warrant separate genera? We will have to see but for now they are classed as separate genera.

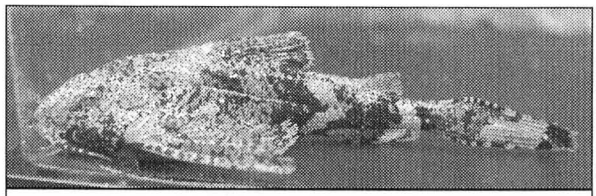
The species

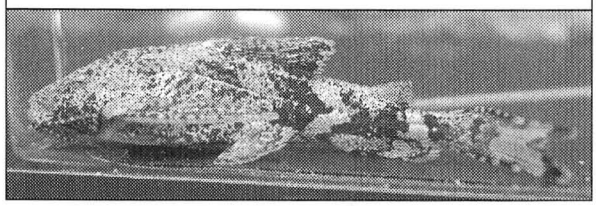
Erethistes pusillus (Müller & Troschel, 1849) – type locality Assam



Erethistes pusillus *Image by Steven Grant*

Sometimes spelled *pussilus* and the date quoted as 1845 in some publications. This fish is extremely similar in external appearance to some of the Hara species (especially *Hara* sp. 1), and can only really be told apart by the generic differences mentioned above.





Images by Steven Grant

Size is usually given as 5cm but this appears to be Total Length, therefore 4cm Standard Length is more likely.

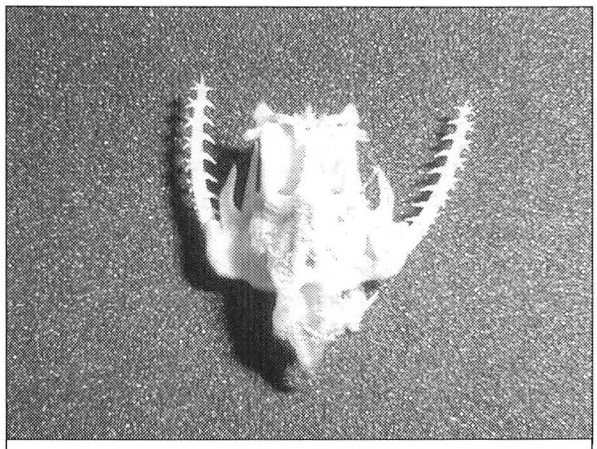
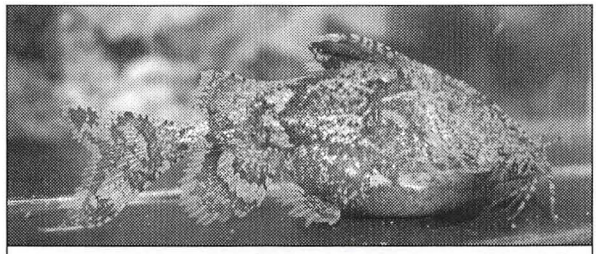


Image by DMA Wright.

Hara hara (Hamilton, 1822) – type locality Kosi River

Uneeded replacement name: *Hara buchanani* Blyth, 1860.



Hara hara *Image by Steven Grant*

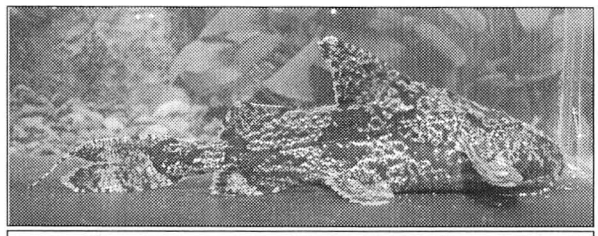
Questionable junior synonym: *Hara saharsai* Srivastava & Datta Munshi, 1988 – Kosi Belt, North `Bihar, India.

H. hara will reach at least 7cm SL, and can easily be differentiated from the other Hara species by looking at the shape of the caudal fin. In H. hara it is more crescentic/lunate, with the lobes being long and pointed, whereas in the others it is more forked and the lobes don't appear as proportionately long.

The specimen in my photo is unusually fat and gives the wrong impression of the body shape. Also the tip of the top lobe of its caudal fin is missing.

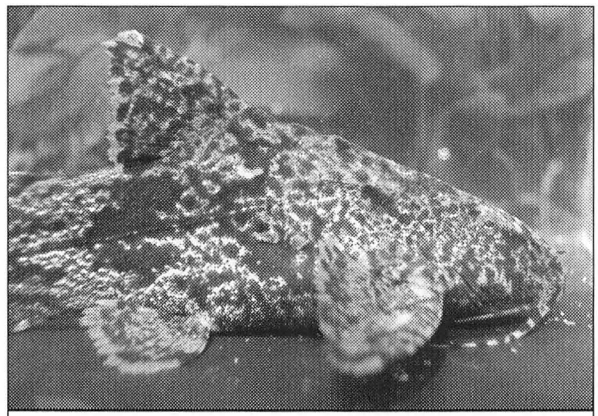
H. saharsai was differentiated from H. hara by the larger length of the pectoral fin spine in relation to the head length The type specimens were only small and this may account for this difference. It has been classed as a junior synonym of H. hara but it if the type specimens are re-examined in greater detail, further comparisons may be made and therefore in the future it may prove to be valid. See under Hara sp. 1.

Hara filamentosa Blyth, 1860 – type locality Tennasserim.

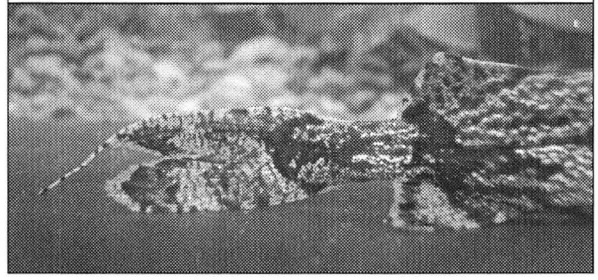


Hara filamentosa Image by Steven Grant

This species has been and still is sometimes considered to be a junior synonym of H. hara. This was/is mainly due to the fact that H. hara can sometimes have a small extension on the tip of the lobes of the caudal fin and this has led ichthyologists into considering the presence of the filamentous tip to be insufficient to warrant a separate species. However, I feel this is perhaps due to studying incorrectly identified, non type specimens of H. filamentosa.



Hara filmentosa Images by Steven Grant

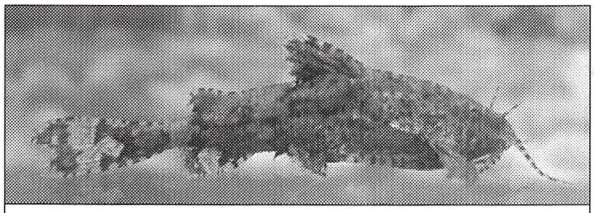


If one looks at the image of what I consider to be the true H. filamentosa, you will automatically see the differences in the shape of the adipose fin, and also in the prominence and structure of the humeral and cubito-humeral process (the series of bones which lie along the body after the insertion of the pectoral fin spine).

I have only ever seen one lot of the true H. filamentosa for sale and as such they appear to be more rare in the hobby than H. hara. This may be due to the fact that they originate from Myanmar (Burma).

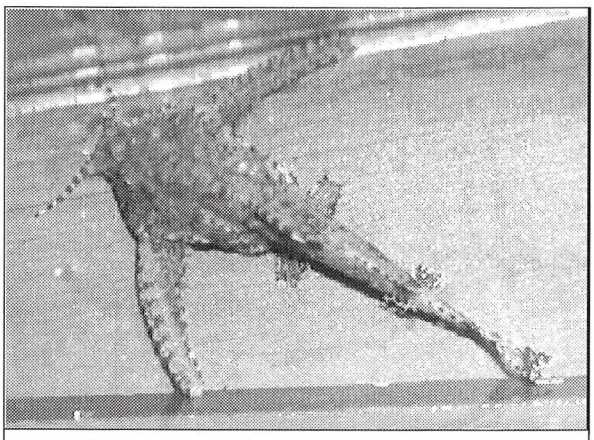
They will reach at least 7cm SL.

Hara jerdoni Day, 1870 – type locality Sylhet District, Bangladesh



Hara jerdoni Image by Steven Grant

This is the Anchor Cat. It's the smallest known species, only reaching to around 2.5 – 3.0cm SL. It can easily be differentiated from the others by the proportionately long pectoral fin spines, and the fact that the posterior process of the coracoid* extends almost to the ventral fin insertion.

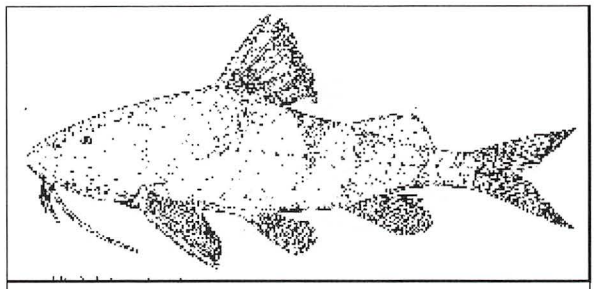


Hara jerdoni by DMA Wright.

*appears as a line of bone extending from the pectoral girdle area, running horizontally along the ventral half of the body.

Hara serratus Vishwanath & Kosygin, 2000 – type locality Jiri River at Jiribam, Manipur, India

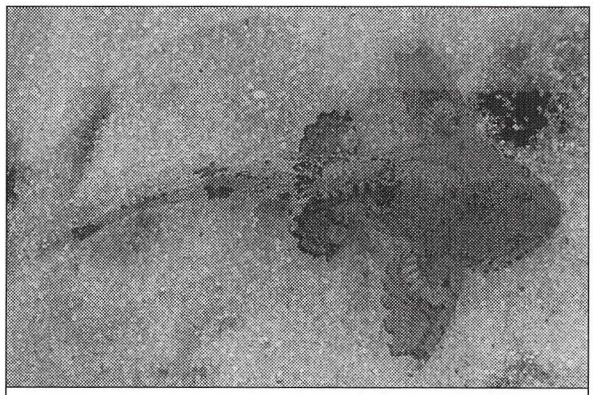
This recently described species is also present in the



Original line drawing of H serratus

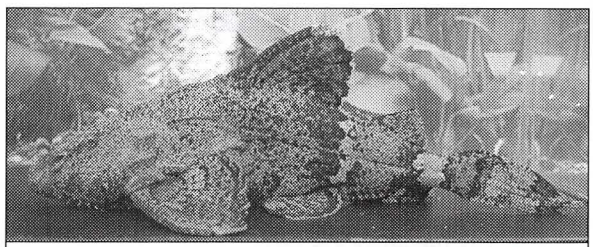
Barak River at Sekjang, Tuifai, Manipur. Only three specimens were used in the description, the largest being 6.14cm Standard Length. It can be separated from all other species of Hara by the fact that the anterior (front) edge of the dorsal fin spine has serrations, whereas in all the other species it is not serrated. In this species the posterior processes of the coracoids are very short, as in H. hara.

Hara horai Misra, 1976 – type locality Terai & Duars, North Bengal

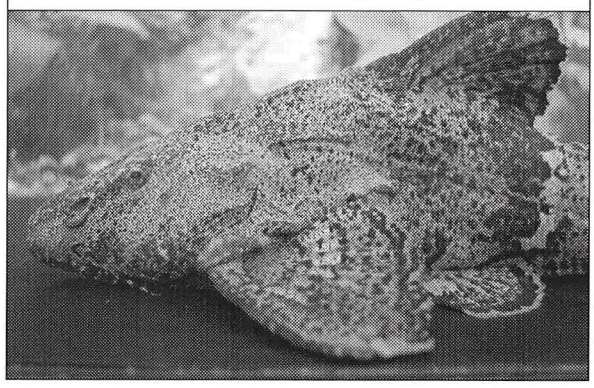


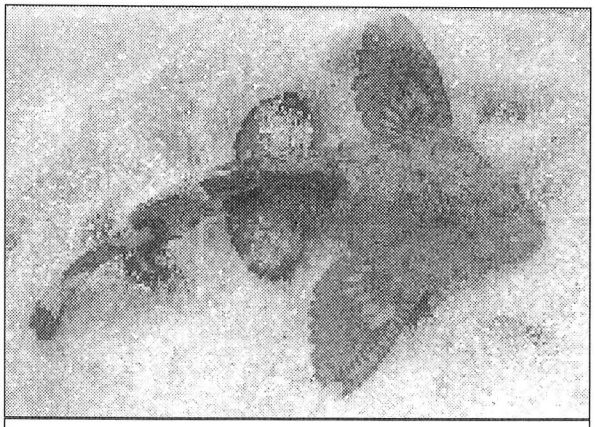
Hara horai female Image by DMA Wright

This is probably the largest of all the known species,



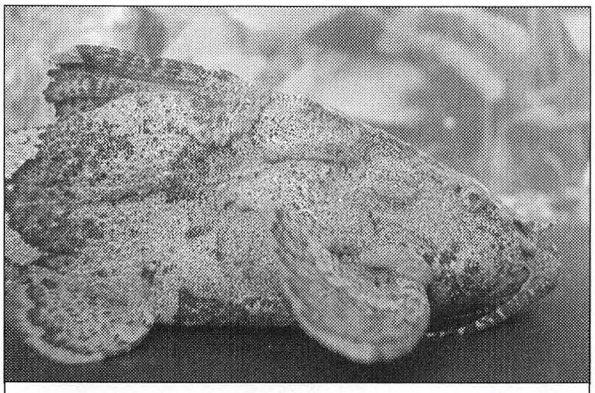
Hara horai female Images by Steven Grant



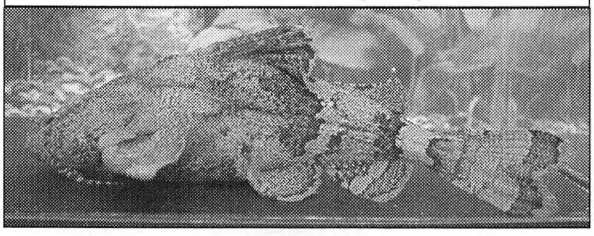


Hara horai male Image by DMA Wright

reaching at least 8.5 cm SL. It can be easily differentiated from the others by the shape of the adipose fin, being high and triangular in shape. It is also posteriorly free from the body.



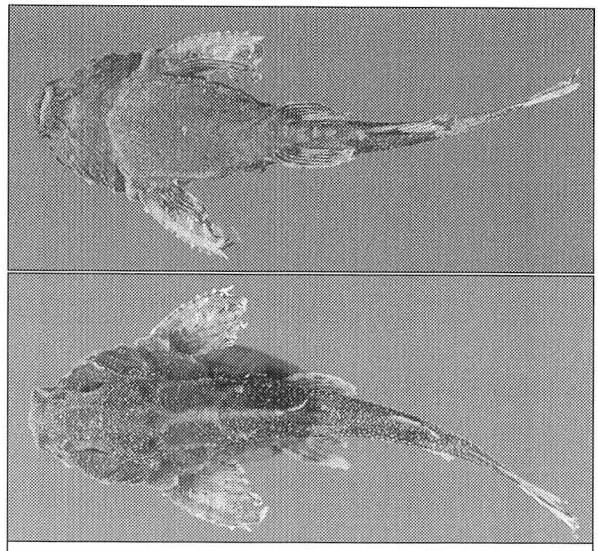
Hara horai male Images by Steven Grant



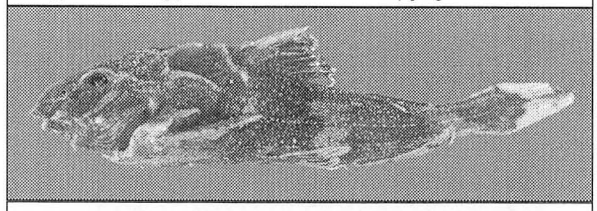
I erroneously captioned this as Hara sp. "A. P." in my 1999a work.

Hara maesotensis (Kottelat, 1983) – type locality Mae Nam Moei (tributary of the Salween River), 5km W of Mae Sot, Tak Province, Thailand

This species was originally described in the genus Erethistes due to the uncertainty of the validity of the genus Hara, and also because the character of the denticles on the outer edge of the pectoral fin spine do not exactly match that of the type species of Erethistes nor that of the species of Hara. In H. maesotensis they cannot really be called serrations, but are denticles that are not uniform in their size or shape. The serrations on the inner edge of the pectoral fin spine are few and are proportionately very large in



Images of holotype MHNG 2096.63. Copyright of MHNG



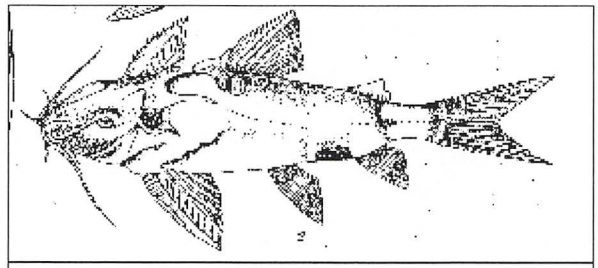
the adipose fin is folded onto the body. The fin is long, low and posteriorly free from the body and pointed posteriorly.

comparison to all the other species. I moved this species to Hara in my 1999a work.

The largest of the three specimens found is 2.17cm SL.

Please note that on the images of the holotype, the adipose fin is folded against the body. The adipose fin is long, low and is pointed and free from the body posteriorly.

Hara aspera (McClelland, 1844) – type locality Chusan, China



Original drawing

This species was originally described as Pimelodus asperus, and since then over the years it has been included in Hara (which changes the species name asperus to aspera), Erethistes, and Laguvia. Its inclusion in the genus Laguvia by Hora when erecting the genus Laguvia, is based on the use of

misidentified specimens by Chaudhuri (1919) and subsequently Hora, of specimens from Upper Myanmar, which I consider to represent Pseudolaguvia tuberculatus (Prashad & Mukerji, 1929). This has caused further problems as it appears that Jordan in 1923 designated the type species of Laguvia as Pimelodus asperus, but again basing this on and perpetuating the misidentifications made by Chaudhuri and Hora. The reason this is a problem is that aspera / asperus is not, in my opinion a member of Laguvia and the species inadvertently used by Chaudhuri and Hora: tuberculatus is the type species of the valid genus Pseudolaguvia. I feel that Hora based the erection of Laguvia primarily on the characters of Laguvia ribeiroi Hora, 1921 and that this species should be fixed by the International Commission on Zoological Nomenclature, or by an ichthyologist, as the type species of Laguvia.

In my 1999a work I placed the species in *Hara*, based on the fact that no adhesive thoracic apparatus was mentioned by McClelland; by the nature of the strong, laterally compressed pectoral fin spines; the strong dorsal fin spine; the comparatively large and long cubito-humeral process; the 'normal' nature of the operculum (which in *Laguvia* is structured so that it appears to be wide open); and the head/body's steep profile.

Baensch & Evers (2002) list the *Laguvia* species (including *aspera*) under the genus *Glyptothorax* Blyth, 1860. This appears to be based on certain authors, and the internet site Fish Base listing *Laguvia* as a junior synonym of *Glyptothorax*. However, as mentioned earlier, de Pinna has shown that *Laguvia* is a valid genus and is not even in the same Family as *Glyptothorax*. Baensch & Evers also show a photograph captioned as "*Glyptothorax asperus*". If one looks at the weak nature of the pectoral and dorsal fin spines, and the humeral process of the fish pictured, they do not match that of the description of *aspera* and as such in my opinion the fish pictured does not represent *aspera*, and is probably a true member of *Glyptothorax*.

I have included a scanned copy of the original drawing of *H. aspera* for use. Unfortunately without a known preserved type specimen, detailed comparisons to other species of *Hara* are difficult, and as such we shouldn't really give this name to specimens in the hobby, unless some can be found that have originated from the type locality. It looks similar to *H. horai*.

Hara sp. 1

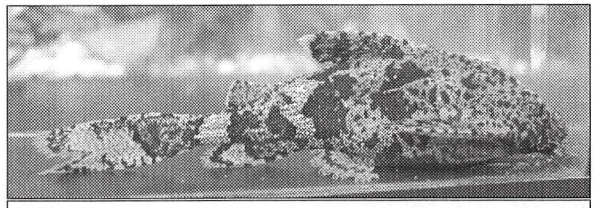
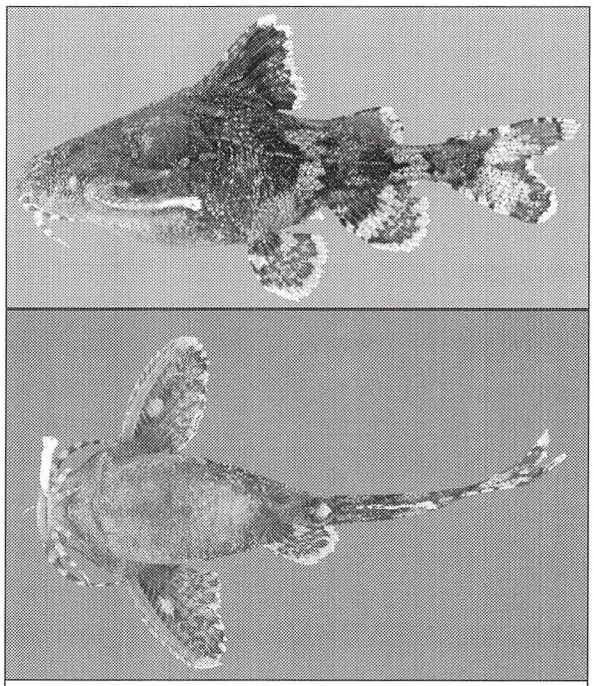


Image by Steven Grant

This apparently undescribed species is very common in the hobby. I initially thought it represented *H. horai* but based on the profile of its head and other characters I feel that it is either undescribed, or may even be *H. saharsai*. At first glance it looks similar to *E. pusillus* but can be separated by the difference in profile of the head, and also the formation of the serrations on the outer edge of the pectoral fin spine. Seems to only reach a small size of approx. 5cm SL.

Hara sp. 2



(ANSP 178635) by Mark Sabaj. Copyright ANSP.

This apparently undescribed species is based on a single specimen (ANSP 178635) purchased in an ornamental fish market in Bangkok by Mark Sabaj of the Academy of Natural Sciences, Philadelphia, USA. The market trader said it was from "southern Thailand" but Mark has been informed that the market trader probably just made it up.

Hara malabarica Day, 1865 = *Mystus canarensis* Grant, 1999 – type locality Canara, Karnataka State, India

This is actually a bagrid and was transferred to Bagridae by myself and given a replacement name in 1999.

Aquarium care

Moth Cats are easy to keep as long as the temperature is not too hot and you do regular water changes. If the water conditions are not good they will shed their skins (Grant 1999a), similar to aspredinids and akysids. The water should be slow moving as they do not appreciate a fast water flow. They prefer live foods such as bloodworms and chopped earthworms, although large *Hara horai* will eat whole small earthworms. They are relatively peaceful but can become aggressive (especially *Erethistes pusillus* and *Hara* sp. 1) when food is added in the tank.

Acknowledgements

Thank you to Sonia Fisch-Muller of the Muséum d'histoire naturelle Genève for supplying the images of the holotype of *Hara maesotensis*; and to Mark Henry Sabaj of the Academy of Natural Sciences, Philadelphia, USA for supplying the images of ANSP 178635.

References

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My observations on breeding the Moth Cat *Hara Jerdoni.*

By Adrian Taylor,

I have previously kept *Hara hara* and *Hara filamentosus*; so I knew that these catfishes required very good water quality in order to keep them alive. Although these fishes will tolerate temperatures in the high seventies, they appear to be more comfortable at temperatures of 70° F. I had also observed that these fishes were nocturnal.

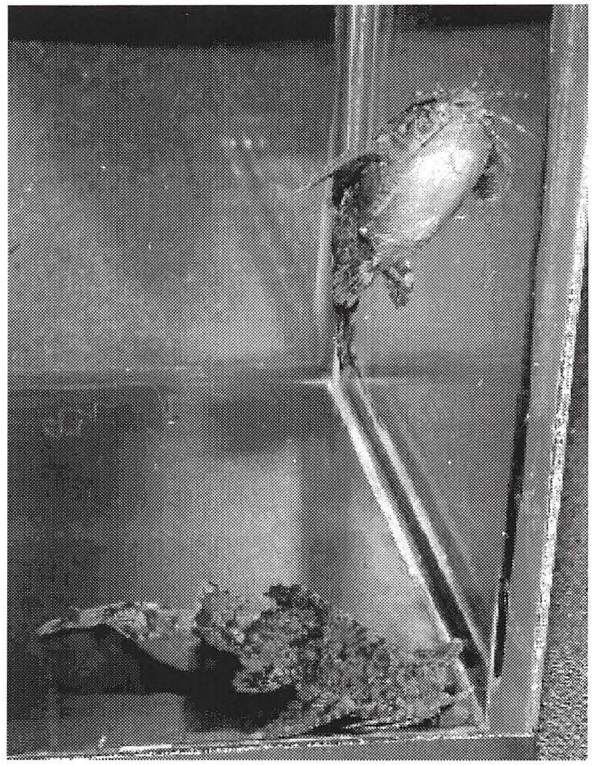
In the April of 2002 I purchased six *Hara jerdoni* and I housed them in a tank measuring 14 x 8 with sand substrate and a twin air operated sponge filter. The temperature was constant at 72 °F; pH7, and 5 GH. I fed these fishes live bloodworm and white worm on alternative days and carried out 20% water changes twice weekly.

Every now and again I noticed that, on the surface of the filter sponges, there were what seemed to be slug like trails running all over them. After giving this some thought I reasoned that this could only come from the fish themselves and that it wasn't the result of mucus produced by the fish in response to stress etc, but maybe it was a mucus laden pheromone given off by the males to attract a mate. With this thought in mind, I decided to have a go at breeding these fishes.

The first thing I tried was the introduction of a number of small caves into the tank to see if these fishes were cave spawners; however this met with no success, so I tried spawning mops. After a week, I inspected the spawning mop and saw that in the upper layers were the same silky mucus strands/trails previously noted. I tried to handle the mucus but it dissolved when touched and seemed to fall apart quite easily when stretched. Whilst I was examining the mops, I was unable to find any eggs but I did see four fry in the substrate of the tank measuring some 5 mm in length. A few days later I found around a dozen eggs in the mop. They were white in colour but failed to hatch. I also found two fry measuring 2 mm in length with a yolk sac about twice the size of the body. The fry showed no colouration but within 24 hours the yolk sac had disappeared and the fry had a striped appearance.

Due to health problems I lost all but three of the fry but those who attended the British Aquarists Festival in October 2002 may have seen them on the Catfish Study Group's stand.

Before releasing these notes I wanted to re-breed



these fishes to see if my notes and observations stand up. On the 26th may 2003 I successfully re-spawned these fishes. I also found two eggs, these eggs had a black nucleus and were surrounded by a jelly like substance. (I have never seen this type of egg before in any of the other fishes that I have bred from *Corydoras melini* to *Betta persephone* which hatched within 12 hours). I believe that Hara fishes hatch within 24 hours of spawning.

The sex differences of these fishes are very comparable to Corydoras species in that; the female is more robust than the males and although quite small in the fin definition there is a notable difference in the pectoral fins of the of the two sexes when compared together. there is a very small difference in the length of the barbels but only by a millimeter or so.

The common name of Moth Cat is quite apt because the body markings resemble one of the common moths we find on a summer night around our lighting . Although they may be seen during the day swimming occasionally around the tank, they are far more active at night (when I also think they spawn). They (males) also lay a silken thread to attract a mate which looks akin to a certain silken thread that an oriental moth produces albeit for a different purpose

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Spawning Misadventures ... A Lesson Learned

L. Quilty

Have you ever wondered about all those success stories on breeding fish? What about the failures and the mishaps? How many futile attempts and false starts were there, before there were fry? Well I've decided to write a few words on such an adventure. My fruitless attempts at having catfish spawn. If your looking for a "how to" article on the subject, read no further, this is not it. I won't bore you with all the torturous details, for it is a saga, riddled with angst, aggravation, and frustrations. But I believe that such a scenario might have been the prelude to how that first catfish wound up in a frying pan. It had nothing to do with culinary experimentation. I am sure it was a hobbyist, hell-bent on revenge.

YEARS AGO, and I mean Y-E-A-R-S A-G-O, I decided to give catfish breeding a try. Many species of fish, requiring more exacting conditions have repeatedly spawned, and thrived while in my care. Generations of neons, rummy nose tetras, bumblebee gobies, Tropheus duboise, and many more, have contently lived and reproduced in my home. Why not my catfish? Why not my Corys? Others are doing it. There are lectures given on the subject. There are pictures. All the books report that it has been done. Fish do it all the time. Why should my being in the vicinity change that? There are tones of literature on the topic. I can read. I can do this. "That's what you think, smarty. I'm not going to let you. You're going to leave something out." Who said that? Did you hear someone say something? I didn't. Had I been listening, I would have recognized the voice. I know who she is; I've heard her before. I truly admire her. But I didn't hear her. I wasn't paying attention. I didn't hear the edict: NO CATFISH SPAWNING BEYOND THIS POINT! My fish heard her. But I, unknowingly, had missed it. I was too absorbed in my research - you know, water changes, feedings, barometric pressure readings, temperature changes, stuff like that. The stuff you need to know to do this sort of thing, since you're not her. You know her. The one who if she doesn't like where you left your beach house, will move it. Mother Nature. She was on to me, and catfish breeding was about to become a thorn in my side.

So, I obtained books solely on catfish. I read the literature. I went to the lectures; I spoke to breeders. No problem here. I was an informed hobbyist - I was ready. Ha. She was laughing at me, and I hadn't even started yet. I didn't have a clue as to what I was in for. I did the water changes. Major water changes, partial water changes. Raise the temperature, drop the temperature; slow water current, fast water current; shallow water, and shallower water still. Peat, no peat; Blackwater extract, no extract. A calm surface, and then a spray bar on the surface. I did major water changes, dropping the temperature, while the barometric pressure was falling, maintaining surface agitation and shallow water. And then I did them without. I was watching the weather channel! Not for me, for the fish! And let's not forget the food. Live food, dead food, flakes, pellets. Heavy feedings of live blackworms a few days before a major water change with cooler water just prior to the arrival of an impending low front preceding a major thunderstorm that had been reported on the weather channel. Nothing! And then there are the fish. Big fish, little fish, old fish, young fish. Plump fish with skinny fish, pairs, trios, and pairs of trios. NOTHING. *Corydoras aeneus, C. paleatus, C. punctatus*, and *Corydoras* something else. Still nothing! And I can not forget the vegetable eaters, *Otocinclus affinis* and the bristlenose cats. I went to the grocery store for them; I was in the vegetable aisle. Yuck! And still nothing. I was having the same results that I would have had, if I had tried to do this without the fish. Nothing was happening. And all I had, was a lot of well fed tortured fish. Never before, and certainly never since, have I spent so much time, nor put so much effort into a group of fish.

Meanwhile, back at the club, Roger Schillizzi is donating pounds of baby albino aeneus to the auction. "How is he doing this?" you ask. In tubs in his yard, that's how. Oh, that's just great. Like the vegetable aisle wasn't bad enough, now I have to get a yard? That's it, enough is enough. I give up. But Roger insisted that a yard wasn't mandatory; and since we couldn't figure out what I was doing wrong, he generously offered me a trio of his breeders. "Guaranteed to spawn," he said, "Like clockwork." Yeah, right. He obviously hadn't heard about the edict!

True to his word, at the next meeting, Roger presented me with a trio of albino Corys. I asked if he was sure he wanted to do this, after all his trio could be ruined. But he assured me that everything would be fine, and that he seriously doubted that I would ruin the fish. And that's how it happened. It couldn't have been any

simpler. I took the fish home, put them in a tank, fed them, kept them wet, and waited. A few days later they were wildly chasing each other around the tank. I thought that the next day I would do a water change, and maybe they would spawn. But I didn't have a chance to do the water change, for the next day the glass, plants, and filter tube were covered with eggs!! There were eggs everywhere! I couldn't believe it. I stood there dumb founded, staring into the tank. And they haven't stopped. In the first month that I've had them, they have spawned six times! No special water changes, no special feedings, nothing. I actually witnessed the female carrying eggs between her ventral fins, and deposit them on the glass. Just as the books describe! Amazing. After just one month, I find myself with inch long baby cats.

So what was I doing wrong? I do not know. What was I leaving out? Well, for starters, I left out the spawning catfish. But I can second-guess myself forever, and still never know what I was doing, or not doing. Natures' variables are endless. Fish spawn when the conditions are right. Maybe one of the conditions is that they want to spawn. But I am convinced that Mother Nature was teaching me a lesson. They are after all, Her fish. And when you consider all she can teach us, and the severity of some of her lessons, I am quite content to have learned this one: I do not breed fish. I feed them, and clean up after them. I have learned to just leave them alone. Nature will graciously reward good husbandry with spawns.

So, if I should ever write an article on breeding catfish, should I entitle it, "My First Attempt at Breeding Albino Corys - A Success Story?" or "Should I give Mother Nature her due?" I'll give her, her due. I might have a beach house someday and I wouldn't want Her annoyed at me.

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Corydoras zygatus

Eigenmann & Allen 1942

The very first time I encountered this fish, it was back in 1997, I was visiting one of the local shop and found in several tanks some rather huge, probably full grown *Corydoras* that I had never seen before, they were looking a lot like *Corydoras rabauti*, but the size was way too big to be them. I asked the shop owner about the identity of this *Corydoras* and he gently answered me that they were *Corydoras metae*. I knew they could not have been this species, this he had 9 of them in his shop I asked him about the price, which was 8 € per fish. That was a really good price for a rather uncommon Cory, so I bought the whole stock, which consisted in 5 males and 4 females.

One of the first few things that impressed me with this *Corydoras* was its size, female were around 7-7.3 cm long and males were about 1cm smaller. I had at that time never seen bigger Cory. So the 9 fishes were placed in a 250 litre tank, filled with tap water (Ph: 7.4, Gh: 12°, Kh: 8°), the temperature was set at around 26°c, the other tank mates consisted in *Ancistrus sp.* and dwarf cichlids. So I started to search for some information on the possible name of that species and finally found its name by looking in the "Aqualog" "All Corydoras", no doubt about it they were *Corydoras zygatus*. I started also at that time to search for different information regarding this species but came empty handed until someday where I read that this species could lay around 600 eggs at spawning, but no other detail was given on the way to achieve breeding this Cory.

So I just went on keeping them in my tank and hoping that someday, after a water change I would find them to have spawn in the main tank. But many years passed and nothing happened, until one day I read in a magazine that a temperature of 16 °C was required for make them spawning. I decided I should give a more serious try at breeding them, so I set up a small 10 gallons tank, with a small layer of gravel, a little root and some *Anubias barteri* var. nana. The tank was place on the floor to have the coldest room temperature possible; no light was added to the tank except from the one coming from the room in which the tank was placed. I capture the biggest female and two males and put them in that tank. I heavily fed them with frozen bloodworms and made 60-75% water change every 2 days, I made sure that I would make the temperature sink from 20°C to 16°C, I went on for about 3 weeks with that system and one day, on my birthday to be more precise, when I came back from home, I found the tank full of eggs, they had spawned and had placed the eggs about everywhere the water current was being felt. The eggs were place in different part of the tank in either huge pack of about hundreds of them or in small pack of 10 or so. The eggs had a diameter of about 1mm. I can't explain the joy of that sight, they were my first *Corydoras* species to spawn and they did it on my birthday, I could not have been more happier and what a great present from Mother Nature! To take any gamble, I took the parents out of the tank. But a day after all the eggs had turned white because of unfertilization. SO I had to restart all over again.

About 3-4 months later I decided to give another try, I made this time a good point at picking up the most active and most healthy trio possible, and once again place them in the 10 gallons tank, once again they were fed daily with frozen blood worms, every 2 days, 75% water change were made, and the tank would be refilled with cool water to make the temperature sink as low as 14°C, after a week and half of that treatment, I forgot to feed the trio one day, the next day, when I came back from work, I found so many eggs in the tank, mainly placed on the upper part of the tank glass all around the tank. I, this time, took all the eggs out and place them in a plastic box filled with water from the tank, an air stone was added and the whole set-up was place in a dark place. I did not used any anti fungus because of bad experiences I had with it while using it with eggs of *Corydoras panda* place in the same sort of set-up. After 3 days I did check the eggs to see if they were fertile or not, I estimated that about 95% of the eggs had been fertilized. A day or two after the eggs had all hatched, I was so impressed with the small size of the fry, they were the smallest fry I have ever seen, and I sort of started to worry about how I would feed them once their yolk sac would be absorbed.

I place al the fry inside a 2 Gallons tank which was filled with water from the parents tank, a little air filter was put inside to avoid that the fry would be suck by it, plus I was also hoping that they would eat the small animals present on the sponge of the filter. To avoid any fungus to develop on the bottom, a small layer of sand was put in.

The first food given was some crush Spirulina tablets, they seem to eat it without any problem, as I did not noticed any loss and the fry were growing at a rather good pace.

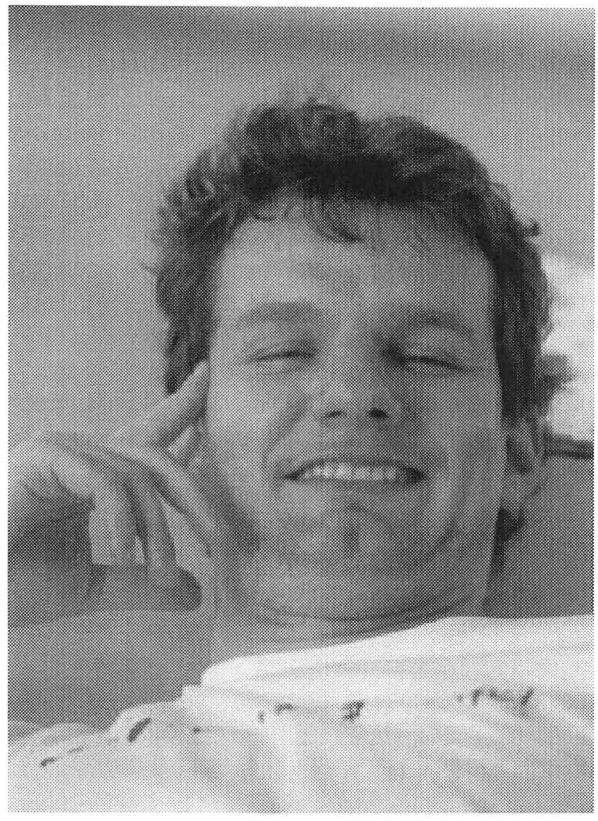
I was doing water change every day, changing about 30-50% of the water, the sponge was cleaned in the old water, and water from the parents' tank was taken to refill the fry's tank. I also make sure to clean the sand to avoid any developing of bacteria. After 2 weeks, there was no possible doubt about the identity of the parents, the fry look like *Corydoras zygatus* fry and not like *Corydoras rabauti* fry.

Suddenly I started to lose some fry for unknown reason, they were no sign of fungus, or starvation. At first it was only 2-3 young that were dying, so nothing really to worry about, but then the number of loses started to rise rather dramatically. One of my error was having used a day before straight tap water to refill the fry tank, I was in a hurry and forgot not to use straight tap water, I did put dechlorine product in the water, but as it was during spring and especially a time of year when Water companies put a bit more chlorine in the water because of farmer using cow poop to fertilize their field... in 2 days all my fry were gone.

Since then I did not retried to spawn them, because of lack of time and space. I also encountered my first adult losses, probably of natural cause as they were already full grown at the time I bought them so it is really hard to give an age these fishes might have, I only know that I have them now 6 years, and I would assume that they were at least 2 years old when I saw them in that shop. I shall give another try at spawning them before I loose them all, I have now only 3 males left and still have the 4 females. The biggest female is almost 8cm long, now. Since I bought them I have seen only twice this Cory in shop, one at an importator in France and another one at an auction here in Lausanne where I live, mix up with some *Corydoras rabauti*, and it happen during the last 6 months, before that I never seen it anywhere. So I really want to be able to save "my" population and have some young from them, I would also to be able to spread this species around here as it is really worth being kept. It is a very hardy Cory, adaptable to a great range of water chemistry and temperature. Plus its nice and attractive colouration make a nice addition to any ones tank. Anyway *Corydoras zygatus* will always have a special place in my heart and will always have room for them in my tanks! If someday, you are lucky, just like me to come across this species, go ahead and go for it, they really worth it!

ABOUT THE AUTHOR

Yann Fulliquet



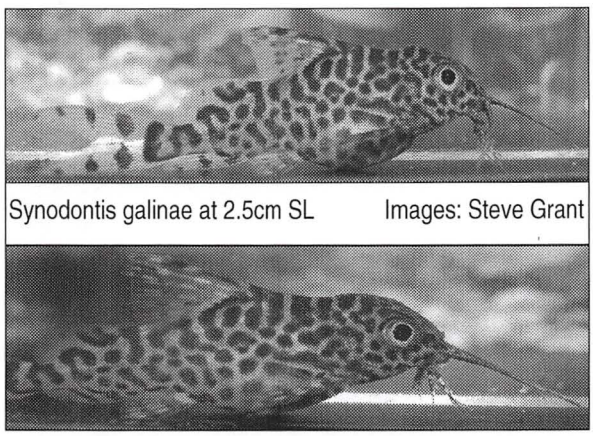
I was born the 10 of November 1976 in the suburban of Geneva. I am married and have one child. Since a little kid I have been interested in animals but only started to get interested in Fish in 1995. I started by keeping barbs, with Ancistrus and Corydoras. Later I switch to cichlids and more precisely to South American dwarf cichlids. In 1998 I read my first article about Hypancistrus zebra and fell in love with the fish. I started to get myself more and more interested in Catfish, especially from South America, and of the family Loricariidae and Callichthyidae. I went on searching as much information about them everywhere I could look for, luckily for me I do speak French, German and English, which really help to get information. As my knowledge towards this group grows, I also started to get interested in Taxonomy as well. My first breeding experience with catfish was back in 1997 with the common Ancistrus. I bred my first Corydoras in 2000. So far I have bred the Common Ancistrus, normal and albinos strains, Hypancistrus sp L28, Corydoras aeneus, napoensis, paleatus, panda and zygatus. In 2002 I made my first trip in Brazil, in Manaus to be precise, I explored a bit the region and if I can think of some place where I wish I could be finishing my days on earth, the Amazon rain forest and the Rio Negro would be the place. There is no better place for a catfish lover like me.

On the validity and identity of some species of *Synodontis* Cuvier, 1817 (Siluriformes: Mochokidae)

By Steven Grant

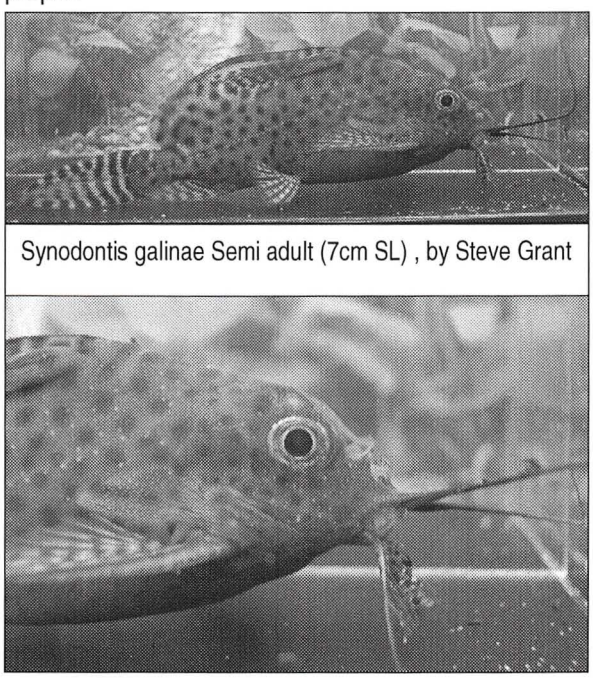
This article is a discussion surrounding the availability and validity of two species described in aquarium magazine, and a short discussion on the identity and validity of four poorly known species or subspecies.

***Synodontis galinae* Kochetov, 1998**



Synodontis galinae at 2.5cm SL Images: Steve Grant

As per Hieronmus & Grineva's (2000) translation: Described on the basis of aquarium specimens that had supposedly been imported into Russia from the White Nile in 1985. Kochetov described the species as new based on the fact that in *S. galinae* the head profile was shorter and more rounded than in the specimens of *Synodontis eupterus* Boulenger, 1901 that they were imported with. He also states that his *S. galinae* differed due to the dorsal fin extension extending downwards, and that the body colour was purple.



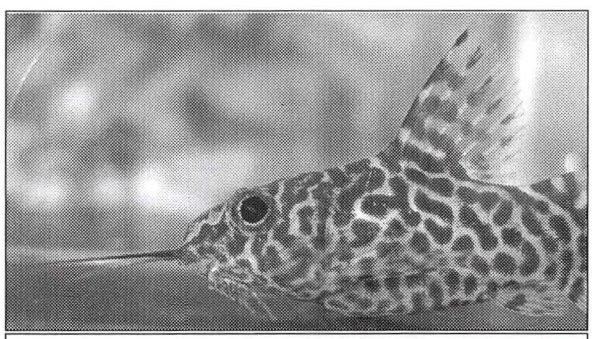
Synodontis galinae Semi adult (7cm SL) , by Steve Grant

I have consulted with Dr. William Eschmeyer and he considers that the description meets the requirements of the ICZN, therefore making the name available.

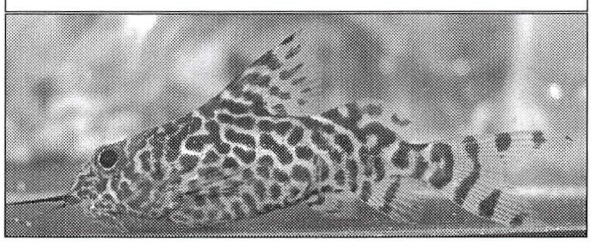
It appears that the type specimens were not preserved. The etymology of the species name is based on Kochetov's wife's name Galina (As per Dr. Sergei M. Kochetov – brother of Alexandr – personal communication)

If looks at the photographs of *S. galinae* in the original description, and also Kochetov's photograph which appears in Baensch & Evers (2002), they are identical in all aspects to *S. eupterus*, including the colour, and the extension of the dorsal fin. The only difference being the profile of the head.

I was not convinced that the type specimens had been imported from the wild, as I was aware that *S. eupterus* was being bred using hormones treatments. My suspicions were almost confirmed when I came across a tank full of small (2.5 cm SL) specimens of *S. eupterus* in a tropical fish shop. Mixed in with normal specimens of *S. eupterus* were numerous specimens with an obviously different head profile. I checked with the shop and they were confirmed to be tank bred fish. If one looks at my photographs you can see the same head profile as in *S. galinae*. I consider *S. galinae* to be a junior synonym of *S. eupterus*, and that the unusual head profile is a cranial deformity, either naturally occurring due to inbreeding, or due to breeding caused by hormone treatment.



S. eupterus at 3.0cm SL Images: Steve Grant



I have been unable to contact Alexandr Kochetov but I have communicated with his brother Dr. Sergei Kochetov. Dr. Kochetov informs me that he does not consider this or the next 'species' to be valid and that *S. eupterus* is being bred by hormone injection.

Synodontis 'helenae' Kochetov, 1995

This name first came to my attention from the pictures and information in Baensch & Evers (2002). I have been unable to track down a copy of the original description, which apparently appeared in a Russian aquarium magazine. Because I have not seen the description I have been unable to determine whether it meets the requirements of the ICZN for availability as a scientific name, and that is why I have captioned it as above. Although Baensch & Evers (2002) have captioned it as a full scientific name, they probably have not made it available, due to their comments on its doubtful validity.

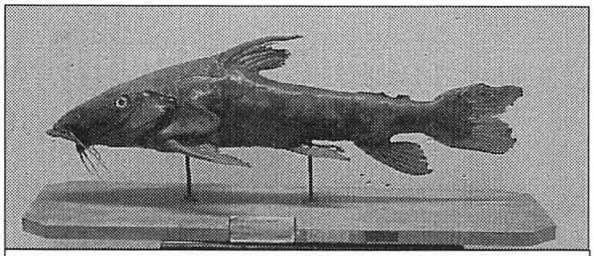
Again, the type specimens (if it is validly described) do not appear to have been preserved. The etymology of the name is from Alexandr Kochetov's eldest daughter who is called Helena (personal communication from Dr. Sergei Kochetov).

When I look at the pictures of this fish, and look at the body shape, colour, pattern, and shape of the nuchal shield and humeral process, it is obvious to me that this 'species' is just a form of (and synonym of, if available as a scientific name) *Synodontis nigrita* Valenciennes, 1840; it ties in exactly with the figure of the holotype of *S. nigrita* which appears in Poll (1971). The unusual unpigmented areas of skin on *S.* 'helenae' have possibly been caused by breeding with hormones, or may be a naturally occurring variation. Again, Dr. Sergei Kochetov informs me that *S. nigrita* is being bred in Russia by the use of hormones.

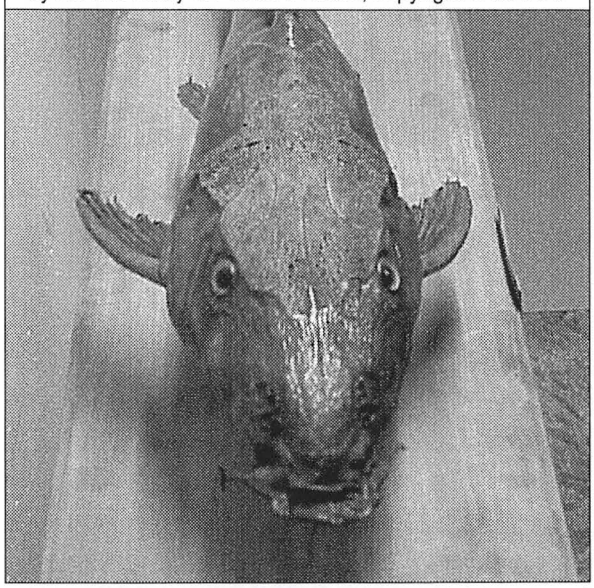
Synodontis vaillanti Boulenger, 1897

This species description was based on a specimen measuring 55cm TL from Upper Ubanghi River, Zaire basin, identified as *Synodontis labeo* Günther, 1865 by Vaillant in 1896. Boulenger obviously considered the specimen figured by Vaillant to be different to that of the true *S. labeo*. The true *S. labeo* originates from west Africa (probably Niger River), and has been a junior synonym of *Synodontis xiphias* Günther, 1864 (from Niger, west Africa) since Poll (1971). This synonymy may be proved incorrect in the future although Poll examined and x-rayed the types of both specimens.

The specimen (according to Vaillant) has spots (smaller than the eye) on the nuchal shield (head plate), the humeral process (bony shield on the body



MNHN 1892-0275 Holotype of Synodontis vaillanti, pictures by Nicolas Bailly & Patrice Pruvost, copyright of MNHN.



above the pectoral fin), the anal fin, caudal fin, ventral fins, and possibly the dorsal and pectoral fins. There also appears to be some faint spotting on the body.

In Vaillant (1896) he shows a dorsal view of the head. The shape of the head and mouth area is very different to that of *S. xiphias* shown in Poll (1971). The maxillary & premaxillary (tip of the nose/lip area) in *S. vaillanti* is broad, rounded and flattened, whereas in *S. xiphias* it is pointed and narrow. The mouth appears to be placed more anteriorly in *S. vaillanti* and its humeral process is shaped differently.

So *S. vaillanti* is a different species to *S. xiphias*, but whether it is synonymous with *S. labeo* remains to be seen. According to the original description of *S. labeo*, "the snout terminates in a large, soft globular swelling", but Poll concluded that the shape of the snout was due to the method of preservation.

Synodontis voltae Roman, 1975

Described from the Bougouriba River, affluent of the White Volta, the largest type specimen being 13.3cm SL.

Roman compared his species to one of a similar colour and pattern: *Synodontis sorex* Günther, 1864. It is clear that his species does differ to *S. sorex* as pointed out by Roman, although I find it strange that he did not

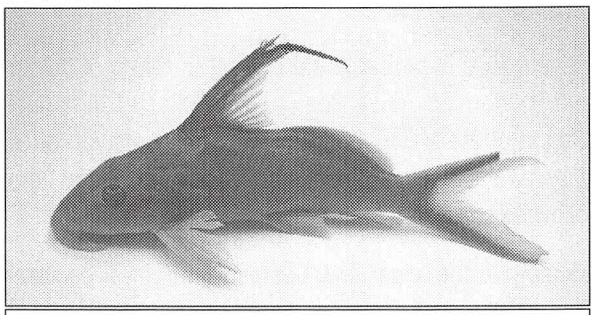


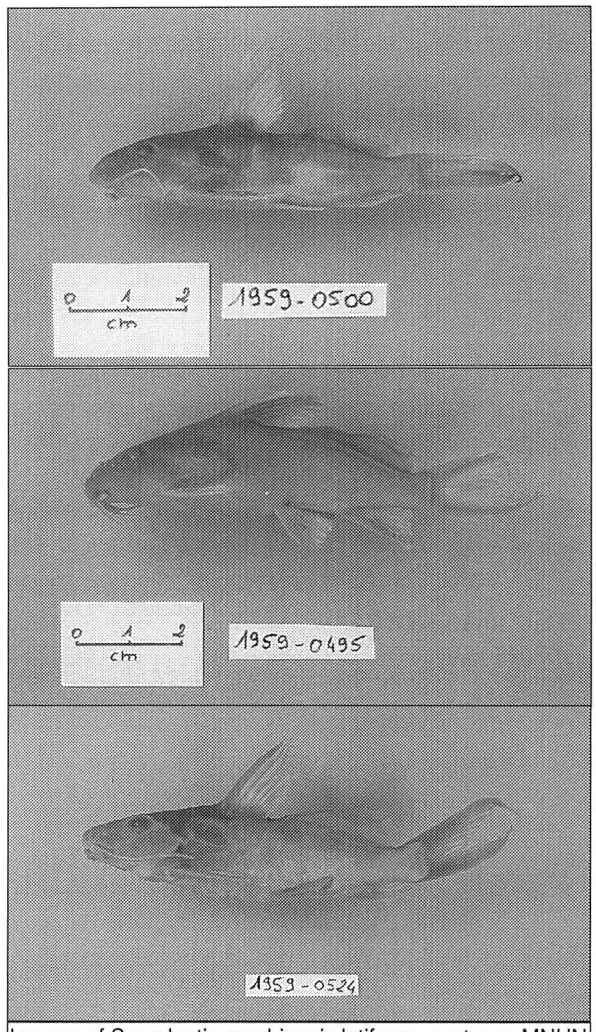
Image of MRAC 76-53-P-1, Synodontis voltae by Emmanuel Vreven, copyright of MRAC.

compare it to two other similar looking species: *Synodontis caudovittatus* Boulenger, 1901 & *Synodontis filamentosus* Boulenger 1901. *S. sorex* and *S. caudovittatus* are both deep bodied species when adult, and neither have the long **black** dorsal fin extension which is present in *S. voltae*, and there are differences in the nuchal shield and humeral process. *S. filamentosus* is present in the Volta system (Poll, 1971 & Gosse 1986) and its colour and pattern appears to match *S. voltae* almost exactly, and also in the shape of the humeral process and the position of the eyes. Roman mentions that smaller specimens may have spots and if one looks at the image of specimen MRAC 76-53-P-1 (which according to Eschmeyer (2002) is additional material of *S. voltae*) one can see the odd faint spot.

I have compared the description of the teeth and barbell structure from the description of *S. voltae*, with that of the figure of the holotype of *S. filamentosus* that appears in Poll (1971). The teeth in the lower jaw of *S. voltae* appear to be lower in number, but longer than those of *S. filamentosus*. Also, the mandibular barbels in *S. voltae* are described as having simple ramifications, whereas in *S. filamentosus* they are more feathered in appearance. The above details for *S. voltae* do tie in with *S. sorex* but apart from just the black extension on the dorsal, there are various morphological and morphometric differences between the two. An additional obvious visual difference is the shape of the posterior margin of the adipose fin; in *S. sorex* it is squared off to and angle, whereas in *S. voltae* it is rounded.

***Synodontis gambiensis latifrons* Blache, 1964**

Based on specimens of at least 20cm SL, from the Lake Tchad Basin. Blache described them as "General colour yellowish, but varying to orange, exceptionally olive or brownish. Belly yellowish white or cream. A visible humeral spot. The rays of the fins are yellowish, the membranes blackish. The juveniles are almost identical to *Synodontis schall* (Bloch & Schneider,



Images of Synodontis gambiensis latifrons, syntypes MNHN 1959-0495, MNHN 1959-0500, MNHN 1959-0524, by Nicolas Bailly & Patrice Pruvost, copyright of MNHN

1801), although the oblique yellowish bands disappear earlier and the spots on the body are never as small or dense."

Based on my observations of the images shown here of some of the assumed syntypes, it does appear slightly different to *S. gambiensis gambiensis* Günther 1864, but whether it is a different species to *S. schall* remains to be seen. (Although Paugy (in Lévêque et al. 1992) and Lévêque et al. (1989) consider *S. gambiensis gambiensis* to be a junior synonym of *S. schall*).

For an image of a juvenile *S. schall* or what may be a juvenile *S. gambiensis latifrons* see page 38e of Sands (1985).

***Synodontis leopardus* Pfeffer, 1896 (may date to 1894)**

This species was described on possibly one specimen from Korogwe, Tanzania. Although not stated, the specimen is likely to have come from the Pangani

River. Unfortunately the holotype was destroyed during WWII, and the original description did not include a drawing of the specimen. This has led to uncertainty regarding its validity and identity.

Though short, thankfully Pfeffer's description did include some details that we can use:

19 teeth in the lower jaw. 8-9 strong serrations on the inner edge of the pectoral fin spine, and about 6 weak serrations on the inner edge of the dorsal fin spine.

Light brownish with many darker brown marks, which are larger (with exception of

those of the head), than the pupil. Also the unpaired fins show lighter areas with irregularly placed brown marks. The Flecking of the young of the species is stronger and appears marmorated.

There is no size of the holotype listed, but Eccles (1992) lists it as 6cm.

Seegers (1996) and De Vos (2001) propose that this species should probably be synonymised with *Synodontis zanzibaricus* Peters, 1868. The pattern of the lectotype of *S. zanzibaricus* that appears in Poll (1971) does not appear to match that of the description of *S. leopardus*, so I am not convinced of this hypothesis.

I have looked at the colour and pattern of other species that occur in Tanzania, and the closest resemblance that I can come up with are *Synodontis ricardoae* Seegers, 1996 and *Synodontis rukwaensis* Hilgendorf & Pappenheim, 1903, both from the region of Lake Rukwa, Tanzania, which is some 500 miles from Korogwe (see colour images of both species on Fish Base)

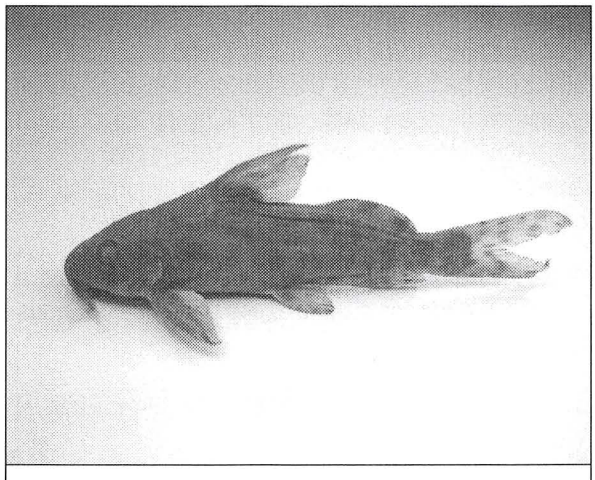


Image of MRAC 94-34-1093 holotype of Synodontis ricardoae, image by Emmanuel Vreven, copyright of MRAC

S. ricardoae is probably the closest in terms of colour and patterning (juveniles and adults). Emmanuel Vreven of the MRAC has examined the holotype of *S. ricardoae* on my behalf and kindly provided the following comparative data:

25 teeth in the lower jaw, posterior margin of pectoral fin with about 10 serrations, posterior margin of dorsal fin spine without serrations.

Therefore you can see that this does not match that of *S. leopardus*, although the number of serrations on the fin spines may vary depending age/size of the specimen. Seegers (personal communication) informs me that he has not found *S. ricardoae* or any fish that tie in with *S. leopardus* in the Pangani River.

Dr Peter Bartsch of the ZMB has examined the type specimens of *S. rukwaensis* on my behalf and kindly provided the following data (due to difficulties in counting the serrations due to their size and attachment to the fin membrane, a margin of error of +/- 1 should be accounted for):

ZMB 16311 (lectotype, 'Rukwa'): 12.8cm SL, 24 teeth in lower jaw, 15 serrations on inner edge of pectoral fin spine, 5 serrations on posterior edge of dorsal fin spine.

ZMB 32380 (paralectotypes, 'Rukwa'):

i) 12.5cm, 21, 15, 4

ii) 11.7cm, 23, 13, 4

ZMB 16310 (paralectotypes, 'Sangwe'):

i) 14.4cm, 20, 14, 2 (indistinct)

ii) 14.8cm, 21, 14, 5

iii) 15.1cm, 23, 16, 7

iv) 15.3cm, tooth count not possible, 15, 7

v) 15.1cm, 22, 17, 4

So the lower jaw tooth count for *S. rukwaensis* is slightly above that of the holotype of *S. leopardus*, the pectoral serration count higher, and the dorsal serration count ties in, although the specimens of *S. rukwaensis* are larger than the assumed size of the holotype of *S. leopardus* and any differences may be accounted for by this. I hypothesize that *S. leopardus*

could be a senior synonym of *S. rukwaensis* although I feel this cannot be proved/disproved without further sampling of the Pangani River. I feel that the name *S. rukwaensis* needs to be used with caution.

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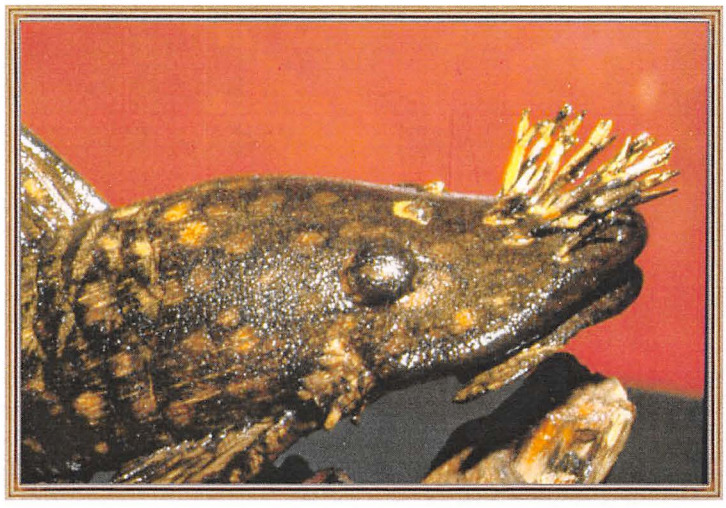

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