



ISSN 0953-0029

# LABYRINTH

Anabantoid Association  
of  
Great Britain



## Newsletter No. 165 Sep 2011

1. *Channa aurantimaculata*
6. *Betta brownorum*
11. *Ctenops nobilis*

## KEEPING AND BREEDING CHANNA AURANTIMACULATA

### Paul Jordan



#### Description and Origin

*Channa aurantimaculata* or the Golden Cobra Snakehead is collected from forest streams, ponds and swamps in subtropical rainforest adjacent to the Brahmaputra River, Northern Assam, India. I have been informed that the habitat biotype is only accessible to locals and only during the dry season which probably explains why only 8" plus size 'Auranti's are imported. Other specimens endemic to this area are *C. amphibeus* and *C. bleheri* but *C. barca*, *C. gachua*, *C. marulia*, *C. punctata*,

*C. striata* and the undescribed *C. Spec.* Assam are all distributed in the Brahmaputra River basin. The winter water temperature is <19C and in the summer rises to 25C, therefore Auranti are considered to be sub tropical. This means, for the aquarist, keeping these fish in an unheated aquarium at around room temperature but to consider breeding them they need a sustained period of cooler conditions – room temperature 18 – 20C and water temperature of 14 – 16C.

*Channa aurantimaculata* is one of the

most striking snakeheads available. The body and head have a brown base with the head having blue/green vein like markings between the scales, typically more so in the male. 7 or 8 gold vertical blotches break up the flank, typically less vivid or more broken in the male. The lower half of the fish is white/cream with thrush like spots which merge into the blotches and brown upper body. Pectoral fins are orange with vivid black bands, a black blotch at the base and a blue muscle area. Dorsal and anal fins are a beige colour with horizontal broken brown lines although when displaying the male has a solid blue anal and about 50% of the dorsal shows the same blue, the female also shows this blue colour but less so. The caudal fin is brown with a gold ladder pattern but often shows green, blue, white or even red between the rays. There is, I believe, another colour variation of this fish possibly due to location? The colour pattern on this variant is more broken with far less solid colour. The finage also appears to be a little longer and flowing. Another distinguishing feature of *Aurantimaculata* are 2 large scales on each side of the lower jaw under surface. It is one of the medium sized channa species reaching a length of around 45cm.

*C.aurantimaculata* is a predatory fish and can be tempted into eating the convenient foods we feed to all types of predators in the aquarium such as prawn, earth worms, maggots, meal worms, mussel meat, whitebait, beef heart, crickets and locust. So obtaining a varied choice of foods does not present a problem. However, these fish are

subtropical and therefore have a slower metabolism than the tropical species so feeding should be limited to once every 2 or 3 days. Subtropical channa that are fed sparingly appear to be much healthier and in fact are more active than those that are overfed. There are theories coming from friends in Germany that starving subtropical channa for periods can actually induce spawning. I would think that the starving would need to tie in with temperature / seasonal timing as well to be successful.



### Keeping and Breeding

I had only previously kept dwarf channa species but my first experience with *Channa aurantimaculata* was a friend describing how aggressive his group were but over a period of time he had managed to get 2 specimens to cohabit the same aquarium without tearing each other apart. This aquarium was 150cm x 45cm x 45cm heavily planted, albeit plastic plants, 2 plastic tubes and large clay plant pot. It was situated in a sunny room but with no heating and a water temperature of around 23 - 24C. Water parameters were not measured but as with most Channa this has little relevance to their upkeep.

When my friend had to move house he had to rehome his *Channa* collection and the *Aurantimaculata* were destined to come to me. As a dwarf channa keeper the biggest aquarium available to me was a 120cm x 30cm x 30cm. This was on the bottom shelf of my sub tropical room with a water temperature of around 20 – 21C, a thin gravel substrate, floating plants and a sponge filter. This would be their home until I could build a 120cm x 60cm x 60cm aquarium specifically for them.

I studied the fish at length and researched sexual differences but both my fish looked the same. These fish, as with many *Channa* are difficult to sex. The believed differences include the male having a more disrupted body pattern, the male having more blue/green markings around the head, the female being larger and fatter, the male anal and dorsal fins showing more blue than the female and the head of the male wider than the female. I could only see that the smaller of my fish showed slightly more blue in the fins than the larger one but on the whole I was convinced I had 2 females. I even ordered 2 suspected males from a friend in the trade to compare mine with.



Within a week of receiving the 2 suspected males the smaller of my 2 fish looked distressed or even ill? It was hanging, tail down, at the water surface. This persisted for just over a week before he sank to mid water and became more active. It was a couple of days later that I saw a scattering of fry at the surface and both the male and female looked agitated. One third of the tank is hidden by another tank so it was difficult to count exactly how many fry there were but I believe this private, quiet area gave the parents a safe place to spawn. A day or two later the male appeared to be holding eggs again but he could have been keeping his original fry again? It seemed that over a period of 4 or 6 weeks the fish may have spawned 2 or 3 times with the first batches of 3 to 6 fry not being viable for the parents to keep? Eventually the male spat out a considerable number of fry, 100 -130, which hung around in what can be described as clumps. They have a grey glass like appearance at first and quite a large egg sack which is consumed over a couple of days, at which point the fry start to move around more. After about 5 -7 days the fry are all free swimming and although the female feeds them unfertilised feeder eggs they also start eating baby brine shrimp. Although I did not witness the female laying the feeder eggs the tell tale sign is the fry having bulging white stomachs after eating eggs as opposed to pink bellies after eating brine shrimp.

Growth is rapid and after just 8 weeks the juveniles were 50 – 60mm and took frozen bloodworm, glassworm as well as chopped maggots. The growth rate

across the batch was very even which is unusual for *Channa*. Usually the stronger ones out grow the weaker ones but only when the young were about 4 months old were there signs of a few being left behind size wise?



At 4 months and a length of around 70 - 80mm the youngsters have their full adult colours and markings. Even at this stage there was no fighting or dominance in the group but I took the siblings out of the breeding tank because keeping the water quality up was proving difficult. The adults dislike water changes of any kind, in fact the

slightest change causes the female to attack the male so I had to make very small changes and up the filtration.

The first fry appeared late June 2009 and this year from April the pair have been spawning but the male didn't hold the eggs full term. Then, on the 4<sup>th</sup> July, after four spawns without the appearance of fry I noticed a few 3-4mm opaque fry or eggs with tails. There were also eggs scattered around the surface floating due to their oil globule. The female was very defensive at the front of the tank and this time several of the fry followed her and swam around her, possibly feeding from her skin. After a day some of the eggs expelled began to hatch and this leads me to believe that the pair actually spawn over several days.

The parental care of this *Channa* is truly amazing. For such a large fish to pick up such tiny fry in such a gentle way is fantastic .





## EXPEDITION TO SIBU

### Clearwater Aquatics



#### The Journey

Sibu is located about 400 kilometers from Kuching. The place is situated in a low-lying area dominated by peaty swamps. Population wise, majority are Chinese, followed by the Ibans then the Malays.

We left Kuching at 12:30am as we wanted to avoid the traffic congestion associated with the **"GAWAI DAYAK FESTIVAL"** which fell on the 1st of June, 2007. However, we were wrong, the road leading to Sibu, via Sri Aman was quite packed with cars. As there was a long holiday, people were heading back to their villages (Kampong). We reached Sarikei at about 4am, refueled then proceeded to Sibu, which is just about 1 1/2 hour drive.

Throughout the journey we saw many car accidents along the road. Most of the accidents during this time relate to drinking under the influence of alcohol. During the **"Gawai Festival"**, "tuak" drinking is very common. "Tuak" is a rice wine served during the **"Gawai Festival"**. The celebration of the **"Gawai"** is to celebrate the festival of harvesting the padi by the Dayaks (a native in Sarawak). In Sabah, the same festival is called **"Pesta Keamatan"**. And Malaysia being a multi-racial country, we celebrate every one of these festivals. This makes us a very unique country in the world.

### Durrin bridge area



We reached a location near Durrin Bridge and spotted a dark water with possible hunting ground for wild Bettas and Paros species. The pH is 5.2 and the color of the water is dark tea like. We found no fishes here and decided to venture into the jungle nearby. The pH is 4.8 and some gar fish were caught but released. Further in the jungle, we collected some *Cryptocoryne* species. There are plenty here. The pH is 4.6 and we caught some *Parosphromenus allani*.



*P. allani* Sibü

### Japanese team GPS co-ordinates

We then proceeded to the second location to look for *Betta brownorum* Sibü. The area was earlier identified by the Japanese team who had visited Sibü last year.



Within 1 hour, we caught quite a few specimens of *Betta brownorum*. *B. brownorum* were everywhere!!! The pH is 5.4 and there were more areas that we did not explore further inwards. We were very satisfied with our catch.



A male *Betta brownorum* Sibü



A female *Betta brownorum* Sibü

## SHOWCASE & BREEDING OF *BETTA BROWNORUM* Clearwater Aquatics



These small beauties were collected from Sibü. The adults are about an inch(TL) in size and are fairly easy to breed. In their habitat, they live among the leaf litters and tree roots. The water is slightly weak tea colored with the pH of 4.5 - 5.2. Just like the other members of the coccina group, they prefer a slightly darker tank.

I kept this pair in a rubra tank. Spawning takes place in the early morning. Initially a small bubble nest is built by the male. The nest is built at the corner of the tank. Later in the

afternoon, I observed that the nest gets bigger and bigger. Upon the completion of the spawning, the male will then guard the nest. The eggs hatched on the 2nd day.





*Some spawning photos:*

## A NEW LOCATION FOR BETTA BROWNORUM Lum Tuck Fai (<http://tuckfai.blogspot.com>)

My first wild betta trip was in Kuching, Sarawak (my hometown) where me and my friend Nasir went netting at a blackwater stream. We were looking for *Betta brownorum* but we only managed to catch *Betta ibanorum*. The technique of netting for Bettas is to place the net all the way to the bottom in front of suspected water banks or corners. Then use one leg to step on the suspected area to sort of scare the fish from their hide out into the net. Without this, the chances of you catching a betta is very very as they are good hiders. We usually bring some bags of the habitat' water home to house the fish in.

Soon after, Nasir discovered *Betta brownorum*'s habitat in one of his Channa fishing trip at Matang, Kuching and he showed me the

location. . Low light area covered with lots of trees, pH ranging from 5-6, tea-colored water, temperature should be around 24-26 degrees Celsius and they are usually caught at areas with lower water level near the banks and under fallen leaves/plants. Other fishes that you can catch here will be *Betta ibanorum*, six-banded barbs, leaf fish, and some Channas (*C.lucius*, *C.melasoma*, *C.bankanensis*, *C.striata*).

We thought that their habitat is limited to only that small area but we are wrong. After numerous exploration around that area, we managed to catch them within 2KM radius. There is also another location where you can find *B.brownorum* which is in Sibutown (also in Sarawak). The *B.brownorum* here can be

differentiated with those from Matang by looking at the green blotch at the body. Those from Matang have a bigger green blotch.

Then I found another location in between Kuching and Sibul with another friend of mine. This location was actually found by a nature lover and we got the information from him.

Melvin and I planned a trip to look for the clear water swamp that *Betta brownorum* can be found some where near Sri Aman. This is our second attempt after a failed trip last year. This time, we found it!



A polluted drain just outside the habitat.



After crossing the drain into the jungle, this is how the habitat looks like. Very similar to the one in Matang. Even the type of fishes and shrimps caught here are the same type as those in Matang.



Another view of the habitat.



Juvenile *Betta ibanorum*.



Catch of the day, *Betta brownorum*.



Saw some *Nepenthes Sp.* beside the road and a very unique church in the village. Couldn't help but to take a picture of it. Yet another fruitful trip

## FROM THE ARCHIVES- CTENOPS NOBILIS



### Natural history- Dave Armitage

This fish was first described by McLeland in 1845, naming it *Ctenops* or 'Comb-face' after the perforations in front of the eye. Its specific name means, 'well known' which is hardly appropriate. It is normally described as coming from the Brahmaputra delta

and Ganges delta with the limits of Dibrugarh in the northeast and Calcutta in the south west. Ladiges was more specific listing Assam, Raimona, Goalpara district and River Janali favouring thickly planted habitats occurring near river banks although Mackessack found it in Saraya Man lake, Bihar Mayland

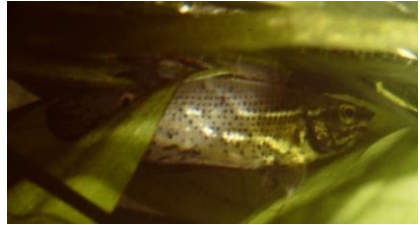
found them in rivers with a stony bed, hiding away between large pebbles in water of pH 7.5, low hardness and 18-22 C. It is reported as making jumps of up to 25cm out of the water, treading water and curving its body into an 'S' before leaping.

(From *Aquarist and Pondkeeper* 1986)



### **Courtship – Dave Armitage**

The first import into the UK was in May 1986 and a second in July. I cured them of Velvet using 'Protozin' but some suffered from fungus, particularly on the mouth and lips. Nevertheless on Sep 7 1986, I noticed one Ctenopoma wasn't feeding and, suspecting disease, I flushed it out of its refuge near the water surface at the rear of the tank. Its mouth was distended and it was 'chewing'. Then it spat out 4 large opaque white eggs which it immediately picked up again. At least I could confirm that its was a mouthbrooder !



One day after I discovered my Ctenopoma carrying eggs in its mouth, it started eating again and had obviously swallowed them. Three days later, the mouth was full once more but this time the eggs were eaten after 10 days.

However, shortly afterwards, I was able to watch a series of false embraces which started at about 5 am and continued until light out. One fish, showing a very dark, marbled pattern stood, head up before the other with the body slightly flexed. The other lay quietly at the surface, a uniform dull brown.



The first fish then swam toward the other, mouthing the second one's chin or gill cover.





The second fish then began to tremble violently while the other swam under its belly, along the flank, sometimes swimming over the back to repeat the performance.



Sometimes the dull fish would respond to the other by flaring its own fins, puffing up its cheeks and opening its mouth wide, very much in the same way (as I had seen) in *Betta unimaculata*.



During these observations, no eggs were released so I could not identify male and female. All that was certain is that 2 of my £ fish were of one sex

and it is that sex that initiates sexual and aggressive displays .  
(From *Labyrinth* 29 & 30)

### **Breeding – Stefan Bitsch, IGL Denmark**

I have been breeding my favourite fish, the Chocolate Gourami, for some time so I was interested to read the accounts about *Ctenops* in 'Labyrinth' in 1986 so bought 6 fish in July 1987. I had no losses in my tapwater at 7DGH, pH 6.8 and 27C.

After I'd had them for only 14 days, I saw the female drop 1 egg. As was mentioned in 'Labyrinth', it was white and opaque and later on I saw that she carried eggs 3 or 4 times. One day I saw a series of false embraces which continued for 2 days. After this, I was able to identify male and female as what I assumed to be the male chased other fish. No eggs were released while I watched, but on the third day the female had eggs in her mouth. Unfortunately she swallowed them after day or two.

A week after this, I saw the female had again a mouthful of eggs so I exchanged the light for a 15W incandescent lamp and covered half the tank with a dark towel. This divided the tank into a dark and light side. The light was kept on 24h a day and I didn't remove any of the other 6 *Ctenops* in the 160 l tank, although I didn't feed them. After 10 days, the female was still carrying the eggs so I removed her to a 30l tank, totally covered on the outsides with dark

paper so it was again divided into a light and dark side. I removed the female as carefully as possible, nevertheless she still spat out 2 free-swimming fry. Over the next 5 days she spat out a total of 150, some of which were very small and weak so I lost about 30 in the first week. Every day I removed the fry that the female spat out and placed them in another tank where they were fed with brine shrimp naupili. The fry looked very like those of *Sphaerichthys* when they were spat out and were 5-6mm long.



Finally, I believe I did detect the following differences between the sexes. The males have a larger, more muscular body and are usually darker than the females. The female has a larger throat than the male because it is she that does the mouthbrooding. The male has a white 'V' just in front of the dorsal fin and this does not appear to be present in the female.

Raising the fry was not easy. Many were small and weak and died soon after the female spat them out. The second problem was with parasites. Although I changed 50% of the water 4 times a day, many fry died. Copper chloride, Malachite green and Methylene blue (which was not well tolerated) were all tried and failed before a dose of 1 teaspoonful of salt to 10 litres of water cured them.

They grew to 20mm after 7 weeks, by which time they had their labyrinth organ and were growing strongly. After 14 weeks, 8 *C.nobilis* remained and at 4cm they were already showing signs of aggression. At this stage they had a dark brown body alternating to silver, a broad red margin to the caudal, a red dorsal, a yellow green or black anal and a silver lateral line with 15 spots in a line along the body, like the adults.

Below is the time table for the 2 spawnings:-

27C, 7DGH, 6.8pH	24C, 7DGH, 6.8 pH
Aug 11 spawned	Dec 10, 11 False embraces
12/8 eggs swallowed	12/12 spawning
19/8 spawned again	22/12 fem removed
29/8 fem removed	27/12 14 fry spat out
30/8 2 fry spat out	28/12 21 fry
1/9 49 fry spat out	29/12 94 fry
2/9 21 fry spat out	129 fry after 17 days
3/9 40 fry	
4/9 58 fry	
170 fry over 16 days	

(From *Labyrinth 35 and 38*)

### **Metacercaria and *Ctenopoma nobilis* - Michael Kokoscha**

At first, I thought there was no problem keeping *C.nobilis* as long as they were kept in good conditions but even I have lost fish which were perfectly healthy or even spawned. This was hardly a matter of water quality or food.

In the last import of *C.nobilis*, I found I had problems with Metacercaria. These are one of the steps in the

development of a digenic trematode (parasitic flatworm with 2 or more hosts). The eggs get into the water with the excreta of the last host. From these emerge ciliate larvae which live in water snails, develop into sporocysts and then into miracidia and cercarian larvae, while increasing through parthenogenesis. The cercarian larvae then leave the hosts and burrow into fish where they encyst.

In *C.nobilis*, I found yellow egglike metacercariae in the muscles of the body and head although the eyes were not affected. While they are encapsulated, they can't do the fish much harm but when the animals are weakened for any reason, they can break out of their encapsulation, go freely into the body of the fish and cause breaks in the skin which can become bloodshot and then infected with secondary bacteria, causing abscesses.

Perhaps the metacercariae are also responsible for the badly damaged mouths of many *Ctenops*. These parasites in the stomach also attack other organs and open them to 'hole in the Head' disease which otherwise would not occur. A symptom of this is white, slimy excreta and can be attacked with 'Hexa-ex'. This has the advantage over Metrodisol as it is easier to dose and better tolerated.

To sum up: nearly all imported *C.nobilis* have encapsulated Metacercariae and when and if they

break out depends on how carefully they are kept and thus avoid secondary infection. Little can be achieved in removing the cysts with medicaments so at the moment, we must try to produce young fish which will be free from the metacercariae as the parasite cannot complete its life-cycle in the aquarium.

(From *Labyrinth* 38)

#### EDITORS RAMBLINGS

First: two very important omissions from the report on our Members Weekend. First, many thanks to Ian Stephenson of 'Topshow' for his donation that paid for our successful table show. Second, thanks also to Trevor Douglas for his presentation of a donation to AAGB on behalf of 'Friends of Yorkshire'.

Much of the content of 'Labyrinth' of late has evolved from web sites or forums (all with permission of course) so if you come across anything suitable, please draw it to my attention. We should maybe even link to it via the AAGB web site. Of course your own articles would be even more welcome !

I'm just putting this together as I sent out the invites to our autumn members' day on October 1<sup>st</sup>. Hope to see you there with lots of your home-grown fish.

Front cover *B. brownorum* by Clearwater Aquatics

ANABANTOID ASSOCIATION OF GREAT BRITAIN

Hon. President: J.Dawes Aquatic consultant

Secretary; and Member's Weekend: Mrs

C.Webb, 19 Chiltern Crescent, Spotbrough, Doncaster DN5 7PE

cjlabyrinth@tiscali.co.uk

Chairman & Judging Panel:

K.Webb, 19 Chiltern Crescent, Spotbrough, Doncaster DN5 7PE

Treasurer: K&E Smith

Merchandise: Vacant c/o Secretary

Information Officer: A.Smith 26 Langdale, Gt Notley, Braintree, Essex, CM77 7XA

Editor: **D.M.Armitage, 1a, The Orchards,**

**Westow, York YO60 7NF**

**01653 618971**

**westowfish@yahoo.co.uk**

Web page A. Pinto : <http://www.aagb.org/>

#### SUBSCRIPTIONS (Pounds sterling)

Overseas/Family £15 Individuals £10.00

OAP/Under 16 £5.00

#### LITERATURE

\*Gouramis & anabantoids. H.Richter, TFH

\*Bettas, Gouramis..... J.Vierke, TFH

\*Labyrinthfish. H.Pinter, Barrons Labyrinthfish.

H. Linke. Tetra (see below)

\* ? out of print

#### AAGB MERCHANDISE (Pounds sterling)

Car stickers, Badges round £1.00

Key rings £0.90

Paper weights, small (ca 2ins sq.)£1.20

Paper weights large (ca. 3ins sq.) £1.50

ALL THE ABOVE CARRY OUR

ATTRACTIVE LOGO IN 3 COLOURS

Back issues Pre-1991 £0.60

1992 on. £1.00

Postage extra; cheques payable to AAGB

#### AAGB SLIDE COLLECTION

**1991** *Betta macrophthalmia* and *Trichopsis schalleri* by K.Webb, *Ctenopoma muriei* (male) and *Macropodus ocellatus* by O.Roth

**1992** *Pseudosphromenus dayi*, *Betta bellica*, *Macropodus opercularis*, *Ctenopoma damasi*; all by K.Webb.

**1993** *Parosphromenus deissneri*, *Betta splendens*, *Anabas oligolepsis* by K.Webb, *Ctenopoma nanum* by D.Armitage

**1994** *Malpulutta kretseri* (male) *M.kretseri* (female) by D.Armitage; *Colisa lalia*, *Ctenopoma weeksi* (*oxyrhynchum*), *C.muriei* (female), *Channa gachua* (portrait) by K.Webb

**1995** *Sandelia bainsii*, *S.capensis* and *habitats of each* (4 slides, tri-fold leaflet p&p £3)

**1996** *Parosphromenus nanyi*, *Ctenopoma fasciolatum*, *Trichopsis vittatus*, *Betta persephone*, *B splendens*: Twin-tail and Cambodian. 6 slides by Kevin Webb, *Ctenopoma intermedium* and its Okavango habitat 2 slides by Dr J. Cambray

Fish name, photographer and year are printed on each slide, to protect copyright.

75p each or plus 24p P&P (£1.00 Overseas)

Cheques made out to AAGB

From Merchandise Officer

THE CONTENTS OF LABYRINTH ARE COPYRIGHT AND ONLY IGL/CIL MAY REPRODUCE THEM WITHOUT WRITTEN PERMISSION

**\*CLOTHING WITH THE AAGB DESIGN\* of the chocolate gourami within the words Anabantoid Association of Great Britain is now available .**

Sweatshirt with logo £ 18.80

Poloshirt ( slipover or three buttons) £ 15.30

Baseball/Beanie caps/hats £ 11.20

Logo on your own garment £ 5.60

**Please ask us first for a quote as these prices are subject to alteration and exclude P&P.**

**To order or make further enquiries please email us at [Bettajive@aol.com](mailto:Bettajive@aol.com) or use the address for Andie Smith above**

#### Exclusive offer

**We can now offer Horst Linke's Tetra Book 'Labyrinth fish', the only book worth having on the subject for a knockdown price of £5 including post in the UK. Send a £10 note for Overseas Air mail.**

Enquiries and orders to the Editor.

Cheques to AAGB.