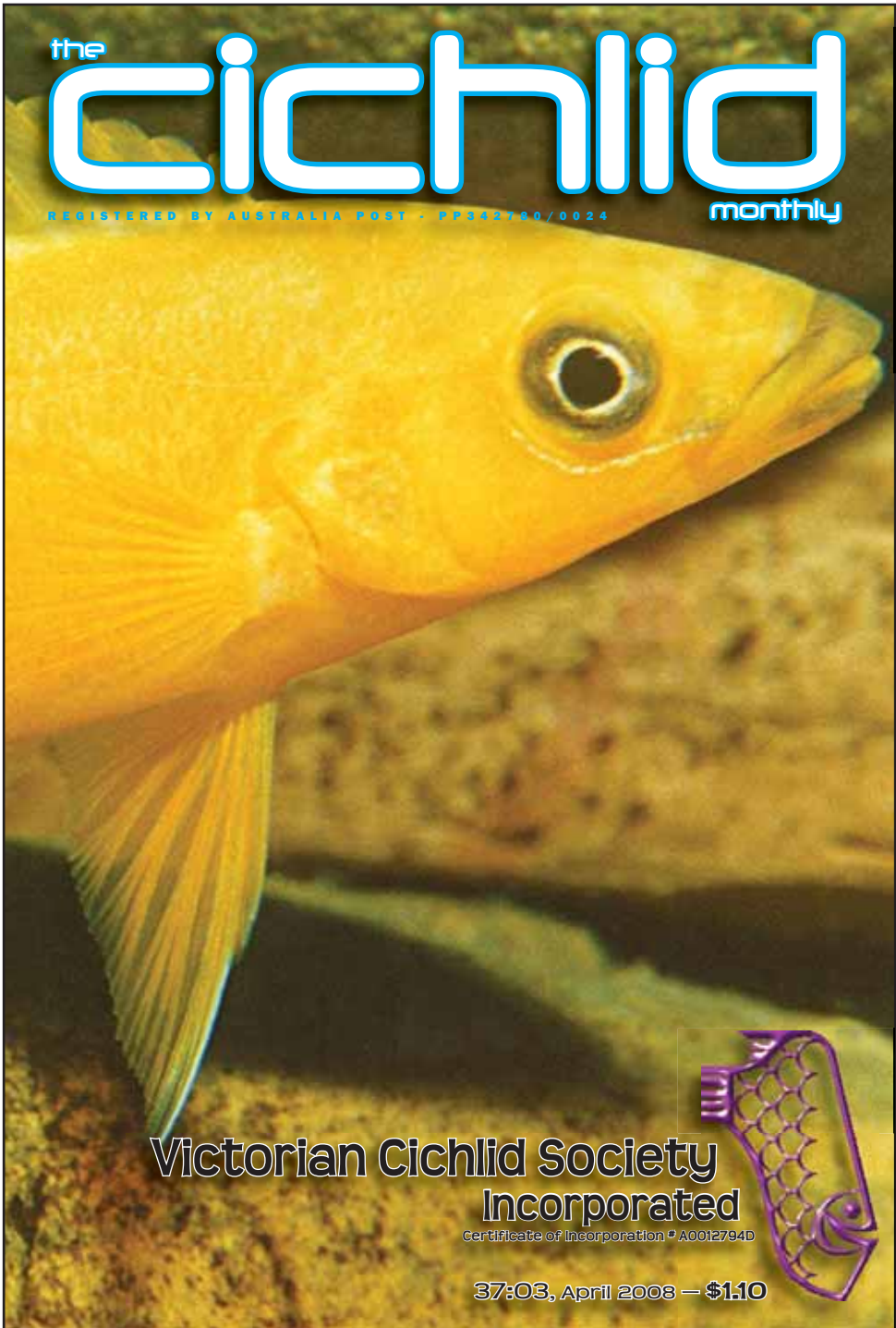


the

# cichlid

monthly

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 Mailing: Peter Robinson.  
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Graham Rowe, Heinz Staude,  
 Kevin Archibald, Keith Patford,  
 Danny Genovese, Daryl Hutchins and  
 John McCormick.

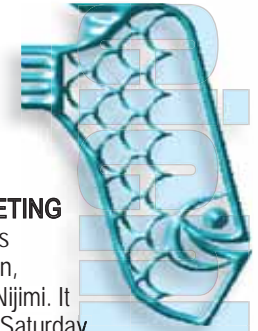
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Graham Rowe.

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**THE NEXT MEETING**

of the Society is the April Auction, sponsored by Nijimi. It will be held on Saturday, 12 April in the Mitcham Scout Hall, Brunswick Road, Mitcham.

**DRAW PRIZES from NIJIMI:**

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**COVER PICTURE:**  
*Neolamprologus leleupi* - Steve Butcher.



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## Aims of the Society:

The Victorian Cichlid Society was formed by cichlidophiles in March 1972, thus becoming the first specialist aquarist group in Victoria. Its main aims are:

1. To promote the keeping of cichlids;
2. To gain and disseminate knowledge of cichlids, their habits and attributes through the use of slides, films, books, lectures, practical demonstrations, local and overseas magazines, articles by members and discussions with fellow members or experts in the field;
3. To assist, in any way possible, the establishment and/or maintenance of approved public aquaria;
4. To be involved in the education of the general public with regard to the benefits of fishkeeping (particularly cichlids), and the potentially harmful effects of animal mismanagement;
5. To promote fellowship between members;
6. To further the conservation of species and their natural habitats;
7. To further the identification, distribution, breeding, maintenance and enjoyment of species in the Family Cichlidae.

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NB: Please note that the opinions expressed in this publication are those of the authors, and are not necessarily those of the Editor of TCM or the Committee of the Victorian Cichlid Society Inc. You are encouraged to write to, or e-mail the Editor on any subject raised herein.

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# Elaine Turner Memorial Art & Photographic Competition

## 3 September

(It's not something you rush into  
 ... but do it anyway.)



Al Mahara Restaurant, Burj al Arab Hotel, Dubai

# Uaru amphiacanthoides



From a presentation to the Society  
by Peter Robinson  
in March 2008

Picture: © Chris Davis

These magnificent representatives of the Cichlid family first came into my possession in approximately 1972. They were part of a shipment of fish imported from Germany. When I saw them I was immediately captivated by their appearance. At this time, the Uaru genus consisted of two fishes, *Uaru amphiacanthoides* and the very seldom seen *Uaru imperialis*.

The amphiacanthoides was named by Heckel in 1840, the specimens were collected by Johann Natterei on his 1830s expedition to the Amazon

and Guiana. The Uaru is often found in close association with Pterophyllum and Symphysodon. This means of course they do best in soft acid water and should be maintained at similar temperatures 27-28°C and up to 30°C for breeding, as they are very warmth-loving.

The fish have one bad habit, their only one as far as I have found, and that is they love not only warmth but also are very attached to plants. So attached in fact that they attach themselves by the mouth and ingest the plants as speedily as a motor mower ingests

grass. I would say that next to tubifex, plants are their favourite food.

Feeding these fish is very simple, they relish any food you can offer, tubifex worms are their first favourite, followed by lettuce leaves, duckweed, pellets, beef heart, flake food, freeze-dried shrimp, etc, and are all regarded as good tucker.

To condition and grow these fish, I have found tubifex are by far the best food as, like Discus, they are overly fond of this very scarce live food. I am adamant that this food is supreme for them to grow and breed.

I have found that the Uaru likes a dark tank for breeding and being a substratum spawner should be supplied with a longish flat rock or a cave suitable for the size of the fish. The spawning site I chose was situated in the dark end of a 36"x 18"x 18" tank which they shared with a *Cichlasoma kraussii*, several *Corydoras julii*, three *Festivums* and a Tinfoil Barb.

The Uaru staked out their territory, but although they were very territorial they never appeared to be vicious to the other inhabitants; which is rather unusual for such large cichlids. The other fish seemed to treat these stately, gentle fish with great respect and left them strictly alone even though they exhibited no aggressive behaviour at all.

The spawnings of these fish are rather small for such a large fish, which can grow to 25 cm, or larger than the Severum. They produced 52 fry in the first spawning and about 60 in their second. I feel the small spawnings are governed by the fact that these fish, like Discus, produce food secreted through their body slime. If they

produced large broods like their cousins, the Severum, they would be unable to feed their fry.

There is confusion in many books regarding this fact but I am positive the young must be left with the parents for the first few weeks at least. The fry will accept newly hatched brineshrimp but they also continuously contact the bodies of the parents as well. Heinz Staude tried artificially raising his only spawning of Uaru and he ended up with one fish for all his trouble. He also noticed the fry were trying to contact-feed from a Mystery Snail which shared their raising tank.

We also found that my fry, who were left with their parents, grew twice as fast as those being artificially raised, until his one survivor was large enough to swallow young *Geophagus brasiliensis* x *Gymnogeophagus gym-nogenys*. The young Uaru then finally started to grow at a faster rate but still not as fast as those left with the parents.

Sexual differences are not easily seen but the male displays a phosphorescent green spot on his left gill cover only, while the female lacks this iden-

tifying mark. The green spot only seems to appear on maturity of the fish and until the first spawning it was not observed. The other distinction is in the breeding tubes. As with all cichlids, the female's tube is large and blunt while the male's is smaller and sharply pointed.

The parents show incredible intelligence over the protection of their fry although they do not display any vicious defensive behaviour. When trying to remove the first batch of young at 10-cent size, the parents divided the fry into two schools. One school went with the female to one end while the male led his to the opposite end. The adults showed remarkable agility at positioning their bodies between the fry and the net so that all one could catch was a large and irate parent while the fry safely beat a hasty retreat. This procedure became very much like a ballet with the ingenious parents doing the choreography, much to my frustration.

After the second spawning I had removed the female early, about six weeks after the fry were free-swimming, due to



her being a little knocked around by the fry's contact-feeding. This left only the male to try to protect the young, which was a lot more difficult and made it impossible for him to use the old technique of the previous spawning. He now worked out a new game that was even better than the original system. As the net closed in on a young Uaru, pinning it into a corner, he would rush in from behind the net and grab the light nylon netting in his jaws then tug it back, thus releasing the fry.

Nobody would believe me when I told them about this incredible intelligence, but one night Graham Rowe was in the fish house and I asked him to try and catch out some fry in the tank. He was amazed when father went through his act and, if you do not believe this, just ask Graham.

These fish are the gentlest fish that I have struck in the cichlid family. Even so, I have kept them with very pugnacious cichlids – "*Cichlasoma managuense*" and others – and they have never been attacked. They seem to command a degree of

respect from their less-noble tankmates.

The common name given to this fish is the "Triangle Cichlid". The body is strongly compressed and Severum-like in shape. The colouration is variable. Unlike the adults, the fry are a dark chocolate-brown with strong mottling on the body. In the adult, the body becomes a honey-brown, although it does vary under some conditions. Always visible is the distinct black "triangle" wedge. The fins are clear with the exception of the hard rays on the dorsal and anal fins which are white, seemingly fun-gussed.

The fin ray count for the Uaru is as follows; dorsal 15-16 hard rays followed by 14-16 soft rays, anal 8 hard and 13-15 soft. The lateral line has 40-42 larger scales while the rest of the scales are smaller. The teeth are slender and compressed resembling the fine teeth of a comb. Ideal for pruning your plants down to the roots.

These fish are still scarce in the hobby and are commanding high prices overseas, but due to their stately appearance and peaceful behav-

our I feel that they are a very desirable fish to keep if you like big cichlids.

For my talk on the genus in March 2008, it was necessary to update myself on the genus as (surprise, surprise) there had been some changes ... and a new player. With the internet now available as a research tool it is so easy to find information ... in the 70-80s we had to do it the hard way. With this new-found ease of information retrieval and availability of dirt-cheap digital cameras, there is really no longer an excuse for anyone not creating an article of some sort for this magazine. (I may have embellished this paragraph just a tad – Ed.)

The Uaru is found in the Amazon-Solimoes River drainage system from the Japura River to the Tapajos River and in the middle to lower Negro River basin. The fish inhabit slow-moving stretches of the blackwater rivers and lakes hanging in small groups close to fallen trees and the submerged roots of trees along the banks where aquatic grasses and plants abound. The waters they inhabit are low in pollutants and as it is black



Picture: Peter Robinson

**A pair of *Uaru amphiacanthoides* ... top shelf, intelligent cichlids.**

water the pH varies between 5.7 to 6.5 with a dH of 0-6, while the temperatures range from the mid-20s to 30°C.

In 1989 a second species was discovered and named *Uaru fernandezyepezi* (Stawikowski) after Augustin Fernandez Yopez, a Venezuelan ichthyologist. This species was discovered in the Rio Atabapo, four kilometres from the mouth of the Rio Orinoco in Venezuela, the location was plant-free with a leaf-littered sandy bottom and tree roots. With this habitat in mind maybe the fernandezyepezi would be

kinder to your beautifully planted aquarium? (Or there were no plants ... because? – Ed.) Sadly we will never know, as our draconian regulations prohibit their importation into Australia, although it is rumoured a number of these fish were seized at Tullamarine airport a few years ago. The new species caused a huge buzz amongst those who fancy New World cichlids and everybody desired to obtain this new and extremely rare fish, me included.

There are possibly two more species known, one imported into Europe

called the Orange-flecked Uaru, and approximately four years ago an Uaru appeared here that showed a number of small white star-like spots on its flanks. I do not know if these were ever bred as I have not seen any since. These may just be geographical variants but who knows, they resemble the original fish except for the intriguing white spots.

Once again, I stress that if you wish to keep a truly interesting and extremely intelligent cichlid you cannot go past *Uaru amphiacanthoides*. 🐟

Judging by the popularity of wine as a raffle prize, it is obvious that there are quite a few wine buffs in VCS ranks ... so the following should be of great interest:

## I HEARD IT THROUGH THE GRAPEVINE!


### New Wine for Seniors

California vintners in the Napa Valley area, who primarily produce Pinot Blanc, Pinot Noir and Pinot Grigio wines, have developed a new hybrid grape that acts as an anti-diuretic.

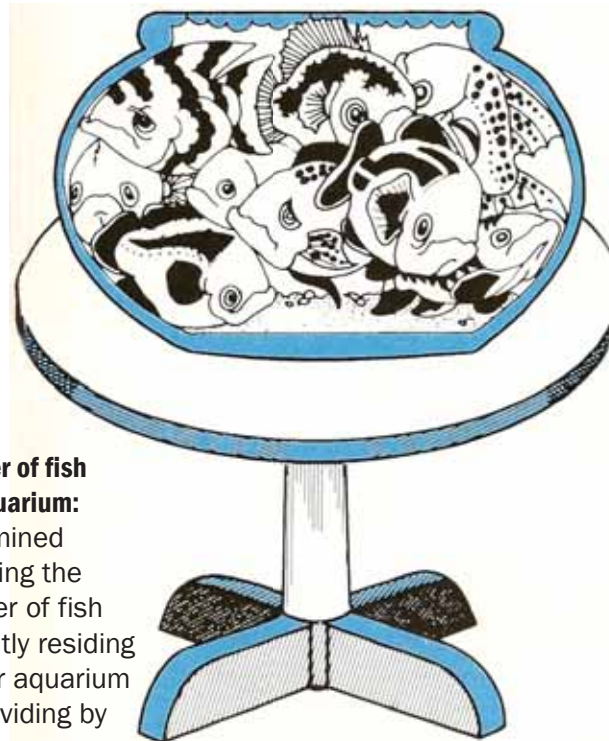
It is expected to reduce the number of trips older people have to make to the bathroom during the night.

The new wine will be marketed as

# PINOT MORE Cheers!



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# Fish & Aquarium Equipment

# AUCTION

## SATURDAY,

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**Doors open at Noon for receipt of goods  
-- Auction commences at 1 pm.**



**Draw Prizes from Nijimi Pty Ltd**

# Auction Rules: April 2008

## 1 Reserve Price:

1.1 The Reserve Price (if any) of an item shall include the Society's commission. (See also Rule 7.2.)

## 2 Scrutineers:

2.1 Official Scrutineers shall be appointed by the Committee and empowered to remove sub-standard fish from sale.

## 3 Care of Goods:

3.1 Upon delivery to the scrutineers, all items come under their care and control.

3.2 There will be no access to an item unless, under special circumstances, the scrutineers permit such access.

## 4 Eligibility of Goods for sale:

4.1 At the discretion of the Auction Committee, the sale of non-aquarium-related items may be deferred until all aquarium-related items have been processed.

4.2 First boxes shall be auctioned, where practicable, in order of arrival. Second, third, etc boxes shall be auctioned in the same order.

4.3 No more than four (4) lots of the same item may be offered for auction by any vendor.

4.4 Known Hybrid fishes are not to be offered for sale.

## 5 Packing Standards:

5.1 At the discretion of the scrutineers, a fee will be charged for re-bagging fish if this is necessitated by obvious poor or inappropriate bagging.

5.2 Cardboard boxes will **not** be allowed for fish.

5.3 All fish to be in **closed** foam/insulated boxes with itemised Auction Form/s inside.

## 6 Accounts:

6.1 Anyone wishing to run an account must make arrangements with the Accounts Clerk prior to commencement of the Auction.

6.2 All accounts will be settled immediately following the Auction. **Payment by cheque, only by prior arrangement with the Accounts Clerk. Suitable photo ID required.**

## 7 Marking of Items:

7.1 All lots are to be clearly marked as to contents and reserve price, if any, consistent with the Auction Form.

7.2 Any item without a reserve price marked on it will be auctioned as if there is no reserve price.

7.3 Second-hand equipment not marked "working" will be treated as if it is "not working".

## 8 Non-Members:

8.1 Non-members goods will incur an additional levy of five per cent. This will be waived in the event that the vendor applies to join the Society prior to commencement of the Auction.

## ~ FYI ~

- 1 Foam boxes will be sold at the door, when available. Don't count on this service though, as foam boxes are becoming harder to acquire all the time.
- 2 Information on bag labels to correspond with information on Auction Form.
- 3 Auction to be continuous – there will be no break.
- 4 No-one except officially appointed scrutineers will be permitted to touch boxes/lists before fish are auctioned.
- 5 Colour-coded labels to ensure all first boxes are sold in order, before any second or third boxes.
- 6 It is suggested that Prime, or some similar product be used when packing fish.
- 7 To encourage appropriate bagging (see Rule 5.1), the re-bagging fee of \$1 will be enforced.

## IMPORTANT NOTICE:

Using the above rules and as much diligence as can reasonably be expected, the Society does its best to ensure that goods and livestock are as-described at the time of sale.

Vendors are required to observe the rules and use common sense and honesty in presenting goods/livestock for sale.

Buyers are responsible for the welfare of livestock once their care has passed to them. If a problem is observed with goods/livestock at this point, they should notify the scrutineers to have the problem remedied.

The Society can cancel sales during the course of the auction, where considered reasonable, but will accept no responsibility whatsoever for goods or livestock that have left the auction premises.

# Question: My Convict Cichlid's Name Is?

## A New Monograph May Change Everything – Part II



By **Wayne S. Leibel**

Department of Biology, Lafayette College, Easton, PA 18042

• leibelw@mail.lafayette.edu

### Recapitulation

In Part I of this article (BB 243), I presented the newest developments in the taxonomy and systematics of the “Convict” cichlids. Juan Schmitter-Soto (2007a), in a new revision released as a monograph on September 28, suggests several significant changes that may impact what we call and how we think about this group of popular aquarium cichlids. Among other conclusions, Schmitter-Soto (2007a) restricts the genus *Archocentrus* to the species *centrarchus* (the type) and *spinosisimus*, and moves *multispinosa* here, thus sinking the monotypic genus *Herotilapia*. He redefines

the genus *Cryptoheros* Allgayer 2001, establishing three subgenera (*Cryptoheros*, *Bussingius*, and *Panamius*), and moves the species *panamensis* (formerly in the genus *Neetroplus*, then *Archocentrus*) into it.

The hobby Convict Cichlid is moved to its own new genus *Amatitlania*, and three new “Convict” species are described and added to it. The genus *Rocio* is created for the hobby Jack Dempsey, and two new species are described and added to it in addition to *octofasciata*. *Neetroplus nematopus* is moved to the genus *Hypsophrys*, which contains the species *nicaraguensis* (whose name

is retained instead of the earlier *unimaculatus*), and the genus *Neetroplus* is abandoned. If he is right, this revision trumps that of Allgayer 2001 who erected and named the genus *Cryptoheros* to contain many of the fish Kullander (2003) and others placed in the “section”, then genus *Archocentrus*, following restriction of the genus *Cichlasoma* to the 12+ “Port” cichlids (eg: *Cichlasoma portalgrense*, *C. bimaculatus*, etc).

### So, Is He Right?

Should we now call the Convict Cichlid *Amatitlania nigrofasciata* and the Jack Dempsey *Rocio octofasciata*? Does



This particular variant of *Cryptoheros nigrofasciatus*, in its native habitat of the Rio Ciruelo, on the Pacific slope of Costa Rica, has been described as the new species *Amatitlania siquia* Schmitter-Soto 2007.

formal publication of these changes mean acceptance and usage of these new names? I will attempt an answer to these questions in this, the second part of this article. In Part I, I discussed specifically the taxonomic and systematic history of the cichlids formerly called “*Cichlasoma*”. I also discussed in a general way how ichthyologists have gone, and now go about, classifying and naming them based primarily on morphological characters and interpretations of which are important and what the ancestral character state must have

been. This approach, called cladistics, not only orders and names the animals, but also suggests a likely evolutionary history (phylogeny) for them. Sometimes morphological characters are sufficient to solve the puzzle, and sometimes not. They can be, if not chosen and analysed carefully, misleading as indicators of evolutionary relatedness/phylogeny if you pick the wrong ones to focus on (eg: convergences). But a molecular approach can sometimes result in a more accurate view of species relatedness.

### What the Molecules Have to Say

In theory, the “genes” do not lie. That is, by comparing the nucleotide base sequence of homologous genes or gene segments between species, and using the number of differences in pairwise comparisons as a measure of relatedness or even simply as a time of divergence from a common ancestor (a molecular “clock”, if you will), one can get a clearer picture of the evolutionary relatedness and history of the group. Clearly, there are also problems associated with this approach





Should we now call the Jack Dempsey Rocio octofasciata?

(eg: which genes one should look at, how many one should look at, should they be nuclear or mitochondrial genes, do they all give the same answer or do the genes themselves have evolutionary histories independent of the “bigger picture” of species evolution, etc?).

The molecular approach has often proven useful in determining the phylogenetic (evolutionary) relationships of species and higher taxa (genera), though sometimes the “trees” inferred from these data run counter to more traditional morphological interpreta-

tions. Better yet is a strategy that combines BOTH molecular and morphological data, often called “total evidence” (Farias *et al*, 2000).

So what of the *ex-Cichlasoma* heroine cichlids? Do the molecular data support the carving up of this apparently heterogeneous group of cichlids into discrete genera as Kullander (2003) supports? (In a nutshell, yes!) And if so, which groups are natural (monophyletic) and supported by DNA analysis? Several molecular studies of Mesoamerican heroine cichlids (Roe *et al*, 1997, Martin and Bermingham,

1998, Hulsey *et al*, 2004) suggest that they are indeed polyphyletic (have many independent origins). No surprise here – however, there *are* plenty of surprises in terms of the putative relatedness of many of the genera and also of their species composition.

With respect to the Convict Cichlid (*nigrofasciatus*), the namesake of this article, there are molecular data to suggest that the placement of this species, along with the approximately nine other “Convict”-type cichlids (*altolavus*, *centrarchus*, *myrnae*, *nanoluteus*, *pan-*

*amensis*, *sajica*, *septemfasciatus*, *spilurus*, and *spinosissimus*) within the genus *Archocentrus* as recognised by Kullander (2003), may be doubtful. Martin and Bermingham (1998), with reference to this point, and using mitochondrial cytochrome b gene sequence data suggested: “The molecular data indicate that taxonomic revision of some genera may be necessary. First, *Archocentrus* is paraphyletic in the inferred topologies of relationships” meaning that, members of the genus *Archocentrus* might have different and separate evolutionary histories. They suggested that *Ar. myrnae* and *Ar. sajica* may deserve recognition as distinct genera (in addition to the “natural” *Ar. nigrofasciatus*/

*septemfasciatus*/ *centrarchus* clade they resolved). For those who have kept them, this seems unlikely.

#### Extended Studies Bring Surprising Results

Hulsey *et al*, (2004), extending these studies with the same gene, again found a clustering of *Ar. myrnae* with *P. dovii* and *P. managuensis* (themselves sisters) (listed from here on as they branch off this cluster), and branching off in turn (imagine a stepwise bifurcating tree) *P. loisellei*, branch *Ar. sajica*, branch *Ar. spilurus* with “*C.*” *salvini*, and another distinct cluster having *Ar. nigrofasciatus* as sister to *septemfasciatus*, branch *Am. citrinellus* and *labiatus* (sisters), branch *Ar. centrarchus*, branch *Am. trimaculatus*,

and a sister clade comprised of the monotypic genera *Hypsophrys* and *Neetroplus*.

Clearly these results were surprising – that *Ar. sajica*, *myrnae*, and *spilurus* would seem to be more closely related to *P. dovii*, *P. managuensis*, and *P. loisellei*, than they were to *Ar. nigrofasciatus*, *Ar. septemfasciatus*, and *Ar. centrarchus* makes little to no sense at the morphological level (to me, at least). Perhaps these results were an artifact of an improper choice of gene to sequence and compare. Mitochondrial cytochrome b has been called into question regarding its power to resolve genetic distances at the level of species in cichlids. Moreover, studies such as these actually follow divergence

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and evolution of the gene itself, and not the organism *per se*, at least not morphologically. They may or may not be a reasonable proxy of events at the organismal (fish) level.

#### Another (Morphological) Look at *Archocentrus*

Meanwhile, Robert Allgayer, in 2001, had proposed the new genus *Cryptoheros* for the small species of “*Archocentrus*” related to the Convict Cichlid. His designated type species for this new genus was *Heros spilurus* Gunther 1862. The name “*crypto*” means “hidden” and alludes to the reproductive mode of the species in the genus, which hide their eggs in crevices and holes in nature. The genus diagnosis included a reduced number of anal

fin spines (six to 10 in *Cryptoheros* versus nine to 12 in *Archocentrus*) and a more elongated body shape than the species he retained in *Archocentrus*. He included seven species in *Cryptoheros*: six known and valid species (*spilurus* Gunther 1862; *nigrofasciatus* Gunther 1866; *septemfasciatus* Regan 1908; *sajica* Bussing 1974; *nanoluteus* Allgayer 1994; *myrnae* Loisel 1997) and a new species, described there in his paper, *altoflavus* Allgayer 2001.

The species retained in *Archocentrus* included *centrarchus* Gill (in Gill & Bransford) 1877 and *spinosissimus* Vaillant & Pellegrin 1902. Allgayer also proposed uniting the genera *Archocentrus*, *Cryptoheros*, and *Herotilapia* in a new sub-

tribe, *Archocentrina*. His conclusions have received mixed review from the ichthyological community, although they have found usage in the hobby since their publication. Kullander (2003), in particular, rejects this classification scheme. And the molecular data reviewed briefly above, and a more recent study (Concheiro Perez *et al*, 2007; reviewed below) do not support this interpretation.

Which, finally, brings us again to the newly published (September 28, 2007) monograph of Juan Schmitter-Soto (2007a). I have summarised his conclusions at the front of this article, and a more exhaustive accounting of them appears in Part I of this article. His conclusions are based for the



**If the molecular data are correct, this *Cryptoheros sajica*, shown here in its natural environment of the Rio Olla 5, Southern Costa Rica, may warrant placement in a new genus according to Martin and Bermingham (1998).**

most part on basic classical meristic (fin/scale counts) and morphometric (body proportions, etc) measurements, with attention to a few novel details like gut coiling patterns, and his analysis is exhaustive (15 pages of tabular data). There are also some colourational and other details mentioned which may be of use to we hobbyists. He also provides a dichotomous key to *Archocentrus* and allied genera, so unknown fish can be “keyed out” (identity determined). He has also just published (October 19, 2007) a companion phylogenetic

analysis in support of his new classification scheme (Schmitter-Soto 2007b).

#### Is His the Correct Interpretation? Is the Convict Cichlid Really Now *Amatitlania nigrofasciata*?

The Schmitter-Soto (2007a) monograph cites a new molecular-based (cytochrome b, again) analysis of heroine cichlid phylogeny by Concheiro Perez *et al.* (2007) just published this past April (and which I chose not to review above). In it, they analysed sequences from 204 individuals representing 91 species (both South and Central

American), thus significantly extending the earlier cytochrome b studies reported previously. Their phylogenetic analysis rejects the monophyly of Mesoamerican cichlids and suggests the occurrence of as few as two and as many as four independent colonisations of Central America from South America resulting in their apparent polyphyly (derivation from multiple ancestors). They found that most of the Mesoamerican heroines can be placed within two large clades (not previously reported) which they name the **amphilo-**



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Juan Miguel Artigas Azas

**Hulsey's (et al. 2004) molecular data suggest that *Cryptoheros myrnae*, here a female in its natural habitat of the Rio Sixaola near Bri-Bri, Costa Rica, is closely related to the sister species *Parachromis dovii* and *P. managuensis*, which seems highly unlikely.**

phines and the herichthyines.

Further, their analysis suggests the existence of no as yet unnamed species groups which they suggest may be "good candidates for recognition as new genera." These include, not surprisingly, the "*Heros*" *octofasciatus* group (our Jack Dempsey). (Score one for Schmitter-Soto!)

Within the amphiphophines, the genus *Archocentrus* (sensu Miller 1966) is, according to Concheiro Perez et al, "clearly polyphyletic" (multiple ancestors).

(Score two for Schmitter-Soto!) The traditional working diagnosis of *Archocentrus* was based strongly on meristics, especially on the high number of dorsal and anal fin elements with D XVII-XX, 8-11 and A VII-XII, 6-9 which may be convergences.

Also, they report that the type species *A. centrarchus* is "strongly nested inside *Amphilophus*", whereas *Herotilapia multispinosa*, which Schmitter-Soto (2007a) has now moved into *Archocentrus* (thus sinking *Herotilapia*) is,

according to the cytochrome b data, part of the second, other, herichthyine clade. (Contra Schmitter-Soto: two for, one against.)

*Cryptoheros* as defined by Allgayer (2001) (and now modified by Schmitter-Soto) is also not supported as a monophyletic group by the DNA sequence data, though the species are all clearly "nested among the amphiphophines." Choncheiro Perez et al recommend for the time being retaining the *Cryptoheros* species within *Archocentrus sensu* Miller and sug-

gest that a revision is necessary. (Which, of course, Schmitter-Soto has just published!) (Score: Schmitter-Soto two balls, two strikes.) Actually, Schmitter-Soto's removal of (*Ar.*) *nigrofasciatus* from his newly-re-described genus *Cryptoheros*, and installation in its own new genus *Amatitlania*, may well be another point in favor of his proposed revision. (Final tally: three for Schmitter-Soto, two against.)

#### Limits of Exclusive Dependence on the Cytochrome b Gene

While Schmitter-Soto (2007a) does acknowledge these molecular results (and subsequent interpretations/recommendations) which run counter to his own, he offers that

the (continued) use of the cytochrome b gene for attempted phylogenetic inference in the heroine cichlids may be an inappropriate choice, and that the results reported by all groups who have used it suffer from limitations inherent in the long periods of evolutionary time involved, and the rate of nucleotide base change as it occurs in this mitochondrial gene over this time scale (ie: the effects of "saturation"). He concludes tersely and correctly: "Other genes should provide interesting independent evidence to settle the issue." Since there is only one true phylogeny, one true evolutionary pathway that occurred, and one "tree" that represents it, all analyses, if they are accurate, should point

to and support that tree. And as he states in his discussion: "a classification should convey information about phylogeny." Right he is!

#### Speaking of "Trees" (Phylogenetic Hypotheses)

Schmitter-Soto (2007b) attempts just such a cladistic analysis in support of his new classification. Based on 98 morphological characters which he judges important innovations (skeletal, meristics, morphometrics, squamation, gut coiling pattern, pigmentation, and karyotype (chromosome number and morphology)), he presents his results which overall support a monophyletic (common ancestor) origin for *Archocentrus*, *Cryptoheros*, *Hypsophrys*,



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*Amatitlania*, and *Rocio*. Unfortunately, this analysis does NOT resolve the actual evolutionary relatedness of these genera. He finds strong support for the distinctness of *Rocio* species from all the others and also for the distinctness of *Amatitlania* from *Cryptoheros* and *Archocentrus*.

There is also support for the three subgenera of *Cryptoheros*, with *Cr. panamensis* as the basal (most primitive) sister group of the rest of the species in the genus. But as for the detailed relatedness of species within *Cryptoheros* beyond the separation of subgenus *Cryptoheros (spilurus/cutterilchetumalensis)* as a cluster from the rest (eg: subgenus *Bussingius: altoflavus, myrmae, nanoluteus, sajica, septem-*

*fasciatus*), the jury is still out: 110 definitive phylogenetic hypothesis can be generated from analysis of these characters.

Adoption of this scheme, and associated nomenclature, will also depend on verdicts rendered by a jury of his peers – the review of this work by other cichlid systematists who will either embrace it or reject it. As Schmitter-Soto (2007b) himself notes: “(my) decision to exclude *Amatitlania* from *Archocentrus* (or *Cryptoheros*) will not remain uncontroversial.” The synapomorphies (ie: shared, derived characters) which define *Amatitlania* “are all related to pigmentation”. Indeed, the three unique characters shared by all these four species, including *nigrofasciata*,

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*Cryptoheros* cf. ‘*spilurus*; here a male in its native habitat of Roaring Creek in Belize, is a newly described species, *Cr. chetumalensis*, according to Schmitter-Soto 2007. The true *Cryptoheros spilurus* is endemic to the Laguna Yzbal drainage of Guatemala and is the type of the genus *Cryptoheros* by designation (Allgayer 2001).

include: the shape of the anteriormost bar on sides, the degree of extension of bars on sides into dorsal and anal fins, and the type of medial intensification of these bars. Is this sufficient for splitting them out?

Schmitter-Soto (2007b) suggests that living colors in relation to behavior (breeding, aggression, etc.) could and should be used more deeply for phylogenetic analysis generally and here specifically, as suggested to him by Loiselle. (Final Schmitter-Soto score pending further analysis,

particularly the splitting out of *Amatitlania*: three for, three against.) Note, however, it has already passed one layer of review in being published, and several prominent ichthyologists (eg: Kullander, Loiselle, Stiassny) are acknowledged explicitly for their “help” in refining these two monographs. (Note, however: “help” does not necessarily mean unreserved endorsement.)

### And What of this Work for Hobbyists?

What are we advised to do? Given the fallout

from our previous rush to embrace first *Heros* then *Herichthys* as logical replacements for *Cichlasoma* in 1986 *et seq*, in my opinion it would be best to wait a while and see. Will the Convict(s) be *Archocentrus* or *Cryptoheros*, or this newest alternative? Do they warrant splitting into their own new genus? Meanwhile, I am practicing my pronunciation of *Amatitlania* – say it fast three times! – just in case. But, say, just how do you pronounce that? (Ah-mah-teetLAN’-ee-yah) Me? I kinda like





Rusty Wessel

Schmitter-Soto (2007) removes the Rainbow Cichlid, *multispinosa*, from the monotypic genus *Herotilapia*, erected for it by Pellegrin in 1904, owing to its novel tricuspid teeth, and places it in the newly-restricted genus *Archocentrus*, along with the species *centrarchus* and *spinosissimus*.

*Cichlasoma* myself but then, that's how I learned it nearly 50 years ago poring over my beginner's hobby books. This old dog will probably need to learn yet more new tricks. And so it (cichlid systematics) goes.

The findings expressed in the Schmitter-Soto monograph are not necessarily representative of the views of the Editorial Staff of *Buntbarsche Bulletin* or the photographic contributors of this article. – Eds (ditto – Ed).

Special thanks to Dr Paul Loiselle and Juan Miguel Artigas Azas for their assistance in the proper identification of the photographs that accompany this article.

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Rusty Wessel

Schmitter-Soto (2007) recognizes *Cryptoheros cutteri* (Fowler 1932) as a valid species and not a synonym of *C. spilurus* (Gunther 1862).

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# Aaaargh! Oh No, Not More!

By Peter "Wordsworth" Robinson

*These wretched  
biologists*

*Refuse to stop*

*Up with new names*

*They continue to pop*

*Ah the names they keep  
a-changing.*

*It seems it all stems back  
to Kullander*

*Who deserves to feel our  
anger*

*He should have aborted*

*When the Port he  
transported*

*From Aequidens to  
Cichlasoma*

*Ah the names they keep  
a-changing.*

*Now there's utter  
confusion*

*In so many Americans*

*The whole thing is a  
muddle*

*Biologists think it's a  
doddle*

*Ah the names they keep  
a-changing.*

*Where will we be by two  
thousand and ten*



*After being in the hands  
of these learned men*

*In a total daze where we  
just sit and gaze*

*At the multitude of  
names on our pages  
they blaze*

*Ah the names they keep  
a-changing.*

*Where will this end*

*With us round the bend*

*My poor head is a bubble*

*With all of this trouble*

*Ah the names they are  
a-changing.*



## Solution to Last Month's Crossword

### Across

4. DWARF  
7. PENCIL FISH  
11. HEATER  
12. PIPEFISH  
13. SNAIL  
14. ICH  
15. DORSAL  
20. PIRANHA  
21. SKIMMER  
22. FEATHERFIN  
24. CHROMIDE  
25. GRAVEL  
29. AUFWUCHS  
31. META  
32. MALAWI  
33. UARU  
34. TERROR  
37. PORT  
39. SHELL  
40. ANAL  
42. NET  
46. BITTERLING  
48. OSCAR

### Down

49. ACID  
50. PUMP  
51. SEMI  
52. PACU  
56. FIGHTER  
57. CYRTOCARA MOORII  
58. GH  
59. FILTER  
61. DIATOM  
63. PERCH  
64. SPINOUS  
66. PISCES  
67. ALGA  
68. TRICOLOR  
69. KH  
71. HYBRID  
74. PIKE  
77. NSWCS  
80. SPIKETAIL  
81. PLATY  
83. ALKALINE  
87. CHANDA  
88. SPAWN  
89. HORNET

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## 2008 VCS Calendar

|           | Meeting  | Committee    | Home Show           | Auction   | Art & Photo | Dinner |
|-----------|----------|--------------|---------------------|-----------|-------------|--------|
| April     | 21 (Sat) | 11           |                     | <b>12</b> |             |        |
| May       | 7        | 16           | 25 (Sun)            |           |             |        |
| June      | 4        | 13           |                     |           |             |        |
| July      | 2        | 11           |                     |           |             |        |
| August    | 6        | 15           |                     |           |             | ?      |
| September | 3        | 12           | VHS Deadline (12th) |           | 3           |        |
| October   | 4 (Sat)  | 10           |                     | 4         |             |        |
| November  | 5*       | 14           |                     |           |             |        |
| December  | 3        | Jan 09 (TBA) |                     |           | << A G M >> |        |

\* Video Home Show results announced.

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**In case you were wondering, there is no crossword this month because I didn't have time and no-one seems willing to help with a simple job like a Word List.**

### Table Show Calendar 2008

|           | <u>K Archibald Show</u> | <u>K Patford Show</u> |
|-----------|-------------------------|-----------------------|
| January   | n/a                     | n/a                   |
| February  | Any American            | Any African           |
| March     | Any American            | Any African           |
| April     | Any American            | Any African           |
| May       | Any American            | Any African           |
| June      | Dwarf Americans         | Dwarf Africans        |
| July      | Any American            | Any African           |
| August    | Pairs (American)        | Pairs (African)       |
| September | Any American            | Any African           |
| October   | Any American            | Any African           |
| November  | Any American            | Any African           |
| December  | Any American            | Any African           |

NOTE: Asian and Madagascan Cichlids may be entered any time, but must meet the special requirements in June (dwarfs) and August (pairs).

## Previously ... at a VCS Meeting

The March 2008 meeting opened at 8:10 pm with the President in the chair. He welcomed all members and visitors present. Apology: John Reeves.

As most members had received their copy of TCM, he asked for someone to move that the February minutes be taken as read. Jeff Staude obliged and Dave Thorn seconded this motion which was carried.

The Treasurer reported a balance of \$4016.37 after transactions including payments of \$150 for printing, \$54.30 for postage, \$160 for discount on tickets to Ad Konings Tour and \$18.35 for supper and receipt of \$30 from the mini auction.

This report was received on a motion moved by Peter Robinson and seconded by Aussie Magnussen.

The Secretary reported receiving the statement from the Commonwealth Bank, the receipt from Cichlid Press Australia for the \$160 for the "rebate" on the tickets and renewals from Bill Buhagiar, John Cousins and Obe Bronte.

The correspondence was accepted on a motion moved by David Green and seconded by Jeff Staude.

The minutes of the 2006 Annual General Meeting were then read as requested.

A discussion was then held on the magnificent talkfest at Tullamarine. Cichlid Press Australia donated a signed copy of Ad Konings' new book. They also asked John McCormick to convey their appreciation of Daryl Hutchins' efforts with the advertising, and the VCS for their support of the event. After a brief "rave on" about the wealth of knowledge that was "picked up", the President congratulated Cichlid Press Australia, Ad Konings and Glenn Briggs on behalf of the members for the entertaining and enlightening day.

John McCormick then called for feelings on whether we should hold our Annual Dinner this August. He asked the members to consider this and decide if they wanted it to go ahead this year. A decision will be made in May.

Dean Hepper donated a DVD to the society. A short break was then called.

A brief but entertaining mini auction was then called. Thanks to our spirited bidders and donors John McCormick and Chris Johnson from Fish 'r' Us.

Peter Robinson then served up the Fish of the Day: the succulent Uaru amphiacanthoides. John McCormick then moved a vote of appreciation to Peter for his interesting presentation and this was carried by the well-catered-for audience.

The results of the Table Show were announced. It was good to see some participation but the President noted that there was still room for more entrants.

The \$60 Fishy Business Voucher was won by Vimal Aravinthan; the \$30 Fishy Business Voucher was won by Tony Ferguson and the wine was won by the "buyer" Tony Ferguson.

Door prizes, courtesy of Great Fish, were won by: Aussie Magnussen, David Green, Dave Thorn, Dean Hepper, Tony Ferguson and Sheryn Mommers.

Eastern Districts Aquarium Society is holding an Aquarist's Market in June or July. More details later.

There is no April meeting due to the auction and the May meeting is Escaping to Maidstone (the meeting will be held at Aquatic Escape, 80 Hampstead Road, Maidstone).


The President thanked everyone for coming and closed the meeting at 10:15 pm, trusting that everyone would stay for a cuppa, a bite to eat and a chat.

# The Last Word

Daryl Hutchins..



ANYBODY seen the Aquarium Society of NSW lately? A rummage through some old stuff recently turned up the ASNSW 80th Anniversary edition pictured above.

I was just wondering if they made it to their Centenary. An internet search turned up some snail mail addresses, which are probably out-of-date, but they don't seem to have an electronic footprint. If anyone can clear this up for me, I would appreciate it. 

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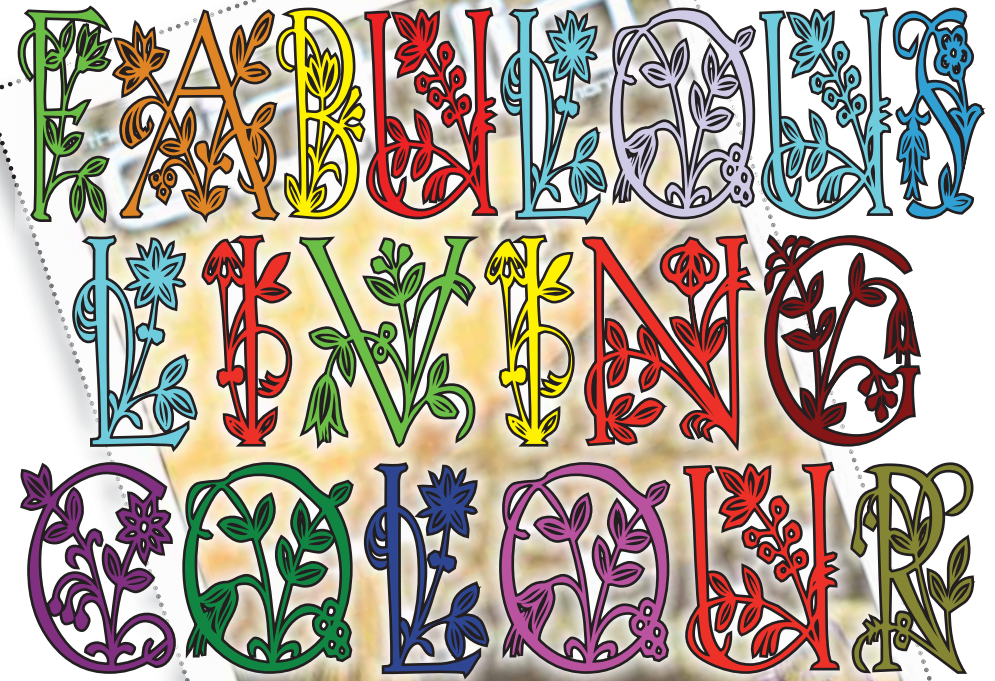
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