

The *Lateral Line*

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**THE HCCC IS A PROUD MEMBER OF
THE FEDERATION OF TEXAS
AQUARIUM SOCIETIES.**



**THE HCCC IS A PROUD MEMBER OF
THE FEDERATION
OF AMERICAN AQUARIUM
SOCIETIES.**



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Cover: *Yssichromis* sp. "blue tipped"

Happy 2011 Everyone!

With 2010 behind us we can reflect back on the year that was and look ahead to what is to come. Last year the core to the HCCC became stronger. The addition of BAP chair Dan Schacht to the leadership group has added a new dynamic to the club. His direct approach and fresh outlook is a welcome change. The only negative we experienced last year was a fall in membership numbers. It seems that the long time members are a secure fixture but many new members let their memberships expire without renewing. I'm not sure if this is a case of new members not finding what they want in the HCCC or our renewal system is not reaching them properly. I hope this works itself out in the coming year and everyone



**Newest Leadership
Group Member
Dan Schacht**

finds the enjoyment they are looking for.

There were many positives other than the addition of Dan to the works. The BAP program and our dedication to CARES is still strong. Of particular interest to me is the members who came forward and took an active role in club affairs.

I would like to mention a few standouts briefly. My diving buddy Walter Wooton contributed several well researched articles on our native waters. As a result, he has attracted national attention for his knowledge in the area. His articles have not only graced the pages of the Lateral Line but also FOTAS Fish Tales, and the publications of other clubs.



**Mr. Native,
Walter Wooton.**

Benjamin Smith, our resident Tanganyikan guru, bred many tough species last year and

accompanied each report with an article. Benjamin’s articles are well written and good enough to be published by any aquatic magazine out there. We are truly fortunate to have his talents in the HCCC.

Marc Garcia, aka “Big Sexy”, is in the midst of organizing a box exchange with his old club in Arizona. Marc has also taken on the task of providing food for the big FOTAS show this November. Whenever there is an auction or chance to donate fish or time, we can count on Marc. He has been a diamond in the rough and I would like to see more members take his lead and get active!



Marc “Big Sexy” Garcia.

Henry Rockward, “The Rock”, has been active in Mountain Valley Middle School CARES. He has offered up his carpentry skills to build custom stands to house the tanks in this display. Rock is another one of those guys that is always there to help with anything when needed.



The Rock

Everyone’s favorite cichlid shopkeeper, Rare Dave Schumacher, has been incredible for the club again this year. It’s easy for us to take for granted everything that Dave does for us but we must make a conscious effort to remind ourselves how fortunate we are to have his support. Dave brings samplings of his excellent stock to each HCCC auction, is always the first one to offer up fish for fundraisers or box exchanges and

stood forward to secure an excellent location for our auctions. Dave routinely fishes for the club and individual club members, something that is not always easy for a retailer to do. I hope you realize how much we appreciate everything you do for the HCCC Dave.



Rare Dave Schumacher



This year the HCCC honored two retailers for their long standing support and commitment to our club. Here Caroline Estes of Amazonia International in Austin TX receives her well deserved bling

Speaking of retailers, this year we recognized two long time supporters of the HCCC. Darby’s Tropicals in New Braunfels and Amazonia International in Austin. Both Robert and Caroline have always been there for the club offering their support in any manner they could. We are extremely fortunate to have our retailers working with us rather than against us as is the fate in so many other clubs.



Robert at Darby's Tropicals in New Braunfels TX receiving an HCCC appreciation award.

Early last year, Rare Dave told me of a gentleman, a professor at A&M in Laredo that had a cichlid lab. This intrigued



Dr. Michael Kidd and Dr. Keith Arnold both spoke at our club this year.

me. A short time later I got to meet Dr. Michael Kidd in person at one of our auctions. After chatting with him for only a few minutes, I was more than interested in what he was doing in his lab. I had asked him if he would be interested in speaking to our club and he agreed. What a find he was. He gave a fantastic presentation at our Darby's meeting and then spoke at our Christmas party. His talk was finished and no one wanted to leave! Dr. Kidd is a great speaker and once word of this gets out, I'm sure oth-

ers will try to tap into this HCCC resource.

Dr. Anton Lamboj, our favorite Austrian scientist spoke at our first annual Cichlid Exposition at Amazonia. Anton also contributed an incredible article on one of the many fish he has described to the Lateral Line. We will see Anton a couple times this year as well...snork trip!



Dr. Anton Lamboj made his year trip to the HCCC. We look forward to his visit this year as well.

Our friend from USA Fish Box, Kory Watkins became one of our most active members last year despite living five hours away. Kory contributed a wonderful article to the Lateral Line, participated in the BAP program and started running fundraisers through his site to cover the expenses of a speaker for the FOTAS CARES convention. USA Fish Box is sponsoring Ad Konings for the big show. Kory has used his resources to go above and beyond for the HCCC. I fully expect young Kory to become a big player in the Texas fish scene.



Kory Watkins, owner of USA Fish Box.

I want to give another big thank you to our good friends at the Houston Aquarium Society who have generously stepped up to not only sponsor a speaker for FOTAS CARES, but have also offered up their help wherever needed. Thanks guys, your support of our club means a lot to us all.

Another big thank you goes to charter member Duc Nguyen. Despite relocating to the Dallas area, I can always count on Duc for an article to fill the pages of the Lateral Line. Duc has built his own fish building and concentrates on a variety of cichlid species both old and new world.



A member from the very beginning, Duc Nguyen.

Lastly I want to recognize my good friend Troy Veltrop. Despite living in Iowa, Troy is an active club member participating in the BAP, and chairing the HCCC CARES program gram. Troy is an accomplished breeder and always sends fish from his hatchery to club events. Troy is a regular contributor to the Lateral Line.



Troy Veltrop has been the chairman of HCCC CARES since its inception.

I am always hesitant to put together a list that includes names because I invariably leave someone out. There have been a lot of club members to step up and help with Mountain Valley Middle School CARES and have offered assistance in the Capital of Texas Zoo's new Aquatic exhibit. The support of our retailers cannot be over stressed. We have the absolute best shops in the world behind us. We as members should frequent our supporters as much as possible.

Of course, the big buzz this year is FOTAS CARES. The Hill Country Cichlid Club has been a big participant in CARES from its inception. This year is our turn to host the Federation of Texas Aquarium Societies annual convention. What better way to celebrate our fish than merging the two into an unforgettable event. This will take the main stage of activities this coming year. We will put on a huge top notched show! How about this for a list of speakers: Charles Jones, Les Kaufman, Paul Loiselle, Kathy England, Ad Konings, Anton Lamboj and Melanie Stiassny! Add to this, vendors from all over, a big show, displays and booths, on site food and the biggest rare fish auction that has ever taken place in the country, we are in for a humdinger!

Last year was a huge year for the club itself and individual members. Nationally we racked up many BAP and literary awards from the ACA and FAAS. In the state, many of our writers were presented FOTAS writing awards and of course there were CARES and in house awards as well. Two huge awards of distinction were given to Nick Andreola who reached the level of Master Breeder.



Nick Andreola reached the Master Breeder level in 2010. He is only the third person in club history to that level.

Nick is only the third person in club history to hit this plateau. The Breeder of the Year went to Benjamin Smith who will, in all probability, be the next HCCC Master Breeder. Way to go guys. I also want to recognize Dave Hansen and Troy Veltrop who had articles printed in national publications (Cichlid News and The Buntbarsche Bulletin).

I'm really looking forward to this year. We have a full slate of activities already planned and of course the big convention. This could be the grandest annual in our eight year history!

Soliloquy on Cichlid Variation

- Greg Steeves



***Prognathochromis perrieri* is now thought to be extinct in the wild. It is still maintained in its natural form in captivity.**

Over the years I have wondered about the possible perils involved with genetic variation within a small colony of cichlids. The problems associated with Lake Victoria have lead to a situation where the remaining individuals of many species are thought to only exist in captivity. My question has been **“If it is only possible to work with a small number of fish, and there is no possibility of introducing wild fish (fresh genes) into the mix at some point, why would we even bother with trying to conserve a species where eventual genetic degradation will inevitably deform the offspring to an unrecognizable form of their ancestors?”**. I guess if the answer is that it is senseless to pursue such a fool hardy endeavor, many of my fellow aquarists would not have multiple tanks devoted to a single species. The Asso-

ciation of Zoos and Aquariums would not participate in the Lake Victoria Species Survival Plan. Although I use the cichlids of the African great lake as my primary example, this situation exists with cichlids all over the world. So to quote Cheech Marin, “Why is this is?”

We know that closely related humans and other higher life forms should not procreate. The main reason for this is lack of genetic variation between relatives. Here is a hypothetical example that is based on a disease characterized by a genetic flaw on gene “d”. An individual has two copies of each chromosome therefore each gene as well. 99% of a population will have two copies of the healthy D gene (DD). One percent will carry one copy of the diseased gene (dD). The disease is recessive, that is, an individual will not be affected unless it has two copies of the bad gene (dd). If the mother carries one copy of the gene (dD), the offspring has a 50% chance of inheriting the diseased gene. If the offspring mates with a random member of the population who has a 1% chance of carrying the disease, the probability of both members carrying the defective gene is $50/100 \times 1/100$ or .5%. If mating occurs with a sibling for example, the rate of the disease jumps to 25% ($50/100 \times 50/100$). This is over simplified and using a disease as a mutation but one can see where back breeding would certainly provide for a very high percentage of an individual within a population to be (dd) within a few generations (Quarks, Quirks and Quips April 2007). This is a good point against captive breeding but eludes a very key point. Fish are not mammals.

Les Kaufman pointed out to me that cichlids (we were discussing the haplochromines of Lake Victoria), were plastic. These fish are always trying new things. With variation as an evolutionary tool, mutations are either



A model for adaptability, *Yssichromis piceatus* survived the Nile perch onslaught in Lake Victoria by moving from an open water schooling species to a rock dwelling cichlid.

good or bad. A fish born with a new characteristic will either prosper, or be picked off and out of the gene pool quite quickly. Not only will the adaptation have to serve the individual as a survival mechanism, but that individual will also have to be capable of thwarting rivals and breeding. In a natural setting, only the strong survive long enough to pass on their genes. This is rather basic but how will future generations in captivity not be diluted by the weaknesses of their relatives? The answer to this lies in the capacity for genetic variation of cichlids. Simply, greater than 99% of the entire genetic makeup of a population (perhaps even a species) can be found in a single individual (Paul Loiselle pers conv). This means that in a spawn of 100 fry, all will have differing triggers for variation. If the spawning female has a (dD) gene, only a single fry will inherit this. That one fry would have to be

spawned back to his mother in order to produce a batch of fry in which 25% would inherit the (DD) gene. Even in a closed system, the possibility of this lone fry surviving long enough and out competing others to breed with his own mother is miniscule. A weak fish will not likely be able to out-compete stronger fish to pass on its genes. So the two big reasons for not equating cichlids with mammals: the attribute of genetic variation between siblings, and a much larger brood size with cichlids.

Within a wild population of cichlids, only the strongest, largest and most colorful dominant males (with exceptions in some species such as sneaker males) spawn with females. If a mutation occurs within a population which allows for greater dominance, there is a good possibility that the male will pass along his genetic code to a single indi-

vidual of his spawn. This individual might pass this trait along to the succeeding generation until a random spawning of two carrying individuals pass along the trait in a greater number of fry. Eventually, if this is mechanism successful for survival, it will become established within a population. Most mutations will end with the death of the individual.

Cichlid keepers will recognize that within an aquarium population, as in a natural setting, the largest, brightest, most colorful fish will do the spawning. Even among females, the strongest in the pecking order is likely to be the best fry producer. Now and then, we will see a deformity or abnormality of an individual in a spawn. This occurs naturally as well and these stand out are usually picked off as a snack to a predator. There is always a risk to being different. A species looks the way it does for a reason. When we find an obvious mutation in our aquarium we “cull” the individual. My preferred method is to feed the fish in question to a larger fish; a quick end.

Although there is no way we can provide an environment that would equate a natural habitat, the “plasticity” of cichlid fishes allows for them to easily adapt to conditions we provide for them. Many of the factors that regulate genetic transfer in nature are in place within a captive population. When we work with single pairs of fish, different rules apply but by closely observing offspring and culling deformities to ensure their genes don’t enter the pool, we can keep our fish in a form representative of their wild ancestry for countless generations.

Within the haplochromine realm, an entire population is able to manipulate physical factors of their body to incorporate a changing environment (Paul Loiselle relating a Humphry Greenwood observation with *Hap-*

lochromis lividis) but this is not a genetic change, this is plasticity. Unknown factors of captivity can alter the appearance of an entire population (Personal observations with generations of *Enterochromis* sp. “red back scraper”).



***Enterochromis* sp. “red back scraper” in a close to wild form coloration.**



Over the course of many generations in captivity, *Enterochromis* sp. “red back scraper” has undergone some remarkable coloration changes.

It is one thing for natural selection to allow for changes to a species but another instance to be aware of is line breeding. This is a process where we don’t allow the fish to chose their mating partners anymore and use natural variation of individuals to accentuate certain characteristics we want to enhance. The most commonly encountered are albinism, exaggerated finnage, and color manipulation. When the human hand intentionally interferes with species mate selection,

one is able to manipulate a captive population into something that, although the same species, is much less likely to be a representative of a natural population than if we allowed for a group of fish to sort things out for themselves. The shining example I most often use is the group of *Platytaeniodus degeni*, a snail eating haplochromine from Lake Victoria, housed at the San Antonio Zoo. After in excess of 20+ generations of



**A male in the colony of *Platytaeniodus degeni* housed at the San Antonio Zoo. This group is more than 20 captive generations old!
Photo by Anton Lamboj.**

spawning, and starting with a very small “seed” population, through allowing for group mate selection and culling the very small number of deformities along the way, with only a few hiccups, the population today is healthy and an accurate representative of the ancestral founder stock. The original goal of the LV-SSP was to hold populations of haplochromines until a time where Lake Victoria might be stable enough to allow for reintroduction. Unfortunately, it is now realized that conditions have changed drastically in the great lake over the last 30 years and to reintroduce an extant species would be sending it to a totally alien environment, one unfamiliar to its relatives of generations ago. The environment has changed, not the captive held species. This is precisely the

reason we should maintain our fish in conditions which allow for them to survive and breed according to their standards, not ours. While this might not be an ideal arrangement, it is doing the best with what we have and what we know.

Schedule of Events

February

**Organizational meeting for
FOTAS convention**

March 13

HCCC Spring Auction Shertz TX.

April 9

**Amazonia’s Cichlid Symposium
Amazonia International Austin TX.**

May

**HCCC Meeting
Location and Speaker TBD**

June

HCCC Auction Austin TX (tent.)

July

**HCCC Meeting Capital of Texas Zoo
Austin TX. Speaker Michael Hicks**

August

HCCC Meeting TBD

September

HCCC Auction Shertz TX. (tent)

October

HCCC Meeting TBD

November 4th-6th

FOTAS CARES San Antonio TX.

December

HCCC Christmas Party



FOTAS CARES

60TH ANNUAL FEDERATION OF TEXAS AQUARIUM SOCIETIES CONVENTION



San Antonio Texas, November 4th –6th 2011.

A world class speaker lineup including Melanie Stiassny, Charles Jones, Ad Konings, Paul V. Loiselle, Kathy England, Les Kaufman and Anton Lamboj. Fish show, Banquet, Auction, Babes in the Cichlid Hobby and much, much more! Something for every aquarist!

For more information visit

www.hillcountrycichlidclub.com.

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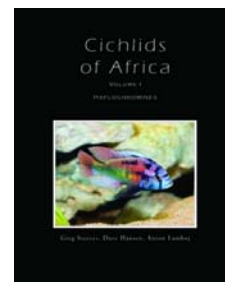
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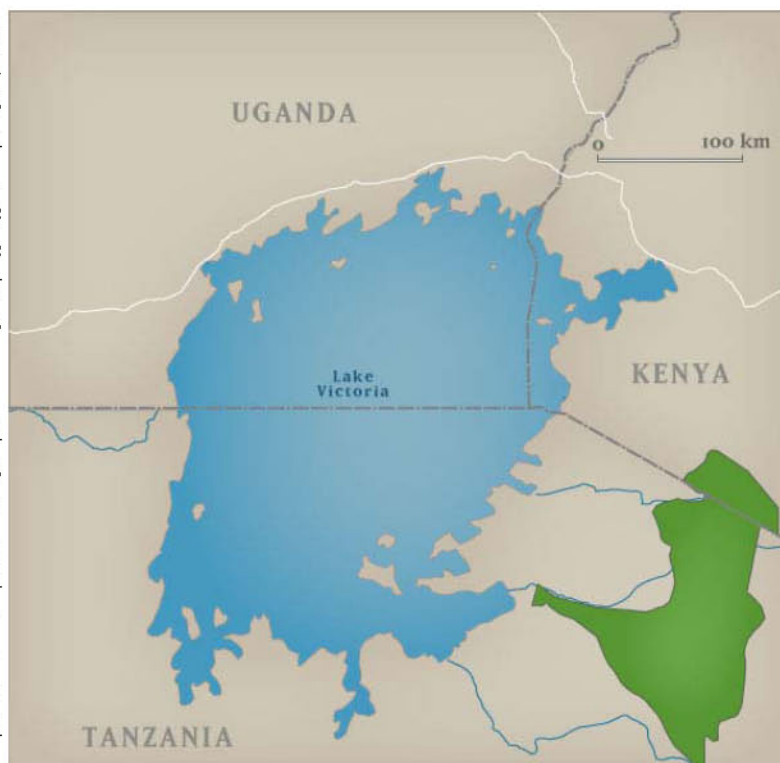
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Haplochromis 'cyaneus', Seehausen, Bouton & Zwennes, 1998



Haplochromis 'cyaneus' is known from three locations: Makobe Island, Chamagati Island and Nansio Island, all in the southern portion of Lake Victoria. Gut samples yield algae, diatoms and fly larvae, all obtained through grazing on large algae encrusted rocks (Seehausen, 1998). Male size at adulthood is 10cm while the female matures to a slightly smaller size of 9cm. In its native habitat, *Haplochromis* 'cyaneus' is found continuously grazing solitarily or in small groups. Breeding occurs year round.

Haplochromis 'cyaneus' is included on the IUCN Red List as endangered with a decreasing population trend as well as appearing on the CARES preservation listing. We have been informed that captive stocks in Europe have dwindled. In the USA we now have an organized group of people dedicated to the preservation of endangered cichlid species. Efforts are well underway to ensure that healthy captive populations will produce enough fry to ensure *Haplochromis* 'cyaneus' exists in our aquaria, for many years to come.





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