



## London Aquaria Society

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BELOW THE WATERLINE

BELOW THE WATERLINE

## This Month's Speaker

Klaus Steinhaus  
will do a talk on  
Tropheus



### Armored Fishes

By: Richard C. Griffiths, San Diego, California

Reprinted from: "Anchor" of the San Francisco Aquarium Society, June 1970

Submitted by Annette & Ron Bishop, London Aquaria Society, May, 2011.

From London Aquaria Society Newsletter, September 1970.

The Callichthyidae is a group of small, heavily armored catfish found in Central and South America and Trinidad.

One of the most interesting aspects of the armored catfish is their armor—two series of overlapping bony plates covering the flanks and in some species the back and the head. This protective covering enables these fish to withstand many parasites, drying out and the "battering-ram" attacks of other fish.

The natural habitat of these fish is the slow moving rivers, lakes and streams of the New World for which nature has ideally suited them.

Like the Cobitidae of Asia, Africa and Europe, the Callichthyidae are able to utilize atmospheric air. They have the ability to take air into the mouth, pass it through the intestine into the hind gut where oxygen is extracted. As a result of this, when air is humid

or there is rain, many species can be seen wandering on sand flats and mud banks in search of food. Their strong hard pectoral fins help them to be mobile on their land journeys.

The adipose fin has a strong mobile spine and a large spine also occurs in the dorsal fin with 7-8 soft rays. The mouth is small and one or two pairs of barbels are present. The eyes have a limited movement in their sockets and at times may appear to wink.

Most of the Callichthyidae are bottom feeders and are excellent scavengers, hence their popularity in the aquarium world.

The Callichthyidae have been broken down into a number of genera. Among them are: Callichthys, Brochis, Dinnema, Hoplosternum and Corydoras. Callichthys callichthys was described by Linnaeus in 1758. Since that time, many more species have been regularly imported into the United States and Europe.

Keeping and maintaining the Callichthyidae is fairly simple if you treat them as other fish and consider their basic needs.

The Callichthyidae come from water which is fairly soft and slightly acid

to slightly alkaline in pH. Their temperature range is from about 64°F to 90°F (18-32°C). I have had Corydoras live in 45°F to 98°F water with little if any discomfort. Contrary to some reports, these fish can tolerate up to 3 tablespoons of salt per gallon. Even under some of the most adverse conditions the Callichthyidae and especially the Corydoras can live and thrive successfully.

As a scavenger, these fish make a welcome member to the aquarium community. They will eat many left over foods in the aquarium. Since most of them are bottom feeders, food should be deliberately left on the bottom of the aquarium so they will not starve, as is so often the case. Frozen shrimp, tubifex worms, shrimp and flake foods are readily accepted. Some of the larger Callichthyidae, especially Callichthys callichthys and Hoplosternum littorale will eat beef heart, liver and mussel.

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**Upcoming Events**

**May 10, 2011:** Klaus Steinhaus will do a talk on Tropheus

**June 14, 2011:** Elections

**July/August:** Summer break

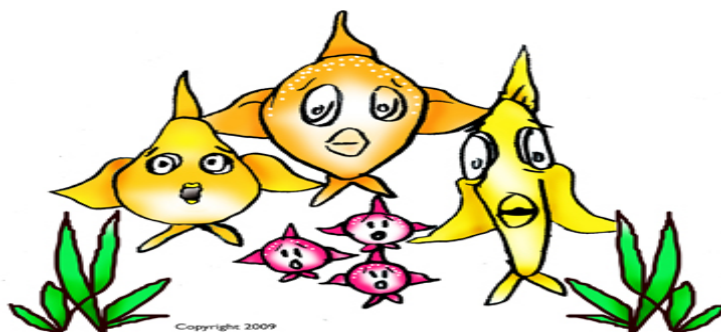
**September 13, 2011:** To be announced

**September 25, 2011:** London Aquaria Society Fall Show & Auction

**October 11, 2011:** To be announced.

**November 8, 2011:** To be announced.

**December 6, 2011:** To be announced



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**President's Message**

Happy Victoria Day Weekend to one and all. First of all, on behalf of the London Aquaria Society, we would like to express our condolences to the Swick family on the loss of their Daughter Sheri .

Get well wishes to Stephen Gregson on a quick recovery from his knee surgery. He will be missed for the next couple of meetings. Lorraine wants him to heal quickly so he can get back to his Honey Do list.

I would like to thank all the Members who came out and supported this years Spring Auction. Special thanks to Jerry Draper and Bob Wright for a great job as Auctioneers. The student helpers did a great job and for everyone else who donated their time to make this Auction run smoothly, **thank you one and all.**

This month's guest speaker will be Klaus Steinhaus doing a talk about Tropheus which is one of his favourite fish. Klaus also introduced us to the C.A.R.E.S. program which has taken off quite well with over ten people filling in their paperwork. Klaus has been in the hobby a long time and his knowledge is vast when it comes to the tropical fish hobby. I'm sure that everybody will enjoy this presentation. Please remember to submit any paper work on the C.A.R.E.S. Program to Annette so she can get it forwarded to the powers to be.

At last month's meeting, we had Doug Chessell and Barry McKee do a talk about their trip to South America and it seemed that everybody really enjoyed the evening. I could see everybody watching with the dream of going to a distant place and catching their own wild fish. Thank you for a great job.

The jar show for this month will be Cichlids, mouth brooding (Guentheri, Alononcara, etc. ) with the Open Class and as usual there is the Plant Class. As a bonus, we will have the Pairs Class with an extra gift certificate offered to the winner.

As always, we will have our monthly Auction which has had over 100 items for the last four months. Please bring out your extra fish and plants, who knows, you may pick up a bargain or two.

Just a reminder that next month we will be having our elections for the Executive, so if there is someone you would like to nominate, or if you are interested in being on the executive, please let it be known.

Take the time to enjoy the C.A.O.A.C. Convention,

Ron Bishop

The **London Aquaria Society** is a non-profit organization, established in **June 1956**. Its main objective is to promote interest in breeding and raising tropical fish and also to provide a means through which hobbyists may exchange ideas, gain information and display their fish, sharing them in the public in the London Area.

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## Armored Fishes

cont'd from front page

The most well known genus of the Callichthyidae are the Corydoras. The bulk of the Corydoras found in the aquarium are Corydoras aenus, Corydoras areuatus, Corydoras Hastatus, and Corydoras paleatus with other dozen or so species being found occasionally. The size of the Corydoras also makes them very attractive to the aquarist. From a mere one inch to nearly three inches, all are small enough not to harm even the smallest of fry.

Several of the Corydoras have been spawned in the aquaria, including: Corydoras aenus, Corydoras paleatus, both albino and natural forms, Corydoras hastatus, Corydoras julii, Corydoras melanistius, Corydoras myersi, Corydoras nattereri, Corydoras pestai, Corydoras reticulatus, Corydoras shultzei, Corydoras elegans, Corydoras rabauti and Corydoras undulatus.

Breeding the Corydoras is not too difficult, though some necessary precautions should be taken. A clean tank with bare or with dark gravel should be used (the latter if a slate or dark bottom is not available). Hiding places such as rocks or flower pots should be available as should fairly broad leaved plants such as the Amazon Sword (Echinodorus species). Spawning may be induced through a rapid change in the water temperature, from 72°F to 80°F or the reversal of this temperature change, from "hot to cold". (Editors Note: While we cannot comment on the author's experience we have had much personal experience with Corydoras species and as referenced in our article in the November 1969 (Vol. 111 #1) of The Aquarium we would have to disagree with the author on this point.) Sprinkling water from a can or by using 6 or 7 air stones, rainfall can be created and this is sometimes quite effective. (Editor's Note: We've never tried this but it sounds very plausible. Would one of our readers give it a good try and let us know.)

In sexing the fish before spawning it will be noted that the female is noticeably more plump and also has a more rounded dorsal fin. If fed on a high protein diet, such as tubifex worms and beef heart, conditioning for breeding is fairly rapid for Corydoras.

When breeding, two males should be used with one female. This usually increases the percentage of fertile eggs laid during the spawning act.

The courtship behaviour of the Corydoras is quite fascinating. The trios swim around the tank with the males nudging and caressing the female. At the same time the female swims around cleaning her egg receiving sites while being attended by her courtiers.

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## Armored Fishes

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At the culmination of spawning, the male will usually make a "T" with her body. Fertilization occurs when the female nudges the genital papilla of the male. The eggs are then fertilized by conveying the sperm to the eggs by repertory movements of the gill cover and movements of the various fins. During the original "nudging" sequence, eggs are extruded and cradled by the ventral fins of the female. This event will occur 50-80 times until up to 250-300 eggs are laid.

The eggs range in size from 1.2 mm to a little over 2 mm and are usually opaque, though some become quite dark during their development. The fry hatch in 2 to 8 days, depending upon the species involved. The fry are active and grow well when fed micro-worms, freshly hatched brine shrimp and later tubifex worms. Parental care is minimal and usually the parents ignore the young entirely. It is best however to remove the young to a new tank to ensure rapid growth and to allow the parents a period of recuperation before attempting to spawn them again. Most adult breeders will spawn regularly for a period of several months at intervals of 5 to 10 days. For a long lived fish, these fish are excellent. There have been some recorded instances of adult *Corydoras* living to the age of 17 years and breeding for most of this time.

A very "*Corydoras*" looking catfish is the *Brochis coeruleus*. The *Brochis coeruleus* are a light olive green, similar to the *Corydoras*. They are slightly more compact and have a slightly more elongated snout. Their spawnings have not been observed, though they would probably spawn very similar to the *Corydoras*.

The first two genera of the *Callichthyidae* are very similar. With the next three, a very wide gulf in look appears. The *Callichthys callichthys* and the *Hoplosternum* sp. Are usually found in the aquaria of the connoisseur. This is because of their prices, usually more than most *Corydoras* and because of their size, from 5 to 8 inches. Their size restricts them to tanks of 20 gallon capacities or larger.

Colouration is almost the same for both, as is most of their characteristics and so can be considered together. The colouration is dark olive brown to dark grey brown. The *Callichthys* has often blue or a violet sheen on the flanks while the *Hoplosternum* is covered with large and small "blotches" which may form transverse bands on its flanks.

The breeding of both genera is principally the same. The male builds a bubble nest using twigs, leaves or floating plants and induces the female to spawn. The *Hoplosternum* male "stands" vertically under the nest while the female extracts sperm from the male.

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## Armored Fishes

cont'd from page 5

The female then sinks to the bottom and shoots to the top and deposits the eggs in the nest. After spawning the male guards the nest, defending his ground quite well. It has been noted that the *Callichthys* male grunts during this time, presumably to warn away all possible intruders and to save them the trouble of being fanned by him. The fry hatch in 4 to 5 days and the male guards and cares for the fry, similar to the care *Cichlids* exercise. After a short period, the fry should be removed and reared as the *Corydoras* are.

The Porthole Catfish, *Dianema longibarbis* spawns very similarly to the *Callichthys* and the *Hoplosternum*. The *Dianema longibarbis* grows about 5 inches and is a very peaceful catfish unless disturbed during spawning. Its colours are a light brown to a cream colour with the upper portion being spotted. With the last three genera, the body shapes all resemble a cigar, i.e., they are fairly long and round. The *Dianema longibarbis* is more tapered while *Callichthys callichthys* is slightly flattened.

The males of these genera are usually larger than the females and are much more aggressive. The females are generally "plumper" than the males. One other characteristic is that the first ray of the pectoral fin of the male is thicker and larger and the colour of it is an orange to orange red.

The *Callichthyidae* offer the aquarist a wide selection of bottom fish from the gentle, small and peaceful *Corydoras* to the larger, more aggressive *Callichthys* and *Hoplosternum*. The colours are interesting for their contrast to the more colourful fish of our aquaria and so are their various breeding and breathing methods. There is a little bit of everything in the family *Callichthyidae* for the aquarist.

**Editor's Comment:** Every hobbyist, very soon in the hobby, learns to identify his *Corydoras* as the clean-or-upper of the community and stalwarts of health and age. Personally, we now have a pair which are nine years old and roamed the first aquarium we kept. This well documented article presents many good points about these fish and I hope gives you more insight into these little critters.



### Placodermi

[en.wikipedia.org/wiki/Placodermi](http://en.wikipedia.org/wiki/Placodermi)

**Placodermi** is a class of armoured prehistoric fish, known from fossils, which lived from the late Silurian to the end of the Devonian Period. Their head and thorax were covered by articulated armoured plates and the rest of the body was scaled or naked, depending on the species. Placoderms were among the first jawed fish; their jaws likely evolved from the first of their gill arches. A 380-million-year-old fossil of one species represents the oldest-known example of live birth.

The first identifiable placoderms evolved in the late Silurian; they began a dramatic decline during the Late Devonian extinctions, and the class was entirely extinct by the end of the Devonian.

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## Aquarium History



library.thinkquest.org/C0124402/data/html/1/aquarium\_history.htm

The origins of aquarium keeping have been around for about as long as keeping food fishes, although the methodology and understanding of aquarium filtration has varied considerably. The origins of aquaculture most likely originated when fish were trapped in some type of enclosure after monsoon floods receded.

The earliest known aquarists were the Sumerians, who kept fishes in artificial ponds at least 4,500 years ago; records of fish keeping also date from ancient Egypt and Assyria. The Chinese, who raised carp for food as early as 2000 BC, were probably the first to breed fish with any degree of success. Their selective breeding of ornamental goldfish was later introduced to Japan, where the breeding of ornamental carp was perfected. The ancient Romans, who kept fish for food and entertainment, were the first known marine aquarists; they constructed ponds that were supplied with fresh seawater from the ocean.

Although goldfish were successfully kept in glass vessels in England during the middle 1700s, aquarium keeping did not become well established until the relationship between oxygen, animals, and plants became known a century later. During the mid 1800's the "Balanced Aquarium" approach was considered the only method for keeping aquarium fish. The Balanced Aquarium consisted of "a tank in which the air surface of the water, aided by plants would supply sufficient oxygen" and "most of the waste from the fish was consumed by the plants and scavengers".

By 1850 the keeping of fishes, amphibians, and reptiles had become useful in the study of nature. It was in the works of Philip Gosse, a British naturalist, that the term aquarium first appeared. His work aroused increased public interest in aquatic life. The first display aquarium was opened to the public in 1853 at Regent's Park in London. It was followed by aquariums in Berlin, Naples, and Paris. P.T. Barnum, the circus entrepreneur, recognized the commercial possibilities of living aquatic animals and, in 1856, opened the first display aquarium at the American Museum in New York City as a private enterprise.

During the early 1900's Aeration, Particulate and Charcoal filtration was touted as the state-of-the-art but it wasn't until the 1950's that the Undergravel Filter was introduced. Ironically even though it was promoted as a biological filter its true role in filtration was still misunderstood, and yet the Undergravel Filter has been the greatest advancement to the aquarium industry. By 1928 there were 45 public or commercial aquariums throughout the world, but growth then slowed and few new large aquariums appeared until after World War II. Many of the world's principal cities now have public aquariums as well as commercial ones.



It wasn't until 1974 that successful commercial attempts to spawn and rear marine ornamental fish began to occur and by 1975 Martin Moe and Chris Turk of Aqualife Research and Frank Hoff and Tom Frakes of Instant Ocean Hatcheries were raising three species of clownfish, Ocellularis (Amphiprion ocellularis), the Tomato (A.frenatus) and the Clarki Clownfish (A.clarkii).

In 1984 the second greatest advancement occurred in the aquarium industry, the introduction to the US of the European Wet - Dry Filter. Now hobbyists could keep fish as well as corals and invertebrates successfully.



Brantford Ontario may be the hometown of Wayne Gretsky but it is also the home of The Tropical Fish Room, owned by Jerry Draper. Jerry is very knowledgeable in all aspects of the fish hobby and attends most if not all of the C.A.O.A.C. fish club

shows and auctions in Southern Ontario. many times he is one of the auctioneers. The Tropical Fish Room carries a large selection of products for the fish hobbyist, he even carries used equipment, if Jerry doesn't have it you probably don't need it.

Jerry has been in the hobby for over forty years and for thirty-seven as a member of the Brant Aquarium Society. The store is located on Grand River Avenue in Brantford where it has been for 6 years now, and at another location for 10 years, presently, with 6 employees.

They have 150 tanks totaling about 8000 gallons, 5000 are fresh water and 3000 salt water. On top of that Jerry use to have about 60 tanks of his own at home. That was quite a handful, now the tanks at home are looked after by his better-half Barb who takes care of about 40 tanks.

If you require a specific item and can't find it in the store ask Jerry about it and he has connections and knows how to get it whether it's supplies or fish. This store carries fish, food, tanks, filters, lighting, canopies, substrate, plants, air pumps and even reptiles While you're there, show your Membership Card and receive your ten percent discount. Plan on spending a while there to look over every corner of the store because there is lots to see and if Jerry is there ask him for advice its, free.

Bob.



## Placodermi

(cont'd from page 6)

**Fossil record:** The earliest identifiable placoderm fossils are from China and date to the mid to late Silurian. They are already differentiated into antiarchs and arthrodires, along with the other, more primitive groups. Apparently placoderms already diversified into their current groups before the start of the Devonian, somewhere during the early or mid Silurian, though earlier fossils of basal Placodermi have not been discovered in these particular strata.

The Silurian fossil record of the placoderms is both literally and figuratively fragmented. All known Silurian placoderms exist today only as fragments, either scraps of armor, or isolated scales, of which some have been tentatively identified as either antiarch or arthrodire due to histological similarities. Although they have been identified, many of the Silurian arthrodire and antiarch species have not yet been formally described, or even named. Paradoxically, the best known, or rather, most commonly cited example of a Silurian placoderm, *Wangolepis* of Silurian China, is known only from a few fragments that currently defy attempts to place them in any of the recognized placoderm orders. Paleontologists and placoderm specialists suspect that the scarcity of placoderms in the Silurian fossil record is due to placoderms' living in environments uncondusive to fossil preservation, rather than a genuine scarcity. This hypothesis helps to explain the placoderms' seemingly instantaneous appearance and diversity at the very beginning of the Devonian.

During the Devonian, in stark contrast to the Silurian, the placoderms went on to inhabit and dominate almost all known aquatic ecosystems, both freshwater and saltwater. But this diversity ultimately suffered many casualties during the extinction event at the Frasnian–Famennian boundary, the Late Devonian extinctions. The remaining species then died out during the Devonian/Carboniferous extinction event; not a single species survived into the Carboniferous.

cont'd next month

## Specimens In Fish Care And Aquariums



[www.streetdirectory.com/etoday/specimens-in-fish-care-and-aquariums-effpwo.html](http://www.streetdirectory.com/etoday/specimens-in-fish-care-and-aquariums-effpwo.html)

Trying to find articles for the newsletter can be very time consuming, especially when I started looking for articles on the Fish of the Month. I came across a site for Characins which included the **Spraying Characin** that sounded so very interesting to me that I just had to share it with you. At the beginning of my search I found very little information on the net or in the five books on tropical fish I went through, even going to a site about the **Spraying Characin** only to find out that they had no articles at all about it but that if I did, they asked me to share. LOL Of course, I know nothing about Characins but after searching for an hour, here is what I found on the not much known about, **Spraying Characin**. I hope that you are as fascinated by this fish as I was. If anyone has more information on this fish, please let me know.

Tetris fish come in a wide variety, which include the Paracheirodon Axelrodi. The fish has a common name known as Cardinal Tetra. This fish type grows 1 7/8 inches in size and comes from the Upper Rio Negro, Columbia, and Brazil. Similar to the Neon Tetra in color this fish differs in that it has a broader spectrum of colors. Unlike Neon fish, the Cardinals have red colors on the cover of their gill. The fish feed and expect water conditions same as the Neon fish. In addition, the fish sex, breed, etc, same as the Neon fish.

**Opella Arnoldi:** This breed is commonly known as Spraying Characin. The fish grows around 3 inches in size and comes from Guiana, Venezuela, and Brazil. Sprays have elongated fins, as well as a slim body. Spraying Characin feeds on all foods and prefers neutral or soft water conditions.

**How do the fish breed?** Spraying Characin spawns on the surface of overhanging leaves. In addition, the fish may spawn at bottom surface area of the aquarium. Spraying Characin prefer to breed in thinly planted aquariums, whereas around 15 gallons of water is added. The level is usually 1 7/8 inches below the glass cover. This fish only produces around 15 eggs, which the fish will fall back into the water once the eggs are deposited. In addition, the fish will repeat this procedure until around one hundred eggs are deposited.

**How are the eggs maintained?** Once the fish spawn, remove the female fish from the tank. Contrary to mother natures arrangement the male handles egg care. The male will splash water over the eggs. If the eggs fall into the water however, the male fish will feast on the hatch. If you notice the male attempting to eat the eggs, remove him also from the tank.

**Egg care:** Once you remove the male from the tank, fix an aerator stone in the tank. The stones will promote spray to bubble, which will maintain the health of the eggs. Lastly, you want to remove the male fish again around the fourth day, since the fry will seep into the waters.

**Copeina Guttata:** Copeina Guttata is known as the Red-spotted Copeina, which this fish comes from Central Amazon and grows around 4 inches in size. Outside of aquariums, this fish grows around 5 inches in size. The fish combines orange-red colors with yellow fins and bluish-silver body.

This fish is ideal to keep in larger tanks. The fish is peaceful, yet its size demands divert attention of communal tank residency. The fish requires the same feeding patterns and water condition as the C. Arnoldi fish.

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## Specimens In Fish Care And Aquariums

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### How do they breed?

These fish pair, in that the colorful male mates with the female. The male is notable by his red dotted flank. Breeding takes place when the female layers her eggs in the gravel. Flat stone is optional as well. Once the female lays around 300 eggs, she should be removed from the tank. The male should be removed once the fry fish are prepared to swim on his own.

**Anostomidae:** The fish comes from Central and/or South America. These fish are some of the most colorful fish sold. The downside is the breed is huge, which is not ideal for communal tanks. Sometimes the fish are called Headstanders, since this fish tends to hang his head down while he drifts.

A variety of other market fish are available including the Anostomus Anostomus, Chilodus Punctatus, Lebiasinidae, Nannostomus Beckfordi, Nannostomus Eques, and so on. Typically, purchasers receive instructions with aquarium and fish purchase, read them.



### Swordtail Sex Change: Myth or Reality?

[groups.google.com/group/The-Freshwater-Aquarium/browse\\_thread/thread/100f10044f4de33d](https://groups.google.com/group/The-Freshwater-Aquarium/browse_thread/thread/100f10044f4de33d)

I recently separated out the female live bearers who we want to spawn the next generation. One of them was a "female" pineapple sword about 2" long with a nice triangular anal fin. Now, about two weeks after moving her to an all female tank that fin is looking awfully thick along the edge. Do swordtails change sex?

I was reading archives over on some site (forgot the name) a few weeks ago where they have (or had) folks to answer mail questions. One of the responders insisted in multiple postings that swordtail sex change had been shown to be a myth in research. Apparently there is a distinct chromosomal difference between male and female swordtails. Fish which are known sex changers do not have sexually dimorphic chromosomes. And they did some study where they observed a bunch of swordtails or something.

On the other hand, I have read numerous anecdotal reports of female swordtails appearing to become male in the absence of any other male and that appears to be what's happening here. Then again, the plural of anecdote is not data. :-)

On the gripping hand, it is possible that this lad (gal?) just hadn't matured yet. We raised her in our tanks and she's not all that old. But I figured at 2" long she would be showing a gonopodium if she was a he. Also she has the thicker body (ventral to dorsal) characteristic of females. Male swordtails are usually shorter in the ventral-dorsal dimension.

Jeff Walther

[www.badmantropicalfish.com/forum/index.php?topic=25426.0](http://www.badmantropicalfish.com/forum/index.php?topic=25426.0)

A commonly repeated misconception that is seen in many places on the internet and even here in the species profile is that a swordtail can change sex. It is simply not true.

cont'd on page 11



## Swordtail Sex Change: Myth or Reality?

cont'd from page 10

<http://www.badmantropicalfish.com/forum/index.php?topic=25426.0>

A commonly repeated misconception that is seen in many places on the internet and even here in the species profile is that a swordtail can change sex. It is simply not true. A swordtail has its sex determined genetically in much the same way as we mammals do. It also has an X and Y chromosome setup just like us. A female can, with advanced age, show signs that make it appear to be a male because it has lost its hormone balance as it ages. The same happens to a lot of human females who will grow a bit of a mustache when they are getting on in age and their hormone balance is no longer as good as it was when they were 20.

Another very common situation that we see is what are sneaker males. These guys are trying to hide their gender to avoid the very real danger that some dominant males can pose. I have seen wild type males in my own tanks take over 18 months to allow their gender to be displayed. I had 6 of what looked like juvenile females in my tank and when one showed signs of being a male at about a year old I thought maybe I would start to see some breeding activity. There were not only no fry in the tank, but the late developing male did not seem interested in the other fish. As time went by I grew to understand why he was not interested. One by one until an age I would estimate as almost 2 years old, each of the remaining males in the tank let his gender be known. I never had a female anywhere in the tank, hence the lack of breeding interest.

A male swordtail that develops late is often a very large fish who is a definite looker. They are very solid and tough looking compared to their rather wimpy looking early developing fellow males. The early males never do achieve the grand proportions of a late developing male.

On this particular concept, I have an open mind. Our knowledge and understanding of Nature is constantly expanding and changing. If you tried to tell naturalist 100 years ago that there is a species of fish composed entirely of females or that there is another species that can store viable sperm for many months he would scoff at you since he KNEW that these ideas were both impossible. This particular idea has been around for a long time and it is such that it would be difficult to absolutely prove one way or the other. But most of the evidence for or against it is anecdotal and therefore cannot be accepted as proof.

Sterba's *Freshwater Fishes Of The World* (1973) was for years considered one of the best sources of knowledge about fish and it contains the following passages. (I don't contend that this is proof of the concept, but it does show that there is some support for it among authoritative figures)

### **Poll's Tropheus Wimpel -Moorii ~ Polli**

Family: Cichlidae

[animal-world.com/encyclo/fresh/cichlid/PollsTropheus.php](http://animal-world.com/encyclo/fresh/cichlid/PollsTropheus.php)

**The Poll's Tropheus is unique among the Tropheus species because it is the only one with a 'lyre' type tail fin!**

The Poll's Tropheus was described by G.S. Axelrod (1977) and placed in a category of its own due to its unique lyre-tail caudal fin, having only 4 rays on its anal fin, and having an individual place of origin. The *Tropheus* became a big hit when first introduced in Germany in the mid 1970's and then into the United States, and are still very popular today. Many of the imports were identified as *T. Moorii* varieties, but now it is recognized that these fish represent a number of different species. There are many color morphs of the different *Tropheus* species, well over 40 varieties of *T. Moorii*. The Poll's Tropheus has at least three color morphs.

cont'd on page 12

## Poll's Tropheus Wimpel

Moorii ~ Polli

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A colony of 12 or more Poll's Tropheus can make an active display and their personality is a definite plus. The *Tropheus* have a really interesting social structure that is built upon a colony of consistent tank mates. They are very active and have individual behaviors, from curiously lining up to watch the goings on in the room to their 'dolphin-like' antics when eating. Feeding time can be very 'wet' for their keepers, but make this fish very fun and desirable. In the wild they are very aggressive with conspecifics, but are said to be less aggressive with other fish. In the aquarium their aggression level towards unrelated fish can vary depending on the personalities of the individual fish.

They are rather expensive fish and they can be afflicted with the occurrence of 'bloat', and there seems to be no explainable rational as to its cause. Initial attempts to keep them often met with difficulty until aquarists became familiar with their rather specific, though uncomplicated needs. This hearty cichlid can be easy to moderate to keep as long as attention is paid to its diet and mandatory water changes are done, and difficult if they are neglected. Provide a sandy substrate, strong lighting to encourage algae growth, and several rock piles along with rocks formed into caves. Having a very aggressive nature, they are best kept in a species specific tank. Do not add a new fish to an already established colony as this will cause an upset and death. They may also be kept in a larger aquarium with some other herbivorous rock dwelling African cichlids. The larger the tank and the more hiding places you have will help with aggression. Truly a rewarding fish for the aquarist who is willing to provide the necessary care.

**Distribution:** The Poll's Tropheus was described by G.S. Axelrod in 1977. They are endemic to Lake Tanganyika, Africa and found exclusively along the southern coast near Bula Islands at depths of 3 to 13 feet (1 - 4 m), and at Bula Point in the Kigoma district at depths of 20 to 60 feet (6.1 - 18 m). They inhabit rocky coastal areas feeding on algae and microorganisms.

It is closely related to *Tropheus annectens* which is found on the western shores of the lake near Congonese. These two species behave similarly and it has been speculated they may be conspecifics.

**Status:** This species is listed on the IUCN Red List with the status of 'VU', meaning 'Vulnerable'.

**Description:** The Poll's Tropheus is a moderately deep bodied fish that seems to have a larger head in proportion to its body and the body narrows as it forms the tail. The body of a mature male is a slate gray or solid brown color while the female and juveniles will have light vertical striping. Like the Blue-Eyed Tropheus *Tropheus brichardi*, its eye is a bright turquoise in a well-maintained aquarium. It is distinguished from the other species in the *Tropheus* genus as it has a deeply forked caudal fin rather than the fan shaped fin found on the others. The caudal fin becomes even more deeply forked with age.

All cichlids share a common feature that some salt-water fish such as wrasses and parrotfish have and that is a well-developed pharyngeal set of teeth that are in the throat, along with their regular teeth. Cichlids have spiny rays in the back parts of the anal, dorsal, pectoral, and pelvic fins to help discourage predators. The front part of these fins are soft and perfect for precise positions and effortless movements in the water as opposed to fast swimming.

cont'd on page 13





## Jar Show Fish Results



Name	Month	Fish Name	Sponsor	Award
Jack Parkinson	April	Diamond Tetra ( <i>Moenkhausia pittieri</i> )	Southwestern Pet Centre	
Jack Parkinson	April	Emperor Tetra Family ( <i>Nematobrycon palmeri</i> )	Southwestern Pet Centre	
Jack Parkinson	April	Characoids Diamond Tetra ( <i>Moenkhausia pittieri</i> )		Red
Annette & Ron Bishop	April	Characoids Black Tetra ( <i>Gymnocorymbus ternetzi</i> )		Blue
Annette & Ron Bishop	April	Characoids Hatchet Fish ( <i>Gasteropelecus sternida</i> )		White
Annette & Ron Bishop	April	Characoids Black Tetra ( <i>Gymnocorymbus ternetzi</i> )		
Annette & Ron Bishop	April	Characoids Red-eye Tetra ( <i>Arnoldichthys spilopterus</i> )		
Annette & Ron Bishop	April	Characoids Red-eye Tetra ( <i>Arnoldichthys spilopterus</i> )		
Jack Parkinson	April	Characoids Diamond Tetra ( <i>Moenkhausia pittieri</i> )		
Liz Schnare	April	open Sparkling Gourami ( <i>Trichopsis shalleri</i> )		Red
Bob Steele	April	open Angel fish ( <i>Pterophyllum scalare</i> )		Blue
Liz Schnare	April	open Jack Dempsey ( <i>Nandopsis octofasciatus</i> )		White
Jack Parkinson	April	family Emperor Tetra ( <i>Nematobrycon palmeri</i> )		Red
Annette & Ron Bishop	April	family Butterfly Goodeid ( <i>Ameoca splendens</i> )		Blue
Annette & Ron Bishop	April	family Orange-tailed Goodied ( <i>Xenotoca eiseni</i> )		White
Annette & Ron Bishop	April	family Cutteri Cichlid ( <i>Archocentrus</i> sp. "Cutteri")		
Jack Parkinson	April	family Bristle-nosed Pleco - albino ( <i>Ancistrus dolichopterus</i> )		
James Kelly	April	family Golden Julie ( <i>Julidochromis ornatus</i> )		

### Poll's Tropheus Wimpel

Moorii ~ Polli

cont'd from page 12

Cichlids have one nostril on each side while other fish have 2 sets. To sense "smells" in the water, they suck water in and expel the water right back out after being "sampled" for a short or longer time, depending on how much the cichlid needs to "smell" the water. This feature is shared by saltwater damselfish and cichlids are thought to be closely related.

**Size - Weight:** The Poll's Tropheus grows to a length of about 6" (16 cm).

**Care and feeding:** The Poll's Tropheus is an omnivore. In the wild they feed on algae scraped from the rocks along with microorganisms. In the aquarium they need to be fed a spirulina based flake and pellet. If you use pellet, hold it underwater for a few moments before the fish eat it, that may prevent air released from the pellet from getting trapped in the belly. They should have spinach or romaine at least once a day. Only include foods that are high in fiber. Avoid soft or slimy foods as well as Tubifex, brine shrimp, beef heart, and mosquito larvae. Feed proteins sparingly and avoid housing them with fish that need protein. Some aquarists say protein may cause bloat though others report no problems with it. Some have fed their fish frozen brine and plankton will no ill effects, while according to one author brine shrimp and insect larvae should be avoided.



cont'd on page 13

## Poll's *Tropheus* Wimpel

Moorii ~ Polli

cont'd from page 13

Stick with the same varieties of food and if you do switch, do it a little at a time, again because this may cause bloat. Rick Borstein, a writer on care of many cichlid fish, suggests HBH Graze and Dainichi Veggie Deluxe brand foods for the *Tropheus*. The ratios of vegetable matter in these products are good. They have a long intestinal tract and should not be over fed, as overfeeding may contribute to bloat. Feed 3 times a day with small pinches of food instead of a large quantity once a day. This will keep the water quality higher over a longer time. All fish benefit from vitamins and supplements added to their foods. (See information about African Bloat in the table below.)

As the *Tropheus* cichlids are very aggressive a minimum 4 foot, 90 gallon tank is suggested for an established adult group of 12 or more, with one or two males in the group. Provide a sandy substrate, strong lighting to encourage algae growth, and several rock piles along with rocks formed into caves. They do fine in either freshwater or brackish freshwater but need good water movement for good oxygenation along with very strong and efficient filtration. For freshwater an optional practice is to add 1 heaping teaspoon of salt per 11 gallons of water. This is considered to be a simple and natural remedy for wounds, minor fungal infections and film over the eyes of fish in transit. Be very careful to not add too much salt as this may cause bloat. Using a marine salt (used for salt water fish) will add some trace elements.

Do water changes regularly, this is very important. Water changes of 15% twice a week or 30% weekly, depending on stocking numbers and removing uneaten food will help prevent disease. The Lake Tanganyika cichlids cannot handle large water changes very well unless the new water chemistry closely matches the water they are in. If a large water change is needed, changing 15% every couple of days should bring water back to normal. This inability to tolerate large water changes is due to Lake Tanganyika being very deep and the water tends to stay stable.

These fish are susceptible to typical fish ailments, especially if water is stale and of poor quality and has low oxygenation. An ounce of prevention is worth a pound of cure. Water changes, not overfeeding, providing adequate hiding places, and observation along with feeding your fish the proper foods will keep them in optimum health. One common problem is Ich. It can be treated with the elevation of the tank temperature to 86° F (30° C) for 3 days. If that does not cure the Ich, then the fish needs to be treated with copper (remove any water conditioners). Several copper based fish medications are available for Ich. Copper use must be kept within the proper levels, so be sure to follow the manufacturers suggestions. You can also combine increasing the temperature with an Ich medication treatment. A copper test also can be used to keep the proper levels.

The *Tropheus* species are very susceptible to African Bloat, also called Malawi Bloat. There seems to be no explainable rationale as to its cause. Though It is not certain what this disease is, it is generally believed to be caused by a protozoal parasite complicated by bacterial infection. The first sign of 'bloat' is loss of appetite which is then followed by swelling of the abdomen, labored breathing, listlessness, reclusiveness, possible red striations on the body, and stringy white feces. A fish that is not eating must be treated immediately or it can quickly become incurable and die. The most common cause of this disease is stress and the first sign if illness is not eating. Stress can be caused by such things as transport, netting, poor water quality, insufficient diet, over feeding, and a lack of hiding places.

*Tropheus* brichardi "Kipili" Yellow Zebra, Wasp



cont'd on page 15



## C.A.O.A.C. Events Calendar 2011

May 1, 2011: London Aquaria Society Auction

May 20 - 23, 2011: CAOAC annual convention hosted by the Brant Aquarium Society. Best Western Brant Park Inn, Brantford ON Canada (**SHOW & AUCTION**)

June 26, 2011: (CAOAC Meeting / Presidents BBQ)

10:30 AM CAOAC Executive meeting in Waterdown, ON

12:00 PM CAOAC General meeting in Waterdown, ON

September 25, 2011: London Aquaria Society Show & Auction

October 2, 2011: Hamilton & District Aquarium Society **SHOW & AUCTION**

### **Poll's Tropheus Wimpel**

Moorii ~ Polli

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Other causes, that are easily remedied, are an improper diet and adding too much salt to the water. Prevention is of utmost importance, and it is possible to cure a fish if treated right away.

Following are some techniques aquarists use:

- Any new specimens you obtain can have bloat or will often soon develop it. When you first acquire them try to provide them with the same food that the dealer was feeding, and then wean them onto a good vegetable based diet; Spirulina flake and pellet.
- Some will soak the food in dissolved metronidazol and feed them that for the first few days when first obtained. Seachem makes a metronidazol that can be bound to food when used with their Focus product.
- A good vegetable based diet is important.
- A healthy group of fish will eat with gusto. But even though they can be very active feeders it is important to not overfeed them. Keep an eye on them, and if one is not eating with vigor some aquarists will then treat the tank with Clout.
- One author says that they will segregate an ailing fish the second they see signs of not eating, and then will do water changes every day for 5 days in the main aquarium.

Metronidazol is considered the most reliable cure and some use Clout as another cure, but do not use them together.

cont'd next month.



**Tropheus Moorii "Ilangi"**



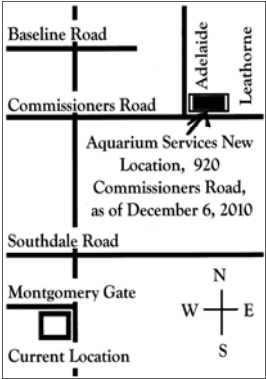
**Blue-Eyed Tropheus**

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