



Newsletter Fall 2010

Blue tilapias were imported to Florida in 1961. They have become established in lakes, ponds, rivers, streams, and canals throughout southern and central Florida.

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Do you have an area of interest you love to talk about, or find yourself answering a lot of questions about from friends or forum members, even total strangers? Please tell me about it - I'd love to include your article. And if writing's not your thing, let me interview you, or just give me the relevant facts and let me write the article. For this newsletter to be full of great information I need your expertise. I know nothing about discus breeding, setting up a fowlr tank, or CO2 dosing, to name only a few. Send your email to [newsletter@ovas.ca](mailto:newsletter@ovas.ca) or PM me on the board.

The Ottawa Valley Aquarium Society (OVAS) is a non-profit, educational, and recreational organization. It has four main objectives:

- to further the study of all forms of aquatic life,
- to promote interest, exchange ideas, and distribute information concerning the hobby,
- to encourage breeding and displaying of aquatic life,
- and to work toward the conservation of endangered species.

OVAS is a member of the Canadian Association Of Aquarium Clubs.

OVAS club meetings are held at **7pm on every 4th Monday** of the month. Everybody is welcome! Meetings take place at the **J.A. Dulude Arena - Mel Baker Hall**, located at **941 Clyde Avenue**.

Please note that there are no meetings in December (Xmas), July and August (summer break).

## **Editorial**

That faint ringing you are hearing? Silver Bells.



Christmas is coming. The executive is in a collective frenzy to bring you together in a seasonal atmosphere and provide you with the culinary delights the season is famous for. Don't forget to buy your tickets, either at the November meeting or [online](#) until November 29<sup>th</sup>, so that we know how many of you will join in the revelry and can plan the banquet size accordingly.

For our November meeting we have organized a video, and we are looking forward to trying out the brand spanking new PA system at the mini auction. In onther news, remember those bowls you were given in September? I hope you've sparkled them up, clipped the plants and arranged transport. Because now is the time to bring them in and present them to be judged. Mine is, ahem, almost ready. Very nearly. Give me a minute.

Ok, enough of the stuttering and announcements. Time to open the stage and present to you the main article, Cyphotilapia frontosa/Cyphotilapia gibberosa - Variants, Collection Points, Set-up and Breeding by our very own Bruce Itterman (Bitterman on the forum). Many thanks, Bruce, and I hope you'll all enjoy it.

Happy Holidays and a very fishy New Year to you all,  
Anja Krebber

## **Cyphotilapia frontosa/Cyphotilapia gibberosa** **Variants, Collection Points, Set-up and Breeding**

by Bruce Itterman (Bitterman)

Among all the cichlids of Lake Tanganyika lives a unique group of fish called Frontosa. They are, in fact, two species in the genus *Cyphotilapia*: *C. frontosa* and *C. gibberosa*, but *Frontosa* is the trade name used in the fish trade. Within these groups some names are added to market the fish better, but most are collection points/locations on the lake.

### **Taxonomy**

At some point *Cyphotilapia frontosa* of Burundi and *Cyphotilapia frontosa* of Kigoma were thought to be a different species, but since Takahashi published his work called Taxonomic status of the six-band morph of *Cyphotilapia frontosa* (Perciformes: Cichlidae) from Lake Tanganyika, Africa (Tetsumi Takahashi, Benjamin Ngatunga, and Jos Snoeks), in which the difference between the two is referred to as a morph, this is no longer the case. *C. gibberosa*, however, are still considered a different species. Takahashi mentions this in another interesting article New Species of *Cyphotilapia* (Perciformes: Cichlidae) from Lake Tanganyika, Africa (Tetsumi Takahashi, and Kazuhiro Nakaya)

The original *Frontosa* imported into North America in the 70's was *C. frontosa*, also known as the Humpead due to the large hump that grows on their head. It is the least valuable of the variants because it has been in the hobby for so long now, but it is still one of my favorite variants. Low quality Burundi type *Frontosa* are the most common at the LFS (Local Fish Store) going for about 20CAD. Most of the other variants, depending on your location, are never seen and must be obtained from an importer or a very specialized African Cichlid dealer.

Some people call the Kigoma variants the only true *C. frontosa*, but who really knows? Was *C. frontosa* of Burundi or *C. frontosa* of Kigoma the first? Others just call them the 7 stripe variant from Kigoma. Each variant from each collection point has its own special character: *C. gibberosa* of Zaire has by far the nicest color and is the most expensive, but hardest to breed. One of the more commonly known collection points from this area is Moba (Kitumba and Kapampa are also well known but don't have the recognition that Moba has). From here come some of the most stunning fish with lots of purple/blue. One of my favorite Zaire is Mikula.

One of the other collection points that is pretty well known is the Mpimbwe from the *Cyphotilapia gibberosa* of Tanzania. These fish have a very exciting and outgoing personality along with a stunning powdery, almost iridescent blue on the top of their heads. Below right is a male from my first group of fry from my Mpimbwe group. This guy is very dark; some have a much lighter blue above the head like the one below



left.



Color can be influenced by environment. Black background and black sand makes them really darken up nicely and show great color.

*C. gibberosa* of Tanzania is a wonderful choice and significantly easier to breed than the Zaire types. Zaire does, however, carry a premium as they don't breed nearly as easily as any of the other variants and are more expensive to purchase. Burundi and Kigoma are the easiest to breed, but patience is still required.

Now that I hopefully have your interest, you probably have several questions like:  
-How big do *C. frontosa* and *C. gibberosa* get and what size tank do I need?

## **Set-up**

Male *Frontosa* can get up to about 18" and females to about 12". As a result they need a good sized tank to keep them happy and peaceful. I recommend at least a 6' tank. Some choices are standard 180's, 125's and even the older 72"x18" foot print 100g tanks. The foot print of the tank is more important than the number of gallons.

I like a 180g tank (72"x24"x24"), as it has a better footprint than, say, a 125g, but if that is all you can afford, it will still do nicely, if for a smaller group. In the wild *C. frontosa* and *C. gibberosa* live in large colonies, so we should do the same in the aquarium as they are social fish. High female to male ratios minimizes fighting between males. In a 125g tank, 1-2 males and 5-6 females is a nice colony. Remember they get HUGE! I have a Mpimbwe male that is in the 12"-14" range. Ideally you want at least 20 gallons per fish with very good filtration, and you MUST keep up on water changes. Fish from Lake Tanganyika are less tolerant of poor water quality than some other cichlids. For tank décor I like smooth rocks, sand (black or salt and pepper look) and caves or rock piles. One very important fact to remember: Don't use rough rocks. Larger *Frontosa* often end up with eye damage from the rough edges if they are startled and flash. They are very powerful fish and with one flip of their tail a can easily go over 6 feet! If you want to keep *Frontosa* calm, try to imitate the deep water environment they live in with lower light. I only have a 4', 40W actinic on my 180g and my 195g has even less light, only a single fluorescent strip from a 20g tank. Reef-like lighting will stress them and wash out their color.

-What water parameters do I need to keep?






Lake Tanganyika has some of the most interesting water chemistry of the rift lakes but, basically *Frontosa* like very hard water (high GH and KH), and that normally means a higher pH. Most people keep them in a pH range of about 7.6 up to about 9.2. Stability is much more important than a given number, so if you are in this area, don't mess with the water chemistry to try for a given number like a pH of 8.5.

Temperature is a lot simpler, about 75-78F for adults, and you can keep fry slightly warmer to increase growth rates.

Now that you know you can achieve the water parameters and have purchased the correct sized tank you will need to determine what type of *Frontosa* you are interested in and where to get them.

## **Choices**

First you'll want to determine the species, next the variant, and finally the collection point. Cross breeding between collection points is extremely frowned upon in the hobby, and I feel we should do everything within our power to ensure it does not occur. Below is a chart to give you an idea of the differences and collection points

<p>Cyphotilapia frontosa of Burundi:          Bujumbura          Bulu Point          Gitaza          Halembe          Kabimba          Karilani          Kavala          Kolobo          Luhanga          Magara          Maswa          Nyanza-lac          Pembe          Resha          Ubwari</p>	 <p>Burundi type frontosa: When these were first imported they were collected in many different parts of the lake, so there is some variance. Most imported today use a collection point in Burundi; hence the phrase Burundi type frontosa.</p>
<p>Cyphotilapia frontosa of Kigoma:          Bangwe          Kigoma</p>	 <p>Kigoma C. frontosa</p>
<p>Cyphotilapia gibberosa of Tanzania:          Fulwe Rocks (Wampembe, Cobra Blue)          Ikola          Kambwimba          Karema          Kasanga          Katalamba          Kipili (Tanzanites)          Mabilibili          Mamalesa Island          Mpimbwe          Samazi (Bismark)          Sibwesa (Kibwesa)          Ulwili</p>	 <p>Mpimbwe C. gibberosa</p>
<p>Cyphotilapia gibberosa of Zambia:          Chaitika          Chituta          Gombe          Gombi          Isanga          Mbita          Nauga          Sumbu          Ulwili</p>	 <p>Sumbu C. gibberosa</p>
<p>Cyphotilapia gibberosa of Zaire:          Liyua (Mikula)          Lupeta (Kalumba, Kalumbi)          Kapampa          Kitumba          M'Toto (Moba)          Moliro          Tembwe (Deux)          Zongwe (Chumbu)</p>	 <p>Moba C. gibberosa</p>

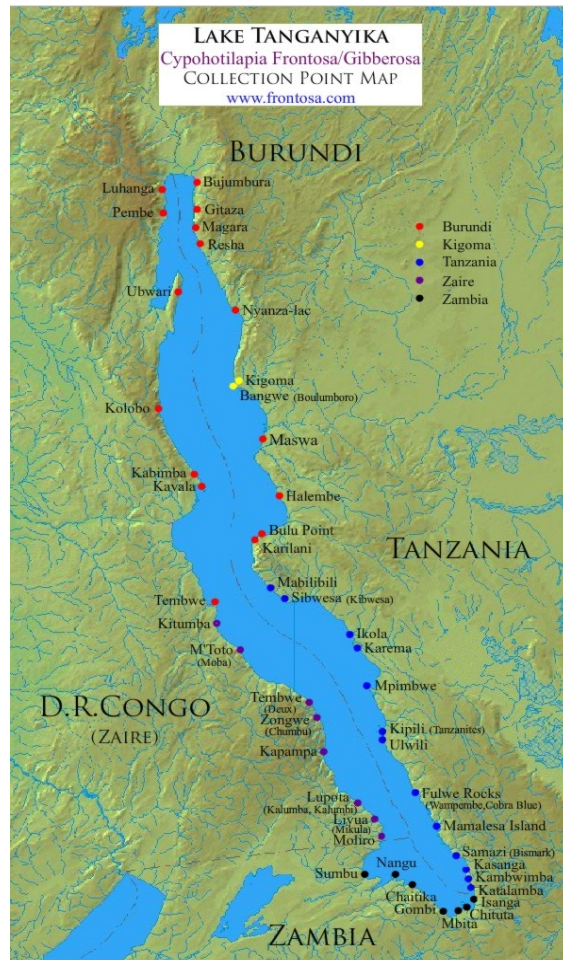


The above is only a representation. To see what fish look like from different collection points, look at the [Variant Profiles at Frontosa.com](http://www.frontosa.com).

The map to the right shows most of the collection points today, but this is ever changing, so please check back to [Cyphotilapia frontosa/gibberosa Collection Point Reference Map at frontosa.com](http://www.frontosa.com) for an up to date collection point map.

Now, that you have checked the site and found your favorite variant, you'll want to know where to get them.

If you are looking for wild caught fish (WC), it is best to use a trusted importer that deals primarily in fish importation. This will ensure you get the fish you want and paid for. Fish that are caught are held in vats at the locations near the lake to prep them for shipping. During this time a fish will jump from one vat to the other, sometimes resulting in you not getting the fish you ordered. A good importer should spot this quickly, and take great care of your needs, ensuring you get the fish you want, so you can enjoy them for a good portion of your lifetime.



## Tankmates

Now you have Frontosa, and you want to add some other fish to their tank. What are the best tank mates? The truth is, Frontosa are the best tank mates for Frontosa.

Their natural food consists of a diet of other fish, like *Cyprichromis* that are stalked in the dark of night. That sounds kind of scary for a fish we want to keep in an aquarium, but they are really incredibly gentle giants, and are often the peace keepers in an aquarium. In mine the alpha male often acts as a moderator and quickly resolves fights between any fish in the tank.



As peaceful as Frontosa are, they are still opportunistic predators and some day might decide to eat their prized, high-priced tankmates. For well fed Frontosa, predation risk is on the lower side, but fish are like people, each has its own personality, so stereotypes can be broken if you choose unsuitable tank mates for your Frontosa.

There are some nice fish you can keep with them, however there are a few problems that can occur:

- Fish that are too busy can stress them out and nip their fins, like most of the fish from Lake Malawi. Some of these that have worked for some people are yellow labs and blue dolphins. Myself, I had the fin nipping issues, so I no longer keep them.
- Tankmates might become food if they are not bigger than the largest *C. frontosa*'s or *C. gibberosa*'s mouth.
- Most good tank mates are egg stealers, so if breeding is your goal, they might hamper you to an extent.

I recommend adult *Altolamprologus calvus* or *Altolamprologus compressiceps*. The trick is to get larger specimens as they are such slow growers, or spend years growing them in another tank. I also recommend large *Synodontis multipunctus*; again, these need to be a decent size, and they grow slowly. Note, however, that all three are notorious egg stealers.

Last not least are *Benthochromis tricotti*, but you best go with an 8 foot tank for these, and you again need to start with reasonably sized specimens, such that they don't get eaten. *B. tricotti* make the best tank mates for *Frontosa* in my opinion, because they don't eat eggs and don't nip fins; they get too big to be eaten, won't eat *Frontosa*; and they live at the top of an aquarium, while *Frontosa* live at the bottom.

## Food

I feed my *C. frontosa* and *C. gibberosa* a variety of different foods. The most important thing is, don't change their diet too fast. I also like to skip feeding juveniles and adults at least two days per week in a row. This helps to ensure they clean out their digestive systems and don't get float (stress also has a big influence on float). I feed foods ranging from a good sinking pellet, freeze dried mysis, shrimp/krill as a treat, and my own home made food that contains garlic and is high in spirulina, a natural color enhancer. Spirulina has many good properties and is known to promote good health.

## Breeding

Wild caught or tank raised is always the big choice. If you are planning to sell fry, most people want fry from WC parents, but this can be very pricey when you are spending \$100-200+ per fish, depending on the variant, size and time of year.

My favorite way to start is with fry, because it is incredibly rewarding to watch the different stages of growth till you finally get them spawning. If you start with fry, look at how many adults fit in the aquarium. Say you want one male and five females - I recommend starting with about 12 to 15 fry because you can't sex them till later and you need to ensure you have enough females.

The only reliable way to sex *Frontosa* are when they get to about 4 ½" or larger, then a skilled eye is required to vent the fish. This is not fool proof, but the larger they are, the more accurate it is. I typically use the three bucket method: male bucket, female bucket and I'm-not-sure bucket. A good reference for venting is:

[How to sex / vent frontosa fish venting / sexing w/Pictures](#)

Once you can sex them, pick your nicest male to be the alpha and sell any extra males, keeping all the females you want. To keep better blood lines you best get fry

of the same variant from two different breeders. Then use males from one group and females from the other to ensure the parents are not related and causing inbreeding. As an alternative, you can get a wild caught male for your females.

Breeding *C. frontosa* and *C. gibberosa* can be temperamental in comparison to some other cichlids. They don't always breed like clockwork (or the clock is running slower). That said, patience is your friend. Enjoy the fish and the fry you receive.

Some people resort to stripping females and tumbling the eggs to ensure the females don't swallow the eggs or fry during the holding process. This is more required for the *C. gibberosa* Zaire variants, as more often than not they do swallow their eggs. Stripping also ensures higher numbers of fry surviving and keeps the female stronger, since she is not going without food for as long as when she holds and tumbles the eggs/fry in her mouth.

If you are interested in the development of the Frontosa eggs here is a kewl link to visit:

[Frontosa Egg Tumbling and Fry development](#)

-How fast do they grow, and how long do they live?

Despite their immense mass when they are mature, *C. frontosa* and *C. gibberosa* take some time to reach their maximum size. This is in part due to their 20+ year life expectancy, given the right environment. Some fry will hit about 3.5-6" in the first year (*C. frontosa* normally reach a given length slightly faster than *C. gibberosa*, due to their higher body shape). Most of the faster growers at one year old will be males, but you will get the odd female that will surprise you.

It can take up to 2 ½-3+ years before a male is fertile. Females are fertile at a slightly younger age. It can take 4-5 years for some colonies before they breed successfully. This is not a fish you get and keep for a bit, then sell, as other people will benefit from the time you spent caring for them. Say you wait three years, and they do not spawn for you, so you decide to sell them; more often than not the buyer has them spawning and reaps the benefits from the care and time you put into your Frontosa.

These are one of the most majestic, entertaining and beautiful fish I have ever encountered in my extensive years in the hobby. The moment I saw my first group, I knew I wanted to work with them and get a group of my own. I dream of the day I can travel to Lake Tanganyika and swim with the fish that exhilarate me every day that I look into their tank and watch the fry my colonies produce grow till they move to new homes, hopefully generating a cult of Frontosa addicts. I encourage all fish keepers to give this amazing fish a try and become a Frontosa addict like me!



## **Picture of the Month winner**

This month's first place for the POTM contest was tied with 13 votes each. Here are out winners in no particular order and what they have to say about their set ups:

Jerry (rybren)



**Experience:** 40+yrs FW; 2 yrs SW  
**Age of current tank:** 1yr

### **Equipment**

**Tank:** standard 75G hooked together with a 35G sump  
**Lighting:** 48" 4-bulb ATI Sunpower  
**Skimmer:** Octopus DNW 110  
**Sump Return Pump:** Ocean Runner 2500  
**Powerheads:** 2 x Koralia Evolution 1400 and 2 x Koralia 1  
**Heaters:** 1 x 150W, 1 x 200W

### **Livestock**

#### **Fish:**

1 Coral Beauty Angelfish, 1 Yellow Tang, 1 Royal Gramma, 1 Yellow Watchman Goby, 2 Ocellaris Clownfish (1 Orange/White, 1 Black/White)

#### **Corals:**

Montipora, Acropora, Yellow Birdsnest, Pocillipora, Hydnopora, Turbinaria; Chalice, Favia, Favite, Galaxia, Frogspawn, Hammer, Torch, Candy cane, Elegance, Cynarina, Open Brain, Finger leather, Cabbage leather, Toadstool, Kenya tree, Xenia, misc zoanthids, misc mushrooms

#### **Other:**

Coral Banded Shrimp, misc hermit crabs, misc snails

Christiaan Burchell ( xiaan)



**Experience:** 3.5 years In Hobby  
**Current Setup Age:** 1 year (Dec 6, 2009)

### **Equipment**

**Display Tank:** Custom 134G (36x36x24 in) Starfire glass on two sides with external coast to coast overflow  
**Display Lighting:** 2 6x39W T5 ATI Sunpowers, 3 36" Blue Reef Brite LED Strips (Dimmable using Meanwell Drivers), 2 x GHL Sim Sticks (Moon and Storm Effects)  
**Frag Tank:** 15G (15x18x12 in), **Lighting:** 5 x 15" Reef Brite (3x Blue 1x50/50 1xWhite),  
**Sump:** 50G (36x16x20 in) (1/2 Refuge and 1/2 Live rock) & 15G (15x18x12 in)  
**Equipment Tank, Refuge Lighting:** 15" White ReefBrite, **QT/Frag Tank:** 12G (15x15x12 in), **Lighting:** ICE Cool 14K 27W Par38 Spotlight  
**Skimmer:** Octopus Extreme 200 with AVAST Swabbie Self Cleaning Top  
**Heating/Cooling:** 150W & 300W Finnx Titanium Heaters & Propeller Breeze 3

Controller: Profilux III Ex with Ex Box

Dousing: 3x Dousing units (11 pumps in total)

Reactors: 2x TLF 150 Reactors (Carbon & GFO) & Vertex SF-15 Zeolith Media Reactor (Fana Marin Zeolith)

Water circulation: 2 x Vortech MP40ES, 2 x MP10 (one in frag tank one in display)

Return Pump: The Whole system is plumbed together using a Sequence Whao UNO (1550GPH)

RODI: Bulk Reef supply 150 GPD RO/DI 7 Stage system with booster pump tops off a 2.5G reservoir twice a day and a MJ400 is used to top off the tank using GHL float switches.

Total System Volume: 225G

## **Livestock**

### Fish:

Royal Gramma (*Gramma loreto*), Swalesi Basslet (*Liopropoma swalesi*), Golden Midas Blenny (*Ecsenius midas*), Caribbean Sailfin Blenny (*Emblemaria pandionis*), 2 Ocellaris Clownfish (*Amphiprion ocellaris*), 2 Green Chromis (*Chromis viridis*), Watchman Goby (*Cryptocentrus cinctus*), 4 x Sharknose Goby (*Gobiosoma evelynae*), Blue Spot Jawfish (*Opistognathus rosenblatti*), Sailfin Tang (*Zebrasoma veliferum*), Atlantic Blue Tang (*Acanthurus coeruleus*), Six Line Wrasse (*Pseudocheilinus hexataenia*)

### Coral:

Mix of SPS & LPS coral (Too many to name)

### Inverts:

Astraea Snail (*Astraea tecta*), Bumble Bee Snail (*Engina* sp.), Cerith Snail (*Cerithium* sp.), Nassarius spp., Trochus spp., Turbo spp., Fighting Conch (*Strombus* sp.), Abalone (*Haliotis* sp.), West Indian Fuzzy Chiton (*Acanthopleura granulata*), Emerald Mithrax Crab (*Mithrax sculptus*), Scarlet Reef Hermit Crab (*Paguristes cadenati*), Zebra Hermit Crab (*Calcinus laevimanus*), Electric Blue Knuckle Hermit Crab (*Calcinus elegans*), Blue Leg Reef Hermit Crab (*Calcinus tricolor*), Red Leg Reef Hermit Crab (*Calcinus* sp.), Actopora Symbiont Crab (*Trapezius* sp.), 3 Clams (*Tridacna Derasa*, *Crocea* & *Maxima*), 2 Flower Anemoes (*Epicystis crucifer*), Red BTA (*Entacmaea quadricolor*), Pink Cuc (*Pentacta anceps*), TigerTail Cuc (*Holothuria* sp.), Marble Sea Star (*Fromia* sp.), Brittle Sea Star (*Ophiocoma* sp.), Dalmation Linckia (*Linckia multifora*), Pistol Shrimp (*Alpheus* sp.), 2 Cleaner Shrimp (*Lysmata amboinensis*), 2 Peppermint Shrimp (*Lysmata wurdemanni*), 2 Fire Shrimp (*Lysmata debelius*)

Congratulations to both of you!

## **Upcoming events**

### **November**

**22<sup>nd</sup>**, Monday, 7pm - General Club Meeting

We will have the judging of our first bowl decorating contest, be showing a video, and this will be followed by a [mini-auction](#).

### **December**

**04<sup>th</sup>**, Saturday, 4pm - The OVAS Christmas [Banquet](#)

Mel Baker Hall at [J.A. Dulude Arena](#). Doors open at 4pm for appetizers, and dinner starts around 6:30. Tickets are \$10 each and kids 12 and under are free.

The [menu](#) will be a traditional holiday dinner with some of the desserts made by your OVAS Executives.

Tickets are available at the November meeting or [online](#) via PayPal.

There will be no general club meeting in December.

Many thanks to our sponsors: 1000 Islands Aquaria, Aqua Valley, Big Al's Aquarium Services, Fish Tail Aquariums, Forty Fathoms, La Niche, Marinescape Aquarium, Ray's Marine Livestock & Aquatic Supplies, Reef Gate
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