

the DARTER MiniMAG

Aquatic Journalism *now, hobbit-sized*

August 2025
Sunda & Sundry
Indonesian bettas and more

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DARTER MAGAZINE

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BORARAS

spp.

*The
Beautiful
Dwarf
Rasboras*



Photo: [JoKrimmel](#), CC-SA4

by **Mike Hellweg, CFN**

MINIATURE FISH in planted nano tanks are all the rage right now, and miniature Cyprinids are in high demand. The Rasbora group *Boraras* is a small group of six identified species of very tiny fish scattered over Southeast Asia from Vietnam to Thailand and down into the islands of Borneo and Sumatra. None of them are over 1-1/4" in length at maximum size, and actually most are well under an inch when full grown. They all are colorful and interesting in their own right, with bright colors and fascinating behavior, and they are incredibly popular in the hobby right now.

Mike Hellweg is a MASI Fellow, master breeder, and expert horticulturalist. Visit the [Darter Archives](#) to access more than 100 MINIFINS articles covering a wide variety of aquarium fish.

Update to "The Exclamation Point Rasbora" originally published July 2004

The males of most species feature bright red or neon orange colors. They are peaceful and make excellent members of a very small fish community tank, though while a small group will do well in a community in one of the popular nano tanks, they will actually do better in a large group of a dozen to 20 individuals in a single species tank of 15 to 20 gallons.

Over the past 20 years or so, I have had the good fortune of being able to work with all six known species, and even more so, have had all six species cooperate with my wishes and spawn prolifically for me. In all cases, this is how I did it, starting with the exclamation point rasbora, *Boraras urophthalmoides*. Once I hit the right formula with them, the rest of the species were pretty easy.



The *Boraras* Tank

I keep them all in species tanks since they are so tiny. I've not kept them with any other species of fish or with shrimp, but I do have snails in most of my tanks to help control uneaten food. My tank of choice is a fully planted 20 high or 20 long with about 30 - 40 *Crypt. wendtii* in a pot in the center, and a couple of pieces of driftwood with Java Moss and *Anubias barteri nana* attached to it. I add several handfuls of crushed, dried leaves (usually oak) which I boil and let cool so that they sink to the bottom. I believe this is the secret to success! More in a bit. I feed them daily with live baby brine shrimp, and alternate a second feeding with micro worms, Grindal worms, Hikari Micro Pellets, finely ground flakes, frozen or rehydrated freeze dried Cyclops, and similar tiny foods.

I use sponge filters in all of my tanks, either Hydro sponges or Hamburg Mattenfilters. I keep the room temperature in my fishroom about 76 degrees for most of the year, though it does fluctuate a bit, getting warmer in the winter and cooler in the summer. Tank temperatures without heaters remain in the low - mid 70's, and the lights are on for 12 hours a day, on a timer.

COMPANION PLANTING

Cryptocoryne spp. (left) are often found in the wild with *Boraras*, and can be an easy plant for the *Boraras* tank.



I give their tanks regular water changes of about 30 - 50% every 7-10 days. While *Boraras* species all come from areas of blackwater, my pH is 7.2 - 7.4 coming out of the tap, and settles down to about 6.4 to 6.8 after a day or so. I've had all six species spawn prolifically and over multiple generations without doing anything special to the water. For most of the year, the total hardness is about 125 ppm, mostly from carbonates, but in late summer it drifts downward and carbonate hardness all but disappears. That is when the most fry show up. Even so, in the rest of the year a few new fry are always in the tanks.

The adults of all species seem to prefer to school in mid water, with a single dominant male controlling about a quarter of the tank by himself. He dances and displays for the females and for other males, likely asserting his dominance, showing the females he is a strong candidate for father of their fry, and probably releasing pheromones in the water to let them know he's ready to spawn. This is a daily behavior, and it seems once they've settled in and reached maturity, mating is a nearly daily occurrence. Females, subdominant males and juveniles all loosely school together (actually, it's usually more of hanging out together than a tight school). Juveniles start joining the school when they're about three eighths of an inch long and are not bothered by the adults. The adults spawn in the plants, with the dominant male sometimes coaxing the female over the Java moss, other times with him coaxing her upside down under crypt leaves or into the crypt thicket. They do a side by side quiver, sometimes a barrel roll, sometimes not. They spawn nearly every day, in the morning.



The Key to Success



The juveniles spend their first month or so in the plants near the bottom, probably feeding on the microfauna on the plants, and the bacterial slime that builds up on the driftwood and the decaying leaf litter. That seems to be the key to getting them started in life. I've tried spawning the adults in a tank by themselves like you would with most other egg scatterers, but the fry do not do well and I've never been able to get them up large enough to eat live baby brine shrimp. On the other hand, when I've added a piece of "old" slimy driftwood with Java Moss attached to the tank, the fry disappear into the Java Moss on the driftwood for about 10 days, then emerge as juveniles. Even more so since I started using leaf litter about 20 years ago.

I believe the fry feed on the bacterial growth or maybe even some type of fungus that grows on driftwood and leaf litter (that slimy coating of biofilm) for the first few days, then feed on the microfauna on the plants. This would be similar to what they would encounter as first foods in the leaf litter in the wild. I don't know for sure if that is the reason, but it really works!

I see fry swimming in the plants near the bottom for a while, then they join the adult school when they are about three eighths inch long. In a species tank, there is a constant flow new juveniles, but rarely more than a dozen or two at any one time. I've read that the females only lay an egg or two a few times a week, so perhaps this is the reason why.

the formula



Dwarf Rasbora Species

The first *Boraras* I worked with was the Exclamation Point Rasbora or Sparrow Rasbora, *Boraras urophthalmoides* (16 mm). It is one of the smallest members of the genus. There appear to be several populations of *B. urophthalmoides*, some are more colorful, some less so. But all have the telltale "exclamation point" along the lateral line.

B. brigittae, the Chili, Mosquito or Red Rasbora (18 mm), is a VERY different fish than *B. urophthalmoides*, there is no way of confusing even the females. *B. brigittae* are larger (relatively speaking!) at just under an inch. The *B. brigittae* have a solid black stripe down the lateral line, over which is a bright red/orange colored stripe, while the uros have a green or gold stripe running over the black lateral stripe, depending on the population. The line ends in a separate black dot at the base of the caudal fin in both species, but in *B. urophthalmoides* it's round, while in *B. brigittae* it is wedge shaped. Also, *B. brigittae* have bright red fins outlined in black in the males, and females have pale pink/orange fins.



BOTTOM RIGHT: the Neon Orange Dwarf Rasbora (B. merah), a dwarf rasbora with neon orange coloration. Who knew?



In a pinch, B. urophthalmoides can be used at the end of a sentence to add enthusiasm or prove you aren't a heartless sociopath.



ABOVE: the very different Chili Rasbora (B. brigittae)

In *B. merah*, the Neon Orange Dwarf Rasbora (16 mm), as you might guess, the males show an intense orange color around a large spot. They are often shipped with wild caught *B. brigittae*, though occasional shipments of *B. merah* alone appear in the trade from time to time.



B. micros, the Dwarf Thai Rasbora (13 mm). Sexually active males are lemon yellow with three small grayish spots.

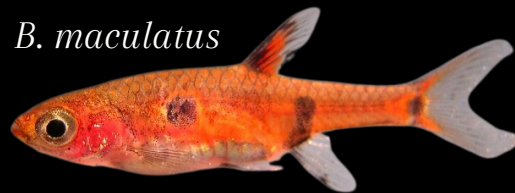
B. naevus, the Strawberry Rasbora (12 mm), are the most recently described species. They have a slate red color with a large black blotch on their flanks.

With bright color, interesting behavior, undemanding care, and the fact they do very well in nano planted tanks, there is no reason not to try the various Boraras species. And if you're going to do that, why not give them a tank of their own? And as always, don't forget to just sit and watch your fish. After all, isn't that why you got into this wonderful hobby in the first place?

DWARF RASBORAS UP CLOSE



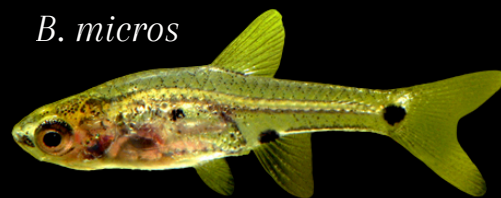
B. brigittae



B. maculatus



B. merah



B. micros



B. naevus

B. urophthalmoides



Photos: Fishbase

Snakehead BETTAS



Betta channoides

PHOTO:
Bob Steenfott,
Steenfott Aquatics

by Roberto Prati,
Greater Pittsburg Aquarium Society

Originally published in the Oct.
2014 issue of *Finformation*, GPAS

For the background on this fish species we spin the globe and stop it on Asia. *Betta channoides* are native to the Mahakam river basin in the province of Kalimantan Timur, the eastern Kalimantan side of the island of Borneo, Indonesia. The snakehead betta inhabits brownish, acidic, black water forest streams entering Mahakam River on the northern side near Mujub. They are collected in shallow water among plant roots and leaf litter. The snakehead betta got its name because of the shape and markings on its face that resembles the snakehead fish of *Channa*.

As many of you know I got my start in this hobby breeding mouth brooding African cichlids from Lake Malawi. So it only makes sense that when I wanted to start on my Anabantoids class I purchased a betta that was a mouth brooder. Also the fact that it is one of the best looking bettas out there made my decision to try to purchase a pair even easier.

An Important Distinction

The SNAKEHEADS (*Channa* spp.) are wildly illegal invasive species capable of destroying whole ecosystems

The Snakehead BETTA (*B. channoides*) is a peaceful mouthbrooder

Do not confuse them.



BAD



GOOD



Betta channoides

IUCN Status

Endangered in Borneo



I took the pair home and placed them in a 10-gallon tank in my fish room. The tank sits on my top row of tanks and is painted black on all sides but the one end of the tank that faces the front of my rack. In the tank I sunk 3 inches worth of oak leaves and a sponge filter in the middle. The temperature was kept in the mid 70's. My tap water is around 7.0 when I filled the tank and didn't do a single water change in 2 months other than top off the tank when it was needed. The pH dropped down to 6.0 in that time and you needed a flashlight to see in the tank. The photo below is of the female in the breeding colors. The black and dark grey stripes can almost be black and white when she is really ready. The red on the female stays only on her fins. I have read that the white seams on the edge of *Betta channoides* fins only happen to males and it's a sign to be able to pair fish. This, in my experience, is not true as you can see this female has the white seam around her fins, and she is a true female. The male in breeding colors gets much more pronounced reddish wine colored than he usually is.

The pair was fed mostly live foods such as white worms, black worms, mosquito larva, and adult baby brine that were gut loaded. They did occasionally eat frozen bloodworms, glass worms and *Daphnia*. They were fed once a day and usually twice on weekends when I have more time.

This pair was not too aggressive with one another when breeding. The actual breeding was never seen, but this is how it would go. The female initiates spawning by showing off her breeding coloration. Eggs and sperm are released during a typical labyrinth fish position, where the male wraps his body around the female. After the male fertilizes the eggs, the male catches the eggs that the female drops on his anal fin. The female then collects the eggs in her mouth and spits them to the male and he catches them as before they sink to the bottom. Snakehead betta males are notorious for swallowing eggs after a few days, so it is better not to disturb the male during the incubation. The male will incubate the eggs for usually 12 days, and when ready he will release the small fry from his mouth. The female would come to eat and then hover about an inch or two above a specific leaf. At first I didn't understand until I wanted to see what was going on with that. She would be there for a day or two and not move. So one day I went into the tank and moved the leaves under her and for sure there was the male with a mouthful of eggs. This continued on each time they spawned. It was amazing to me with that many leaves in the tank and how dark in the tank she knew exactly what leaf he was directly under. From what I read online and what people told me, males would spit the fry and then protect them. In my experience this was not true because the first 3 times he held eggs I never saw fry and if he did spit some fry he ate them or swallowed the eggs altogether. Since my patience was wearing thin I attempted to do something that most people wouldn't - I attempted to strip the male as I would with a female Malawian cichlid. The male was only an inch and a half and so when I grabbed him to strip, all you could hold on to was its head and it was very difficult to keep trying to open his mouth. I eventually got him to spit and there were fully developed black fry were about 1cm that were swimming on their own. I don't know if this has ever been done before



In my head, I was either going to keep watching the male swallow or spit and eat the fry or risk injuring the male and getting my hands on some fry. Since the first time stripping the male took a bit longer the male's head by the gills was a bit bruised due to me handling him so much. So I ended up putting him in a breeder box and getting him back to health before I put him back in the tank with a female ready to go. Another note as the male sat in the floating breeder box the female would sit underneath the floating breeder waiting on the male or directly next to the same side he was on in the net. The male does not eat during the incubation period so feeding the male up after stripping is a good thing because if you put the male right back in with the female she will stress him to spawn again, and he will be too skinny and probably die.



The striking spawning patterns of the snakehead betta (Photo: Roberto Prati)

The first spawn the male was carrying 30 fry when I stripped him. The fry were big enough to eat all that was moving such as baby brine and micro worms. They did not go for powder foods or flake. The fry grew pretty fast and will reach sexual maturity in 4 months of age. I did notice some grew bigger faster and would predate on the smaller ones. The fry are also jumpers because I would find a few on the floor from time to time even with the lid on the tank. I think the light would spook them, and they would just jump out or if they were being bullied around they may have gotten scared and jumped out.



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These fish are rare in shops but because of their stunning adult coloration they are highly desired among breeders. This fish is very similar to *Betta albimarginata*. The only differences are that the *B. channoides* are smaller and have a rounded caudal fin. The fishes also have different number of spines in their fins. Breeding these fish was pretty easy once you gave them the right foods and water conditions. They may take a few attempts if they are a new, young pair but they will figure it out. These are awesome bettas to start off with if you can get your hands on them. These fish have sparked my interest in bettas a bit more than I had in the past, and I will get a few more species that get larger and that are also mouthbrooders.

SOURCING WILD BETTAS

Wild bettas are difficult to find in most places, but St. Louis is not one of them. MASI members breed and regularly supply dozens of wild betta varieties.

To find locally bred species, reach out on the MASI Band page. Our prolific betta breeders include Jamie Steele, Steve Coxon, Mike Hellweg, and Andrej Spec, to name a few.

We recommend non-local *Darter* readers acquire bettas from reputable online sellers or their own local breeders.

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The advertisement features three magazine covers: 'Exploring the Waters of CHINA', 'WORLD OF DARTER', and 'DARTER'. A QR code is provided for sign-up. The background is blue with stylized white waves.



BETTA macrostoma

PHOTO: Haji Badaruddin



the Brunei Beauty

by Ed Millinger

Originally published Sept. 2012

RATHER THAN WAIT UNTIL THE END of the article I'd like to mention up front the sources of information that I used as they are all great books.. *Bettas, Gouramis, and Other Anabantoids* by Jorg Vierke (1988) *Labyrinth Fish* by Horst Linke (1991) *Gouramis and Other Anabantoids* Hans-Joachim Richter (1988) *Aquarium Atlas Vol. 2* by Hans A. Baensch (1993)

Betta macrostoma was first described by Regan in 1909 or 1910 (depending on your source). They are found in the Sarawak State of Borneo. Horst Linke reports that T. Schulz was the first person to import them to Europe and carry out detailed observations in 1984.

Baensch notes that Herbert Axelrod brought them to the U.S. in 1980. The male has a large mouth (in which he broods the eggs) and thus Regan named them "macro stoma"= "larger mouthed." When you see a picture of the male you understand why this fish is so desirable. Both sexes max out at a little over four inches.

These fish have not become readily available until the past few years. With some regularity now you can find them on Aquabid. Earlier this year Mike Hellweg was the first in MASI to turn them in for the BAP (breeders award program).





If B. macrostoma is the “Brunei Beauty,” what is Brunei? Well, it’s a country, but a small one. You can find it on the map above. Did you? Was it too difficult? Either way, your I Spy skills were in vain, because the species is not limited to Brunei – it’s found elsewhere in Borneo, too. So much for all that.

My first experience began in November of 2000. Mike Hellweg found someone in Hawaii who had a brother in Southeast Asia that could find some macs. On the 30th of that month I met Mike under the Dove at West County Mall and paid \$272 for three one inch fry. I thought these fish would have the same needs as the *Betta splendens* but Mike told me that the macrostoma actually prefer cool water. This eliminates one problem all aquarists have had in their fishy lives, keeping the water warm. Upon arriving home I placed them in an unheated tank. After a couple of weeks, one jumped out, and I lost a second some months later. The one that survived was a beautiful male, but I had no luck finding a mate.

In 2003 the IBC (International Betta Congress) held their annual convention in Kansas City, Missouri. I went there and put the male up for sale but failed to find a buyer. I ran into a fellow from Indy (Harrison Storm). He knew a gal who had a female so I gave him the male in hopes that maybe his friend would have some success breeding them.

Last year (2011) I purchased a pair on Aquabid for a rather large sum of money. At the same time there were six juveniles up for bid and there have been many times when I wish I had bought those. The pair I bought were not misrepresented. The seller stated upfront that the male had never held eggs to term. My plan was to use an egg tumbler if the male insisted on eating the eggs. I found an egg tumbler on Aquabid and upgraded from the lessor model I had at the time. I placed the pair in a twenty high with a bare bottom. Bare bottom tanks are highly recommended for mouthbrooders. Retrieving eggs is much easier during spawning. I added some hornwort, a floating hollow log and a sponge filter. I used regular tap water at first and later switched to reverse osmosis water with a TDS (total dissolved solids) of 75.

They readily accepted flake, frozen and live foods. The fish spawned fairly often but after two or three days the male was eating again which is bad news since the brooding has been reported taking anywhere between 14 and 22 days.

The next time I noticed the male was holding a mouthful of eggs, I pulled him out and stripped the eggs. I gently gathered him up in a net and then placed the net in an empty 10 gallon with the egg tumbler. I stroked his chin and was able to get about 20 eggs. My disappointment grew as every day one or two more would fungus. After three days all the eggs were shot. Some months later Mike Hellweg gave an excellent program on wild bettas and one of the things he said really floored me. He said that you couldn't hatch out macrostoma eggs in an egg tumbler due to their makeup. Well this was when I started regretting not having bid on the juvenile macs. I usually think it's more fun to watch the young ones grow up and pair off naturally, If I had done a little research I would have found out that macs mature at six months which is pretty quick.

The next thing I decided to try was removing the female and covering the tank with a blanket for two weeks after they spawned. This way he would realize even if he did not hold to term at least he would realize that he could. Well you probably guessed how successful this little trick was. When I removed the blanket there were no fry, and he was hungry.

So I was now forced to stick with what I had and come up with a different plan. I kept an eye on Aquabid and saw a seller who had an extra female but no one had an extra male. The next spawn I removed the female but once again the male only held for a few days. Some people think the reason the male eats the eggs is because something isn't right. I'm not sure what that means. Others say it has to do with the water quality. I should mention that I didn't notice a difference in spawning frequency when I used soft water and tap water. The male still didn't hold the eggs long enough.



It was at this point that I threw in the towel so to speak (the one I had covered the tank with). These two fish which I had spent so much time and money on (don't ask; I'm not telling), were driving me crazy. I decided it would not be a good idea to sell them. I didn't feel like giving them away so I just decided to feed them and ignore them. When I felt like it I would change their water. This meant instead of every week maybe every two to three weeks. It was during one of these water changes I saw something move. It had to be debris disturbed by the vacuum right? No, actually what I had seen was a very small fry. I had to ask myself where did that come from? I couldn't remember adding any other fish to this tank, it had to be a baby mac right? There is no way I told myself. I had been putting in enough food for two adults because I never saw them spawn again and surely this unreliable male when seeing food would have given up the eggs.

Imagine my surprise when I discovered a total of ten fry altogether. This by the way is a small number but are you kidding me, I'll take it! I called Mike Hellweg and asked if I needed to separate the fry from the adults. He said no that they will get along just fine. The parents occasionally swim close to the fry which scares the little ones who then swim away but the parents show absolutely no interest in the fry. They can take baby brine shrimp right away and they grow fast. What a pleasant surprise that is. After just a few weeks the parents spawned again but the male only held for a few days. This is not necessarily bad because you want the male to regain his strength by eating well for awhile. After six weeks the fry were approaching an inch in length. They are plain brown with two stripes running down the length of their bodies.

About this time the macs spawned again. After one embrace the female released 24 eggs. Both the male and female picked up eggs although the female gathered up the most by far. They then positioned themselves face to face and the female transferred her remaining eggs into the male's mouth. As I write this the male has held for a week which I think is critical. If he makes it past three to four days he should hold to term. It is fun to watch him juggle the eggs in his mouth, his throat patch expands and the eggs roll around. Imagine having 60 dried peas in your mouth for an extended period of time. The first fry are ready to be turned in for BAP points, hopefully more will follow.

Betta macrostoma

IUCN Status

Vulnerable in Brunei



Betta macrostoma are listed as vulnerable by the IUCN (International Union for Conservation of Nature) red list of threatened species. I plan on holding onto the fry I have and hopefully having an easier time spawning them. It's been quite an experience working with these fish. I'm lucky I had Mike Hellweg along the way to help me.



The Three Spot Gourami

Trichopodus trichopterus



by Mike Hellweg, CFN

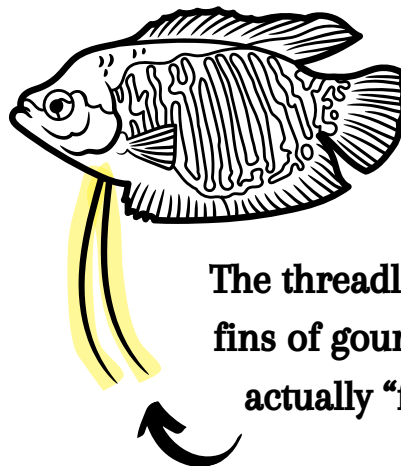
Originally published July 2024

EVERYONE HAS LIKELY SEEN the three spot gourami, *Trichopodus trichopterus*. Wait! What?! Everyone knows it's *Trichogaster trichopterus*, right?

We'll if you've been paying attention recently, you'll see that the five (or six) species in *Trichogaster* have been moved to *Trichopodus*, and the four species of *Colisa* have been moved back to *Trichogaster*. Why? Well, scientists like to torment hobbyists who think they know everything! But seriously, without getting too deep in the name game, it has to do with primacy of the generic name's first use and the fact that no one bothered to designate a type species for either the genus *Trichogaster* or the genus *Trichopodus* until nearly a century and a half after they were created!

As there are at least 10 different species synonyms and at least four different generic names that have all referred to the three spot gourami in the literature over the past two and a half centuries, I will avoid going any deeper into the name game at this point.

The scientific name refers to the very fine, thread-like pelvic fins, and literally translates to "hair belly, hair fin". If you watch them in an aquarium, you will notice that the three spot gouramis are very tactile, using these "feelers" to touch everything in the tank as they go through their day. They will literally rub their fins over plants, other fish, the tank and equipment itself, decorations, and anything else they encounter.



The threadlike pelvic fins of gouramis are actually "feelers"



In the wild, three spot gouramis navigate muddy waters by touch, using their “thread fins”

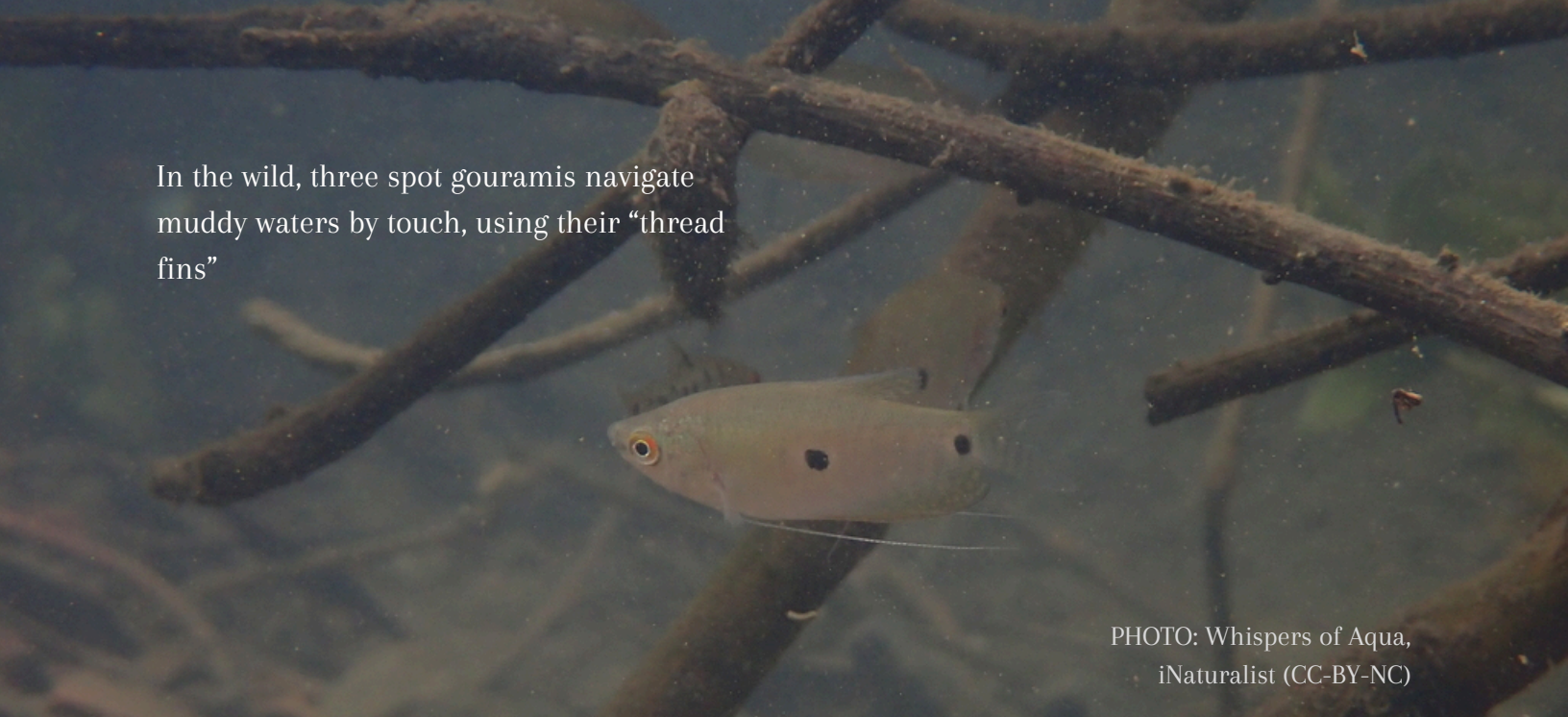


PHOTO: Whispers of Aqua,
iNaturalist (CC-BY-NC)

IN THEIR NATURAL HABITAT the water is often murky, so these sensitive fins allow them to feel their way through their world. In addition, these "hair fins" are covered with taste buds, so while not as sensitive as the famous "whiskers" of catfish, the fish can also find food with them. It is very likely they also can be used to sense pheromones released by conspecifics as pairs also spend a lot of time touching each other during mating, and newly introduced fish will spend time touching each other as they get to know one another.



PHOTO: Andrey Bragin,
iNaturalist (CC-BY-NC)

Aggression can sometimes be a problem with newly introduced adults as they establish a pecking order, but once established they are fairly peaceful outside of spawning. Occasional squabbles are usually settled by a bit of fin flaring and circling, with an occasional nip if the two fish are well matched otherwise. To avoid serious problems, it is best to keep them in mixed sex groups of 5 to 7. Some authors have reported that males will chew up the caudal fin of females that are not quite ready to spawn, but if you use a large enough tank with some cover for the female and don't introduce her until she is ready to spawn, this is rarely a problem. More on this in a bit.

In the wild they are found in Southeast Asia from Vietnam westward to Thailand and Malaysia, through several islands from Sumatra back eastward to Borneo and are even reported in the Philippines, though this last location is likely influenced by man.

The three spot gourami, with rice. Fishkeepers should avoid pan frying their pets, if possible.

In fact, they are a popular food fish and are often cultured along with rice, where they can be harvested at the same time. Due to their culinary popularity they have been widely distributed by man, so in truth we have no real idea what their original natural range was.

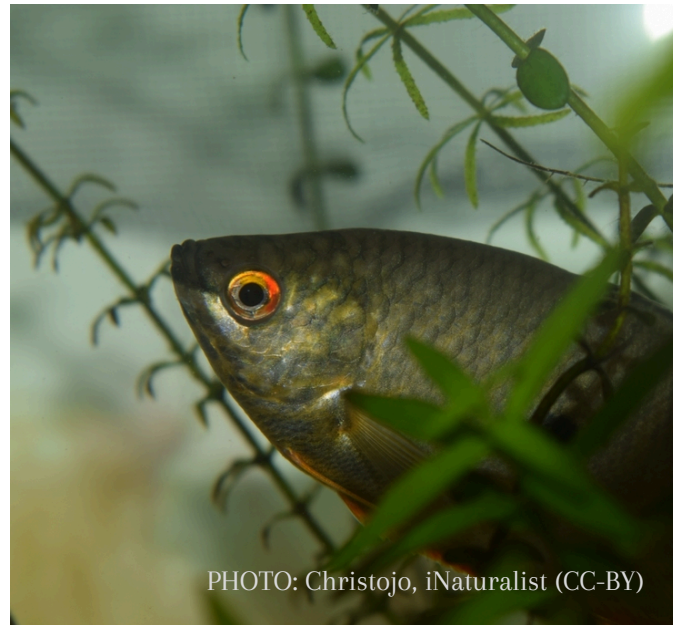


PHOTO: Christoj, iNaturalist (CC-BY)

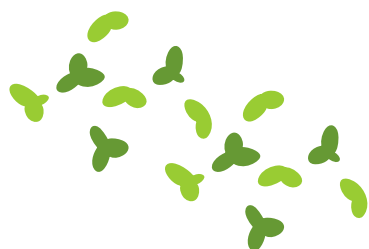
*A history of escapes from fish farms makes the natural range of *T. trichopterus* unclear. The gourami above was found in India, where it is probably not native.*



There are several color variants of the three spot gourami that are popular in the trade. The most popular ones to this day are the blue which is bright blue with two dark spots on the flanks (plus the eye makes up the "three spots" of their moniker) and the Cosby (or Opaline), which is a dark blue mottled or marbled color. But other colors are available including gold, which is bright yellow; gold marble, which is deep yellow with greenish or brownish marbling on the flanks; silver, which is a pale slightly bluish silver with no spots; and lavender, which is silver with a darkish, purplish marbling on the body.

The three spot gourami can grow to five inches, though four inches is a much more common size. Males and females are similar in size and color pattern, with males sometimes having more colorful orange or red eyes, though this is not always a reliable indicator. Males generally have a much longer, taller and pointed dorsal fin, and in some variants the males have a bright yellowish to orangish color pattern on their bellies. Females in all variants have a much stouter appearance, and once sexually mature, they seem to always be nearly ready to burst with eggs.

Feeding couldn't be easier. In the wild they are omnivores, eating anything organic that fits in their mouths. In spite of their large size, they do not have large mouths, so they will not eat larger food items. They will just eat a LOT of smaller fare. Flakes, pellets, and frozen foods can make up the bulk of their diet, with occasional live foods added maybe once or twice weekly.



Three spot gouramis are omnivores: they even eat duckweed. Some individuals can clear a tank within a week, if they feel like it (unlike most fishkeepers, who have given up that battle).

Popular *Trichopodus trichopterus* Varieties



T. trichopterus
"Opaline"

T. trichopterus
"Golden Red Eye"



T. trichopterus
"Steel Blue"

T. trichopterus
"Three Spot"



PHOTOS (top down): Seriously Fish; Aquarium Glaser; Practical Fishkeeping; Seriously Fish

They will also eat duckweed. I've had some specimens that will literally clear a tank of duckweed in a week, and others which never once touched it, so take this with a grain of salt and make sure your particular specimens will eat duckweed before you start adding it to their tank. Oddly, in my experience specimens of the gold morphs seem to be more inclined to consume duckweed while those of the wild color three spot variants seem to be least likely to touch it.



THREE SPOT GOURAMIS ARE BUBBLE NESTERS. The male will build a large, foamy nest of bubbles at the surface under or near some structure like a large leaf, piece of Styrofoam or something similar. The male blows each bubble individually. They are coated with sticky mucus from a gland in the roof of the male's mouth. This mucus makes the bubbles last for several days, and a really well-built nest will still be in the tank when the fry become free swimming. Most males build a large nest, though I have seen spawning reports of males barely building any nest at all. In general, it is thought that in the wild females choose their mates by the size of their nest, as this indicates a more vigorous mate who will be better able to defend the spawn. In addition, the nests are built where they are exposed to the sun, so it is believed that taller and larger nests are more successful for hatching and raising fry. It seems the more layers of bubbles the better protection the eggs and fry have from extreme heat.

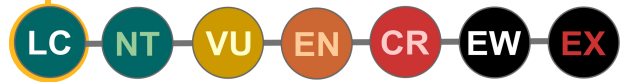


A gourami bubble nest in the aquarium.

Trichopodus trichopterus

IUCN Status

Least Concern



In aquaria, some males have built huge nests that cover half or more of the surface of the tank, even lifting the cover glass! While they don't form pair bonds, most males will spawn with a single female during a spawning session, but some males have been reported to spawn with multiple females if more ripe females are ready and available at the same time. As they are large fish, I would suggest a minimum of a thirty gallon tank for spawning. Fill it about three quarters full, add a few floating plants, a large clump of Java moss or something similar, and a few flower pots turned on their sides to provide the female a place to get out of the male's line of sight in case he gets aggressive and she's not quite ready. Add a heater set to about 80 degrees Fahrenheit, and a small, slowly bubbling sponge filter. You don't want a filter going too strongly as it will make nest construction difficult for the male. As you might surmise from their wide distribution, they are not at all demanding as to water parameters. They are found in swampy, acidic, low hardness water and in basic, alkaline water flowing over limestone. Some populations are even exposed to brackish water for at least part of the time. So as long as the water is clean, they should be good to go.



Condition both breeders with meaty foods like frozen brine shrimp, Mysis and bloodworms and live foods like blackworms, daphnia, and similar Steel Blue fare. Add the male to the tank a few days before you anticipate a spawning attempt. Once the male builds a nest, add the ripe female. You'll know she is ready to go if she looks full of eggs and her egg tube is showing. This is a small white nub that protrudes slightly from the vent area. Within an hour or so after you add her to the tank, if she is ready to go and she finds the nest and male acceptable, she will initiate spawning by approaching the nest. The male will show he is ready by intensifying his colors, and rolling over on his side to form a "U" shape with his body. The female will enter the "U" and the two fish will line up their vents and begin to embrace and roll a bit. After a few false starts, the female will begin to lay eggs in bursts of about 20 to 40 at a time.

Each egg contains a small oil droplet and floats to the surface. After each of these egg-laying events, the male will move up to the nest and blow a few bubbles around the eggs, then return and mate again with the female until from several hundred to 4000 or so eggs are laid, depending on the size and age of the breeders. Then the female will move off and the male will start guarding and tending the nest. At this point, carefully remove the female so you don't mess up the nest. The male will carry on guard duty for a couple days, or you can remove him as soon as spawning is done. If you leave him in the tank, only let him tend the nest and fry for two days, then remove him.

Once the fry hatch and start to make their first escaping attempts, he will catch them in his mouth and spit them back into the nest. At a certain point, he will still catch them in his mouth, but he will no longer spit them back into the nest, but rather eat them instead. Once this happens, he can consume most of a spawn in a few hours.



If three spot gourami fry don't leave the nest in timely fashion, their parents eat them. This is as good a time as any to remind readers not to anthropomorphize fish.

Once they are free swimming, the fry will be ready to be fed. They are very tiny and need microscopic food for a few days. Infusoria is ideal, and is the reason for leaving the water level down a bit from the top. That way you can just pour in the infusoria culture into the tank each day for several days, slowly bringing the water level up to the top. When it gets to the top, it's time to start doing water changes.

If you don't want to use infusoria, fortunately, they will eat powdered commercial foods for egg layers. Usually I recommend mixing these dry commercial fry foods with water and pouring the slurry into the tank, but young three spot gouramis are surface feeders and will eat the floating powdered food greedily. They are pigs and will eat continually if you let them. This translates into rapid growth, and by the third or fourth day after becoming free swimming, many will be large enough to take newly hatched brine shrimp, microworms, vinegar eels, and even finely ground flake foods.



This rapid growth is natural, and some siblings will seem to grow as you watch them while others don't grow at all. This, too, is normal. In the wild, the faster growing siblings will consume their slower growing siblings. To head off this behavior, about every week or so, grade the fry by size while you're doing a water change. Don't attempt to raise every young gourami, as there will just be too many of them. 100 or so would be a good group to raise up to saleable size. When deciding which to cull, don't keep all of one size, as often these wind up being all of one sex when they reach maturity.

In fact, attempting to raise too many three spot gourami fry led to the genesis of the popular myth that Anabantoid fry need to have warm, moist air over the tank or they will get pneumonia and die. This was the speculation of a German breeder published back in the 1950s as to a POSSIBLE reason why his fry were dying, but if you read the entire article, you'll see that this was only one of several theories that he had, and that in truth he was actually not feeding enough food to the fry, which oddly was NOT even one of his potential theories!

Be that as it may, a well-known American publisher came upon this article and seized on this speculation as a fact, and it became the "truth" in every Anabantoid related article and book he published, even though it is not. In fact, Anabantoid fry develop just as healthy under cooler conditions without cover over the tank as they do with cover.

I have even had paradise fish successfully spawn and rear fry in a tub on our balcony right before Thanksgiving! And many scientists over the years have debunked this myth as well including renowned *Betta* expert Dr. Gene Lucas, who raised thousands of spawns of *Betta splendens* in his lab with cool, dry air over the spawning tanks. Proper feeding is key to raising healthy anabantoids- not keeping warm air over the water.

The various morphs of the three spot gourami are well worth keeping. Given room and plenty of food, they will be big, colorful, outgoing and generally peaceful members of a medium to large community or planted tank. In addition, they are long lived, often providing their keepers with six or seven years of companionship. Finally, if you're looking for a breeding project, the three spot gourami is a fun challenge that offers something a bit different than the more often encountered livebearers and cichlids. And don't forget to sit in front of the tank and spend time just watching your fish!

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