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**California Beta Society**  
**San Francisco Sacramento**  
**Silicon Valley**  
**NEWSLETTER**

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March/April 2008

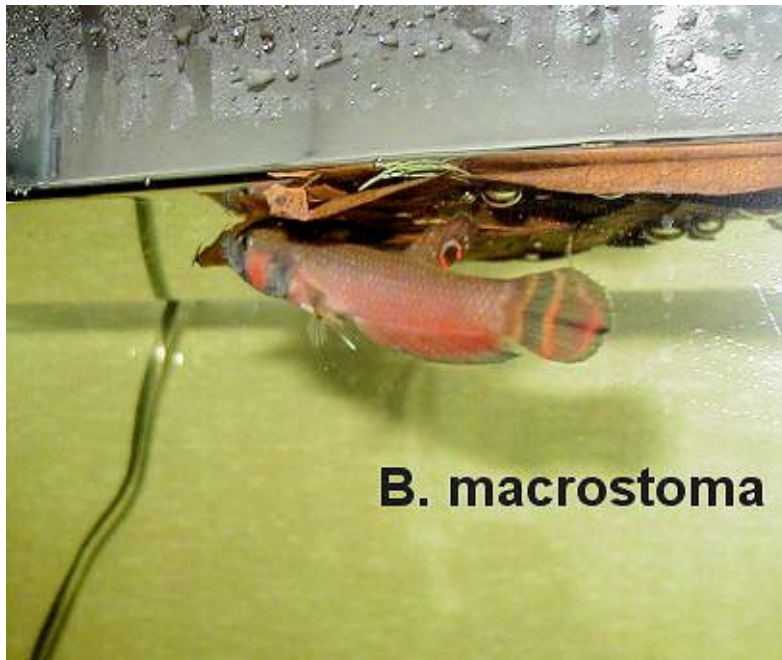
**2007 / 2008 IBC International Show**  
**hosted by California Beta Society**

- Show Date:** May 17th 2008
- Show Location:** Courtyard San Jose Marriott - Airport
- Schedule:** **Friday, 16 May 2008**  
- Check In and Show Setup
- Saturday, 17 May 2008**  
- Judging from 8:00 AM to ~2:00 PM  
- Auction / Raffle from 4:00 PM to ~6:00 PM
- Show Chair:** Jeremy Bolanos  
300 Hilary Way Apt 119  
Vallejo, CA 94591  
Email: [show-chair@cbsbettas.org](mailto:show-chair@cbsbettas.org)
- Head Judge:** David Spector
- Downloads:** **Show Entry Form** - Excel Document. See <http://cbsbettas.org/shows.html>, Show Entry Form.  
**Shipping Instructions** - Word Document. See <http://cbsbettas.org/shows.html>, Shipping Instructions.

**For Updated Information go to:**  
<http://www.cbsbettas.org/shows.html>

**Even if you can't come, send your fish for the show, for the auction, or both.**

**Your fish want to come to California!**



*B. macrostoma*. Photograph by Christine Tanner

## Starting with wild-type bettas, part 2 by Christine Tanner

If you'd like more information about these entertaining and beautiful fish, there is a large amount online. A Google search of a particular species will usually turn up quite a bit of info. Some of the general betta books also cover a few wild species, but most of the labyrinth fish books that include them are very outdated. If you are an IBC member, there are many Technical Assistance articles dedicated to wild types.

One very nice online resource is the IBC Species Maintenance Program (IBC-SMP) website, which can be found at <http://ibc-smp.org>. If you've got a spare ten minutes, take some time to click through the species list so you can see what these wonderful fish look like. Some are a bit more subtle in their beauty; others are just amazing in color and form. If you are an IBC member, the SMP has a mailing list that's rather quiet, but we hope to begin trading fish between members again soon.

One caveat before I tell you where to find wild type bettas: Some of these fish are very, VERY expensive. A pair of adult *B. macrostoma* can easily set you back \$300. Then you get them home in your tank only to have

them die horribly to some mysterious ailment. Or you end up poisoning a tank full of fry. Yes, I have unfortunately been there and done that in both cases. Not something I'd wish on my worst enemy, but sometimes it's the way things go. Some of the newer discoveries like *B. rubra* and *B. pallifina* will also empty your wallet. *Betta rubra* was thought to be extinct in the wild until just a couple years ago, and newly imported *rubra* were selling for \$700/pair in the U.K. when they were initially imported.

But this is not the case for all wild types. I was at Albany Aquarium this week (in lovely downtown Albany, right next to Berkeley) and they have two tanks full of *Betta coccina*. *Betta coccina* are a gorgeous red bubble-nester that gets to about two inches in length. These particular fish are tank raised and are being sold for \$6 each. I snapped up ten and now they are happily eating pellets and live food in a ten gallon tank in my fishroom. Besides Albany Aquarium, I've seen wild types pop up in San Francisco at Ocean Aquarium, and I'm told that Seascapes down in Mountain View will order in wild type bettas as long as you agree to purchase them on arrival. It saves you the cost of importing and shipping, so keep that in mind when you see their retail prices.

[Aquabid.com](http://Aquabid.com) has a section for wild bettas, but most of what is listed there requires you to go through a transhipper who handles the importation from Asia. This can become very costly, and it has been rather hit-and-miss for me in terms of the quality of the imported fish. There is a fellow by the name of Mark Denaro who runs [Anubiasdesign.com](http://Anubiasdesign.com). He always has wild type bettas available, and I can tell you from personal experience he has very nice fish and can also provide good advice on any species of wilds that he has in stock. Mark also happens to be the newly promoted president of the IBC. Definitely someone I can recommend if you don't mind paying shipping costs.

I'm hoping that I'll be able to supply the club with some wild types in the future. I'm currently keeping eight species: *macrostoma*, *rubra*, *channoides*, *albimarginata*, *coccina*, *pallifina*, *bellica*, and *enisae*. Some of these are still growing up since I prefer to purchase groups of young fish rather than pairs of adult fish. Eventually I hope to get some spawns out of all of them. I also have a lonely little *B. miniopinna* male who I'm not likely to find a mate for since the species is critically endangered in the wild.

Which brings me to my final reason that I keep these great little fish - many of these fish are vulnerable in the wild, with some already listed on the IUCN Red List of endangered species. Mankind is quickly destroying their habitat, and unfortunately it may be the case all too soon that some of these *Betta* species will only exist in the tanks of hobbyists.

# Missing Ventral Fins

by Eryn Rosenbaum

Betta breeding is a hobby of surprises. We try to predict the outcomes of different crosses, but few of us have a comprehensive enough knowledge of our fish's genetics to know how every last fry will turn out. We avidly watch the growing fry start to develop, and we are constantly amazed by the variety and unexpectedness of the results. The single marbled fish popping up in a spawn can be a wonderful surprise or a shocking disappointment, depending on what we were hoping for.

Perhaps the most disconcerting surprise for the new betta breeder is the appearance of a deformed fish. Unfortunately, this is not as rare as we would hope. Some fish have crooked spines. Others have strangely shaped dorsal fins. A doubletail cross, especially, can be riddled with deformities, and the "extreme rosetail" trait is linked to uneven scales, small bodies, and excessively curved fins. But there is one deformity that can attack an entire spawn, leaving hundreds of fry unshowable and unsellable. And surprisingly enough, it may not be caused by factors beyond our control.

A case of missing ventral fins can creep up slowly on the new breeder. The stage during which the fry develop ventral fins comes and goes, and the first-time breeder may not realize anything is wrong until the juvenile bettas start to look like little adults. But then something seems unbalanced. The thin, graceful fins that trail from the front of the abdomen are missing. Often, they are missing from a large number of the fry, and occasionally, they are missing from every single individual.

What a shock! *Were the parents too closely related? Is one of the parents not fit for breeding? Did I accidentally put some kind of mutagen into their water? Is the food or water tainted?* These are probably the first questions the breeder wonders. The breeder may begin to doubt the water quality or start researching factors that influence development.

An extended internet search will turn up quite a few theories on the cause of missing ventral fins. Some propose that dirty water can burn off the ventral fins. Some hypothesize that the fry are missing a critical nutrient. Some swear they've seen the fry bite the ventrals off each other. Others report that their fry caught and fought a disease, which might or might not be linked to the missing fins. Yet others believe that prolonged contact with bacteria on the bottom of the tank is the culprit. The list could go on.

Some informal experiments have been done, as well. Ventral-less fish have been bred to each other, and have produced fry with normal ventral fins. This strongly suggests that the missing ventrals are caused by an

environmental factor and not by hereditary genetics.

Yet the problem seems to occur at the developmental level. The ventral-less fish's bellies are smooth, with no scarring or stubs to suggest infection or injury. The ventral fins are consistently the only fins affected, which seems to rule out wholesale finrot, ammonia burns, or other water-quality issues. So which theory would account for the ventral fins' complete lack of development?

Of all the theories, there is one that seems to have the strongest correlation to a single variable. The vast majority of breeders who saw missing ventrals had fed their fry microworms, and nothing else, for at least the first few weeks of the fry's life.

It seems that microworms lack something that the betta fry need in order to start developing ventrals.

In developmental terms, each gene in a fish's DNA carries the code to make, or *express*, a protein. Every bodily process, including development, is dependent on these proteins. However, not every gene an organism carries is expressed; many genes must be activated, or turned on, before their protein can be expressed.

The activation of protein expression is a complex process that can be affected by environmental conditions. If environmental conditions are less than perfect, gene expression may favor the development of essential traits over non-essential traits.

Considering that most cases of missing ventrals can be linked to a diet of only microworms, I would theorize that microworms lack a specific nutrient that is necessary to activate the development of ventral fins. Ventral fins are not essential to the fish in any way; a betta without ventral fins can survive, grow, and reproduce just as well as a betta with ventral fins. It makes sense that if the fry's diet does not provide the specific nutrients that trigger ventral development, the non-essential ventral fins would entirely fail to develop while the essential swimming fins would develop normally.

Does this mean that the mystery is solved? Far from it! No controlled experiment has been done, that I know of. And, even if one factor can be shown to predictably cause missing ventral fins, it may not be the *only* factor that can cause this problem.

Perhaps there are other foods, along with microworms, that also lack a critical nutrient that stimulates ventral development. Or, perhaps microworms are involved by some other process—perhaps decaying microworms produce a certain bacteria or toxin that affects the development of ventral fins.

Certainly, some cases of missing ventrals may be caused by hereditary

genetics, but this would need to be tested by breeding those fish and watching the patterns of inheritance. So far, ventral-less crosses have not produced ventral-less fry—unless the second generation, too, was fed only microworms.

So here's the good news! Most cases of missing ventrals are not genetic, and they can be prevented by controlling the fish's environment. And we know just what factors to control:

- Microworms are an excellent first food, but don't feed exclusively microworms for too long. Be sure to introduce another food such as baby brine shrimp within the first week or two after hatching.
- If you feed both microworms and baby brine shrimp at the same time, be sure to feed enough baby brine shrimp so that even the smallest, weakest fry can get their share.
- Keep the tank clean. While dirty tank bottoms are probably not directly causing ventral fins to fail to develop, water quality is always an important factor in the fry's overall health.
- Enjoy watching your fish grow!

## The Newsletter

You have been receiving the California Betta Society newsletter because you are or have been a member. Starting with the May/June issue, the newsletter will be sent to members only. If you haven't renewed your membership for 2008, we hope you will do so. Membership is \$15 a year for individuals or families. Memberships take effect on the date you join and are renewable the next year on the same date. Your renewal date is on the mailing label.

You can renew at a meeting, by PayPal using the "Join Now" link on the home page ([www.csbettas.org](http://www.csbettas.org)), or by mail to C.B.S. c/o Lisa Heimburch, 1080 San Miguel Road #125, Concord, California 94518. Please include your address with zip code so we can be sure your newsletter gets to you.

## Your Favorite Fish Photo

We will be printing a gallery of favorite betta photos you have taken. If you have such a photo, send it to the newsletter via Judy Latham at [jlatham@netgate.net](mailto:jlatham@netgate.net).

## Meeting Location

For the immediate future, the monthly meetings will be held at the Round Table Pizza, 20920 Redwood Road in Castro Valley. The meetings are held on the 4<sup>th</sup> Saturday of each month from 1pm to 3pm.

We still want to hold occasional meetings in Sacramento and San Jose. Anyone who can help find a meeting place for those cities should contact Eryn Rosenbaum at [erynrosenbaum@gmail.com](mailto:erynrosenbaum@gmail.com).

## Show Volunteers for May 16<sup>th</sup> and 17<sup>th</sup>

If you would like to help with the show, there will be plenty of opportunities.

On Friday the 16th, volunteers are needed in the morning to move stands and beanies from storage to the show room. From noon on, they will be needed to set up the stands and bench the fish as they are checked in for the show. On Saturday the 17<sup>th</sup>, help will be needed with the auction and raffle, bagging fish for the auction, bagging fish for return, taking down stands, and moving stands and beanies back into storage.

If you can volunteer, contact Jeremy Bolanos at [show-chair@cbsbettas.org](mailto:show-chair@cbsbettas.org).

## Meeting Programs

We have a number of really excellent presentations from the International Betta Congress that we present at our meetings. The next ones will be:

**March 22<sup>nd</sup> – Breeding Better Halfmoons** Dan Young

**April 26<sup>th</sup> – Judging seminar** Pick up pointers on what makes a good show fish in time for the May show. This is the actual judging seminar our head judge, David Spector, gave to our apprentice judges at last September's show.

California Betta Society Newsletter  
1197 Burdett Way  
Milpitas CA 95035

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Photograph by Eryn Rosenbaum