



What's inside...

- Minutes of May Meeting
- Agenda for August Meeting
- Treasury Report
- Summer Shipping Tips
- TA Article Reviews
- Daphnia!
- Breeder's Corner



MINUTES!

San Francisco Fish Store Tour
May 19, 2001

Meeting convened at Round Table in S.F.

2:00pm - 2:30pm

General conversations as officers were late ;-p

2:30pm – 3:30pm **Meeting**

- Met visiting fish enthusiasts from Austria, Dr. Heinrich Fischer and his son. Discussed killifish and bettas and different techniques and types in the US and Europe.
- Determined that Henri could only take six fish home, so all people present debated the merits of the fish that had been offered. An opaque pair (from Christine), a light-bodied marble male (from Christine), a turquoise marble male (from Donna V.), and two turquoise marble females (from Donna V.) were chosen. All fish had half-moon backgrounds and personally showed good delta tails. The marbles were ST with DT genos.
- Henri donated to CBS two all-color fish books (written both in German and English); one killifish and one labyrinth fish book.

3:30pm – 4:30pm **Group Shopping at Ocean Aquarium**

Due to the lateness of the hour, we decided to just visit one of the stores, Ocean Aquarium. We carpooled over and had a wonderful time looking over the store and the fish in there. Most of us came home with new fishies. ☺

4:30pm **Meeting adjourned**

The group split up separately at the store.



AUGUST AGENDA

Betta Biology and Physiology

Presented by Michael Pratt

Saturday, August 18, 2001
3pm to 5pm

Stanford Linear Accelerator Center
2575 Sand Hill Rd, Menlo Park
TCC A/B Bldg 272

For updates, please check the website at:

<http://cbs.bettas.org/>

About the Presenter:

Michael is the coordinator of the Southern California Betta Club (SCBC), President and Founder of Talisman Zoological Sciences, Inc., and owner of Betta Planet in San Diego (a store for the import and breeding of high quality bettas). Last year he built a model of the betta pigmentation system based on developmental and molecular genetics. His paper was presented at the Pigment Cell Conference last year and was well received. A summary is below.

We welcome him to CBS and look forward to his presentation on Betta Biology and Physiology!

A Microscopic Survey of *Betta Splendens* Pigmentation

Michael J. Pratt* and Mark Evans**

* Talisman Zoological Sciences, Inc., San Diego, CA

** Invitrogen Corporation, Carlsbad, CA

Literature documenting the many color varieties of *Betta splendens* exists dating to the 1930's. Selective breeding has produced a multitude of observable finnage and color strains, many of which are highly prized for show and breeding purposes. The current work seeks to compare the visible color of pigmented tissue observable by the naked eye with the morphology of pigment cells and iridescent structures found in the scale and fin tissue. Ornamental varieties of this fish rely on combinations of yellow, black and red pigment cells combined with specifically aligned light refracting crystal structures to produce an overall color effect.

In addition to comparison of adult tissues, images from the developing pigmentation system in growing fry will show the presence of two pigment systems shortly after hatching. The relatively even coverage of yellow pigmentation as compared to the much more dispersed, single stellate cell morphology of the early black pigment cells might suggest that the yellow pigment carries the main photoprotective burden for the internal tissues of the developing fighting fish fry.



SUMMER SHIPPING TIPS

by Christine Tanner

If you plan on shipping Bettas during the hot summer months, here are some tips to remember:

1. Insulation is just as important in summer as it is in winter. Insulation keeps heat out during summer just as well as it keeps heat in during winter. Use a styro or line the inside of the box with styrofoam sheets.
2. Water is a great insulator. The more water you have in each bag, the slower the outside temperature can change the bag water temperature. Use as much water in each bag as is feasible without adding too much to the shipping weight of the package.
3. Make sure someone is home to sign for the fish, or to bring them inside when they arrive. Frying on the doorstep of your new owner's house is not a nice way for a fish to die.
4. If you are shipping to an extremely hot area, such as Las Vegas or Texas, overnight shipping may be the only way to go to ensure live arrival of your fish.
5. And, if you are truly concerned about the heat, have the person pick the fish up at the post office where they will be in a climate-controlled environment rather than traveling around in an un-air conditioned truck all day.



TREASURY REPORT

Thanks to a productive Officer's meeting in April, CBS now has a bank account! We are now officially recognized by the IRS as a non-profit organization. We have also opened a PayPal account in anticipation of future needs. We now have the means to bring in more speakers and sponsor other events, including a possible IBC sanctioned International show next year. Ideas and suggestions for meetings are appreciated! Email a club officer with your ideas, or bring them to the next meeting.

Deposit into new checking account 4/26/01	\$4202.52
Petty cash	\$ 100.00
Ending Balance 6/30/01	\$4302.52



TA ARTICLE REVIEWS

submitted by Christine Tanner

CS 39 – Crescent Wrench Tactics for Better Blacks by John E. Burdick (1 page)

Breeding black melano Bettas can be very frustrating. This article gives great advice on what to look for in potential breeders to produce good black melanos. Also teaches how to distinguish between genotype melano females and phenotype melano females by looking at their eyes.

CS 30 – Getting the Reds Out by Robert Riggio (1 page)

Discussion of the role food plays in enhancing the red pigment in our Betta fish. Interesting ideas to try out at home. Maybe those "color enhancing" foods aren't so good for blue Bettas!

RT 15 – Culling – Holding Mother Nature at Bay by John Williams (4 pages)

One of the hardest parts of Betta breeding is culling. Most of the time you just can't keep them all. This article gives reasons to cull fish, and how to choose which to cull. Bent spines, deformed swim bladders, hump backs, and other problems are described in detail with good drawings. If you're a novice breeder who doesn't know what to look for, or an experienced breeder who has a hard time choosing which fish to keep, this article is extremely useful.



DAPHNIA!

by Christine Tanner

Feeding Bettas live food is one of the best ways to keep them healthy and in breeding condition. Unfortunately, most live foods require constant subculturing, are unsightly, and just plain gross! However, I've found Daphnia to be very easy to keep and quite tolerant of my lazy maintenance schedule. It can be kept outdoors, doesn't smell, and when the culture crashes, you are left with a bucket of water rather than a stinky disgusting mess.

Daphnia are great for fry tanks. Initially, they are too big for small fry to eat. The daphnia will eat microorganisms in the tank, and reproduce, providing baby daphnia for the larger fry to eat. One major benefit is that unlike most live foods, Daphnia are live in fresh water and will not die and pollute the tank like BBS and microworms. One caution – If you use Aquarisol or other copper-based medications in a fry tank, they will kill the daphnia. For older Bettas, daphnia help clear out their systems, which is good for fish who are “plugged up” from eating too many blackworms or pellets.

Keeping daphnia requires two things – a bucket and a source of green water. To make green water, you just need some messy fish and sunlight. I have three small goldfish in a spare 29 gallon tank on my covered back patio. It took about a week of feeding them vegetable flakes to get some nice pea soup in that tank.



Green Water in Tank

Now that we have green water, we need daphnia. Daphnia starter cultures can be obtained from me (Christine ☺) at CBS meetings for a one dollar donation to the club. Or you can order from Jim Atchison at www.livefoodcultures.com. Take a five gallon bucket, fill it with green water from your green water tank, and add the daphnia starter culture. If all goes well, in a few days the water should begin to clear as the daphnia multiply and consume the suspended algae. Once the culture gets going in a week or so, swish a fine mesh net through the water to harvest the daphnia, and feed them to your happy Bettas.

When the water in the bucket clears enough to be able to see the daphnia swimming on the bottom of the bucket, it is time to replace the old water with new green water. I just pour the contents of the daphnia bucket through a large fine mesh net, catching the daphnia (and a lot of grunge usually). Then I refill the bucket from the green water tank and dump the daphnia out of the net into the bucket.

Daphnia can easily overpopulate and cause the whole culture to crash if they aren't harvested on a regular (every other day or so) basis. So far, my culture (and the goldfish!) are thriving outside in water that has been approaching 90 deg F on these hot summer days. I keep a small backup culture in a two gallon tank in case the larger culture crashes.

All of my fish – Bettas, cichlids, guppies, and all the rest- enjoy daphnia. For me, the only easier live food to keep is vinegar eels. Microworms and grindals can't handle the heat in my garage, and I only keep BBS because its become part of the daily fish routine. I'm not sure what will happen to the daphnia when the winter comes, but for now, I've got a free source of easy to keep live food and an outdoor goldfish “pond”!



Marble Fry that Christine raised



BREEDER'S CORNER

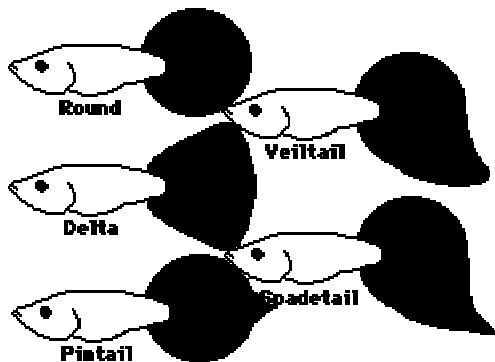
The Breeder's Corner is a way for the members of CBS to learn what Betta lines other members are currently working on. This is not a list of what members have available for sale, but rather what they are working on so that members can work together to improve certain lines by trading stock. If you wish to be included in the Breeder's Corner listing, email your list of lines to Christine or Larissa, and you will be included in the next Newsletter.

Christine Tanner 925-837-8823
mopargrrl@mindspring.com

- white opaques (st/dt)
- black melanos
- blue marbles (st/dt)
- white crowntails
- AOC plakats
- "salamanders" (mustard gas crosses)

Larissa Williams 408-829-0903
alatri@yahoo.com

- blue marbles (st/dt)
- yellows
- experimentation ☺



ABOUT THE CBS

Hi Everybody!

Thank you so much for your past and present interest in bettas and the California Betta Society. ;-)

We're a basic club that's formed to allow people who are interested in bettas to:

1. Talk to other betta people (people who don't give you the 'what the heck' look when you talk fish).
2. Gain information about keeping and raising bettas from other betta people. (Education, Information, Problem Solving Assistance.)
3. Share information about bettas with other people. (Teaching others, especially new members. Attracting new people into the hobby. Helping the club flourish.)
4. Gain new fish and higher quality fish

Our meetings are open to the public, anybody can come. While we hope that people will join CBS as official members, it's certainly not required -- we're here simply to share our love of bettas and information for all other fans of these fish.

CBS members are all over the Bay Area and we tend to hop around for actual meeting places. Our meeting schedule is up on the website at:

<http://cbs.bettas.org/schedule.html>

We're currently looking at doing an International IBC sanctioned show early next year, around March or April. If you would like to help in the planning or organization, please contact one of the officers.

Thanks for your interest in CBS, and I hope to see you at a meeting. ☺ If you have any questions, please let me know!

Smiles!

-- Larissa ^..^

CBS President 2001

**FISH PICS! MEMBER
SUBMISSIONS**



Red Crown from Wendy



White Male Crown from Christine



Fry, one month old (from Lari)



**Marble Pair!
Female from Maggie & Male from Lari**



White Female Crown from Christine



**Young, but Scrappy!
Photo from PNWBS Show, taken by Lari**