CALIFORNIA'S ORGANIZATION OF COAST AQUATIC SHOW TROPICALS

OCTOBER 2006

VOLUME 15 • ISSUE 10

Showfish coast

PROVIDING EDUCATION AND CAMERADERIE TO PEOPLE WHO ARE INTERESTED IN KEEPING TROPICAL AND TEMPERATE FISH AND OTHER AQUATIC LIFE

NEXT MONTH'S MTG: NOV 5

Meeting: October 1st, Victoria Room

Speaker: Chuck Rambo

The African Adventure(?): Exploring the cichlids and habitats of the Great Rift Lakes and Surrounding Waters

Chuck first became involved in African cichlids when they were swimming in dust (water hadn't been invented yet), which is about how long he's been involved with the American Cichlid Association. Chuck's emphasis is the East Africans, but it's certainly not his only area of knowledge. He is also well versed in habitat requirements (biotopes), having explored several of the areas personally, and he actively works on preserving species which will cease to exist unless captive populations are established. Come listen to this experienced, entertaining speaker.

Last Month's speaker, Charles Clifford, gave an excellent presentation on angelfish with scads of useful hands-on information, including pictures and videos. He and others brought some gorgeous pairs for sale as well, as did other angelfish breeders. It was a good day for angels as well as rare fish at auction this time.

New Board of Directors Elected: *The new 'who to blame for the bad things'*

TABLE OF CONTENTS (page numbers are hyperlinks to articles)

Elected Officers:

President: Brian Downing | **Vice President**: Kirk Bean | **Treasurer**: Pauline Jackson
Recording Secretary: | **Corresponding Sec.:** Ron Jackson | **Editor:** Charlotte Marelius

Appointed Directors:

Membership: Ron Estrada | Website: Tom Varin | Programs: Rahul Kumar
Director: Scott Kroeger | Auction: Jim Herman | Auctioneer: Duncan Mahoney
Publisher: Mike, Elaine McCabe | Buffet: Tom Varin, Jim Herman

(*Editor's comment: It appears Pauline Jackson, who has pleaded to be relieved of the position after years and years of service, will have to move to another planet before anyone else will volunteer to be Treasurer. Who would have thought, in a hobby so dominated by men, that not one regularly attending member would have the … uh … time to play Treasurer for ten hours a month.)*

MEMBERSHIPS DUE AND PAST DUE

JOE & ESTHER CANDELARIA	August
KEN & EVA HENGSTEBECK	August
SCOTT KROEGER	August
DON MACKEY, MARIA BLAIR	August
CHUCK MATEO	August
VICTOR TONGCO	August

Note: This is your last Showfish until you renew.

PAM & GARY CHIN	September
YEMYINT WU	September
BARBARA HEALY-SPRAGUE	September
JOHN SKOCILIC	September

NEW /RENEWED MEMBERS

RINO'S CAVES (Rino Olivares)
CHRIS & KATHLEEN BREITKREUTZ
ART NORTH
LUKE ROEBUCK
FERNANDO RODARTE
ANTHONY MAZEROLL
Thank you!

MEMBER NEWS –

American Cichlid Association awards research grant to COAST member

Seen in the ACA Trading Post: "grant … was awarded to Dr. Anthony I. Mazeroll for 'Paternity and Gene Flow in Symphysodon aquifasicia (Cichlidae) and Pterophyllum scalare (Cichlidae) in Rio Nan, Peru.' " Congratulations!

Slowing the auction to a crawl –

The number one thing you can do to get your bags up for bidding ASAP is:

Identify the fish with legible, full (not abbreviated) genus and species name, preferably on a label so it stays legible. And if you want more bids / higher sales prices on the less common or downright rare fishes, put a descriptive blurb about the fish on the label, too, to help buyers decide to try a fish they know nothing about. A small color picture of the adult doesn't exactly hurt sales potential either. Adult size, food, water parameters, reproductive method, compatibility all influence the "buy" decision. Better yet, write an article for the preceding Showfish.

The Showfish is the newsletter of California's Organization of Aquatic Show Tropicals (COAST). It is published six to twelve times a year and is a benefit of membership in COAST. The information and opinions expressed in articles are those of the author and may not reflect those held by COAST or other COAST members.

Showfish is printed and distributed at cost only by Mike and Elaine McCabe of McCabe Printing, 11918 E Rosecrans Ave Suite B, Norwalk, CA 90650.

Three Little CO_2 Generators – Product Review

Want CO_2 for a lot of plants, but don't have a lot of money? Check out these kits.

Charlotte Marelius

First of all, I'm not an accomplished aquatic gardener, I'm trying to be one. Secondly, I haven't done an actual comparison study isolating then analyzing different characteristics of successful CO_2 fertilization techniques. However, I am a woman and an amateur editor, so there's just nothing I can't find to criticize or critique. In this case, I am using two of the CO_2 generators reviewed here and have used the third. The dimensions of the products below are approximate, as I'm not writing this at home and can't rush right over to my set up and measure the units.

Jungle's CO_2 Fizz Factory

Price: about $15
Refills: one box of 16 tablets, $4.50, a three to five week supply
Contents: Bottle for dissolving tablets
Diffusion chamber with large suction cups, about 1.5" wide X 8" long X 1.5" tall
Vinyl tubing with fitting, tube cap

I tried this kit with an earlier incarnation of a 20 gallon planted tank, but I was never able to get it to work properly. I did not maintain it consistently enough to evaluate its benefit fairly, due to froth production and water changes requiring reestablishment of water level in the diffusion chamber, so I did not see any significant effect on the plants but. This is not a yeast-based CO_2 source; it's a chemical reaction system, with Alka-Seltzer-like tablets producing froth and CO_2 upon submersion in a little bottle that sits on the tank.

The little bottle, when filled according to directions, produced so much froth so quickly that it ended up in the tank, and it was very easy to knock over. The CO_2 produced by the tablets displaces water in the diffusion chamber; the pressure of the water against the captive CO_2 provides the force that helps water absorb the CO_2. The diffusion chamber takes up a goodly chunk of real estate inside the tank, as well, and is sensitive to being plumb and always below water level. It may work better if used in a five or ten gallon tank near the level of the gravel where there is higher water pressure and water changes will be less likely to affect it.

Nutrafin CO_2 Natural Plant System by Hagen (for up to 20 gallon tanks)

Price: about $20
Refills: one box of 3 packs for $6, a six to twelve week supply
Contents: Dark gray opaque plastic canister (two pieces screw together) with hanger, 3" dia. X 8" high
Transparent gray plastic diffuser, about 5/8" thick, 4" wide, 8" high, about 2C capacity
Silicone tubing, about five feet of it
Unique end-of-tubing adapter for dispensing CO2 bubbles (has beveled end and mounting flange)
Yeast and stabilizer packets for six to twelve weeks worth of gas
Note: All yeast has a life span – check expiry date on packages before using it.

I bought this unit used at a monthly auction, and the hanger was not included, so I cannot speak to the efficiency of the hanger. Judging by the molding on the canister, the hanger is probably similar to those used to mount power heads by straddling the aquarium wall. I have the generator sitting on the same table as the aquarium; it works just fine without being hung on the tank.

Setting it up: Determine where you will be setting the fermentation canister on the outside of the tank and the diffuser/bubble counter on the inside of the tank. Stick the diffuser to the tank wall with included suction cups; it should be plumb or nearly so.

Put the tubing adapter on one end of the tubing and slide its mounting flange into the appropriate slot in the diffuser (the larger the tank, the nearer to the bottom of the diffuser the tubing adapter is placed). Trim the tubing to the desired length to reach the diffusion chamber. Since the tubing is silicone, there is not any great need to align the opening of the tubing adapter with the lay of the tubing in order for it to end up pointing in the right direction without strain.
Recommended: put a check valve inline to prevent water from the tank siphoning out onto the floor when tubing is disconnected from the diffusion canister while you refill the canister. Don't ask how I know, okay.

The diffusion canister is a two piece, wide-mouthed unit with internal ribs of different heights. The top is screwed to the bottom. The two-piece design is good at withstanding pressure build-up and sealing against gas going anywhere but out through the tubing. Table sugar is poured into the canister up to the level of the lowest set of ribs (about ½ cup), the yeast is added (about 1/8 teaspoon), then the stabilizer packet of what is probably baking soda (about ½ teaspoon). Water (80° ± 8°F) is then added to the level of the upper ribs (about 2 cups). Screw the top on the canister, attach the hosing, and check back in a couple of hours to ascertain the bubbles are going up the channels in the diffuser.

It doesn't take much to knock the opening of the tubing adapter out of optimum alignment, but it only takes a bit of jiggling to fix it, too. There is adequate surface for the adapter to be glued in place in the event this becomes a problem with your style of cleaning, a pushy stem of plant, or rambunctious fish. In its correct orientation, the tubing adapter delivers each and every bubble of CO_2 into the diffuser properly. The only way to stop the CO2 at night is to disconnect the tubing from the canister. The diffuser does indeed allow adequate time for the CO_2 to be absorbed by the water with the tubing in its lowest position, even when first set up.

I would rate this system as good for no more than a 15 gallon tank if there are many plants in the tank. My twenty gallon tank was moderately planted and the Nutrafin CO_2 system hooked up. The plants definitely improved in color, leaf position, initial fresh growth, and stem strength with this system, but there was a noticeable fall off after a couple of weeks. Replacing the yeast mixture with a fresh batch showed the problem was due partially to exhausted media, or perhaps it would be more accurate to say, CO_2 production had fallen to below the level needed by the plants. The amount of CO_2 produced with a cycle of yeast replacement every two to four weeks was not enough to keep up with the growth of the plants from replenishment of initially added water and substrate (tablet) fertilizers. The plants diminished and algae started taking over. The addition of fish midway in this evaluation period, with their leftover bits of food lying on the gravel, radically accelerated slime algae growth.

I decided to add a second Nutrafin CO_2 canister system and to put the tank through a week of erythromycin treatment to kill the slime algae.

Red Sea Turbo CO2 System (for up to 40 gallon tanks)

Price: about $28
Refills: one kit for $18 (includes sugar), a six to twelve week supply
Contents: white and green illustration on plastic canister (two pieces screw together) with hanger, about 4" dia. X 10" high, about 4 C capacity
Small black and light gray power head with venturi nozzle, suction cup mounted
Silicone tubing, about four feet of it, with inline check valve
Yeast/sugar jar and stabilizer packet for six to twelve weeks worth of gas

Having seen a tendency of food and plant detritus to accumulate in unreasonable amounts at the front of my 20 gallon tank, right where there are no plants, I was looking for a small power head to provide circulation in addition to planning on purchasing a second Nutrafin system. That's when I saw this product, and based on the

manufacturer, the power head, and the price, I bought this system instead. Red Sea's system uses roughly twice the yeast, sugar, stabilizer and water of Hagen's unit. I have not had it in the tank long enough to see if it lasts twice as long as the Hagen unit. The preferred depth for power head placement is 18" or more, the instructions say, for good CO_2 diffusion of fine bubbles as they rise to the surface. It's working fine in my standard 20 gallon at a depth of about 11 inches.

The kit comes with a two-piece fermentation chamber, a packet of stabilizer, the yeast in an ampoule, and a jar of coarse-grained sugar (the size you sometimes see on sugar cookies), a marketing choice I do not understand, given the cost consequences. However, confusion on my part doesn't seem to have changed the quality of this product at all. Go figure. The hanger would not fit over the plastic extrusion going around the top of the takn. The media are easy to put in the canister; instead of marks in the canister to tell you how much water to add, you have to measure the water yourself and then pour it in. In this unit, the screw cap is sealed with a flat washer like you'd see in a garden hose, instead of the close-fitting, long thread length found on the Nutrafin. Both companies' method of sealing the two pieces of the canister work. I don't know yet how long this washer will last in a CO_2 environment; it did not seem to be a silicone part (which probably would deform too much under the pressure of being screwed down), so it may be a part that has to be watched for routine replacement.

The airline tubing runs from the canister to the venturi inlet on the power head's outlet nozzle. The configuration is like most power heads that have a port for adding air to the pumped water, but the bubbles are much finer. When enough gas makes its way down the tube from the canister to the venturi inlet, the power head spits out a small burst of very fine CO_2 bubbles that take a couple of seconds to reach the surface. It spits out bubbles every few seconds; the cycle is not exact. Most bubbles are gone or almost gone before they reach the surface. In my tank, the principal filter's outflow provides some downward current close to the same place the CO_2 bubbles come up. Enough CO2 is produced that the plants are growing again (now I need to add more fertilizer to the roots and water); I need to get a monitor for the amount of CO2 in the water, as the fish breathe hard now and then. The pH of the water is still basic, though, so things are not being driven to extremes.

The power head itself—in another inexplicable choice—is mostly an almost-white gray. It stands out like a neon sore thumb (maybe I should make it a sleeve of gillie cloth). In my tank, the best place for this power head is in a front corner, and its high visibility definitely damages the view. Product advertising and packaging shows the power head as black in some photos and gray in others.

The force of current the power head puts out is just perfect for my tank, effecting water the whole length of the tank but never too hard for the fish or plants. The inflow grating of the power head is around the back edges near the glass, so that putting a prefilter sponge on it is problematic. The unit is fussy about detritus blocking or intruding into the impeller chamber, and it hums lightly when less than full flow is reaching it. To clean the grating the power head has to be drug up to the surface and separated into pieces. Unlike most power heads, the inlet grating instead of the motor body has the mounting suction cups. The grating has to be pried off in a peeling motion instead of being wobbled loose and pulled straight off, so both pieces of the power head have to be held to separate them for cleaning if you don't have large hands and hard fingernails.

So far, the power head has clogged to the point of stopping about every three days—keep in mind this tank has a lot of plant/algae bits due to inadequately maintained levels of fertilizers. I expect the three day limit to improve considerably once the bits get filtered out. Since CO_2 production is constant, reducing injection at night when the plants don't need the gas is done by turning off the power head; the CO_2 leaves the tubing as one large bubble that occassionally zooms to the surface and pops. I've got the power head plugged into a timer to coordinate with the lights. Between erythromycin and increase in CO_2, the slime algae is almost gone.

I would buy both the Hagen and Red Sea systems again; both are well made and add gas in reliable amounts.

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Jim Herman

When do we meet:

COAST meets the first Sunday of every month from 1:00 to 5:00 p.m. unless otherwise noted.

Meeting agendum:		
	12:30	Board Meeting
	1:00	Meeting begins; general announcements
	1:30	Presentation begins
	2:45	Auction begins
	4:15-4:30	Auction usually ends; check-out begins
	5:00-5:30	Vacate the room

Where do we meet:

The Center is a brown brick building between a fire station and Lion's Park. Closest major intersection is 19th and Harbor Blvd.

Costa Mesa Neighborhood Community Center.
in the Victoria Room (usually) or the Harper Room
1845 Park Avenue, Costa Mesa

Upcoming meetings:

October 1	Speaker and Topic: Chuck Rambo, African Adventures
November 5	Speaker and Topic: Bill Thompson, Building Pools
December 3	Speaker and Topic: Luke Roebuck, TBD (European equivalent of the Aquarama Show?)