



Showfish

APR-MAY 2005

NEWSLETTER OF THE COAST FISH CLUB

VOLUME 14, ISSUE 4&5

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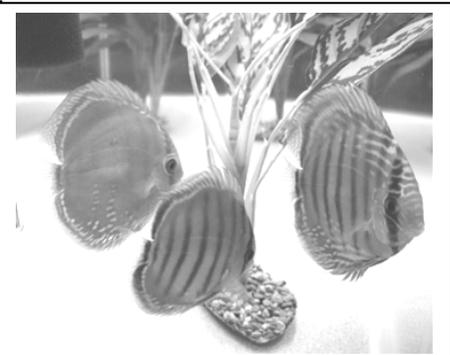
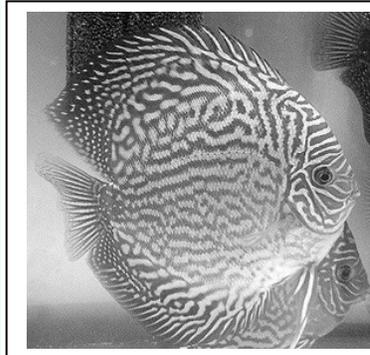
Items for publication in Showfish are due within one week after the monthly meeting and will be included as space and time permit within constraints of club bylaws. Articles received after the deadline will be used in the next newsletter as permitted.

Editorial Team: C. Marelus, Mike McCabe, and Pauline Jackson

May 1st Meeting — Discus: A Passion or an Obsession (or just the charm of cichlids)?

SPEAKERS: Bruce and Linda Wilson, from Majestic Aquatic Discus

<http://www.majesticaquatic.com> An inventory of 2000+ exotic and wild forms, the legacy phenotypes and the newly designed — these accomplished breeders will be here to share their 40 yrs' experiences.



Photographs from Majestic Aquatic website.

Meeting Warning — WE WILL MEET IN A DIFFERENT ROOM in the Neighborhood Center. Our meeting is the same day as the huge annual show and sale of many of the southland's orchid societies. They will be in the Victoria Room, but we're not told which room we'll get until the day of the meeting, so you will have to search for us. You might be wise to bring wheels for your boxes, as we might not end up right next to the parking lot. Have compassion for Ron Nash, our auction chair, who is a member of orchid societies as well as our fish club. What a quandary!

Mother's Day is only seven days after our meeting!

If the mother in your life likes flowers, you can take care of her Mother's Day token gift at the same place as you attend our fish club meeting. Come early and buy her an orchid; the orchid clubs and their sponsors bring some of their most incredible flowers, you can't make a wrong choice. There is a nominal entrance fee for their show.

OUR PLUG FOR MOTHER'S DAY: A SNIPPET OF POETRY

Before you were conceived, I wanted you.
Before you were born, I loved you.
Before you were here an hour, I would die for you.
This is the miracle of life. — Maureen Hawkins

(I've known some exceptional mother fish like that. — Editor)

Legal Bit – U.S. Fish and Wildlife Raises Permit Application Fees, Effective May 11

The U.S. Fish and Wildlife Service has announced an increase in permit application fees for the majority of permits the agency issues. The average fee will be increased to \$50. The Service’s proposed fee increase was published in the August 26, 2003 Federal Register. The agency proposed an increase in fees ranging from \$50 to \$300. The Native American Indian Nations and the government retain the same exemptions / modifications of permitting requirements they have now.

Since 1982 when the \$25 permit application fee was established, the Service’s costs have risen in line with cost of living increases nationwide while the real dollar value of the \$25 fee has decreased. To access the final rule and fee schedule, please visit:
<http://permits.fws.gov/federalregister/federalregister.shtml>

PLANT BIT – ALGAE CONTROL USING ULTRASONIC

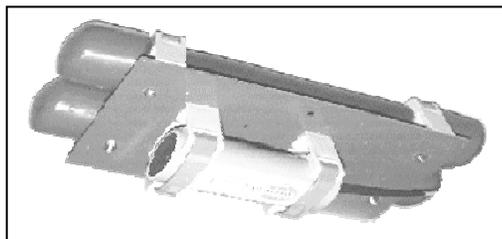
WAVEFORMS is an environmentally friendly method of effective control of nuisance algae developed in Holland after algal blooms damaged multiple inland waterways. Using advanced ultrasonic technology a submerged transducer transmits ultrasonic waveforms to specifically target the algae cell structure destroying the cells cytoplasm rendering the algae dead. Ultrasonic waves are not audible to humans and present no threat to humans, fish, fowl or livestock. Available in sizes for garden ponds to sizes for municipal lakes, advertising seems geared toward pond and lake maintenance companies, landscapers, etc., with rental and purchase arrangements mentioned on some sites.

All of these manufacturers have pond size (50 ft effectivity min) units. Most advertised sources are not in America. LG Sonic, a German manufacturer, has distributors in half a dozen European countries, but none in the US. There is a distributor in Britain (link at end of this article) who welcomes trade enquiries (i.e. business customers only), and LG Sonic is interested in acquiring new distributors.

MANUFACTURERS



LG Sonic’s unit has a 180° radiation pattern, 220V, 20W.
British Distributor <http://www.agagroup.org.uk>
Manufacturer: <http://www.lgsonic.com/LG%20SONIC%20EN/sss.htm> Lake size model shown below.



(continued next page)

Membership News –

New/Returning Members

The following people joined COAST recently - Welcome and Thanks!
Tom Varin
Andy Yee of La Habra
Anthony Mazeroll, Fountain Vly
Matthew Parry
Elissa Ritt of San Diego
Scott Daeschner of San Diego
Richard Lin
Barry Heller of Burbank
Joshua TenBroek of Huntington Beach
“Gary” Gang Chow

Renewals Received

The following people have renewed their memberships—Thank You!
Alan Blum
John Fuqua
Richard Woon
Corey Anderson
Kim Chi Bui-Filkin
Phil Rodriguez
Jerry Robinson

Member Renewals Due Now

Please remember to renew your membership this month.
William Moreno
Jeff Long
Michael Moore
Barbara and Kirk Bean
Kent and Eva Hengstebeck

Member Renewals Due in April

John Simons
Steve Dickens
Mike Khalid
Craig David
Frank Paiste
Katy Manetta
Kevin Cury
Charles Pratt

Showfish is not sent to people whose memberships have been expired more than one month.

Member Renewals Past Due

- ▶ Borje and Mary Forslund
- ▶ John and Anne Niemans
- ▶ Nathan Okawa

(Continued on page 4)

Board of Directors

President:

Art North 714-898-2412
enorth1234@socal.rr.com

Vice President

Brian Downing 858-759-4841
brianjdowning@msn.com

Treasurer

Jim Herman 626-335-8327
jhfinwing@msn.com
(Pauline Jackson will substitute when Jim is out field collecting or whatever)

Recording Secretary

Ron Nash

Directors

Ron Jackson 714-638-8445
katfishron@aol.com
Ken Hengstebeck 714-538-8393
kenfish@sbcglobal.net
John Skocilic
Skoc@yahoo.com

Membership Chair, Editor, Web Site Administration

Charlotte Marelus 818-360-7102
rcmarelius@earthlink.net

Auctioneer

Duncan Mahoney 310-391-3704
dmahoney@usc.edu

Printing and Distribution

Mike McCabe 562-888-1992
mccabeprint@yahoo.com

Positions Needing Warm Bodies

Corresponding Secretary,
Refreshment Chair, Program Chair,
and Storekeeper

COAST fish club meets the first Sunday of every month, in Costa Mesa from 1:00 p.m. to 5:00 p.m.

Costa Mesa Neighborhood Community Center, Victoria Room
1845 Park Avenue,
Costa Mesa, CA 92627

For map, see Orange County Thomas Bros Guide pg 888 Zone J3. Maps are also shown on our website:
<http://www.fishclub.freesevers.com> and Internet map sites.

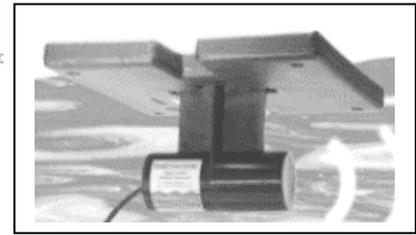
COAST MEETING DATES:

May 1, June 5, July 10 (tentative), August 8, September 4 (tentative)

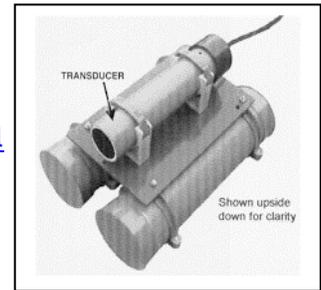
(Ultrasonic algae control, cont)



<http://www.sonicsolutionsllc.com>
Radiation pattern is 120° to 150°, Maryland



Aquasonic Algae Controller. Australian.
<http://www.vor-env.com/aquasonic.shtml>
15W, supplied voltage not specified, 180° radiation pattern.



Excerpted from the abstract:

Ultrasonic Irradiation for Blue-Green Algae Bloom Control
by Lee T.J.; Nakano K.; Matsumara M. in *Environmental Technology*, 1 April 2001, vol. 22, no. 4, pp. 383-390(8)

Potassium iodide (KI) experiments demonstrated that frequency and input power are the major factors that affect the ultrasonic irradiation intensity. Short exposure (3 s) to ultrasonic irradiation (120 W input power, 28 kHz) effectively settled naturally growing BGA suspension. Electron microscopy reconfirmed that sedimentation was caused by the disruption and collapse of gas vacuoles after ultrasonic exposure. For the same input power (120 W), a lower frequency (28 kHz) was found to be more effective in decreasing the photosynthetic activity of BGA than a higher frequency (100 kHz). The sonicated cells did not proliferate when they were cultured in conditions that simulated the bottom of water bodies (i.e. with limited light (400 lx) or no light and non-aerated or aerated). Ultrasonic irradiation collapsed gas vacuoles and precipitated BGA, and may have also inflicted damage on the photosynthetic system of the BGA.

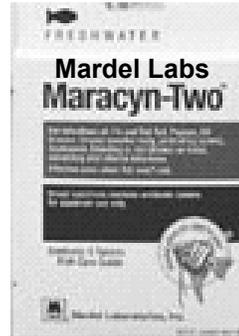
TANGENTIAL DISCOVERIES: one benefit of research is discovering unrelated treasure on the trail.



Looking for a sponsor's logo, I found a link to water fountains at the eclectic, irresistible <http://www.wishihadthat.com>, and from the wall fountains, a link to bronze statuary and fountains. Among some extraordinary pieces was this 6 ft X 2 ft X 6 ft bronze fellow, justifiably described as "Incredible Dragon Fountain". Yours for only \$12,995.00. That's a lot of guppies!

OUR SPONSORS – Manufacturers Who Support Our Club

When making buying decisions, please assess these companies' products and remember the investment they make in the tropical fish hobby. I'm sorry I've missed some sponsors, I did not see the raffle table this month.



(Membership News, cont from pg 2)

- ▶ Harold Lieberman
- ▶ Frank and Ilan Chang
- ▶ Julie Wright
- ▶ David and Amy Hue
- ▶ Anthony Gomez

▶ This symbol means this is your last Showfish until you renew.

Member Renewals Due in June

- David Ogershok
- Larry Gentry
- Sal Arias

Renewing members, please fill in a fresh membership application and mail it to Pauline Jackson. Application and Pauline's address are on the last sheet of the newsletter. Membership due date is on the Showfish address label.

MEMBERSHIP NO. REASSIGNMENT

Those members given a guest number (700 series number) as a permanent number have been given regular membership numbers now.

Check the mailing label on the newsletter; the three digit number after your name is your membership no.

WHAT DOES THE CLUB DO WITH YOUR MEMBERSHIP DATA?

1. We notify you of upcoming meetings via email. Sporadically we email Showfish and info on events and membership status.
2. Data is listed in the membership roster in accordance with permission given on the member application and renewal form. The club does not make the roster available to anyone but members. We have no control over what members do with it.
3. Sponsors occasionally require member data before they will contribute to the club. We periodically give them a list with members' names and zip code. No other information is given.
4. Contact info of board members sometimes shows on public documents or our club website.

From Left Field – Aging Eels

Studies on the tiny vinegar worm, *C. elegans*, may allow us to tie together a hodgepodge of fact and speculation about how the use of energy within the body effects life span. When properly manipulated, the daf-2 gene in the vinegar worm increases the worm's life span by up to 300%.

In the mid-90's, scientists at Harvard Medical School found that daf-2 plays a key role in the insulin-glucose metabolic pathway. The Harvard scientists comment, "Life span regulation by insulin-induced metabolic control is analogous to mammalian longevity enhancement induced by caloric restriction, suggesting a general link between metabolism and longevity."

Daf 2-like genes exist in mammals as well, and are involved in similar metabolic pathways. Insulin and glucose levels are substantially reduced in calorie-restricted animals, including humans, and low levels may confer a life span benefit in us as it does to the vinegar eel.

Paraphrased from Feb 1998 article in LE Magazine by Roy Walford, M.D., professor of pathology at UCLA

Gratitude Payments –

Wanda Jacobson and Jeff Long brought some serious food stuffs to give our buffet actual nutritive value. Any one can bring homemade or purchased food for the buffet.

Bonnie Lewis, finally released from the hospital where she has spent too much of the last two months, brought in the raffle items. People with muscles can help her load the stuff up anytime, no need to wait to be asked to help.

Machel and Kathy Van Dam donated 31 lots of premium quality species in generous quantity. Between the Van Dam's and the buyers, the club made enough money from this donation to bring in a speaker from anywhere in the United States.

Jeff Long lent his digital projector again for our speaker's presentation.

Science Bit – Fish Know Who's Who

C. A. Marelius

I once had a group of *Lamplogus brichardi*, acquired from the same family group, of the same generation, raised together. For their entire lives, the group kept to a structure of five compatible and one ostracized fish. The group was segregated, even separated completely, and reunited, to no avail. As time went on, members died, and still the grouping continued and the one individual was ostracized. It was not until only one fish and the ostracized fish were left that the ostracized individual was allowed to cohabit the family territory. I've seen similar behavior in other cichlids, swordtails, tetras, and catfish. How do they know? Why does it matter?

"... this ability [to recognize individual fish] potentially conveys significant benefits, including increased inclusive fitness, reduced inbreeding costs, reduced competition and enhanced anti-predator behaviour." say Ashley Ward and Paul Hart of the University of Leicester (Britain) in *Fish and Fisheries*, 2003;(4), 348-358. That fish can discriminate between "their species" and "not-their-species" has been known for a very long time, of course; heaven knows they can determine the gender of individual fish when no one else can. Only recently have scientists begun to realize that fish can recognize individual fish as kin, associates, or strangers (scientists are surprised).

Ward and Hart's article continues ...

There are some obvious benefits to this, such as avoidance of inbreeding, reduction of aggression, coordination in shoaling responses, and protection of the family group. The ability to recognize kith and kin makes it easier for fish to maintain their own health and that of those which share their genes. The concept of maintaining the health of self and relatives is called indirect fitness or inclusive fitness.

Most studies of fishes' ability to recognize others have been limited to olfactory studies, principally on salmonids, but little has been done on the choices they make based on what they smell when they have alternative choices to take. It turns out some species of fish have a distinct preference for members of their own group over others of their species that do not belong to the group. Studies that brought this to the forefront showed Atlantic charr, Atlantic salmon, coho salmon, and rainbow trout are able to recognize – and prefer to associate with – members of their own family group.

Old World and New World cichlids of some species have the ability to tell their own offspring from that of unrelated neighbors of the same species. Convicts are known to take such unrelated fry into their own brood; scientists guess the convicts do this to widen the actively guarded area and increase the number of parents that provide protection for fry. (Members and guest speakers of COAST have also witnessed New World cichlids serving as bodyguards to the fry of larger heterospecific fish in their native habitat. This behaviour seems to benefit the cichlids by living in an area where their larger associates keep predators to a minimum, while the larger fish can safely leave their fry in the care of the cichlids while they themselves go hunting for much needed food.)

The perpetually studied sticklebacks have shown the ability to recognize their own siblings and those who are half-brothers and sisters based on combined visual and scent clues. When relying on scent alone, the stickleback cannot make that discrimination. Stickleback

can demonstrate this sibling recognition ability even when they've been isolated from family from hatching to juvenile stage. Scientists feel this indicates that, for the stickleback anyway, this recognition may be "hard wired" and not formed by association. Other than the value of inclusive fitness, no one quite knows the full extent of the value of these abilities.

Female Lake Echem rainbow fish can tell the difference between fully-related, half-related, and unrelated conspecifics. They prefer to associate with other females in that order. Furthermore, they prefer to associate with males in the reverse order, choosing unrelated males in preference to related ones. To perform these feats of recognition well, the Echem rainbows need both visual and olfactory data.

Some fish use urinary chemicals to assist in identification; other chemical clues may consist of social standing signals and the results of diet. Something that has more recently come to light is the role played by the major histocompatibility complex (MHC) in salmonids' ability to recognize each other. Ward and Hart state that "the MHC codes for glycoproteins, which are involved in many aspects of immunological recognition. MHC genes are highly polymorphic, and because of this, each individual has a highly characteristic genotype. In addition to this, the MHC affects the odour of its carrier allowing detection and recognition between individuals." When presented with siblings which did not have a matching MHC genotype and non-siblings which did, the fish being studied chose to be with those fish whose genotype most nearly matched their own.

What is more difficult to determine is what fish measure the identifying signals against to determine a good fit. This determination is made more complex by the incredible variety on the insides of fishes, a class of animals that don't necessarily share even the same number or type of organs and skeletal systems.

The ideas advanced from data studied to date indicate there are several models of comparison systems to add to fishes' other characteristics. The basic concept is that fish have a "template" they use to ascertain a match for size, shape, color, odor, behaviour, etc. When enough points match up, an identification is reached. This seems to be a fairly stable model for many types of animals. There is a variety within this recognition system, though, in the arena of whether or not the template is learned during only one period of life, learned throughout life, or part of the innate programming present from conception.

Salmonids and sticklebacks seem to have innate kin-odor recognition templates. Identification by other markers seems to be acquired during a nascent learning stage. How long learned identification persists may vary; coho salmon juveniles retain their learned templates for many months. Learned templates create the opportunity for influences to alter what is recognized. Coho salmon raised with kin and non-kin were not able subsequently to identify kin from non-kin. Charr raised in isolation could not identify their kin. Guppies raised with swordtails preferred the company of swords, while guppies raised with guppies preferred the company of guppies.

There are many possible interpretations of the familiarity recognition ability of fish and their kin recognition abilities. Shoaling and schooling behaviour needs considerable study, especially in field study, to determine how much of cooperative behaviour is determined by familiarity, by kin recognition, and/or by living in high risk neighborhoods. About the only thing scientists are sure of is that recognition is going on and those fish who do it well have more energy to devote to growing up.

Ward and Hart's article is excellent at reporting the nuances of testing methodology in labs and in the wild while showing the benefits of cooperative association. Recommended reading on a subject we can study in our own fish to a small degree.

Events elsewhere in the hobby –

Desert Fish Club, a brand new club in Palm Desert, meets the third Sunday of the month in a local aquarium store. For more information, call Wanda Jacobson at 760-328-8842.

San Diego Fish Club meets the second Sunday of the month. For more information talk to Barbara or Kirk Bean or Brian Downing at one of our meetings. The Beans have also been contributing to the growth of an IFGA-recognized **guppy club** in the area between Riverside and San Diego; IFGA judge and award-winning breeder, Luke Roebuc, has been participating in this effort as well.

COAST Discussion Group (COAST members only) is growing on <http://groups.yahoo.com/group/coastfishclub/>
American Cichlid Club 2005 Convention is in Fort Worth, Texas on July 21 through 24. See the convention web site at <http://www.aca2005.org/index.html>. Speakers will be Laif DeMason, Willem Heijns, Spencer Jack, Al Klee, Ad Konings, Wayne Leibel, Ric Perez, Howard Schmidt. The 2006 convention will be in Chicago.