Award Winning

Malibu Rotary Club Surfwriter

October 7, 2009

Official Newsletter of the Rotary Club of Malibu

Malibu Rotary Club President Holmes Osborne III

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Pictures by Dr John W. Elman and Dr Lee Kats

In This Issue ***(click underlined topics for weblink when connected to the Internet***

- **Malibu Rotary Club Website: www.MalibuRotary.org**

Rotary International Website: www.Rotary.org

Rotary District 5280 Website: www.rotary5280la.org

Rotary District 5280 "Rotarians Doing Business With Rotarians" Website: http://yp5280.org/

RI President (2009-2010) John Kenny

Rotary District 5280 Governor (2009-2010): Susanne Sundberg

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"The Mystery of the Solar Frogs"

When one thinks of cutting edge world class biological research Pepperdine University is probably not at the top of the list of places where you would expect this was being done. That is, unless you knew about Professor of Biology Lee Kats, Ph.D, the University's Associate Provost for Research and Chair of the University's Natural Science Department. What he and his students are doing since he joined the Pepperdine faculty in 1990 is truly remarkable and worthy of the attention of the world wide scientific community. This was illustrated in the presentation he made

to the Malibu Rotary on October 7th.

At the time Dr Kats arrived at Pepperdine he and other herpetologists (people who study reptiles and amphibians) began noticing an alarming drop in frog and toad populations. Some of the decreases were sudden, some had been going on for decades. Some species seemed all right, others were decimated. There was no obvious geographic pattern; frogs were failing in wilderness and farmlands, in mountains and valleys, in just about every part of the world.

According to "Froglog," published by the World Conservation Union, 25 percent of all known amphibians are endangered, vulnerable, or extinct. The Nature Conservancy says 38 percent of amphibians in the United States are endangered. Though they have thrived on earth for millions of years, frogs are especially vulnerable to environmental disruption. As tadpoles they live in water and eat plants; as adults they live on land and eat insects. Their eggs have no protective shells. Their skins are thin and wet and permeable. Each frog lives in a small, specialized habitat, but those habitats occur all over the planet. So frogs are incredible environmental sensors. Their decline should be a wake-up call to the rest of us earth-dwellers.

The timeliness and importance of the decline in frog population is worldwide and was the subject of the October 16, 2008 cover story of Newsweek magazine, which attributed it to global warming.

Not only is there a significant decline in frog population, but in certain places many that survive have deformities.

In 1995 schoolchildren in Henderson, Minnesota, were catching frogs in a farm pond. They noticed that most of the frogs had extra legs, missing legs, misplaced eyes. The kids publicized their finding, along with pictures of the gross-looking frogs. That caused other kids in Vermont and elsewhere, and then scientists too, to go out and find malformed frogs, lots of them.

A Canadian researcher has reported that along the St. Lawrence valley fewer than two percent of frogs in ponds far from any pesticide use have deformities. Frogs from ponds near heavy pesticide use show at least 20 percent defects -- and in one pond 100 percent.

Researchers in Switzerland have exposed developing frog eggs to the pesticide triphenyltin and produced deformities similar to some seen in the field.

The Scripps Research Institute has shown that S-methoprene, a popular ingredient in mosquito sprays and flea powders, breaks down into retinoids, which are known to cause birth defects not only in frogs but in humans.

Dr Kats told us that in certain areas of Oregon and Minnesotal 50% of the frogs may have extra legs, but he said that it may be due to a parasite.

Most of Dr Kats presentation dealt with the contrast between two distinctively different types of frogs, and the discoveries that he and his students have made in studying these frogs in regular trips to the rain forest of Costa Rica, as well as local field trips to streams in local mountains near Malibu.

The frog that Dr Kats and his undergraduate students study in Costa Rica is the Poison Dart Frog, a.k.a. the "Blue Jeans Frog" (pictured to left). The poison dart frog gets is "poison" name because it's skin is poisonous to the touch. It does not produce the poison itself but gets it from poisonous ants that it eats and toxin from the ants goes to the frog's skin. It gets its alternate name "blue jeans" from the blue jean color of its legs. To see this frog in its native habitat he and

his students have to venture into the dangerous Costa Rican rain forest jungle, which is also home of some of the deadliest snakes in the world: The gray or brown Fer-de-lance is the largest and deadliest of the poisonous snakes. It strikes swiftly and is an aggressive snake. During the day the snake lies coiled, blending with its surroundings, but it is especially dangerous after sunset, when it wanders in search of prey. And there is also the eyelash viper snake. The eyelash palm pit viper is named for the bristly scales above its eyes. The eyelash viper is mostly nocturnal and is usually found in trees, on the leaves of big plants, or in other vegetation just above the ground. So while searching and studying the poison dart frog, the students have to be ever vigilant for the snakes, both on the ground and in the trees.

What has been observed by Dr Kats and his students is that the poison dart frogs hate sun, and in fact usually are found under a leaf which they use as an umbrella. The observation of the frog always being found under an umbrella leaf was made by one of Dr Kats earliest star students Barbara Han (pictured R). [She was so inspired by this research that after she graduated from Pepperdine in 2002 she went on to get a Fulbright Fellowship to study amphibians in Venezula and received a Ph.D in 2008 from Oregon State University working under Dr Andrew Blaustein, another researcher and authority on amphibian behavior]. Dr Kats' students use sophisticated equipment both in the Costa Rican jungle and in California to measure the amount of UV radiation that reaches the frog's skin. They find that the amount of UV reaching the skin of the blue jean frog in Costa Rico is only about .5 microwatts.

In contrast to the poison dart (blue jean) frog of Costa Rica, Dr Kats and his students study the California tree frog (pictured to left). The California tree frog is misnamed. Is should be called the "California rock frog." It is found in the area near Malibu, but not in trees. It is found sitting on rocks. In fact you rarely find it under a tree or leaf umbrella like the poison dart frog of Costa Rica, because unlike its Central American

cousin, which hates sun exposure, the California tree frog loves to bask in the sun. When Dr Kats' students measure the UV hitting the skin of the California tree frog the meter goes to 23 microwatts. On an overcast day the UV might be 6 microwatts.

Dr Kats points out that most animals have developed protection from direct prolonged exposure to UV. They have hair, fur, scales, or avoid exposure. The exceptions to this are the California tree frog and humans, who have only recently learned that such exposure produces not only sunburn but skin cancer. Dr Kats and his students have observed the California tree frogs for hours, and find that they just sit on a rock in the sun without moving.

So the questions to be answered are: What is it in the makeup of the California tree frog that allows it to not be harmed by extended high amounts of UV radiation? And once this is discovered is there a human benefit (food supplement, lotion, or other) that would protect human skin in the same manner that the California tree frog is protected?

What Dr Lee Kats and his students are doing at Pepperdine is truly cutting edge significant scientific research.

Other News and Guests from the Last Malibu Rotary Club Meeting

There weren't any human guests at the Malibu Rotary Club meeting but our speaker did bring one of his gopher snakes in a bag. He has several of them. When asked if he is interested in any rattle snakes that we may have killed in our back yard he replied he is more interested if you have a live one. Call him and if he is available he'll come and take it off your hands.

Malibu Rotary Representation at Foundation Dinner and Casino Night

Malibu Rotary Club was represented by 10 people at the Paul Harris Rotary Foundation Celebration Dinner & Casino Night at the Carson Community October 3rd. Chris Bauman was entered into the Texas Hold 'em competition.

Letters to the Editor-Survival of Malibu Rotary

About the Malibu Rotary Club

The Malibu Rotary Club was chartered in February 1971 by the Pacific Palisades Rotary Club.

At that time our community was unincorporated but big things were planned.

We would have a freeway going Northwest from Malibu Canyon.

We would have a nuclear power plant.

The Department of Highways estimated the population would more than double by 1990.

Those things never took place. I don't think our community is typical of others.

Currently our club has eleven members. How does that compare to some other clubs?

	Population	Members**	Members per 1,000
Beverly Hills	34,979*	76	2.173
Santa Monica	88,050*	80	.908
Malibu	13,000	11	.846
Culver City	39,403*	27	.685
South Gate	98,434*	13	.132
Torrance	142,350*	12	.084

No apologies required for our small size club! The Oakhurst area of California also has a population of 13,000.

It has 2 Rotary clubs with about 75 members. But they don't have a Lions, Optimists or Kiwanis to compete for membership.

They also have many the business owners that serve the community and are Rotarians.

I think we are a club that would not have been chartered if the future could have been foreseen.

I believe we are dying and it is time to return to our maker. (Merge with Pacific Palisades if they will have us.)

Bob Syvertsen

Note: * Census bureau

**By count from ClubRunner

REPLIES TO **Letters to the Editor-Survival of Malibu Rotary**

Bob - very well said. As one of our more tenured members, your observations carry much validity and weight, and I agree with them all, except that I believe we can revitalize our club if we make a real, concentrated effort. I also believe that if/when we are at 16+ members, we should remain an autonomous club.

Thank you for your research and thoughts.
Geoff

Editor's Reply to Letters to the Editor-Survival of Malibu Rotary

The points Bob makes could be used both for saving Malibu Rotary Club independently as well as assimilating into another club (Palisades). The few core members that are left have been very active. Attendance at our meetings in the last quarter (and I keep track of this as the club secretary) was 80%. The per capita size of club for community is average and we meet in probably the most beautiful place in our district. So I agree with Geoff, although because of economic conditions, this is especially a tough time to grow, I think we are doing as well as any club, given our size and demographics.

Project TRIUMPH program was conceived by Ilan Magdali of the Newbury Park Rotary Club. The program brought 10 teenage Arab and 10 teenage Jewish students from Israel to a leadership camp in Simi Valley where they all learned to work together, develop leaders skills before returning to Israel to use what they learned back home. Most of us feel helpless in trying to find a solution to the constant war in the Mid East, but at least this program is trying to do something. Sponsorship of this program has been mostly from the Newbury Rotary Club and Rotary Clubs in District 5240. Malibu Rotary Club was the first Rotary Club in Rotary District 5280 to support this project. One of Project TRIUMPH chair people, Frances Fuji, wrote about the status of the program for this year

"In light of the current economic climate and more challenging environment for securing grant monies, instead of hosting students this year, we are taking the opportunity to strengthen infrastructure in Israel and to establish collaborative relationships with aligned organizations.

Upon our request, Shaul, from the Rotary Club of Haifa, provided us with a budget and proposal to hire a part-time facilitator to be responsible for year-round support of both new Project TRIUMPH students and alumni. We are sending money to contribute to the facilitator's salary, and she has already begun meeting with the kids there.

We are excited about prospects for 2010 and beyond (the plan is to resume bringing kids over in 2010, assuming that we can raise enough funds in 2009) and believe we will emerge from this fallow year with an even stronger, more well-rounded and promising program than ever before."

Calendar

Oct 14 2009

Dr. Eric Savitsky
""Current Challenges to Global Healthcare""

Oct 28 2009

Sanda Alcalay
"Polio & Rotary's Goal to End it Once & For All""

Sanda is a Realtor and a member of the Pacific Palisades Rotary.

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