



BEHIND BAARS

A publication of
The Bay Area Amphibian and Reptile Society
sponsored by the Palo Alto Junior Museum
1451 Middlefield Road, Palo Alto, CA 94301
Vol 4 (April 2009)
(408) 450-0759 (BAARS Voice-mail phone)

MOST HERPERS NOW REALIZE THAT ‘POISON DART FROGS’ ARE ONLY VIRULENT WHEN wild-caught, because their diet of ants, spiders and other venomous critters tend to let the frogs accumulate the insect toxins in the skin glands, to then be used to protect the little frogs. Now, a new study on Africa’s most dangerous venomous snake, the Saw-scaled Viper, seems to show it doing much the same thing.

Axel Barlow’s paper in “Proceedings of the Royal Society B.”(published April 8th on <www.physics.org>) on Saw-scaled vipers shows that the small snakes- which have evolved to feed mostly on scorpions- have also recently evolved venom which is more lethal to scorpions, demonstrating that changes in diet have been an important factor in this snake’s venom-evolution.

The significance of this discovery lies in the medical treatment of snake bites. Variation in venom composition between different species or populations of snakes can complicate antivenom treatment. Understanding the evolutionary processes that produce venom variations can therefore lead to better antivenom design and effectiveness.

This is particularly relevant in the case of Saw-scaled vipers, which are responsible for the majority of snake-bite deaths in Africa. However, many West African hospitals still rely on imported antivenom from Asia, where the local Saw-scaled viper subspecies has a very different venom composition from the African animal, and the failure of this imported antivenom has led to many unnecessary deaths in Africa.

“This study provides one of the most convincing pieces of evidence to date for the role of natural selection for diet in shaping snake venom composition, a key question in our understanding of venom evolution in snakes,” commented Dr Wolfgang Wüster, an expert in snakes and snake venoms and a lecturer at Bangor University’s School of Biological Sciences.

Currently a first year PhD student at Bangor University, Axel compiled much of the work for his undergraduate final year project, which was part of a wider project on venom evolution funded by the Leverhulme Trust.

“Saw-scaled vipers provide a good model to study venom variation, as different subspecies have extremely different diets,” explains Axel, “This allows us to investigate the effects of evolutionary changes in diet within a single group of related snake species”.

Now 28, Axel studied for his first degree in Zoology at Bangor, U.K, followed by a MSc in Ecology, also at Bangor. He is currently funded by the NERC to follow a PhD investigating genetic variation in Southern African snakes. Work begun as part of an undergraduate Honours project is to be published in the prestigious journal, ‘Proceedings of the Royal Society B’. (available online at <http://rspb.royalsocietypublishing.org/content/early/2009/03/26/rspb.2009.0048.abstract>).

Provided by Bangor University

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BAARS CALENDAR- 1st half of of year 2008

- April 3 BAARs Board Meeting- @ TBD
- April 4 Herp-Hike at JD Grand State Park, San Jose
- April 18 Photography Shoot at Keeble & Schucket in Palo Alto
- April 19 Earth Day Herp Show at Westwind Barn, Los Altos
- April 24 Regular BAARs meeting at Cubberley Community Center, Palo Alto
Speaker: Jan Robb w/herp-photos of her recent trips.
- April 25 Festival for the Environment, Mt Madonna school, Watsonville
- May 1 BAARs Board Meeting- @ Scott & Caroline's home
- May 3 Herp-Hike at JD Grand State Park, San Jose
- May 22 Regular BAARs meeting at Cubberley Community Center, Palo Alto
Speaker: Dr Robert Norris on Venemous Snakebite Management

APRIL ADOPTIONS

- 1 - Leopard Gecko
- 1 - Iguana
- 2 - Ball Pythons
- 5 - Red Eared Sliders

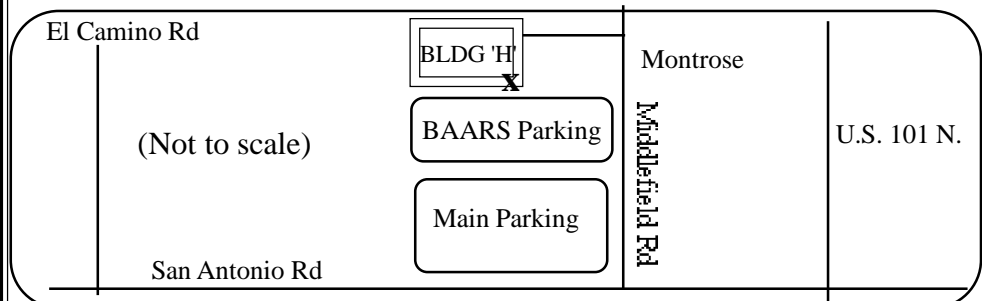
Congratulations to all who helped!

General Meeting Information

Meetings are held at Cubberley Community Center
 4000 Middlefield Rd, Bldg H-6, Palo Alto CA
 Meetings are on the 4th Friday of each month, except for Nov and Dec.
 Meeting starts promptly at 8PM; doors open @ 7:30 PM
 Annual Meeting & Holiday Party is held on the 2nd Friday of December

Meeting Guidelines

All people attending meetings must be quietly seated except for the social break in the middle. This is to ensure the speedy completion of the business portion of the meeting, as well as in consideration of our speaker(s). ALL animals brought to the meeting must be in suitable containers, including a source of heat if req'd
 All animals must be kept in their containers during the business portion of the meeting. Aggressive animals, sick or in-shed animals or delicate animals, should not be brought to the meeting, both for their sake and that of the humans attending.



BAARS PRESIDENT'S REPORT- APRIL

Hey BAARS members and Friends -

First, please accept my apologies for this delayed president's report. I messed up my back when working on tortoise enclosures, then went to Marine World the next day. It's funny how difficult it is to do anything when you're hurt. In any case, I did make some progress on preparing the doors for the new enclosures; I now have 2 coats of marine varnish on my new wood-frame screen doors. The screen is a very heavy 1/2 copper mesh - which hopefully will help protect the smaller turtles and tortoises.

I believe that Jan Robb will be our guest speaker for April. She's gone to a whole bunch of exotic locations for shots of herps, and I'm sure has an extensive collection of photos. She's been to Madagascar, Indonesia, the Galapagos, Africa (several locations), amongst many other places (I'm jealous!) Jan generously volunteered to go through her picture collection and pull together some herp slides for us. I'm excited so see what she's come up with!!!

On April 18th, from 12:30 to 4 PM, BAARS will be participating in a Photography Shoot, at Keeble and Shuchat in Palo Alto. Then, on Sunday, the 19th, BAARS will be at West Wind Barn, in Los Alto Hills, for Earth Day. This is a great show featuring a lot of other wildlife groups, some with live animals (e.g. Leopards Etc).

Then, on April 25th, BAARS will be participating in the 3rd Annual Festival for the Environment hosted by the Mount Madonna School in Watsonville. This is a "green family event" celebrating Earth Day. It will feature live music, eco-friendly shopping, student exhibits, hands-on learning activities, natural arts & crafts, and organic food & refreshments. BAARS will have live reptiles to show, including some that are becoming threatened in their native locals. Several members will be on hand to discuss the special needs and husbandry of their animals.

In May, we'll be hearing from Dr. Bob Norris, on the treatment of venomous snake bites in North America. Dr. Norris has done a lot on the protocols for treating venomous snake bites in India, and previously gave a talk to BAARS about that subject. In May, he'll be focusing on North American venomous snakes and the treatment of venomous snake bites in North America.

Check our website for additional information about most of these shows. Hope to see you guys soon at a meeting or a show.

Sincerely,
Scott Alexander
BAARS President, 2009
alexander_scott@yahoo.com

Salmonella In Bait concluded from pg 6

From March to October of 2005, 85 percent of Arizona bait shops sampled sold at least one. In 2006, *ranaviruses* were detected in the Tiger salamander bait trade between May and October in Arizona, New Mexico and Colorado, but were not found in the few bait shops sampled in Nebraska and Texas.

Three of nine shops tested in Arizona in 2007 had animals with *Bd*.

"If the presence of a pathogen in bait-trade salamanders is narrowed to several distributors, the movement of animals from these dealers could be stopped," says Collins.

"A quarantine program would help prevent the introduction of non-native pathogens into threatened, susceptible populations," he says. "Random monitoring of pathogen movement through the bait trade may help limit the spread of amphibian diseases."

BITS AND PIECES 2009

A few weeks ago, Judy and I went to a pre-organization meeting of what might become the Douglas County Nevada Turtle and Tortoise Club. The idea grew out of a desire by Eileen Cohen of Carson City to replace the now defunct Reno Turtle Club. This apparently vital club in reality had been almost solely run by one volunteer who did everything. When she contracted cancer and had to give away all her pets, no one stepped up to help. So the club disappeared.

That first organizational meeting, announced in the Carson newspaper, drew some 15 prospective members, almost all of whom already had pet tortoises of a variety of species. Most were so-called California Desert Tortoises who also live here east of the Sierra mountains, and also are a protected species. Several had breeding pairs and one lady brought seven 3-month-old babies.

A few Gopher tortoises also live in the wild in this area, and of course, we have our male Sulcata and Boris the Russian tortoise. One surprise was a prospective member who was coincidentally a founding member of BAARs now living in the Carson City area.

The next meeting of this as yet un-named organization will be May 9, in the Douglas County Library meeting room, to appoint club officers and draft a set of bylaws governing the club. Past history says that no matter how well run, if you set back and let someone do all the work, an organization will not survive for long.

We've had Spring-like weather for the last two weeks. Daytime temperatures are in the high 70's with night temps dropping to the low '40s- just right for our tortoise herd (Big Fred the Sulcata has a doghouse with a heat mat, and Boris the Russian tortoise comes in every evening). But in spite of not being true natives to the high-deserts of Nevada, Judy and I are well aware of the seductive promises of a 'False Spring' in this area.

So we are not lulled into that most-common mistake of the 'Nevada newbie'- planting tomatoes in her garden too early and then watching as a

'Spring Frost' sweeps through and nips all the buds. Sure enough, this weekend the average temperature is to drop 30 degrees, then slowly recover. But indications are that night-time temps will not approach freezing, so we'll see.

I have Fred's hand-truck that I use to move his 50+ lbs around, all ready to give him a ride to his warm tote in the bedroom. In mid-morning, he'll go back outside and get reacquainted with natural sunlight in his 250-square foot pen. The native Horned and Fence lizards are already acclimatized so I have no worry for them. Haven't seen any snakes yet; they're always the last to appear in Spring.

And speaking of gardens, we are only bothered a little by the native wildlife trying to make a living around our home. We set out birdseed and cracked corn in the Winter and early Spring for the wild critters. But after losing our whole crop, I reluctantly fenced in Judy's small raised-bed garden to keep it from becoming a bunny-feeding ground.

But 4' chicken-wire fence doesn't stop the Chipmunks who flash through it without even slowing down, and the Ground Squirrels who climb like their tree-dwelling relatives are likewise not deterred. Chipmunks are entertaining and don't eat much but the squirrels eat everything. So I set a live-trap for the squirrels, and when I catch one, we give him a ride a few miles away in an undeveloped area. Chipmunks get freed in our yard again, hopefully to be more cautious next time.

Yesterday, I caught a Jerboa- a so-called 'Jumping Rat' in the backyard. These rodents are too cute for words: big ears, a body the size of a small rat and a long rat-tail with a brush of long hairs on the very tip. And back legs three times the 'normal' size for a rodent this size! They don't run, they leap like Jackrabbits and are nearly as fast (photos on pg 7).

They are almost exclusively seed-eaters and are also protected animals, so I carefully freed him in our backyard again. He was calm and simply walked a few steps from the trap, then leaped for the brush like a furred rocket. Hopefully, we'll see him again. This is the second one I've seen in the local area. Such is life in rural northern NV.

J DeRyke

Perrysburg Finding It's Not So Easy to Ban Something 'Responsibly'

A proposed ordinance to ban so-called "exotic" animals from Perrysburg, OH is being revised after concerns were raised about the specific types of animals and other critters that could be accidentally included.

The proposed ban was announced in February but has yet to be adopted. Council's Service Safety Committee has been considering changes to the language of the pending ordinance before introducing it to the Council for a full vote.

Under the draft ordinance, the list of unsuitable pets is long- ranging from giant or venomous snakes like pythons and boa constrictors, to bears, beavers, lions, tigers, alligators, and a plethora of other critters.

The law would allow police to criminally charge any 'exotic' pet owner. 1st offenders would face a minor misdemeanor, carrying a \$150 fine but no jail time. 2nd offense would be a 4th degree misdemeanor, carrying a maximum \$250 fine and up to 30 days in jail. Third offense would be a 1st degree misdemeanor carrying up to a \$1,000 fine and possible six months in jail. The exotic animal would be seized and impounded. The cost of impounding and caring for the animal would be passed along to the offender.

There was concern the law could be misinterpreted to include certain breeds of dog, particularly so-called "vicious" dogs like pit bulls or German shepherds. And at a recent meeting of the Service Safety Committee, a city resident told the committee she is concerned her collection of small harmless reptiles, including an iguana, two corn snakes and several bearded dragons would be banned under the proposed law.

The Service Safety Committee, under chairman Mike Olmstead, has intelligently decided to seek the advice from a herpetologist to determine which reptiles should be named in the pending ban, and which ones should be excluded. Other cities in the nation should consider such a policy rather than trying to 'do it themselves', often with ludicrous results.

Jeff Studer, Perrysburg's animal control officer, said earlier this year that he's concerned about the danger many exotic animals can pose to unsuspecting neighbors should the critters escape. The city currently has no law on the books to control such animals. No one mentioned that Perrysburg, OH has existed for 150+ years without such controls, and without incident, however.

BAARS NOTES

Classified ads

Classified ads are free for members (\$5/mo for non-members)

Display ad rates:

- \$7.00 Business card size
- \$11.50 1/6 page
- \$22.50 1/3 page
- \$35.00 1/2 page insert
- \$70.00 full pg insert

All display ads should be camera-ready. Electronic submissions should be saved as postscript format (.pdf) for best image quality.

Live Food Items

Feeder animals may be available at the regular meetings. It's recommended that you bring your own containers for transport home.

Frozen Rodents are sometimes available through BAARS as a Group Buy. Details will be available at the meetings.

MEMBERSHIP FORM

- Individual/Family \$25/yr
- Sustaining \$35/yr
- Institutional (schools, libraries, non-profit org, service org)
- NEW MEMBER
- Contributing \$50/yr
- Patron \$100/yr
- RENEWAL/CHANGE OF ADDRESS

NAME: _____

ADDRESS: _____

PHONE NUMBER/AREA CODE: (_____) _____

CITY/STATE/ZIP CODE: _____

EMAIL ADDRESS: _____

HERPETOLOGICAL INTERESTS _____

For more info, visit our website: <http://www.baars.org/index.html>

To join BAARS, mail this application, with your check to:

BAARS MEMBERSHIP SECRETARY

c/o

Palo Alto Jr Museum
1451 Middlefield Rd
Palo Alto, CA
94301-3351



FISHERMEN AT RISK OF SALMONELLA FROM THEIR CHOICE OF BAIT, STUDY SHOWS

They're called, 'Waterdogs' - larvae of the Tiger salamanders often used as live bait for freshwater fishing.

With tiger salamander larvae, anglers hope to catch largemouth bass, channel catfish and other freshwater fish.

They may be in for more than they bargained for: salamanders in bait shops in Arizona, Colorado and New Mexico are infected with *ranaviruses*, and those in Arizona, with a chytrid fungus called *Batrachochytrium dendrobatidis* (also called 'Bd').

"These diseases have spread with the global trade in amphibians," says James Collins, assistant director for biological sciences at the National Science Foundation (NSF). Collins is currently on leave from Arizona State University. "The commercial amphibian bait trade may be a source of 'pathogen pollution.' Pathogens are disease-causing agents such as viruses and bacteria.

Along with biologist Angela Picco of the U.S. Fish and Wildlife Service in Sacramento, Calif, Collins screened Tiger salamanders in the western U.S. bait trade for both *ranaviruses* and *Bd*, and conducted surveys of anglers to determine how often Tiger salamander larva are used as bait, and how frequently the salamanders are later turned loose in fishing waters.

The scientists also organized bait-shop surveys to determine whether Tiger salamanders are released back into the wild after being housed in shops.

"We found that all Tiger salamanders that ended up in the bait trade were originally collected from the wild," says Picco. "In general, they were moved from east to west and north to south—bringing with them multiple *ranavirus* strains."

Results of the research show that 26 to 73 percent of fishers used Tiger salamanders as bait; 26- 67% of anglers released the salamanders bought as bait into fishing waters; and 4% of bait shops put salamanders back in the wild after the waterdogs were housed with infected animals.

"The Tiger salamander fish-bait trade in the western U.S. is a good model for understanding the consequences of unregulated movement of amphibians and their pathogens," says Collins.

Examples of pathogen pollution are many and dramatic. Europeans grazed cattle in African savannas, thereby introducing *rinderpest*, which resulted in massive losses of native African animals and changes to an entire ecosystem.

The import of Japanese chestnuts to the U.S. led to the introduction of chestnut blight, which nearly eradicated American chestnuts.

An international trade in and transport of diseased timber spread Dutch Elm disease throughout North America, Europe and South-west Asia.

In the case of amphibians and reptiles, millions of kilograms of the animals may be shipped across the U.S. border each year. "Many of them are not coming alone," says Picco. "They've got company: *ranaviruses* and *Bd*."

Waterdogs have been used as bait for at least 40 years. In 1968, 2.5 million Tiger salamander larvae were sold as bait in the lower Colorado River area alone. Waterdogs sold in that one year were worth \$500,000, equivalent to \$2,766,489 in 2005 after adjusting for inflation.

"Since the tiger salamander bait trade isn't regulated or controlled in most areas of the western United States," says Picco, "there's no information about the number of individuals collected or traded annually."

They used the Web site www.baitnet.com to find a listing of bait shops in Arizona. 14 shops sold waterdogs and were sampled in the study. The scientists collected 30 waterdogs per bait shop each month, or as often as the salamanders were available.

(Continued on pg 3)

ADOPTIONS & FOR-SALE

REF #81105 - Red Ear Slider, approximately 6 years old. Healthy and active with a good disposition. Current Diet: Turtle Pellets, feeder fish, water plants, dried shrimp, crickets, turtle treats. Accessories- currently in 20 gal. fish tank. Reason for Adoption Request: Moving & not enough space for it anymore; don't want to keep it cooped up in fish tank. Level of Urgency: low. In San Jose

REF #90103 - Ball Python, 44" long, 6 yrs old. Health status: Good, active and a good weight. Disposition: very docile, enjoys being handled. Current Diet: small live rat every 10-14 days (won't eat frozen/thawed). Accessories: 48" long tank, cage furniture, under-tank heater, and light & fixture. Reason for Adoption Request: Lifestyle changes. Level of Urgency: moderate. Fostered in San Jose.

More Ball Pythons and Water Turtles Being Listed For Adoption Next Month!

The animal adoptions listed herein are for the prospective benefit of BAARS club members as adoptees.

No guarantees as to the health, suitability or legality of the adopted animals as pets, is either expressed nor implied.



For those unfamiliar with the Jerboa (above), here's our latest backyard visitor. Look at those back legs! Note that although trapped, he's still eating the bait....



Almost ready for take-off. The next instant, he was 10 feet away. Hopefully, he'll hang around; they're an interesting animal, if a bit rare in this area.

Move To Help Salamanders Backfires

MANCHESTER, Mass. WCVB-TV— An ill-advised attempt to help salamanders mate in Manchester has led to a dispute between the town and a local conservation group.

The town said members of the Manchester-Essex Conservation Trust on Sunday removed parts of a long diverter tube laid along a newly paved road to stop silt run-off from the road's edges.

Some trust members were concerned the tube was blocking the Yellow Spotted Salamander's annual mating trip.

But the town's environmental consultant, Mike DeRosa, said that without the tube to block it, at least 12,000 square feet of silt washed off the road's banks into the fragile vernal pools the salamanders also use for mating.

The trust's director, Helen Bethell, told The Gloucester Daily Times that no one intended to cause damage.

The town has spent about \$9,000 to repair the unauthorized removal of the diverter tube and is asking the environmental group to reimburse the town. Police also are investigating.

Bottom line here? Think it through carefully and be very sure of what you're doing before you try to 'save something.' Mistakes are costly and often publically embarrassing.

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