



# 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 7 (July 2007)  
(408) 450-0759 (BAARS Voice-mail phone)

## **DRESS THE KIDS FOR SUCCESS- MOTHER LIZARDS SOMETIMES DO.**

Researchers at the University of California, Santa Cruz, have found that female side-blotched lizards are able to induce different color patterns in their offspring in response to social cues, “dressing” their progeny in patterns they will wear for the rest of their lives. The mother’s influence gives her progeny the patterns most likely to ensure success under the conditions they will encounter as adults. Back patterns seen in side-blotched lizards vary from stripes to bars to chevrons.

In a paper published mid-June in the journal ‘Ecology Letters’, researchers reported that female side-blotched lizards give an extra dose of the hormone estradiol to their eggs in response to certain social circumstances. The extra hormone affects the back patterns of lizards that hatch from those eggs. Whether they get stripes or bars (chevrons are a sort of intermediate effect) depends on the genes for other traits.

“This is the first example in which exposure to a mother’s hormones changes such a fundamental aspect of appearance. Even more exciting is that the mother has different patterns at her disposal, so she can ensure a good match between back patterns and other traits that her offspring possess,” said Lesley Lancaster, a UCSC graduate student and first author of the paper.

Co-author Barry Sinervo, professor of ecology and evolutionary biology, is Lancaster’s adviser and has been studying side-blotched lizards for nearly 20 years. He said the lizards’ main predator, the coachwhip snake, is a highly efficient hunter, so the lizards need just the right combination of traits to avoid being eaten. Lancaster used a combination of laboratory and field experiments to tease apart a complex set of interactions involving hormones, genetics, social interactions, behavioral strategies, and predators. Previous studies by Sinervo and his collaborators have described three different behavioral strategies that correlate with throat color in side-blotched lizards.

Orange-throat males are highly aggressive and usurp territory from other lizards; yellow-throat males sneak into the territories of other males to mate with females; and blue-throat males form partnerships and cooperate to protect their territories. In females, throat color correlates with different reproductive strategies. According to Lancaster, the maternal effect on back pattern is important because survival in these lizards depends on different combinations of traits in different circumstances. Females use social cues to predict the circumstances their progeny will encounter. Maternal influences like this probably occur in many species, but are very difficult to detect, Sinervo said.

“Maternal effects are a nebulous thing to study, because you know there are genes for these traits, and it’s really hard to tell the maternal effects apart from the effects of the genes,” he said. Lancaster began by treating side-blotched lizard eggs with an array of different hormones. That revealed a striking influence of estradiol on back patterns. She also tested eggs from lizards captured in the wild and found a wide range of naturally occurring estradiol concentrations in the egg yolks.

Cont’d on pg 5)

**BAARS BOARD 2007**

**President-** Scott Alexander  
(408) 978-2369  
<salexander@totality.com>

**Vice-prez -** Colin Flagg  
(408) 225-7979  
<cflagg123@yahoo.com>

**Secretary-** Rhonda Velez  
(831) 442-3100  
<avelstud@remedy.com>

**Membership Sec'ty**  
Kyna Hendra  
(408) 946-2077  
<kyna-hendra@comcast.net>

**Treasurer**  
Heather Ciar, (707) 824-8711  
<reptiles@ciar.org>

**Librarian -** Rhonda Velez,  
(331)442-3100,  
<avelstude@earthlink.net>

**Publicity Chairperson**  
Taryn Hook, (831) 354-1929  
<tarynhook@yahoo.com>

**Show Director**  
Scott Alexander (408) 978-2369  
<salexander@totality.com>

**Webmaster**  
Dianne Flagg (408) 225-7979  
<dlcf\_herps@yahoo.com>

**Adoptions Coordinator**  
Diane Flagg (408) 225-7979  
<DLCF\_herps@yahoo.com>

**Members-at-Large**  
Erik Koessel  
Tony Velez  
Joanne Petersen  
Chuck Angolano  
Danielle Shoenberger  
Michael Kesen  
Tom Harrison  
Kendrick Wong

**Newsletter Editor**  
Jack DeRyke, (775) 267-3907  
<jderyke@aol.com>

Behind BAARS is published 12 times/year. Subscription is included with your membership (see pg 7 for application) © 2001 by The Bay Area Amphibian & Reptile Society. Permission to reprint granted to non-profit entities. Please send a copy of your herp publication to BAARS for our library.

**BAARS CALENDAR- end of year 2007**

- Aug 3 BAARS Board Meeting- @ ?
- Aug 18 Reptile Show at Palo Alto Jr Museum Call Scott Alexander for info (NOTE CHANGED DATE)
- Aug 24 Regular BAARS meeting at Cubberley Community Center, Palo Alto  
Speaker: Dr Robert Norris on 'The Asian Snakebite Crisis'
- Sept 7 BAARS Board Meeting- @ TBD
- Sept 28 Regular BAARS meeting at Cubberley Community Center, Palo Alto  
Speaker: TBD
- Oct 7 Wildlife Festival at Alum Rock Park 11-AM-4PM Call Scott for info

**Animals adopted in July via BAARS:**

- 1 lg female Red-eared Slider turtle
- 2 medium Red-eared Slider turtle
- 4 small Red-eared Slider turtles
- 1 hermit crab
- 1 albino Corn snake
- 3 Green iguanas

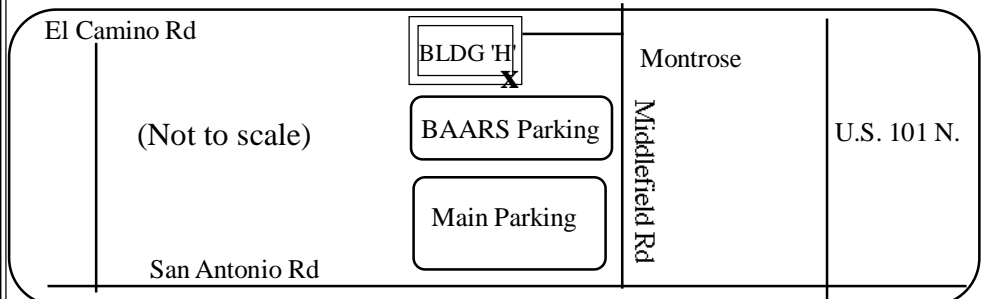
**CONGRATULATIONS TO ALL WHO MADE THIS HAPPEN!! (mostly Dianne Flagg, I suspect.)**

**General Meeting Information**

Meetings are held at Cubberley Community Center  
4000 Middlefield Rd, Bldg H-1, 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- AUGUST

I'd like to thank everyone who participated in our "bring your favorite reptile" event, at our last general meeting. If you're really "bummed out" that you didn't get a chance to show off that great new lizard or snake at our last meeting, I would also like to encourage other members to come to our general meetings and educational shows - they're a great way to meet other reptile people who share your interest.

## UPCOMING GENERAL MEETINGS

For this month's guest speaker, I am proud to announce that we will have Dr. Robert Norris, Chief of Emergency Medicine at Stanford, and an internationally recognized authority on snakebites, who will be speaking on the Asian snake-bite crisis. It's been at least a couple of years since BAARS has welcomed Dr. Norris as a guest speaker, and I'm happy to announce that he's speaking again.

Dr. Norris has spent a significant amount in of time in India over the last two summers working as a member of the World Health Organization Snakebite Treatment Group. He has helped develop a treatment protocol for snakebites in India, which should reduce the mortality rate significantly. Snakebites are a considerable source of mortality in India, with estimates of annual mortality ranging up to 50,000 a year (<http://www.hindu.com/2006/07/26/stories/2006072622200500.htm>).

There have also been new developments in India, which are impacting how snakebites are treated. Three of these new developments include (1) newly discovered envenomation by saw-scaled vipers, (2) a new species of venomous snake described (the hump-nosed pit viper), and (3) the potential development of anti-snake venom (ASV) from Camel Serum.

We only have two general meetings left in this year, (September and October) and have leads on some really good guest speakers, but we haven't booked anyone just yet. Check our website or

check your current newsletter for upcoming speakers and events.

## EDUCATIONAL SHOWS

Our next educational show is at the Palo Alto Junior Museum (Aug 18th, 10 AM- 3 PM), which is a great little zoological institution; one of our neighbors, just down the street from where BAARS meets.

It's been quite a while since BAARS has done a show at the Museum, so I'd like to encourage members to bring their reptiles and make a good showing. The Palo Alto Junior Museum also has some nice animal exhibits of their own, including a Bat House and a naturalistic stream with fish & other aquatic animals.

Our next scheduled show is on Oct 7th, the Alum Rock Wildlife Festival, which is put on by the Youth Science Institute (YSI). This is the 22nd Annual Wildlife Festival, and many other wild-life and conservation groups attend. In all humility, I really think the BAARS exhibit is one of the big draws of this event.

It's also interesting to watch other groups exhibiting live animals including falcons and large cats (in previous years, anyway). Please let me (Scott Alexander) know if you're interested in attending this event.

Please check our calendar on our website, or in our newsletters for other events. Also, please remember that you can donate reptile stuff, (used cages, in good condition, cage furniture, accessories, etc) to BAARS, to raise funds for BAARS at our annual Fall auction.

Sincerely,  
Scott Alexander  
BAARS President, 2007

## BIG NEWS FROM THE OUTLANDS

The big news this month is, our beloved little Ford's boa ate a fuzzy on 7/17/2007. From those experienced herp keepers, you say, 'OK. So what?'

We record all successful feedings for our snakes; the Fords' last feeding was 9/7/2006. That's ten and a half (10.5) months of not-eating.

Some background: the Fords' boa is a related species to the South American rainbow boas, and is found mainly on the shared island of Haiti & the Dominican Republic. This species is not often exported, is not common in collections and never gets large; our captive-bred male is now 13 years old, about 26" long & 150 grams in weight. His thin neck is still less than 1/4" in diameter.

The whole rainbow boa clan are distantly related to other boas such as the South American red-tailed boa and the Madagascar Dumarils boa. The Fords and other island-boa species are usually small and not too colorful- this typical specimen is tan with a complex cryptic brown/russet pattern that is extremely iridescent in sunlight. They normally eat small lizards 'cause that's the prey-species of suitable size available on Carribean islands.

Rats, even babies- are far too large and dangerous for such a small predator as the Fords and even baby mice past about 6 weeks of age are too big. This captive-bred boa took calcium-fortified pinkys until he was more than a year old; small fuzzies after that. When we got him, he was perhaps 5" long and the diameter of a (thin) pencil. Judy was initially afraid to handle him since he seemed so tiny and fragile. But he's been one of her all-time favorites.

Even after this long (they're known to live into their 20s), adult mice are still simply out of the question and even robust fuzzies are too big. He's never been what one would term a 'robust feeder,' either- as if he knows his own limitations.

During his nearly year long shut-down, he took water regularly, was nocturnally active, piddled now 'n then, shed twice, and worried us constantly. Weighing him monthly told us that he really hadn't

lost much weight during this rather extended no-eat period, but having a pet go without protein for that long drags on a herpkeepers' sense of responsibility.... You're always thinking- was it something I did? Or didn't do? What can I try next?

We've had Ball Pythons go through much the same eating shut-downs, for nearly same length of time, but in the case of a Ball Python, you're usually dealing with a stout animal that obviously has big fat-reserves to draw upon. With a small 150-gram adult snake like the Fords, that is not common, whose habits are not well known and would be difficult to replace, it's kind of hard to tell what's 'reserves' and what's not.

In any case, after literally dozens of rejected pinkies and fuzzies (all frozen & thawed, incidently- he's never been picky in that regard), Mr. Ford now has a bulging belly once again. So for the first time in nearly a year, I can relax. (Late note- 3 weeks later, he ate a second small fuzzy; normal habits resumed, I guess)

It also means that if you follow the age-old method of weighing your pets regularly and not tensing up until you find one that's lost significant weight (maybe 15% of his 'normal' weight), there's no reason to prematurely panic.

But I agree, this is *much* easier to say than to do! Good luck, all.

J & J DeRyke, vastly relieved



Above, the Fords boa in Judy's hands.

Cont'd from pg 1)

The researchers then performed experiments in breeding enclosures, each holding 1 male lizard & 3 females. The numbers of orange- & yellow-throated females in each enclosure were experimentally varied, and throat colors of the males varied randomly. Lancaster tested eggs from each female's clutch for hormone levels and recorded the color patterns of the progeny before releasing them into the wild to see how well they survived.

To avoid predators, the lizards need a back pattern that matches their behavior. Yellow-throated males hide in the grass and need a barred pattern that breaks up the outline of their body and blends in with the background. Orange males spend a lot of time in the open and need stripes to help them escape from predators (the optical effect of stripes on fast-moving prey makes them harder to catch).

But the genes that control behaviors and back pattern are not linked, so a lizard could end up with a mismatch that would leave it highly vulnerable to predators; wearing stripes and trying to hide in the grass, for example. Lancaster identified two pathways by which an extra dose of hormone from the mother can help resolve this problem.

In one genetic pathway, females increased the amount of estradiol to their eggs when their mate had a yellow throat. This induced a barred back pattern in yellow-throat off-spring. The barred pattern was not induced in other-than-yellow-throat babies.

In the other pathway, extra hormone was prompted by an abundance of orange-throat lizards in the female's environment. In orange-throat sons, the hormone induced a striped back (suitable for a male spending lots of time in the open). Stripes were also induced in non-orange daughters. Both of these effects were inhibited by yellow genes.

"This is a classic example of a rare interaction between genes and environmental influences on traits," Lancaster said.

## 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       Contributing \$50/yr  
 Sustaining \$35/yr               Patron \$100/yr  
 Institutional (schools, libraries, non-profit org, service org)  
 NEW MEMBER       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



## STRANGE MUSIC

Wild frogs woke me up again this morning. They are likely western treefrogs in spite of the fact that this area of Nevada's high-desert is more-or-less treeless and quite dry; not prime frog territory! The Carson River- a shallow, muddy slow-running creek at this time of the year- is some 7 miles away and there are no ponds, vernal or otherwise, for more miles.

According to the wildlife guides, treefrogs are not found east of the Sierra Nevada mountains, but not being able to read this, they're here anyway, possibly as hitch-hikers on imported garden or landscaping plants.

Among other non-native life-forms around this area are numerous ex-California humans that have moved to this less hectic place but brought with them their old habits and preferences, among which are lots 'n lots of lush bushes and much grass around their new homes, in spite of the 2-decade-long drought the area is experiencing. So I suspect immigrant tree-frogs are existing quite nicely within clumps of well-watered new foliage, in spite of the hostile-to-amphibians climate and the guidebooks.

And the primary reason I suspect treefrogs is, we've found a few in potted plants out on our back porch, and in Judy's greenhouse. We leave the greenhouse door open and an automatic misting system on during hot days so that heat build-up in summer doesn't fry her delicate orchids and epitheliums. Apparently the frogs somehow detect the better habitat in there, 'cause frog-songs are often heard inside at all hours.

Late July must be part of a treefrog's breeding time, too, 'cause there has been no significant rain around here in months, but the mild nights and maybe the evening dew somehow stimulate their songs anyway. The one treefrog Judy kept is now over five years old and as I've mentioned before, looks like a miniature Pixie-frog 'cause he's so fat from calcium-fortified crickets (he shares the geckos' supply).

Again, the guides say the lifespan of a treefrog in the wild is about 2 years, but this li'l guy does not much care what's printed. And in spite of the early-morning wake-up calls, I really do find their 'music' is pleasant.

J DeRyke

## CONSIDER SOME VARIETY IN YOUR REPTILE'S DIET

Purely by a series of accidents, I learned two things recently. The first is, there are so many Bob-white quail around here that we occasionally find their nests in our potted plants. Apparently, Bob-white quail don't actually build nests, they just drop their eggs anywhere that looks sort-of protected.

And the coyotes, jerboas and possibly other small predators know this, so the least-well-hidden nests are often pillaged before hatching. But another thing also happens. Occasionally, we will find an egg in the middle of our backyard, laying in the sand like a smooth rock (which it resembles).

Judy found one the other day and as usual brought it in to see if it was hatchable. After a couple of more weeks in a warm spot, we decided that it was infertile. As I was about to throw it out, our ever-hungry 6-ft Texas Gopher snake caught my eye. I'd read that *Pituophis* were sometimes nest-robbing egg-eaters, and this teardrop-shaped egg at 3/4" around & maybe an inch long was the right size for him, & it didn't smell bad yet, so.... I dropped it into his terrarium.

Now, this is a snake that has never seen an egg. Didn't matter; in less than a minute, he'd found it, nosed it a bit, then gaped and swallowed it as if he'd been doing this for years! Bob-white quail eggs are available either as hatchable or otherwise from several sources on the Web.

If your breed of snake or big lizard is known to sometimes rob bird nests in the wild, consider buying a few appropriate-sized quail eggs and trying them. Abandoned bird nests that still have eggs in them would also work if they aren't rotted. Button quail are popular cage birds and are about half the size of Bob-white quail, so presumably their eggs are smaller, too. Chicks are sometimes available as well for a supplement.

Eggs are not only very nutritious, they don't carry the emotional baggage for herp-keepers that feeding rodents to herps often does. Anyway, from now on our growing group of Gopher snakes will be getting some 'snack-food' now 'n then...

J DeRyke

## ADOPTIONS & FOR-SALE

[REF #6801] **Rosy Boa**, female, about 3 ft long, about 10 yrs old, healthy, sweet when handled frequently, bites when not handled or when hungry. Diet: Mice. Over the years a few vet visits for wellness; last visit was treatment for smoke inhalation after she survived a house fire. No cage; whatever food I have goes with her. I didn't want to adopt her out until I knew she was healthy and wasn't going to have further bronchial issues. Any adoptor is welcome to call Dr. Sanders for info. Am finding myself not spending as much time with her as she needs in favor of another snake. Urgency: very low. In Saratoga, CA

[REF #6803] **Corn Snake**, female, 3 ft. long, 3-4 yrs old, Excellent health. Gentle. Diet: 1 F & Th mouse every week or so. Members of my household are not comfortable with snakes. She's beautiful and gentle & deserves to be with someone who truly appreciates her. In S S.F.

[REF #6805] **White Throat Monitor Lizard**, female, 3 yrs old, 4 ft long, 15 lbs. exquisite markings. Excel. health - regular vet visits. Feisty. Voracious eater, needs LARGE enclosure. If an adoptee is interested we have a large cage.

[REF #6806] **Red Tail Boa**, male, 2.5-3 ft long, about 3 yrs old, even tempered. Diet: F & Th med mice. Includes cage w/ 1/2 log, vines, and a little bush, also clip-on heat lamp. I don't pay enough attention to him anymore. Semi urgent. In Palo Alto

[REF #6807] **Green Iguana**, female, 2.5 ft, 4+ yrs Healthy. Diet: Iguana diet, Hibiscus flowers, romain hearts. Vet Visit 11/22/04- abscess-R jaw; cured. Comes with 4'x4'x2' cage, heat & uv lamp, leash. Not at home to care for her any more. Urgency: as soon as possible. In S'vale

[REF #6808] **Green Iguana**, 'Max' -male, 3+ feet, 6+ lbs, about 13 years old. Excellent health; crabby at times. Diet: greens, fruit, occasionally tofu and store bought "iguana food". Comes w/ lg cage, incl. heat pads, lights, decor, etc.

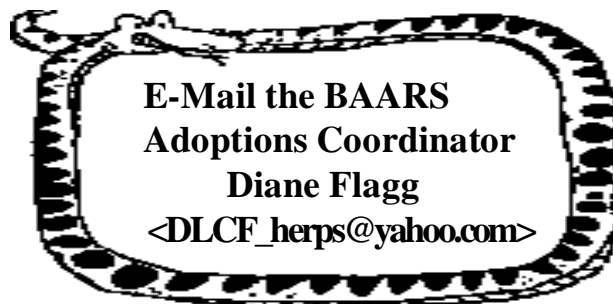
Max was the Science Dept. mascot at Castellero Middle School in San Jose most of his life. Over the last 2 yrs school policy changed making it more & more difficult to keep him. In Almaden area of San Jose.

[REF #6809] **Red Eared Slider**, male, 5" & 2 yrs old Healthy, friendly. Diet: dandelion greens, carrots, turtle pellets, live mealworms. Comes w/ turtle pellets, basking ramp. Found on front porch and asked if I could care for it. Am full time student & do not have finances to provide him with what he needs. Also live in an apartment where I am not allowed to have pets. Currently in 10 gallon tank. Urgency: moderate. In S.F.

[REF #6810] **Ball Python**, male(?), 3.5 ft l, 4-5 yrs, friendly, a little head-shy but has been handled his whole life. Diet: medium rats once a week or so. Comes w/ terrarium, heat lamp, water dish, wooden shelter, branch. Very low maintenance pet. Am relocating to east coast on Aug 26th, so urgent. In San Luis Obispo

**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.**



### **'Geckel,' The Latest In Upcoming Super-Adhesives- Maybe!**

(Wed Jul 18, 2007 AFP)

Take the gecko, famed for its ability to scale walls, and the mussel, renowned for its clamping quality, and you have the inspirations for a superglue that can stick, be unstuck and stick again. The glue, dubbed "geckel," can have innumerable uses, say the inventors, whose research is published on Wednesday in *Nature*, the weekly British journal.

Geckos have long fascinated engineers because of their ability to skip up vertical surfaces and scurry along ceilings, yet without using any adhesive. These lizards employ a mechanical principle called 'contact splitting'. Their feet have a pad of ultra-fine hairs, called setae, each of which are split up into hundreds of flat tips. The ends temporarily rearrange electrons on the walking surface, creating an electrodynamic attraction.

On a dry surface, geckos can stick and unstick their feet like a Post-it office note — but their magic fails in water, where their sticking power falls dramatically. Phillip Messersmith, a professor of biomedical engineering at Northwestern University, Chicago, and colleagues mimicked a gecko's foot with nano-scale arrays of silicone pillars that, like setae, were so flexible they could adapt to a rough surface.

They then coated the strands with a polymer modelled on an amino acid that is one of the building blocks of the "glue" protein in mussels. The result is "geckel" (gecko + mussel) — an adhesive that has been tested to stick through 1,000 contact/release cycles, but remains highly adhesive when underwater, too. A long road lies ahead before the new glue hits the commercial market, but Messersmith is confident that the adhesive could be used in all sorts of areas, including medicine, industry, consumer products and military hardware.

"I envision that adhesive tapes made out of geckel could be used to replace sutures for wound closure and may also be useful as a water-resistant adhesives for bandages and drug-delivery patches," he said in a press release.

## **THE BAY AREA AMPHIBIAN AND REPTILE SOCIETY**

**PALO ALTO JR MUSEUM, 1451 MIDDLEFIELD ROAD**

**PALO ALTO, CA 94301**



**[HTTP://WWW.BAARS.ORG](http://www.baars.org)**