



BEHIND BAARS

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The Bay Area Amphibian and Reptile Society
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(408) 450-0759 (BAARS Voice-mail phone)

Ultrasonic Frogs Can Tune Their Ears To Different Frequencies

Adapted from materials provided by University of Illinois at Urbana-Champaign. (July 22, 2008) — Researchers have discovered that a frog that lives near noisy springs in central China can tune its ears to different sound frequencies, much like the tuner on a radio can shift from one frequency to another. It is the only known example of an animal that can actively select what frequencies it hears, the researchers say.

The findings, from a collaborative effort by the University of Illinois and the University of California at Los Angeles, appear the week of July 22 in Proceedings of the National Academy of Sciences. The research team also included scientists from the Chinese Academy of Sciences and the Massachusetts Eye and Ear Infirmary (at Harvard Medical School).

The discovery was made when researchers examined the eardrums of an unusual frog, *Odorrana tormota*, which communicates by making birdlike calls in the audible and ultrasonic frequency ranges. Previous research by two of the authors showed that the frog produces and responds to ultrasonic calls. In the new study they sought to determine whether the frog's eardrums actually vibrate in response to these ultra high frequency sounds.

Using a laser vibrometer to measure the eardrum's vibration, the researchers found that the eardrum did respond to sounds in the sonic and ultrasonic ranges. But they also saw something they couldn't explain: The eardrum's sensitivity to ultrasound sometimes disappeared altogether.

Normally sound waves strike the eardrum and – if they are powerful enough and in a frequency range that the animal can perceive – will cause the eardrum to vibrate. In most studies of frogs, the eardrum responds exactly the same way to the same sound stimulus. Even the eardrums of a dead frog will respond with unchanging predictability.

Past research showed that a frog's eardrum never responds differently to the same sound stimulus, said team leader Albert Feng, a professor of molecular and integrative physiology at Illinois. "This was contrary to everything that we knew about its auditory system," he said.

O. tormota, the Concave-eared Torrent Frog, is unusual in other ways. Most frogs have ears on the body surface, but the torrent frog's ears are recessed. Feng and his colleagues previously reported that *O. tormota* communicates in a noisy environment by emitting high frequency calls that include ultrasonic sounds, and can localize sound with astonishing precision. Upon hearing a female call, a male will leap directly toward the sound with an error of less than 1 percent, a feat previously unheard of in frogs.

While puzzling over the peculiar results of the eardrum vibration measurements, the researchers noticed the

Cont'd on pg 4)

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BAARS CALENDAR- End of year 2008

- Sept 26 Regular BAARS meeting at Cubberley Community Center, Palo Alto
IN ROOM H-6-! NOTE THIS IS A DIFFERENT ROOM!
 Speaker: Robert Sprackland, on **Monitor Lizards**
- Sept 27 N. Bay Herp Society Bazaar. BAARS will have a display table.
- Sept 27-28 San Mateo Family Pet Expo @ San Mateo Fairgrounds; no official BAARS presence (conflict w/N.Bay function).
- Oct 3 BAARS Board Meeting- @ Colin & Dianne Flaggs home
- Oct 4 Expo at Emma Prush Farm 10AM-4PM. Tom Harrison coordinating.
- Oct 5 Herps at Alum Rock Park 11AM-4PM. Tony Velazquez coordinating.
- Oct 24 Regular BAARS meeting at Cubberley Community Center, Palo Alto
IN ROOM H-6-! NOTE THIS IS A DIFFERENT ROOM!
 Speaker: TBA
- Nov 7 BAARS Board Meeting- @ TBD
 No November nor December General Meetings
- Dec 5 **BAARS Christmas Party, Rm H-6, Cubberly Community Center**

Pot-Luck; bring a dish to pass. General Election will be held after dinner. Have your nominations for your 2009 Board ready!

Adoptions Placed This Month

- 1 - Ball Python
- 1 - Map Turtle
- 2 - Green Anoles

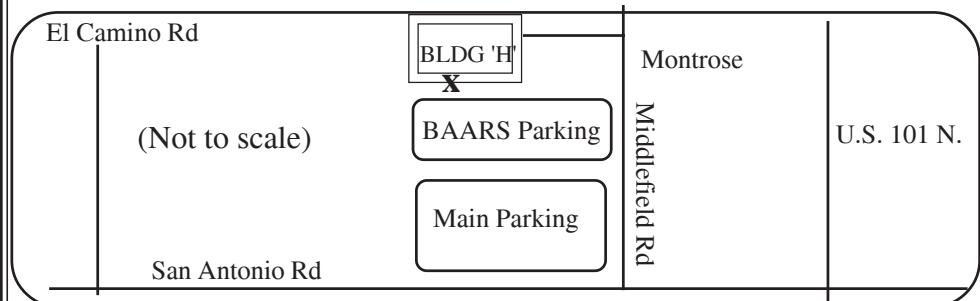
CONGRATULATIONS TO ALL INVOLVED!

General Meeting Information

Meetings are held at Cubberley Community Center
 4000 Middlefield Rd, Bldg H, Rm 6, Palo Alto CA (**Note room change!**)
 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 PRESIDENTS REPORT- SEPT

Hello All –

I can't believe that another month has already flown past and that's it's already almost the end of the year. Things are pretty busy for me personally, as I am getting married in about 5 weeks. There is way too much to do and not enough time to do it.

First of all, I'm glad to announce that we have a rare return engagement by noted author and herpetologist Robert Sprackland (author of the book, 'Giant Lizards', amongst other articles and publications).

We heard from Robert at our August general meeting, speaking on monitor lizards, and he was quite well received. Since Robert is still in the Bay Area, we've decided to take advantage of this fortunate set of circumstances and have him back as our guest speaker at the September general meeting.

In December (right around the corner) BAARS elects it's officers for the next term. We will be taking nominations during the next two meetings, September and October. Please consider whether you want to run for an office and if so, please nominate yourself (or have someone else nominate you).

We will be electing a President, Vice President, Treasurer, Secretary and Membership Secretary, as well as 8 members-at-large. The members-at-large usually don't have many specific responsibilities, so that position is a good way to get more active on the board before you decide to take the plunge and run for a major office.

Please remember, the North Bay BAZAAR is on September 27th. BAARS will be manning a table at the BAZAAR, so let's try to get a lot of people out there to help out. The annual wild-life festival at the Alum Rock Park Show is on Oct 4th this year.

This traditionally has been a very big show and BAARS has been a big hit in the past. Finally, there is the McClellan Ranch educational show, which is put on by the Audubon Society. I will be passing around sign-up sheets for these shows, as I personally probably won't be able to make all of them (given my upcoming nuptials).

Sincerely,
Scott Alexander

NEVADA NEWS from EAGLE VALLEY

This summer has been fairly hot here in the high desert (dry & 5500 ft altitude). Since Boris the Russian tortoise seemed all healed up from his respiratory & shell-rot maladies, we put him outside in our fenced-in garden, figuring natural sunlight would be beneficial.

For a few days, he explored his new digs (literally, as it turned out). Then he excavated a foot-deep hole under a chive plant and estivated for 3 months! I re-read the care sheet on Russians and belatedly discovered that this species is very active in Spring & Fall, estivating during hot Summer months. So much for beneficial summer sunlight....

Fred the Sulcata is running laps around his pen, probably in search of a female. When I moved him recently, I thought, "GEEEEZ- Am I getting old or have you gained weight?" So I got the scales out and put him on. He's up to 55 lbs, from 49 in Spring- about 11%. Much more and I'll need a hoist to move him around!

FWIW, we are down to 29 snakes, due to a few passing on, notably our pair of Ringed Pythons that both expired within a month of each other, near their 7th birthdays. Two of the baby Dumarils are eating on their own while the others are still holding out. We try them every Saturday; hopefully soon.... J & J DeRyke

sudden appearance and disappearance of a dark shadow on the eardrum, Feng said.

Fortunately for the researchers, the eardrums of *O. tormota* are transparent, offering a view of its inner workings in a living frog.

Further investigation revealed that the frogs were actively opening and closing their Eustachian tubes, the two narrow channels that connect either side of the throat's pharynx to the left and right middle ear. The changing state of the Eustachian tubes was more readily observed by directing a light beam at the mouth from under the frog's chin.

When the Eustachian tubes were open, the light was visible through the eardrum. When they closed, the circles of light glowing out through the ears disappeared.

"We said, 'Whoa! This is bizarre!'" Feng recalled. "In all textbooks on sound communication and hearing in frogs, it is plainly stated that Eustachian tubes are permanently open!"

Feng and his colleagues had observed that when open, the Eustachian tubes essentially couple the frog's left and right ears together. This "acoustic coupling" between the ears makes them sensitive to sound direction, enabling the frog to accurately localize sound, Feng said.

To determine the consequence of active closure of the Eustachian tubes, the researchers measured how open and closed Eustachian tubes affected the vibration of the eardrum.

They found that the frogs' eardrums became very sensitive to high frequency and ultrasounds when their Eustachian tubes were closed, compared with when they were open. When the Eustachian tubes were open, the eardrums responded mostly to low-frequency sounds.

The frogs appear to be able to tune in to specific sound frequencies at will, Feng said. They can shift to high frequency and ultrasonic hearing when the low frequency background noise of rushing water is too intense for them to pick out the calls of potential mates or rivals, he said.

This research likely has implications for human health. Earlier research into the mechanics of frog hearing helped Feng and his colleagues at the U. of I.'s Beckman Institute for Advanced Science and Technology design an "intelligent hearing aid" that boosts sound signals of interest.

[Ed Note- these researchers must all be single. It's well known that married human male often 'evolve' the ability to close off unwanted sounds without affecting their Eustachian tubes, like calls to take out garbage during certain TV broadcasts- JD]

Discovery that Amphibian Chytrid Fungus is killed by small increases in salt concentrations given 1 of 20 Aussie 'Eureka' Awards (from the Blue Mountains Gazette, 8/08)

For student Michelle Stockwell, it was a surprising discovery. Frogs usually prefer pristine environments but she found that living in a somewhat polluted, degraded habitat is the reason some local species such as the Golden and Green frog have survived a fatal skin-fungus infection that has decimated amphibian populations world-wide.

Stockwell was intrigued why isolated communities of these "charming and beautiful" frog species survived. By testing water from ponds where they'd vanished, and comparing it with ponds where they survived, she found the salt levels higher in areas where frogs still lived.

Stockwell is a PhD student, one of 6 finalists in what may be the most popular science competition in the country- the People's Choice of the Australian Museum's Eureka Prizes. The winners of 20 'Eureka' Prizes and \$200,000 in cash will be announced at a gala dinner in Sydney.

This is a rare chance for Aussie scientists, working hard to address some of the world's biggest problems, to have their moment in the world spotlight.

'Clearing The Air' On World's Smallest Snake?

taken from the published response of Dr Blair Hedges, State College, PA, 8/29/08. (Published in local papers on Barbados Island)

My research on the Barbados Threadsnake was discussed in an article by Bryan Walker on Aug 8. I can understand the reaction of Barbadians to the news reports when the snake was already known on the island. But this is true of almost any new species of reptile – they are often known by local residents.

The news reports were not clear and caused much of this confusion. The thing that was discovered was not the *presence* of the snake on Barbados, but that it is an *endemic species known nowhere else*; this was new. Before my work, the Barbados snake was considered the same species as the Martinique and St Lucia specimens, and therefore was thought to be not so special.

The discovery of its uniqueness was made by DNA-sequencing and by studying it carefully in a laboratory. News stories also failed to mention that I named the snake (in popular parlance) the "Barbados Threadsnake" in my report. The scientific name- which people rarely use- was dedicated to my wife who helped with the research. This is a normal practice in the field of taxonomy.

As it turns out, the new species defined on Barbados is even smaller than the one it was confused with previously, from Martinique. So now, Barbados has a unique species, the 'Barbados Threadsnake', and one that is quite special because it is the smallest known snake.

Finally, I must point out that there is a *second* very small snake on Barbados that is easy to confuse with the real Barbados Threadsnake. It is the well-known Flowerpot Blindsnake; it was accidentally introduced from Indonesia and is common in gardens and around houses. All three of these tiny snakes' appearance are visually very similar. It took DNA research to differentiate them.

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

- | | |
|--|--|
| <input type="checkbox"/> Individual/Family \$25/yr | <input type="checkbox"/> Contributing \$50/yr |
| <input type="checkbox"/> Sustaining \$35/yr | <input type="checkbox"/> Patron \$100/yr |
| <input type="checkbox"/> Institutional (schools, libraries, non-profit org, service org) | |
| <input type="checkbox"/> NEW MEMBER | <input type="checkbox"/> 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

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EVER BEEN TO A PROFESSIONAL REPTILE SHOW?

(adapted from the Nevada 'Appeal' newspaper, Sept 14 '08, by Linda Lombardi, Associated Press)

If you're looking for something scaly and interesting, one of the best ways to start is at a pro-reptile show, where you can find a wide variety of animals and supplies. These now take place on a regular basis all over the country; Brian Potter's North American Reptile Breeders Conference alone holds four, including a recent one in Anaheim, CA.

Reputable shows allow only captive-bred animals to be sold. That means not only that you don't have to worry about the possible environmental impact of taking reptiles from the wild, but also that it's easier for a novice owner.

Species that are captive-bred are most suitable for beginners, since they're the ones that do best in captivity. And the animals are healthier, without the parasites that they typically carry in the wild, and are used to eating food that you can realistically provide.

"One of the main problems with people owning reptiles is feeding," says Holli Friedland, director of the Mid-Atlantic Reptile show, held in Timonium, Md. "A lot of wild snakes don't eat rodents - they eat toads or frogs or something that's not easy to get locally, or in the pet trade."

Since even captive reptiles can often be fussy eaters, if you buy direct from a breeder, you'll know exactly what it's been eating and how often, says Friedland. And you have someone to ask if things don't seem to be going well.

Breeding also means selecting animals for attractive characteristics. At a show, there won't be just the one or two snakes that your pet store might have, but many vendors competing to offer the most interesting animals, such as hundreds of colors of corn snakes, Potter says.

Then there are the supplies: reptile shows offer a wide variety, including high-end enclosures that are far more attractive than the traditional glass aquarium tank.

But perhaps the biggest advantage of such a show is the chance to comparison-shop not just the animals, but the vendors. Reptiles can be bought online and many tolerate shipping fairly well. But as with all animals, unfortunately, some dealers are more responsible than others - and it's hard for a novice to judge.

A good show will work to weed out the unscrupulous. Friedland's show has his own inspectors that go around and require vendors to remove unhealthy or otherwise suspect animals. Be suspicious of especially low prices, she warns. Wild-caught animals will be cheaper, because the vendor didn't have to do the hard, time-consuming work of incubating eggs, raising babies and inoculating sensitive species.

You don't need to be an expert to check the basics: cleanliness, bright eyes, no bones sticking out, no mites, and animals shouldn't be crowded all together in one container.

Whatever the animal, a good breeder is generous with information, and should be looking to make sure that you know what you're doing before you take your pet home. Ask questions, and expect questions to be asked of you.

"The breeders that don't want to talk to you, don't let you handle the animals, won't explain their needs to you - just move on," says Potter. "If they're not feeling you out verbally, they're just trying to get that buck out of your pocket as quickly as possible, so you're better off to move on to the next booth."

There are several other national shows that attract professional breeders from all over the country. At one of these, you'll see animals seldom or never seen in the wild, and you'll learn a lot by striking up a conversation with the vendors. Maybe you'll find that perfect pet, or maybe you'll find that a certain desired animal would be very difficult to properly care for in your circumstances.

ADOPTIONS & FOR-SALE

[REF #80901] Corn Snake, Female, 4 yrs old, about 2 1/2 feet long. Healthy, calm disposition. Current Diet: live adult mice. Original owner's son won't take care of the snake. Level of Urgency: Moderate. In foster home, South San Jose

[REF #80902] Corn Snake, Male, 5 yrs old, 3 1/2 feet long. Healthy, calm disposition. Current Diet: live adult mice. Original owner's son won't take care of the snake. Level of Urgency: Moderate. In foster home, South San Jose

[REF #80903] Nile Monitor, Male, 18-24 months old, 2 feet long including tail. Very healthy, but currently very aggressive. Current Diet: fish, pinkies and large crickets. Accessories: cage, small pool, lots of wood. He has been sharing a cage with our iguana until today when he very viciously & repeatedly attacked her. Level of Urgency: High. In Hayward

[REF #80904] Albino Striped King Snake, Male, 3 feet long. Very Healthy. Disposition: Moody; never bitten me though. Current Diet: 2 Thawed Mice Every Other Week. Accessories: If needed, something can be arranged. Special Needs: Knowledge of king snakes! Needs a new forever-home. Level of Urgency: Moderate. In foster home in South San Jose

[REF #80905] Adult Green Iguana, Male, 3 Feet long, 3 yrs old. Healthy, Active, Preferably Needs Someone with Iguana Experience. Disposition: Moody, but nice, too.... Current Diet: Veggies. Accessories: If needed we can help. Needs a forever-home; owner couldn't keep him. Level of Urgency: Moderate. In Foster Home in South San Jose

[REF #RES] Numerous Red-Eared Slider Turtles, both male & female, various sizes (typically 4-7"). These turtles have all been taken into foster care; some are rescues from one of the local humane societies, others were received from individuals who could no longer care for them. They all appear healthy; they are active, eating well and have no apparent health issues.

Current diet: Reptomin turtle sticks and trout chow supplemented with romaine lettuce, worms, snails, crickets and various water plants.

Add'l Information: if you want to adopt a water turtle and would like to choose from a variety, this is your chance. If you think you may want to adopt a turtle but are not sure, send e-mail for guidance. For local adoptions only - these turtles will not be shipped.

For Sale: Five each Red Bull/Mexican Pine Snake crosses. Eating very well. \$50.00 each
Call Pete (510) 881-8370



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.



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A product carried by most speed shops that's getting a lot of sales nowadays is the heat-insulating coating shown above. Are Herp-products getting more popular or are we running out of macho names?



Enlarge
Image 

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THE BAY AREA AMPHIBIAN AND REPTILE SOCIETY

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