

MONTHLY MEMBERS MEETING

7:15 PM
Tuesday, November 19th

Arizona Game and Fish Department Office

555 North Greasewood Road

(between Speedway and Anklam, west of Pima Community College.)

David Hall

Wildlife and Fisheries Sciences
University of Arizona

Movements and spacing of Sonoran mud turtles in intermittent mountain streams

David Hall began his career by joining a small herpetological expedition to eastern Columbia in 1981 with Dr. William Pyburn and his wife. During this expedition Dr. Pyburn and David found the then unknown and truly bizarre larvae of the frog *Otophryne robusta* as well as discovering and describing a new hylid frog, *Hyla hutchinsi*. David also began his studies on the Sonoran mud turtle during this time. David worked with Dr. Charles Lowe in 1983 and 1984 on various projects in Mexico and Arizona. After this experience he decided to form a rock band and began an 11-year career with a biological supply company in Tucson to fund the band. During this time the band fell apart and he again teamed up with Dr. Lowe to study the ecology of *Rana forerri* (a commercially-exploited Mexican frog). In 1996 he finished his BS degree at the University of Arizona in Ecology and Evolutionary biology. After a brief flirtation with teaching high school he went back to the UofA to pursue a graduate degree. He successfully defended his Master's thesis in Wildlife and Fisheries Sciences in September 2002. In addition to ecological studies involving Sonoran mud turtles, David has been conducting research on the ecology and conservation of the desert box turtle in Arizona. Also, with assistance from the U.S. Forest Service he is studying the effects of non-native fish on the aquatic animal community in the Santa Catalina National Forest district. David will be presenting the results of his thesis research and tie them into his current studies on the aquatic communities of intermittent mountain streams.

2002 Slate of Candidates

The Board of Directors were presented with and accepted the slate of Candidates for the November elections. The following people are on the Officer's slate:

President	Taylor Edwards
Vice President	Don Swann
Secretary	Robert Bezy
Treasurer	Marty Tuegel

Nominees for Directors are (three openings):
Cristina Jones, Hans Koenig, Ed Moll, Eric Stitt, Brian Wooldridge

Please note the **Annual Meeting and Election** will take place on **November 19, 2002**.

RAFFLE ANNOUNCEMENT

OK Everybody....don't forget we have a raffle this month.
Hope to see you all at the meeting.

Robin Llewellyn

COALITION FOR SONORAN DESERT PROTECTION ANNOUNCEMENT

Dear Tucson Herpetological Society Member,
This is an exciting time for those of us who care about open space and habitat protection in Pima County. We are entering the final stretch of the Sonoran Desert Conservation Plan's development. The SDCP represents an unprecedented effort in land use planning, both in the scientific data that has driven the plan and the public education program that has accompanied it, as evidenced by recent National Planning awards.

Carolyn Campbell, the Coalition for Sonoran Desert Protection's Executive Director, has done an excellent job of lobbying our position with the county. However, now that the Plan is clearly becoming a reality, the development community is also putting a tremendous amount of pressure on the county. We cannot allow the plan to be derailed. We need to move forward with the full strength of all 42 member groups. We hope that you can take action in one, or all of the following ways.

1. Financial support. Yes, we know, we are all non-profits and money is tight. However, implementation of the plan serves all of our individual missions. We are asking each group to contribute at a level that is comfortable (or better yet just a little uncomfortable.)

2. Publish an article in your organization's newsletter. We ask that you dedicate the front page to the SDCP. The article should include a call to action asking members to do the following:

A. Contact your Supervisors. We have attached a sample letter to the Supervisors to make it easy for your members to contact them about why your group supports the Plan.

B. Letters to the Editor. Public education is an important part of the plan. We need to get our arguments out there for the general public to understand.

If you can do all of these things, we will greatly appreciate it! If you want to go the extra mile, take a moment to contact the gubernatorial candidates. Just prior to elections, they are always in the "listening mood". They may even make a promise to you and your group regarding their support of the SDCP. It can't hurt to ask.

The developers have money behind them but we have the strength of our numbers. It's vital that every group take action now, so that the Coalition can exert its full strength.

Please contact me at 622-5622, or Rich Genser, the Coalition's Executive Committee Chair at 529-4899 for further information or details as to how else you might help.

Sincerely,
Sonja Macys
Executive Director
Executive Director, Tucson Audubon Society
300 E. University Blvd.
Tucson, AZ 85705
tel: (520) 622- 5622
fax: (520) 623-3476
sonjamac@qwest.net

SKY ISLAND ALLIANCE CALL FOR VOLUNTEERS

The Sky Island Alliance is starting a program to inventory, monitor, and restore populations of important species of animals in the Sky Islands of southeastern Arizona, northwestern New Mexico, northeastern Sonora, and northwestern Chihuahua. We are piloting this program with riparian inventories for native Ranid frogs and native fish.

We are looking for volunteers that have experience or would like to gain experience in surveying for native fish, frogs, and other riparian dependent species and can dedicate themselves to approximately 5-6 surveys this year and 10-12 surveys in 2003. Volunteers should be in excellent physical condition, have experience in backcountry hiking, and be ready to get wet. We will be hiking and bushwhacking in remote areas throughout the summer months, so ability to deal with extreme conditions and temperatures is of paramount importance.

Training sessions will be scheduled for early 2003. For more information please contact Trevor at (520) 624-7080 or trevor@skyislandalliance.org.

WEST BRANCH OF THE SANTA CRUZ ANNOUNCEMENT

Is there any of the original riparian habitat left along the Santa Cruz River in Tucson? Yes! On the West Branch of the Santa Cruz!

Unfortunately the area has been used as an illegal dump for decades. Now through the work of the Sonoran Desert Conservation Plan, Arizona Open Land Trust, the University of Arizona, and the Coalition for Sonoran Desert Protection this area will be protected and enhanced for the enrichment of the neighborhood, the community and the Sonoran Desert.

The Coalition for Sonoran Desert Protection, Arizona Open Lands Trust, the University of Arizona, Pima County Flood Control, and the Tucson Audubon Society invite you to come out and help to clean out the years of trash and refuse, see some cool birds, toads, and lizards, and enjoy the area and camaraderie of your fellow conservationists!

What: West Branch of the Santa Cruz Clean Up
Where: East side of Mission Road, just South of Silverlake Road (29th Street)
When: Saturday the 23rd of November, 2002. 8:00am till Noon
What else: Bring water, lunch, sun hat, gloves, strong backs, binoculars, and wear pants and boots!
Contact: Trevor at 520 624-7080 or at trevor@skyislandalliance.org

HELP RESTORE AGUA CALIENTE SPRING!

Agua Caliente Spring is located in the 101-acre Roy P. Drachman Agua Caliente Regional Park. The Park is situated in the northeast corner of the Tucson Basin at the foot of the Santa Catalina Mountains, approximately 15 miles northeast of downtown Tucson. Currently, flow from the spring feeds three ponds, home to non-native fish, bullfrogs, and other invasive species. The Army Corps of Engineers has been working with Pima County to assess how the spring may be restored to a more natural flow regime, supporting native species. This restoration would put into place an important part of the Sonoran Desert Conservation Plan.

The response from the local community to the proposed restoration of Agua Caliente has been mixed. While many Pima County residents support this restoration as an opportunity for restoring a rare aquatic ecosystem in the Tucson Basin, others are vehemently opposed to any change in the park. Those opposed to any restoration have been very vocal about their opposition to restoration.

A draft project report of the Army Corps assessment of plans for restoration is now available for public comment. The conclusion of the report is that Alternative 2 is the most cost-effective. This is the alternative that restores Ponds 2 and 3 to native cienega and keeps Pond 1 but manages it for native fish. The plan is now available at <http://www.dot.co.pima.az.us/flood/AguaC/>, and is also available for review at several libraries and community centers. Comments will be accepted until 5 PM Monday, November 25 and can be sent to:

U.S. Army Corps of Engineers
Los Angeles District
P.O. Box 532711
Los Angeles, CA 90053-2325
ATTN: William O. Butler
CESPL-PD-RL, Room 14023

More importantly, the people that need to be convinced that this project should happen are the public and the Board of Supervisors. Articles and letters to the editor have been published in the Arizona Daily Star, both in support of and against the plan. Please write a letter to the editor if you are so inclined in support of the restoration of Agua Caliente Spring.

Please contact the Pima County Board of Supervisors and tell them you support the restoration of Agua Caliente Spring.

Without vocal public support, this project will get shelved if not thrown out altogether. The Supervisors have been hearing loud and clear from the opponents of this project. They need to hear that their constituency supports this plan.

Pima County Board of Supervisors
130 W. Congress, 11th Floor
Tucson, AZ 85701

Ann Day, District 1	740-2738
Dan Eckstrom, District 2	740-8126
Sharon Bronson, District 3	740-8051
Ray Carroll, District 4	740-8094
Richard Elias, District 5	740-8126

A map of districts can be found at <http://www.co.pima.az.us/bos/distmap/images/bos.pdf>

Please contact Caren at careng8@yahoo.com for locations of the report, to find out what district you are in, or with any other questions.



HASSAYAMPA RIVER PRESERVE TO REOPEN

Nature Conservancy press release

WICKENBURG, AZ—October 1, 2002—The Nature Conservancy of Arizona announced today that it will reopen its Hassayampa River Preserve to visitors on October 2. The preserve, located one half mile south of Wickenburg, has been closed to visitors since May 13 to minimize the risk of fire damage to sensitive habitat, historic facilities and drought-stressed nesting birds.

The preserve will be open for self-guided trail hiking and wildlife viewing Wednesday through Sunday, 8 a.m. to 5 p.m. Sign-in sheets, trail guides and trail maps will be available at a self-service kiosk. Beginning in November, guided one-hour nature walks happen at the preserve on the last Saturday of every month beginning at 8:30 a.m.. The trails lead you along the lush river bottom, across the river's floodplain, through majestic cottonwood-willow forests and dense mesquite forests that are found only near desert waterways. Also a part of the trail system is a loop around Palm Lake where waterfowl, otherwise uncommon in the desert, are a major attraction. Call the preserve at (928) 684-2772 for guided walk reservations.



SOUTHERN CALIFORNIA POPULATION OF MOUNTAIN YELLOW-LEGGED FROG DETERMINED TO BE ENDANGERED

USFWS press release

The U.S. Fish and Wildlife Service announced on July 2, 2002 it is listing the southern California distinct population segment of mountain yellow-legged frog (*Rana muscosa*) as endangered under the Endangered Species Act. Seven small, isolated populations totaling fewer than 100 adult individuals are believed to still exist within portions of the San Gabriel, San Bernardino, and San Jacinto Mountains.

Mountain yellow-legged frogs inhabit stream reaches in southern California north to high mountain lakes in the Sierra Nevada Mountains. Research indicates that mountain yellow-legged frogs in the Sierra Nevada Mountains are distinct from those in southern California based upon geographical separation and genetic differences. The Service has determined that the southern California population of mountain yellow-legged frog constitutes a distinct vertebrate population segment (DPS) of the species.

Historically, the southern California population of mountain yellow-legged frog was known from about 166 documented localities ranging from Palomar Mountain in northern San Diego County to the San Gabriel Mountains in Los Angeles County. Today, this population segment has disappeared from a significant portion of its former range.

“It will take the combined efforts of Federal and State agencies and the public to chart a course for the recovery of this species,” said Steve Thompson, Manager of the California Nevada Operations Office.

Although the exact causes of the California population’s dramatic decline are not fully understood, possible causes include predation from bullfrogs and introduced trout, disease, contaminants and alteration of habitat.

Almost all of the remaining populations of mountain yellow-legged frogs in southern California are confined to a few stream reaches within the boundaries of the U.S. Forest Service’s Angeles National Forest and San Bernardino National Forest.

Mountain yellow-legged frogs typically measure 1.5 to 3 inches long from the snout to the base of the backbone. Skin coloration and patterning varies and can consist of a few dark, irregular spots to smaller, more numerous spots; body color is usually a mix of brown and yellow, but can include gray, red, or greenish-brown. The underside of the belly and hind limbs vary from pale lemon yellow to brilliant sun yellow.

Eighteen species of amphibians in the United States and Puerto Rico are already listed under the Act, including the threatened California red-legged frog (*Rana aurora draytonii*) and the endangered arroyo toad (*Bufo microscaphus*). The decline of native amphibians in the western United States has been attributed to the loss, alteration, or degradation of habitat from logging, mining, and water development projects; and the introduction of non-native competitors such as bullfrogs and trout.

Other less well understood environmental factors which may be contributing to these declines include diseases, pathogens, effects of pesticides, and increased exposure to ultraviolet-B radiation.

The Department of the Interior, in partnership with other research entities, initiated a nationwide study in 2000, to study

amphibian declines in the United States and why many of these species are exhibiting high rates of physical deformities.

Amphibians, including the mountain yellow-legged frog, are highly sensitive to changes in their aquatic environments because they breathe at least partially through their skin. The decline of amphibians and increased rates of physical abnormalities may be an indication of significant changes in the environment

The Service originally proposed to list the southern California DPS in 1999, but was unable to make a final determination due to the need to use its limited resources to comply with other, higher-priority listing actions. In 2001, the Department of the Interior, Center for Biological Diversity, Southern Appalachian Biodiversity Project, and the California Native Plant Society formalized a settlement agreement that allowed the Service to free up funding to complete final listing determinations for 14 species, including the southern California DPS of mountain yellow-legged frog. Today’s announcement complies with that settlement agreement. The final determination to list the southern California distinct population segment of mountain yellow-legged frog was published in today’s *Federal Register*. To learn more about the final determination to list the southern California population of mountain yellow-legged frog as endangered, visit the Carlsbad Fish and Wildlife Office’s website.

The U.S. Fish and Wildlife Service is the principal Federal agency responsible for conserving, protecting and enhancing fish, wildlife and plants and their habitats for the continuing benefit of the American people. The Service manages the 95-million-acre National Wildlife Refuge System which encompasses nearly 540 national wildlife refuges, thousands of small wetlands and other special management areas. It also operates 70 national fish hatcheries, 64 fishery resource offices and 78 ecological services field stations. The agency enforces Federal wildlife laws, administers the Endangered Species Act, manages migratory bird populations, restores nationally significant fisheries, conserves and restores wildlife habitat such as wetlands, and helps foreign governments with their conservation efforts. It also oversees the Federal Aid program that distributes hundreds of millions of dollars in excise taxes on fishing and hunting equipment to state fish and wildlife agencies.



WORLD WILDLIFE FUND ANNOUNCES '10 MOST WANTED SPECIES'

WWF press release

They won't make it to the wall of your local post office or show up in a police line-up. But they are among the world's "most wanted" species — 10 of the world's most in-demand animals and plants bought, sold, smuggled, killed or captured for the international marketplace.

As delegates from 160 countries prepare to head to Santiago, Chile, next month for the meeting of the Convention on International Trade in Endangered Species (CITES), World Wildlife Fund released its biennial list of 10 species particularly threatened by illegal or unsustainable trade.

"Consumer demand clearly exceeds supply for a number of highly threatened species," said Ginette Hemley, vice president of species conservation at WWF. "Despite much progress, illegal wildlife trade is still worth billions of dollars a year, with profit margins comparable to the drug trade."

This year's 10 most wanted species, based on threats from unsustainable trade and consumer demand, are:

— Tigers (*Panthera tigris*): In the past century, the tiger's habitat and numbers have been reduced by 95 percent. There may be fewer than 5,000 tigers left in the wild. Among their biggest threats are trade in tiger parts for traditional Chinese medicines and poaching of the tiger and its prey species. Tiger bone, believed to relieve pain in traditional medicine, is highly prized on the black market, as are tiger skins.

— Hawksbill sea turtles (*Eretmochelys imbricata*): Hawksbill sea turtles are threatened by, among other things, demand for their beautiful shells; the species is the sole source of "tortoiseshell" used to make curios and jewelry. Despite protection under international and national laws, there remains a large volume of illegal trade in tortoiseshell and other hawksbill products, including meat.

— Sumatran rhinos (*Dicerorhinus sumatrensis*): Among the three species of Asian rhinos, the Sumatran rhino is the most threatened, due to habitat loss and unrelenting poaching for rhino horn, used in traditional Chinese medicine. There are probably around 300 or fewer remaining in Indonesia and Malaysia.

— Big-leaf mahogany (*Swietenia macrophylla*): A keystone species for Amazon rainforests, big-leaf mahogany is highly prized for furniture in the United States, which is the world's leading importer of the wood. Much of the mahogany coming into the U.S., however, is illegally logged and the species is likely to be commercially extinct in less than a decade unless stricter controls are placed on harvesting.

— Patagonian toothfish (*Dissostichus eleginoides*): Marketed under the more appealing name of "Chilean sea bass," toothfish has suffered for its popularity among seafood lovers in the United States and Japan. Slow-growing and slow to reproduce, toothfish populations are now on the verge of collapse across the Southern Hemisphere. They are under heavy pressure from pirate ships, whose illegal catch is so excessive that licensed fishermen in Australia are threatening to take up arms against them.

— Yellow-headed Amazon parrots (*Amazona oratrix*): The capture of these birds for the pet market, combined with severe habitat

loss, has caused the wild population to plummet more than 90 percent since 1970. The total population is currently believed to be fewer than 10,000 birds in Mexico, with a few hundred in Guatemala and only one small viable population remaining in Belize.

— Seahorses (*Hippocampus* species): There are 32 known species of seahorses and at least 20 are threatened by the unregulated trade of both live seahorses for aquariums and trade in dried seahorses, sold as curios and as treatments in traditional Chinese medicine. The trade volume of dried seahorse in 2002 is believed to be at least 70 tons (equivalent to about 24.5 million individuals).

— Asian elephants (*Elephas maximus*): Poaching of elephants for ivory and meat remains a serious problem in many Asian countries, as does habitat loss. Reports this month from the first official ivory tracking system found that illegal ivory sales have been on the increase since 1998, led by increasing demand in China. The population of Asian elephants today stands at between 35,000 and 50,000 in the wild, with an additional 15,000 in captivity.

— Whale sharks (*Rhincodon typus*): The world's largest fish — growing as long as 50 feet — is found in tropical and warm temperate seas. Whale sharks have been overfished for their meat, fins, liver, cartilage and skin. Countries such as the United States, Maldives, Taiwan, Honduras, Australia and the Philippines have already banned the hunting of whale sharks in their waters.

— Malayan giant turtle (*Orlitia borneensis*): This species, along with dozens of other Asian tortoises and freshwater turtles, is threatened largely by unsustainable collection for food, primarily in China. The Malayan giant turtle, found in Malaysia and Indonesia, is also consumed locally, with a small number sold for the international pet trade.

Several of these species — the tiger and rhino, for example — have remained on WWF's "most wanted" list over the past decade, indicating little progress in stopping illegal trade and other threats to their survival. Other species, such as toothfish and seahorses, have moved onto the list because of a dramatic increase in demand for their products on global markets. Considered the world's most important wildlife agreement, CITES is the only global treaty that regulates trade in threatened and endangered animals and plants. It is perhaps best known for helping reduce poaching of African elephants by banning ivory sales in 1989. But as the world's oceans face continued overfishing pressure, countries are increasingly seeking CITES protection for marine species. "This year, CITES delegates will consider adding a number of marine species to the treaty, including Patagonian toothfish, seahorses and whale sharks, to ensure that they are sustainably caught and traded," said Simon Habel, director of TRAFFIC North America, WWF's wildlife trade monitoring arm. "We believe CITES has an important role to play as a forum for ensuring sustainability of many of the world's shared marine resources."



NATURAL HISTORY NOTES

Barking frog courtship behavior?

Caren Goldberg

Illustration by Erika Duross

Neotropical frogs are well known for having a variety of elaborate courtship and parental care behaviors. Barking frogs (*Eleutherodactylus augusti*) are the only neotropical frogs native to Arizona. All known frogs in this genus lay their eggs terrestrially and skip the tadpole stage, emerging from eggs as tiny froglets (Townsend and Stewart 1985), except in *E. jasperi*, where females give birth to live froglets (Drewry and Jones 1976). In many *Eleutherodactylus* species, the male or female parent guards the eggs, protecting them from desiccation and predation (especially cannibalism; Townsend et al. 1984). Barking frogs live further north than any other species in their family, making protection from desiccation especially important their survival and reproduction. If parental care is necessary for the survival of barking frog eggs in Arizona's dry environment, the choice of a good mate to perform the task well would be very important.

In 1954, David L. Jameson observed a pair of barking frogs in Texas that stayed under a rock for three nights. The male called on each of these nights, but the pair did not mate (Jameson 1954). Jameson thought that this suggested a "long and possibly complex mating pattern" in barking frogs.

During the winter of 2000, I regularly visited an abandoned mine in which barking frogs were overwintering. All winter, at least four frogs, male and female, were piled into one crevice, while two females were out on opposite walls of the mine. On June 12, 2000, I encountered a male and female barking frog on a wall of the mine, away from the area where the female had spent the winter. The female was on a small ledge and the male was below the female by about a foot, facing upwards, resembling the balcony scene from *Romeo and Juliet*. The following day I observed another male and female less than a foot away from each other on the opposite wall. Four days later the summer rains started in the area, and the mine was empty. We found both males just over 60 meters upslope, calling.

Finding these two pairs in close proximity to each other just before the mating season, after they had spent all winter not behaving in this way, suggests that barking frogs may exhibit lengthy courtship behaviors. However, whether these pairs actually mated, or even continued to court after leaving the mine, is unknown. In the related coqui frog (*Eleutherodactylus coqui*) of Puerto Rico, the average courtship time is only 48 minutes (Townsend and Stewart 1986), while *E. cochranæ* has a courtship of approximately one day (Ovaska and Caldbeck 1997). But if a hasty mate choice can lead to lost reproduction for a whole year, the evolution of a lengthy courtship ritual remains a distinct possibility.

Literature Cited

Drewry, G. E. and K. L. Jones. 1976. A new ovoviviparous frog, *Eleutherodactylus jasperi* (Amphibia, Anura, Leptodactylidae), from Puerto Rico. *Journal of Herpetology* 10(3):161-165.

- Jameson, D. L. 1954. Social patterns in the Leptodactylid frogs *Syrrophus* and *Eleutherodactylus*. *Copeia* 1954:36-38.
- Ovaska, K. E. and J. Caldbeck. 1997. Courtship behavior and vocalization of the frogs *Eleutherodactylus antillensis* and *Eleutherodactylus cochranæ* on the British Virgin Islands. *Journal of Herpetology* 31:149-155.
- Townsend, D. S. and M. M. Stewart. 1985. Direct development in *Eleutherodactylus coqui* (Anura: Leptodactylidae): a staging table. *Copeia* 1985(2):423-423
- Townsend, D. S. and M. M. Stewart. 1986. Courtship and mating behavior of a Puerto Rican frog, *Eleutherodactylus coqui*. *Herpetologica* 42(2):165-170.
- Townsend, D. S., M. M. Stewart, and F. H. Pough. 1984. Male parental care and its adaptive significance in a neotropical frog. *Animal Behavior* 32:421-431.



Banded Sand Snakes in Rocky Uplands

Don E. Swann
Saguaro National Park

Erin Zylstra
U.S. Geological Survey, Sonoran Desert Field Station

Banded sand snakes (*Chilomeniscus cinctus*) are primarily thought of as dwellers of low desert sandy soils, usually associated with creosote bush. However, the Peterson Field Guide to Western Reptiles and Amphibians (Stebbins 1985) also includes as habitat “sandy-gravelly washes and arroyos in rocky uplands (paloverde-saguaro association), and thornscrub habitats in Mexico.” Given elevation ranges are from sea level to 3000 feet (910 m). In this note we describe 2 banded sand snakes found in rocky foothills of the Rincon Mountains, Saguaro National Park, Pima County, Arizona at elevations of 3871 feet (1180 m) and 2880 feet (878 m).

The first record (1180 m) was from the south side of the Rincon Mountains on a hiking trail on 12 December 2000. The animal was active on the surface and a photograph was taken by EZ (Figure 1). The area was dominated by perennial shrubs including goldenweed (*Ericameria larissafolia*), catclaw acacia (*Acacia gregii*), and honey mesquite (*Prosopis velutina*) but was not associated with a wash or arroyo. Vegetation in this area of the Rincon Mountains includes some shrub species of the Mexican



Fig. 1 Banded sand snake (*Chilomeniscus cinctus*)

thornscrub community (such as feathertree, *Lysiloma watsoni*) that exist here at the northern edge of their range (Turner et al. 2000).

The second record (878 m) was from the west side of the Rincons on 19 February 2002. The snake was found dead in a small rock-sided pool less than 1 m deep in a rocky canyon and collected by DES. Vegetation in the area consisted of perennial shrubs such as honey mesquite and foothills palo verde (*Parkinsonia microphylla*), as well as saguaro (*Carnegiea gigantea*) and other cacti. A dry earthen cattle tank with silty and sandy soil was located <50 m away.

These observations confirm that banded sand snakes do occur in rocky upland habitat in the Sonoran Desert and at higher elevations than we might expect. The higher elevation specimen (1180 m) is possibly an elevational record for the species.

Anderson (2000) also described a banded sand snake in rocky upland habitat at 3035 feet (925 m), swimming in a rock pool. He speculated that the snake had fallen into the rock pool while searching for water and could not escape. A similar event seems possible for our rock pool record as well; a lack of recent rainfall indicates the snake was not washed into the pool by a flood.

Both observations occurred during winter months. Sand snakes are well-known to be winter active at lower elevations in the Sonoran Desert. Our observations suggest that they are winter active at higher elevations as well.

Literature Cited

- Anderson, E.F. 2000. Notes on a swimming banded sand snake (*Chilomeniscus cinctus*). *Sonoran Herpetologist* 13:115.
Stebbins, R.C. 1985. A field guide to western reptiles and amphibians. Houghton Mifflin Company, New York. 336 pp.
Turner, R.M., J.E. Bowers, and T.L. Burgess. 2000. Sonoran Desert plants: an ecological atlas. University of Arizona Press, Tucson, Arizona. 501 pp.



SH MEMBERSHIP UPDATE

As of 4 November 2002

CONTRIBUTING MEMBERS

Danny & Sharon Brower Tucson

NEW SUSTAINING MEMBER

Sandra McPherson Tucson

NEW MEMBERS

Hans Koenig Tucson

JARCHOW CONSERVATION AWARD

Barney Tomberlin Tucson

HORNED LIZARD FUND

Barney Tomberlin Tucson

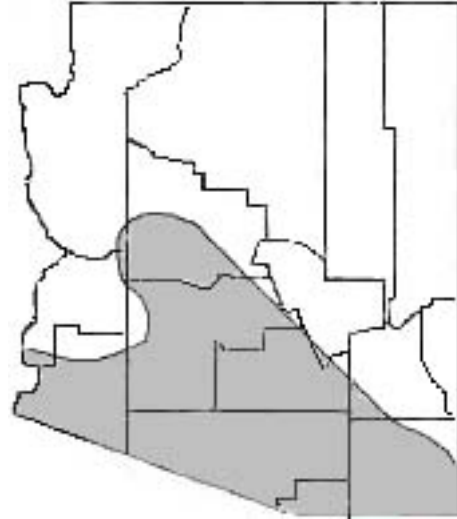
Sonoran Desert Toad (*Bufo alvarius*)

Erik F. Enderson

Current distribution of *Bufo alvarius* in Arizona



photo by Erik F. Enderson



The largest native toad in the United States. Adults are unmistakably large and can reach over 19cm. (8 in.) in length, and weigh as much as 900 grams. Dorsum is olive brown to dark green, and is covered with a soft, leathery skin. Usually has one large, white, or light colored wart behind each jaw hinge, directly below the large parotoid gland. Hind legs are covered with numerous large warts.

Juvenile Sonoran desert toads bear little resemblance to adults and are often confused for Red-spotted toads (*Bufo punctatus*). Mature *B. Alvarius* can be extremely long-lived animals with reports of toads reaching 12 years in age.

Found in a variety of arid communities primarily in the Sonoran Desert, often near permanent water sources in xeroriparian areas. Occurs at the California/Arizona border in southwestern Yuma Co., north to extreme southeastern Mohave Co., and southeastward below the Mogollon Rim to the southeastern corner of the state.

A voracious predator that may be able to consume anything it can overcome, including other amphibians. Strongly nocturnal, this species will breed independently of rainfall but the largest breeding aggregations usually take place after strong downpours in July and August. The advertisement call of this toad is a short, low-volume honk, and is not indicative of its size. Although large, this species is hardly clumsy. If disturbed, it can flee using a fast unamphibian-like gallop that surprises most observers.

The most infamous toad of the Southwest and has gained notoriety with the discovery of the hallucinogenic properties of its parotoid glands. Reports of humans dying from these properties are erroneous, however pets have become ill.

Crother 2001 "2000", recognized this species as the Colorado River Toad (*Bufo alvarius*).

To see the herpetofauna of the 100 mile circle in color, visit the THS web site at <http://tucsonherpsociety.org>



BOARD MEETING SYNOPSIS

29 October 2002
Robert L. Bezy, Secretary

Directors Present: Roy Averill-Murray, Bob Bezy, Jillian Cowles,
Taylor Edwards, Erik Enderson, Caren Goldberg, Cristina Jones,
Dick Martin, Ed Moll, Don Swann.

Directors Absent: Kent Jacobs.

Members Present: Marty Tuegel.

Treasurer's Report - Jacobs.

Beginning Balance	\$10,888.06
Deposits	240.00
Expenses	893.48
Ending Balance	\$ 10,234.58

Speakers Bureau	\$ 920.87
Jarchow Award	45.00
FTHL Fund	95.00
C.H.Lowe Research Fund	2,193.00
General Fund	\$ 6,980.71
CRHSDIII (CD)	\$ 6,798.88

Itemized Deposits: Lowe Fund \$20.00, Membership \$220.00.

Itemized Expenses: Bank Charge \$2.70, Newsletter \$168.12,
Postage, (4 months) \$296.00, Scanner \$414.00, Speakers Bureau
\$12.66.

Committee Reports

Conservation - Caldwell. The AGFD is in the process of revising Article 4 to add Bullfrogs to the list of Restricted Live Wildlife and Article 3 to prohibit destructive means of take. Hans Koenig will be talking on 12 November at the Tucson Botanical Gardens to the Pima Invasive Species Council about exotic species and invasive species in Arizona and what the department is doing about them.

Speakers Bureau - Edwards and Moll.

25 September - Taylor Edwards Sunnyside High School, ~25 students, (as part of a Tucson Audubon Society Program).

5 October - Roger Repp. Natural History Class at Pima College East. Lecture on note taking and natural history to eight adult students.

15 October - Taylor Edwards and Caren Goldberg. Boys and Girls Club, ~20 persons

16 October - Taylor Edwards, Paul and Steven Condon. Boys and Girls Club, ~20 persons

17 October - Taylor Edwards and Dick Martin Boys and Girls Club, ~20 persons

20 October - T. Edwards, R. Llewellyn, C. Goldberg, D. Martin, and Paul and Steven Condon Bookman's, 30+ people attended.

Program - Roy Averill-Murray. The lineup of speakers includes David Hall, Ed Moll and Roy Averill-Murray, Erika Novak, Taylor Edwards, Brian Wooldridge, Richard Wagner, and Andy Holycross.

Sonoran Herpetologist - Enderson. A slide scanner has been purchased.

C. H. Lowe Jr. Herpetology Research Fund - Edwards. The guidelines were submitted to Sonoran Herpetologist.

Old Business

SW PARC - Roy Averill-Murray. As a result of the recent organizational meeting, the Southwest Working Group of PARC will be co-chaired by Roy Averill-Murray and Matt Goode. The Co-Chairs will have two year staggered terms and will represent the SW Working Group at the national level. SWPARC will oversee the eight state working groups, from Oklahoma to California. One member of each State Working Group will be a member of the SW Working Group. Two primary initial objectives are being pursued by SWPARC: the development of (1) a geographic reference data base with maps, and (2) guidelines for habitat management in the SW Deserts. Anyone interested in participating in SW PARC should contact Roy or Matt.

Membership Secretary - Edwards. Taylor and Bill Savary will be developing the Access database.

Nominating Committee - Goldberg. The slate of candidates has been approved and Caren Goldberg will be making the ballots for the November general meeting.

Agua Caliente Park - Goldberg. The draft of the plan is out and comments are due by the end of November. There will be a meeting 14 November for public comment. Caren is preparing a letter to the editor from the THS and a statement to be read at the meeting supporting the restoration of Agua Caliente.

New Business

Sonoran Herpetologist Committee - Enderson and Swan. The board approved a motion to establish a Sonoran Herpetologist Committee to work with the editor on all aspects of the publication. The committee will assist the editor in obtaining material for the publication and in reviewing material. The initial committee will consist of Caldwell, Enderson, Swann, and Turner.

Reprinting Brochures - Edwards and Caldwell. The brochures on living with Gila Monsters and rattlesnakes will be reproduced in black and white on a 8.5 by 11 inch format. Production of business cards and name tags for the society are also being explored.

Declining Amphibians Taskforce Meeting - Goldberg. The THS has agreed to organize the Southwest regional meeting to be held at the ASDM sometime in January to March, 2003. Caren Goldberg will be seeking volunteers to assist with the one day meeting. A SW PARC meeting may also be held in conjunction with DAPTF

ADVERTISEMENTS

Ads are \$2 per line. The first two lines are free to members (approximately 240 letters and spaces), and are run the number of times specified at the time of listing with prepayment when applicable. Otherwise they are run one time only, but repeats may be requested by letter or phone. Charges for commercial ads are: 1/8th page \$5; 1/4 page \$10; 1/2 page \$20. No ad should be submitted which involves wild caught herptofauna. Acceptance of any ad will be at the discretion of the Editor and in accordance with Society policy. The Society is not responsible for the accuracy of representations made in any ad.

For Sale: Rats- small \$1.00, medium \$1.50, large \$2.00, jumbo \$2.50. \$10 minimum order. Various reptile cages and aquariums, \$10 and up. Contact: Marcia at 744-4211 (Tucson) or e-mail: boahiss@earthlink.net.

Arizona Herpetological Association

P. O. Box 64531
Phoenix AZ 85082-4531

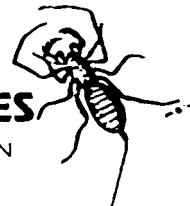
Meetings: 4th Tuesday, 7:00 PM
Location: The Phoenix Zoo, Auditorium, 455 North
Galvin Pkwy (between McDowell and Van -
Buren)

Journal: *The Desert Monitor*
Dues: Individual \$20, Family \$25, Contributing \$35
Information: (408) 894-1625

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Information for Contributors

Authors should submit original articles, notes, book reviews to the Editor, either via email using an attached word processed manuscript or by mail to the Society's address. The manuscript style should follow that of *Journal of Herpetology* and *Herpetological Review*, publications of the Society for the Study of Amphibians and Reptiles. For further information, please contact Erik Enderson at eenderson@msn.com

Sonoran Herpetologist Local Research News

The Tucson Herpetological Society has started a column in its monthly newsletter, The Sonoran Herpetologist, titled, "Local Research News". We want to update our readers on interesting herpetology research projects happening around the state.

We are currently collecting pieces for submission. the submissions need not be more than a few paragraphs and do not need to include data, specific localities or other details. The emphasis should be on how science is being applied to herpetological questions.

The style and format are very informal (*see SonHerp 13:123 for an example*). I will be happy to help with editing or if you already have a brief description or project summary, I will be happy to assist in formatting it.
Taylor Edwards, tayache@Ag.arizona.edu

TIME TO RENEW YOUR THS MEMBERSHIP?

I hope this is a helpful reminder to those of you whose membership renewal is due this month. Please call or email with corrections and errors. 624-8879 or dhardysr@theriver.com

Dave Hardy Sr.
Membership Secretary

Due in November:

Emily & James Bennett
Ed Moll
Tom Wootten

Alan McCready
Erika Nowak



Dedicated to conservation, education, and research concerning the amphibians and reptiles of Arizona and Mexico. THS is a registered non-profit organization.

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Erik Enderson	eenderson@cox.net	Past President

Society Activities

Monthly Members Meeting

Roy Averill-Murray, Program Chairperson
3rd Tuesday, 7:15 PM

Board of Directors Meeting

Tuesday November 26, 7:00pm
Arizona Game and Fish Department Office
555 North Greasewood Road

Speakers Bureau

Taylor Edwards, Director
Ed Moll, Director
Scheduled presentations

Herpetological Information Hotline

Bob Brandner 760-0574

Jarchow Conservation Award

Taylor Edwards, Chairperson

Publications:

Sonoran Herpetologist
Living with Rattlesnakes
Living with Gila monsters
THS Herp Coloring Book
THS Collected Papers, 1988-1991 (out of print)

THS Internet World Wide Webpage

<http://tucsonherpsociety.org>
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A complete set of back issues are available in the Special Collections area of the University of Arizona library. They are accompanied by a copy of *The Collected Papers of the Tucson Herpetological Society, 1988-1991*.

Deadline for SonHerp 15 (12) is December 6

MEMBERSHIP INFORMATION

Individual	\$20	Sustaining	\$30
Family	\$25	Contributing	\$50
Student	\$14	Life	\$500

To receive a membership form and recent issue of *Sonoran Herpetologist* call (520) 624-8879 or write:

Tucson Herpetological Society
P. O. Box 709
Tucson AZ 85702-0709

Sonoran Herpetologist **Natural History Observations**

The Tucson Herpetological Society invites your contributions to a regular feature in the *Sonoran Herpetologist*, Natural History Observations of southwestern herps. Similar to Life History Notes in *Herpetological Review*, these can include information such as size, behavior, diet, predation, community structure or other interesting observations. Please submit your noteworthy observations to Dale Turner (dturner@theriver.com), editor for this section. Submissions should be brief, typed double-spaced, and in electronic form if possible.

Your membership has expired.
This is your only reminder.
Please renew!



IN THIS ISSUE

Mountain Yellow-legged Frog listed as Endangered
USFWS press release.....124

World Wildlife Fund's "10 most wanted".....125
WWF press release

NATURAL HISTORY NOTES: Barking Frog Courtship Behavior?
by Caren S.Goldberg.....127

NATURAL HISTORY NOTES: Banded Sand Snakes in Rocky Uplands
by Don E. Swan and Erin Zylstra.....126

HERPETOFAUNA OF THE 100-MILE CIRCLE: Sonoran Desert Toad (*Bufo alvarius*)
by Erik F. Enderson.....128

NEXT MEETING

Tuesday, December 17th

Herps of Peru

Roy Averill-Murray and Ed Moll

SONORAN HERPETOLOGIST
November 2002