



Virginia Herpetological Society Newsletter

Volume 23, Number 2

August 2013

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**Ssstill Celebrating!
Year of the Sssnake!**

2013 YEAR of the Snake

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**Join Us
at the
VHS Fall
Meeting!**



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**THIS MONTH'S
VIRGINIA
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Timber Rattlesnake

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Alert!
**Send in your photos
for the VHS 2014
Calendar!
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Home Page: <http://www.vaherpsociety.com/>
 Online Store: <http://www.cafepress.com/vaherpsociety>
 Facebook Page: <http://www.facebook.com/vaherpsociety>

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COMING EVENTS

EVENT	LOCATION	DATES
VHS Annual Fall Meeting	Richmond (City), VDGIF Headquarters	Oct 5
2014 Calendar Submissions	Merchandise@vaherpsociety.com	Aug 31

VHS Business

VHS Annual Fall Meeting (1)
 High Bridge Trail State Park & YCC (2)
 VHS & VA Master Naturalists (3)
 VHS Website Updates (4)

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1) VHS Annual Fall Meeting

Saturday, Oct 5

The 2013 VHS Annual Fall Meeting will be held at the Virginia Department of Game and Inland Fisheries (VDGIF) headquarters, in Richmond, on Saturday, October 5th. We have lined up a great array of guest speakers: Matt Neff with the Smithsonian's National Zoo's Reptile Discovery Center will talk about his facility's new salamander exhibit and programs; Diane Tulipani of the Virginia Institute of Marine Science will discuss her project studying northern diamond-backed terrapins; David Whitehurst with VDGIF will discuss the past initiative his agency and other partnering organizations (including VHS) took on to study the issue of "dangerous" animals being kept by citizens in the Commonwealth; Shannon Davis of the Virginia Aquarium will discuss their sea turtle research and the Stranded Sea Turtle Program; and Colin Walker and Stephen Knoop, also of the Virginia Aquarium, will discuss the facility's herpetofaunal collection and more. (keep checking the [VHS website](#) for more details)

Auction Items & Photo Contest: VHS will hold live and silent auctions for fundraising during the fall meeting. We encourage donations of auction items for this event. Items should be herp-related and may range from fun to serious. Also, everyone is encouraged to bring in your best herp photos for the annual photo contest during the meeting. Please bring auction items & photos!

Location: 4000 West Broad Street, Richmond, VA 23230 (the main headquarters address is usually listed as 4010 West Broad Street, but the Board Room, where the meeting will be held, is in the 4000 building, the easternmost building)



Lodging: Keep checking the [VHS website](#) for updates on lodging options.

Contact/ Leader: David Perry at vicepresident@vaherpsociety.com and Larry Mendoza at president@vaherpsociety.com. Please RSVP, if you plan to attend!

Special Notes: Parking is available in the parking lots behind the VDGIF buildings on Broad Street, including all the spaces that say "reserved" (they are only reserved during weekday workday hours), but do avoid the six closest spaces to the 4010 building loading dock (where dispatch staff parks). Also, if you have a stadium seat cushion, you may want to bring that with you. The chairs in the board room are cushioned, but not well.

2) High Bridge Trail State Park Project & YCC

A Youth Conservation Corp (YCC) group spent three weeks between Twin Lakes and High Bridge Trail State Parks constructing benches and signs in each of these locations. For rest and relaxation, they get to be involved in special programs to experience nature, canoe/kayak, etc.

On July 10, the YCC group met with Craig Guthrie, High Bridge Trail State Park Ranger, and Dave Perry, VHS Vice President, to learn more



YCC group with Dave Perry.



about snakes and to help conduct a survey of the Lancaster Tract boards that were put out as part of the snake census that VHS has been doing in support of the park.



YCC leader, Katie Lawler, with ratsnake.

A total of 13 young women attended, including three YCC supervisors (green shirts). They all seemed to come away with a better appreciation of the role of snakes in the natural food chain. Dave brought a racer that he captured on his property for an early demo (since released) and a few additional snakes were observed (although the boards only produced a white footed mouse). Several herps were discovered by the YCC participants, and Katie Lawler was especially successful and enthusiastic, as she dove into blackberry bramble to grab an eastern ratsnake. Other herps observed and identified included: fence lizards, a wood frog, a red eft stage of red-spotted newt, eastern

cricket frogs, a northern watersnake and a northern black racer.

This was a successful education effort. Notice in the photos, Katie Lawler is holding the snakes and everybody, including Rantger Craig Guthrie, is very impressed the first time they witness a ratsnake climbing a tree. Perhaps VHS has some future members amongst the YCC group!

As mentioned, VHS has been working cooperatively with High Bridge Trail State Park on a project including some herpetofaunal survey work, as well as strictly running a census for snake species in the park during several dates throughout late spring to early fall of this year. Coverboards have been placed within portions of the park property to assist in finding snakes.



Eastern ratsnake impressing everyone with its climbing ability.

3) VHS and Virginia Master Naturalists (VMN)

On Sunday, October 20, VHS will lead a short herp survey as a field trip option during the VMN's Annual Conference. The conference is taking place that weekend, October 18-20. Most of the conference sessions will be taking place at the Wyndham Virginia Crossings Hotel & Conference Center, in Glen Allen (just northwest of Richmond). On Sunday, most of the conference will be a variety of field trip opportunities at Pocahontas State Park, in Chesterfield (just south of Richmond). Over the years, VHS has worked closely with VMN. VHS officers have taught herpetology courses to classes of VMN. VMN's student and graduate naturalists have participated in VHS surveys and meetings, and in some cases become VHS members. The cross participations and coordination benefits both organizations, all people involved, and most of all, Virginia's herpetofauna, as well as all other natural resources.



Host Event Information & Website:

<http://virginiamasternaturalist.blogspot.com/2013/07/registration-open-for-2013-statewide.html>

<http://www.virginiamasternaturalist.org/>

4) VHS Website Updates

Check out the new [VHS Brochure](#) that is currently on the VHS website. This colorful and informational brochure is a useful tool when spreading the word about VHS and its important missions.

Also, check out the summaries from the surveys that occurred during the spring at the [Events Section](#) of the website. You will see that the surveys were successful at finding some herps, as well as some silly antics by herpers.



Back in the spring, several Garmin eTrex Legend GPS receivers were generously donated by Mike Clifford to VHS. Click [here](#) to see several links and documents pertaining to these devices that will help VHS participants in conducting future surveys.

Finally, be sure to check out the latest features on the [front page of the VHS website](#) regarding a quickly approaching event and deadline. A link to all the details on the [2013 VHS Fall Meeting](#) is at the top of the page. Keep checking this link as we get closer to the date, October 5th, and more details will be posted. And, a bold announcement further down this page tells you all about the fast approaching deadline for photo submissions to the 2014 VHS Calendar, along with further details about these needed submissions and a chance to win a great prize (see item 6 below).

5) VHS Recognized in Washington Post Article

Check out the great article about Spring Peepers that appeared in the Washington Post on March 26, 2013. The article, titled Spring Peeper: Call of the Cross Bearer, ran in the Health & Science Section as part of their "Urban Jungle" column. VHS is mentioned as a source, as well as highlighted as an internet source to see more information on and listen to more anuran calls. [Click here for the link to Spring Peeper: Call of the Cross Bearer.](#)

6) NEED Photo Submissions for the VHS 2014 Calendar!!!

The VHS is looking for quality native herp photos for our 2014 calendar. Photos must be of a native Virginia reptile or amphibian. Images should have the subject in focus and with very little background distraction. Photos will be required to be at least 2300 pixels in width x 1800 pixels in height in landscape (or horizontal) orientation. The calendar will also show the proper credit for each photograph. Images received by August 31st will be considered for the 2014 calendar, but any late submissions will be saved for consideration in the 2015 calendar. ALSO, any photographer whose photos make the cut into the 2014 VHS Calendar will be eligible for a random drawing for a free year of VHS membership, and the drawing will take place at the 2013 VHS Fall Meeting (See previous announcement about the meeting on October 5th). Please send your submissions to the VHS Store Manager, Patricia Crane, at Merchandise@vaherpsociety.com. Good Luck Herp Photographers!



7) REMINDERS!

a. VHS Members Get Discounts at Zoos!

VHS is pleased to offer, as a membership benefit, discounts to select zoos and aquariums in Virginia! We hope that having an admission or membership discount will give you incentive to visit these facilities and give them your business. Although \$1 or \$2 off of the price of admission does not sound like a lot, most zoos, aquariums, and museums are expensive to maintain, and it represents a generous offer by the participating facilities. In order to facilitate these discounts, a VHS member must have proof of a current membership. We e-mail membership cards in PDF format, which will only need to be printed, copied and folded. Please have these cards handy when visiting: [Click here to see a list of discounts!](#) Then, go to the Zoo Updates section (Pages 15-16) to find out the latest news on some of these facilities!

b. Help Support the VHS!

Your support is a beautiful thing!! With simple clicks on the internet you can help support the VHS and our mission to conserve, research, and educate the public on our native herps.

Not interested in a fundraiser, but still want to support the VHS? **Donations** are always accepted, in any monetary amount. 100% of your donation goes towards our cause and is tax deductible due to our 501(c)(3) tax-exempt status. Donate online via PayPal or send your donation to our Treasurer.



Fundraisers that support our cause:

Bloomin' Bucks with Brent and Becky's Bulbs

It's simple...go to www.bloominbucks.com (with no 'g') and from a pull down menu of all of the organizations registered, select to support VHS! With one click, you are then sent to the Brent and Becky's Bulbs website where you can order whatever you want, in whatever quantity and color you want...books, bulbs, garden tools, plant supplements, gift certificates...ANYTHING...and a percentage of the order goes to support our cause!

GoodSearch, GoodShop, and GoodDining – You search, shop, or dine. They give, give, give.

GoodSearch.com is a Yahoo-powered search engine that donates half its advertising revenue to the charities its users designate. Use it as you would any search engine, get quality search results from Yahoo, and watch the donations add up!

GoodShop.com is a new online shopping mall which donates up to 30 percent of each purchase to your favorite cause! Hundreds of great stores including Amazon, Target, Gap, Best Buy, eBay, Macy's and Barnes & Noble have teamed up with GoodShop and every time you place an order, you'll be supporting your favorite cause.

And if you download the GoodSearch – Virginia Herpetological Society (NEWPORT NEWS VA) toolbar, our cause will earn money every time you shop and search online - even if you forget to go to GoodShop or GoodSearch first! Add the Virginia Herpetological Society (NEWPORT NEWS VA) toolbar at

<http://www.goodsearch.com/toolbar/virginia-herpetological-society>

The GoodDining Program allows members to discreetly earn donations for the VHS at thousands of participating restaurants, bars and clubs coast to coast. When you pay your bill for a qualified dine at a participating restaurant, bar or club using a credit/debit card you've registered with GoodDining, they track your total transaction amount and award donations based on your current Membership Level, which are automatically deposited into your GoodDining account. Sign up and don't forget to select the Virginia Herpetological Society as your charity of choice.

Cafe Press - The VHS Store

In this store you will find an assortment of high quality merchandise intended to celebrate the diversity of amphibians and reptiles native to Virginia. Eventually, we will branch out into other non-herp and non-Virginian related wildlife. If you are visiting this site from out of state, our products are not exclusive to Virginians. Many of the species we feature can be found throughout a large part of the country. **All** proceeds from the sale of merchandise on this site go towards funding the VHS's mission.

"Those who contemplate the beauty of the earth find resources of strength that will endure as long as life lasts." ~ Rachel Carson

Events

	Northern Va Reptile Expo	Richmond Reptile Expo
Dates	8/24, 10/12, 12/14/2013	10/27/2013
Location	Prince William County Fairgrounds Manassas, Virginia 20108	Double Tree by Hilton 1021 Koger Center Blvd. Richmond, VA 23235
Admission	\$7 / \$3 child	\$8 / \$3 child
Time	9 am to 3 pm	10 am to 3 pm
Contact	http://www.mdreptilefarm.com/shows/va/nva.asp	http://www.mdreptilefarm.com/shows/va/richmond.asp



	Repticon Bristol	Hampton Roads Reptile Expo
Dates	10/26-27/2013	9/8/2013
Location	Bristol Conference Center 3005 Linden Drive Bristol, VA 24202	Point Plaza Suite 950 J. Clyde Morris Blvd. Newport News, VA 23601
Admission	\$12 / \$5 child (5-12)/ free child (4 & under)	\$7 /free child (under 3)
Time	Sat: 10 am to 5 pm Sun: 10 am to 4 pm	9 am to 4 pm
Contact	http://repticon.com/bristol.html	https://www.facebook.com/Hrrexp

For these and other reptile expos/shows, go to: <http://www.rexpotracker.com/>

Events (Continued)

LOUDOUN WILDLIFE CONSERVANCY PROGRAMS and FIELD TRIPS

Nature Walk at Dulles Greenway Wetlands — Saturday, August 31, 8:00 a.m. Explore the Dulles Greenway Wetlands Mitigation Project with Loudoun Wildlife Conservancy's Joe Coleman on a late-summer nature walk. Because fall shorebird migration should be at its peak we will concentrate on birds. We will also search for butterflies and late-summer blooming wildflowers. Waterproof footgear, long pants and insect repellent are advised. Registration required: (<http://www.loudounwildlife.org/SignUp.htm>). Questions: Contact Joe Coleman at jcoleman@loudounwildlife.org or 540-554-2542.

Meadows Field Trip — Saturday, September 7, 10:00 a.m. Cosponsored by Loudoun Master Gardeners and Loudoun Wildlife Conservancy. Susan, a sustainable landscape designer and principal of Lush Life Landscape, will talk about the method she used for installing her meadow and the results to date John Magee, a native landscape designer and principal of Magee Design, will discuss other methods of installing meadows. Location: The home of Susan Abraham: 40720 Hannah Drive, Waterford, 20197. Questions: Contact Ann Garvey at agarvey@loudounwildlife.org.

Midweek Walk at Algonkian Park — Wednesday, September 11, 7:30 a.m. – 10:30 a.m. Join us to bird some of the varied habitats of this riverside park in Eastern Loudoun. Many neotropical songbirds should be on their way south by this time, and Algonkian is a great place to see them. Meet at the boat ramp. If you anticipate being a bit late because of kids or traffic, call Bill Brown at 703-568-8331. The walk is sponsored jointly by the Loudoun Wildlife Conservancy and the Audubon Society of Northern Virginia.

Loudoun Wildlife Conservancy Fall Native Plant Sale — Saturday, September 14, 9:00 a.m. to 3:00 p.m. Native plants are beautiful and grow better because they are adapted for our weather conditions and soils; they also provide greater benefit to our native wildlife because plants and animals evolved together. Hill House Farm and Native Nursery and Nature-By-Design will be selling plants. To see plants each nursery carries or to place orders ahead of time (all nursery stock is not present), visit their websites. This event will be at Rust Nature Sanctuary at 802 Childrens Center Road in Leesburg.

See more programs & field trips by LWC, and click the arrow at the bottom of the calendar to see even more scheduled in March and beyond.



EVENTS (CONTINUED)

Smithsonian's National Zoo's Reptile Discovery Center Events!		
Event	Exclusive Behind-the-Scenes Reptile Discover Center Tours	Suds & Salamanders
Dates	Select Wednesday & Saturday mornings, now through October 2013	9/20/2013
Location	Smithsonian's National Zoo's Reptile Discovery Center in Washington, DC	Smithsonian's National Zoo's Reptile Discovery Center in Washington, DC
Admission	\$95/ticket; FONZ members will receive a special gift with ticket purchase	\$20 for FONZ members; \$25 for non-members; (Must be 21 years or older to attend this event)
Time	Starts 9am, approximately 2 hours	6:30 to 9 pm
Contact	Click here for details and to purchase tickets	Click here for details and to purchase tickets
Details	<p>Get an extremely rare chance to go behind the scenes with National Zoo keepers at the Reptile Discovery Center! You will have the opportunity to see some of the most critically endangered species on the planet and learn how the National Zoo is working to save them. From the critically endangered Cuban Crocodile, to the brightly colored poison frogs, to the long-living Aldabra tortoises – you will encounter all of these in the off-exhibit areas of the Reptile Discovery Center.</p>	<p>Join National Zoo animal keepers, brewers from Hellbender Brewing Company, and volunteers for an evening dedicated to all things local. Sample DC's newest beer while helping to raise money for the region's amazing salamander species!</p> 

NOTICE: Submissions for *Catesbeiana* Vol. 33 No. 2 are due September 1, 2013!

Please support the VHS by submitting any papers, field notes, or artwork for *Catesbeiana* to: Dr. Paul Sattler, Editor, *Catesbeiana*, pwsattler@liberty.edu.



Herp Trivia

The questions and answers in this edition of "Herp Trivia" are pulled from material that has been posted on the VHS Facebook Page in recent months. Check out the vast information that is being posted on our [Facebook Page!](#)

1. True or False: Just like bullfrogs, green frogs, and carpenter frogs, the sex of adult wood frogs can be determined by the size of the eye.



2. According to experts studying the disappearance of the eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*) from some of southwestern Virginia's stretches of streams, what appears to be a big cause of this species' plight, currently?

3. Can you identify this native subadult turtle?



4. Can you identify this snake?





5. Eastern hellbenders spend most of their time hiding under rocks of stream bottoms to eat what type of animal?

6. Can you identify this frog?



7. True or False: Eastern hellbenders like warm, slow-moving waters, which are low in oxygen.

8. Can you identify these turtles?



9. True or False: A strange social interaction exists between Eastern Box Turtles (*Terrapene carolina carolina*) and the Eastern American Toad (*Anaxyrus americanus americanus*). When female box turtles are kept with female American toads, both turtles and toads eat significantly faster than normal.

10. Which of the following are alternative common names for the eastern hellbender?

- a. Snot Otter,
- b. Devil Dog,
- c. Allegheny Alligator,
- d. All of the above.



Answers can be found on pages 25-26.



News

Salamanders' disappearance raises pollution concerns (1)
Snake Fungal Disease: The White-Nose Syndrome for Reptiles? (2)
Evolution Too Slow to Keep Up With Climate Change 3)

Land Trust of VA Protects 239-acre Property in Lucketts 4)
Snake's alive! Rattlesnake found outside Blacksburg Kroger 5)
Why Do Herpers Herp? (VA Wildlife features VHS & herpers) 6)

1) Salamanders' disappearance raises pollution concerns

By Rex Springston, Richmond Times-Dispatch, Posted Monday, June 17, 2013, 12:00 am.

DAMASCUS This is a heck of a bad time for the hellbender. Also known as the snot otter, devil dog and Allegheny alligator, the hellbender is a slimy, mud-colored, salami-sized salamander that inspires folklore and misplaced fear.

The largest salamander in the Western Hemisphere, the hellbender has prospered in clean, cold Appalachian streams, including some in what is now Southwest Virginia, for eons, changing little since the age of dinosaurs.

And now hellbenders are dying. In Virginia and other states, scientists say, the animals have disappeared from some stream stretches.

That worries scientists because hellbenders, which breathe through their skins and are sensitive to pollution, are good indicators of water quality.

"Hellbenders tell us that our streams are healthy," said

Kimberly Terrell, a wildlife biologist with the Smithsonian's National Zoo in Washington. "If the hellbenders start disappearing, there is probably something wrong with our streams. And most of us live downstream from hellbenders."

Pollution appears to be a big cause of the hellbenders' plight. Also, some people poach hellbenders to sell as pets. And other people, scared by the ugly animals and believing them poisonous, kill them on sight. Hellbenders, which spend most of their time hiding under rocks and eating crawfish, are harmless.

Near Damascus on Wednesday, Terrell, 31, and J.D. Kleopfer, 49, a state biologist, donned wetsuits and with two helpers waded into a swift, cold stream for a hellbender hunt.

Terrell and Kleopfer made a colorful duo — she blonde and petite, he tall and muscular, both sporting tattoos. The scientists are part of a four-year, \$319,000 study in its first full year, designed to find out where hellbenders live in Virginia and how they are doing. It is the first comprehensive assessment of hellbenders in Virginia. The money comes from federal grants funneled through the state.

The stream, in Washington County about 300 miles southwest of Richmond, flowed in babbling riffles past maples, hemlocks and rhododendrons. It was about 10 yards wide, dappled with bright sun and shade. For a hellbender home, the place looked heavenly.

As Terrell and Kleopfer, in snorkeling gear, lifted rocks, National Zoo employee Veronica Acosta and volunteer Dan Nissen stood at the ready with nets.

The going was slow. After looking for more than 30 minutes, the scientists flushed a hellbender from under a rock, but it slipped past the nets and sped downstream. "That's why they call it hellbender hunting, not catching," said Nissen, a retired state employee.

About 90 minutes into the search, Terrell spotted a hellbender head, flat and dark as a sausage patty, under a rock the size of a small coffee table. Using a hoelike tool, Kleopfer pried up the rock. Again, the animal sped out past the nets, but Kleopfer half-swam, half-lunged about 10 feet back and caught the slippery creature in his gloved hands. He dropped it in a net. "Good job, guys," Terrell said.

They took the hellbender to the bank for an exam. In a lidless plastic box, it looked like a long blob of brown Jell-O with legs and beady eyes. "You can see our challenge in getting people excited about him," Terrell said. Alarmed, the animal exuded a defensive slime. "That's why they're called snot otters," said Kleopfer, who works for the state Department of Game and Inland Fisheries.



A hellbender salamander is measured after being caught in a stream near Damascus. Photo by David Crigger/Bristol Herald Courier.



The scientists measured the animal (about 16 inches and nearly 1 pound), drew blood and inserted under its skin a tiny microchip that will identify it if it's caught again. Tests done later on the blood will tell, among other things, if the creature had high levels of stress-related hormones — a sign that it may have been exposed to pollution or some other problem.

Hellbenders like cool, swift waters, which are high in oxygen. Terrell also is studying whether global warming poses a threat, but she said, "That's more of a concern about the future." She put the hellbender back by its rock.

The animal, the eastern hellbender, lives in mountain streams from southern New York to north Georgia. A close relative, the Ozark hellbender, lives in Missouri and Arkansas. Hellbenders are stocky and can exceed 2 feet in length. The only larger salamanders are two Asian relatives that can reach 5 feet, experts say.

While hellbenders have disappeared in parts of Virginia and seem OK in others, scientists need a better understanding of their status to gauge future changes. The scientists hope that in learning more about hellbenders, they can come up with ways to help them. For example, the research may turn up places where streamside plantings would reduce erosion, which is a big threat.

The origin of the hellbender name is unclear. One story has it that mountain people thought the ugly animal came from hell and was bent on going back. Terrell, who previously worked with more charismatic cheetahs, has succumbed to the subtle allure of the hellbender. "I think they are adorable," she said in an interview before the hunt. "They really grow on you, especially the feel of them. They feel soft and squishy. They feel like an eel dipped in Crisco."

Hellbenders have changed little since their ancestors swam with dinosaurs nearly 200 million years ago, Kleopfer said. "I know it sounds like a cliché, but they absolutely are living fossils."

Bill Hopkins, a Virginia Tech biologist who also is involved in the hellbender study, said Virginians should take pride in having such an unusual animal in their waters. Salamanders, which resemble lizards but are more closely related to frogs, are usually just a few inches long.

Schoolchildren love seeing hellbenders, Hopkins said. "To see a salamander as long as your arm is pretty breathtaking."

rspringston@timesdispatch.com, (804) 649-6453

2) Snake Fungal Disease: The White-Nose Syndrome for Reptiles?

By Matt Miller, Senior Science Writer, Cool Green Science, Blog for Nature Conservancy- 6/11/13-

While [studying timber rattlesnake movement patterns and habitat use](#) in Vermont, researchers made a surprising discovery: snakes covered in lesions, particularly around their faces. Called [snake fungal disease](#), it's a disease showing up with increasing frequency in snakes around the eastern and midwestern United States. Conservationists fear it could pose a similar threat to snakes as white-nose syndrome in bats.

That's a scary comparison: [white-nose syndrome](#) was first documented in 2007 in New York and has since spread widely, killing millions of bats as far west as Oklahoma. It has recently been raging through caves in the Smoky Mountains and has been verified in Kentucky's Mammoth Cave National Park. So far, despite many efforts at controlling the spread, the disease rages on. Could snakes face a similar menace?

Timber rattlesnakes don't move as widely as bats, but they do share some habits. They too hibernate underground in communal dens—often with other snake species. During hibernation, immune systems are suppressed. This combination can create a fertile ground for fungal disease growth and spread.

"There has been a lot of money spent on white-nose syndrome, and a lot of educational outreach, but so far they've been unable to stop the spread in bats," says Emily Boedecker, acting state director for The Nature Conservancy in Vermont. "Snakes are even less appreciated by the public than bats. An emerging disease is a significant concern." The research partnership between the [Vermont Department of Fish and Wildlife](#), the [Orianne Society](#) and [The Nature Conservancy](#) captured snakes to monitor their movements through radio telemetry. But they also weighed and measured snakes, and assessed their health. That's when researchers found snake fungal disease. It has never been documented in Vermont before, but now it was turning up on numerous snakes.



Snake fungal disease has been documented sporadically in the past, but it began showing up with increasing frequency beginning in 2006. While it has been known to cause mortality, the effects on snake populations is yet unknown – in large part due to the secretive nature of snakes. “We have more questions than answers,” says Dr. Chris Jenkins, executive director of the Orianna Society. “We don’t know if it’s a big deal yet, but we need to look into it closely.” Jenkins notes that the disease does not appear to be spreading like white-nose syndrome; it is appearing in different parts of the country at the same time. It’s possible that snake fungal disease is not new but is only now being recognized. “Maybe we just weren’t looking for it,” he says. When they emerge from hibernation, timber rattlesnakes bask in the sun, which appears to help control the lesions. Another possibility is that the disease has always been present, but now has been exacerbated by a change in environmental conditions, including climate change.

In Vermont, researchers found that the timber rattlesnake population had relatively low genetic diversity, not surprising given its isolation. “Low genetic diversity and a fungal disease is a combination I find very disconcerting,” says Doug Blodgett, a wildlife biologist for the Vermont Department of Fish and Wildlife.

The problem with wildlife diseases – indeed, any threats to wildlife – is that they are not considered serious threats until it’s too late. It is difficult to predict what will be a minor issue and what will devastate millions of animals – as has turned out to be the case with white-nose syndrome, and fungal diseases impacting amphibians. While snake fungal disease was not a focus of the Vermont research, it may be one of the most important findings. Hopefully this time conservationists can gather necessary information and develop strategies to stop the disease before it devastates snake populations.

“We know so little about this disease, but now we know it’s here and we can start addressing the issue,” says Blodgett. “We know we can’t ignore it. The past should teach us that.”

at <http://blog.nature.org/science/2013/06/11/snake-fungal-disease-the-white-nose-syndrome-for-reptiles/> you can find a photo of milk snake captured in New York shows signs of fungal and bacterial infections. Photo: D.E. Green, USGS National Wildlife Health Center.

3) Evolution Too Slow to Keep Up With Climate Change

July 9, 2013 — Science Daily- Many vertebrate species would have to evolve about 10,000 times faster than they have in the past to adapt to the rapid climate change expected in the next 100 years, a study led by a University of Arizona ecologist has found.

Scientists analyzed how quickly species adapted to different climates in the past, using data from 540 living species from all major groups of terrestrial vertebrates, including amphibians, reptiles, birds and mammals. They then compared their rates of evolution to rates of climate change projected for the end of this century. This is the first study to compare past rates of adaptation to future rates of climate change. The results, published online in the journal *Ecology Letters*, show that terrestrial vertebrate species appear to evolve too slowly to be able to adapt to the dramatically warmer climate expected by 2100. The researchers suggested that many species may face extinction if they are unable to move or acclimate. “Every species has a climatic niche which is the set of temperature and precipitation conditions in the area where it lives and where it can survive,” explained John J. Wiens, a professor in UA’s department of ecology and evolutionary biology in the College of Science. “For example, some species are found only in tropical areas, some only in cooler temperate areas, some live high in the mountains, and some live in the deserts.”

Wiens conducted the research together with Ignacio Quintero, a postgraduate research assistant at Yale University. “We found that on average, species usually adapt to different climatic conditions at a rate of only by about 1 degree Celsius per million years,” Wiens explained. “But if global temperatures are going to rise by about 4 degrees over the next hundred years as predicted by the Intergovernmental Panel of Climate Change, that is where you get a huge difference in rates. What that suggests overall is that simply evolving to match these conditions may not be an option for many species.”

For their analysis, Quintero and Wiens studied phylogenies -- essentially evolutionary family trees showing how species are related to each other -- based on genetic data. These trees reveal how long ago species split from each other. The sampling covered 17 families representing the major living groups of terrestrial vertebrates, including frogs, salamanders, lizards, snakes, crocodylians, birds and mammals. They then combined these evolutionary trees with data on the climatic niche of each species to estimate how quickly climatic niches evolve among species, using climatic data such as annual mean temperature and annual precipitation as well as high and low extremes.



"Basically, we figured out how much species changed in their climatic niche on a given branch, and if we know how old a species is, we can estimate how quickly the climatic niche changes over time," Wiens explained. "For most sister species, we found that they evolved to live in habitats with an average temperature difference of only about 1 or 2 degrees Celsius over the course of one to a few million years." "We then compared the rates of change over time in the past to projections for what climatic conditions are going to be like in 2100 and looked at how different these rates are. If the rates were similar, it would suggest there is a potential for species to evolve quickly enough to be able to survive, but in most cases, we found those rates to be different by about 10,000-fold or more," he said. "According to our data, almost all groups have at least some species that are potentially endangered, particularly tropical species."

Species can respond to climate change by acclimating without evolutionary change or by moving over space to track their preferred climate. For example, some species might be able to move to higher latitudes or higher elevation to remain in suitable conditions as the climate warms. In addition, many species could lose many populations due to climate change but might still be able to persist as a species if some of their populations survive. Barring any these options, extinction is the most likely outcome. He explained that moving to more suitable climatic conditions may not always be an option for many species.

"Some studies suggest many species won't be able to move fast enough," he said. "Also, moving may require unimpeded access to habitats that have not been heavily disturbed by humans. Or consider a species living on the top of a mountain. If it gets too warm or dry up there, they can't go anywhere." In an earlier study, Wiens and co-authors asked what might actually cause species to go extinct. They showed that species extinctions and declines from climate change are more often due to changes in interactions with other species rather than inability to cope with changing conditions physiologically. "What seemed to be a big driver in many species declines was reduced food availability," Wiens said. "For example, bighorn sheep: If it gets drier and drier, the grass gets sparse and they starve to death."

4) Land Trust of Virginia Protects 239-acre Property in Lucketts

Lee Family Protects Farm Owned by Family for more than a Century

(This press release was forwarded by Nicole Hamilton, President Loudoun Wildlife Conservancy, with the following statement from her: "I have fantastic news about the Gum Farm property which Kory {on behalf of VHS} wrote a letter of support for back in August 2011!")

Jeremy Lee has no doubt that his grandparents, Yeager and Mary Gum, would be pleased and proud that he has taken steps to permanently protect his third generation family farm near Lucketts.

Working with the Land Trust of Virginia (LTV), Jeremy and his mother, Susan Lee (with the support of her husband Kenneth Lee) have donated a permanent conservation easement on their 239-acre property, thereby voluntarily relinquishing development rights for an approved 47-lot residential subdivision located less than a mile from Lucketts in northern Loudoun County.

The family farm is situated on James Monroe Highway (Route 15) which serves as the primary route through the Journey Through Hallowed Ground National Heritage Area. The property contains historically significant structures that contribute to the Catoctin Rural Historic District, and one of Loudoun County's oldest known cemeteries, the Oxley family cemetery, which has been cared for by the family since Isaac Dyer and Gertrude Yeager Gum purchased the property more than 100 years ago. In addition to these historic resources, the property also contains prime agricultural land, nearly one mile of perennial stream channels that flow into Limestone Branch (which is a tributary to the Potomac River), and a globally rare, wetland community known as the Piedmont Upland Depression Swamp. As residential development continues to impact groundwater resources in this portion of the Loudoun County (the area known as the Limestone Overlay District), protection of this unique piece of land takes on added significance to the region.

Gary Fleming, an ecologist for the Virginia Natural Heritage Program, said, "The globally rare wetland community on the property is the only known, intact occurrence occupying rare Piedmont karst features in northern Loudoun County. The unique geological setting and zoological resources identified by the Loudoun Wildlife Conservancy and Michael Hayslett of Sweet Briar College make these wetlands even more significant and worthy of conservation and long-term management."

Said LTV Easement Coordinator John Magistro, who worked with the Lee family for many months, Jeremy was really committed to saving this land. He and his family are to be congratulated for their



dedication. This land protects some of the most important natural and cultural conservation values in Loudoun County.”

LTV also worked closely with Joe Coleman and Nicole Hamilton of the Loudoun Wildlife Conservancy (LWC) and Michael Kane of the Piedmont Environmental Council (PEC), who strongly supported the preservation of the property and its resources.

Hamilton said, “Congratulations and a heart-felt thank you to the Lee family and LTV for working through this, and protecting the amazing natural values on this property.”

Kane also praised the Lee family, noting the importance of the property to the local community. Kane observed that “as LWC and PEC worked to preserve the wetland habitat over the past year, we received such enthusiastic support from almost every corner of the Lucketts community, from local civic organizations to elementary school groups. Local residents clearly value the Lee family’s place in the history of the area and their stewardship of the property’s remarkable natural resources. The Lee family’s decision now to conserve the property is a wonderful gift that helps protect what makes the Lucketts area a special place.”

The easement includes a provision that gives the landowners an additional incentive if they wish to convey the fee interest underlying the conservation easement on 40 acres of the protected rare wetland habitat to a conservation organization at some point in the future.

Cate Magennis Wyatt, Founder and President of the Journey Through Hallowed Ground Partnership, also congratulated the Lees and LTV for protecting a key stretch of Route 15, the Journey Through Hallowed Ground National Scenic Byway in the heart of the National Heritage Area. Wyatt said, “On behalf of each of our 350 partnering organizations I extend profound appreciation to the Lee Family for this remarkably generous act. This easement, which honors their family’s untold contributions to the community, will serve as a gift to generations to come. The Land Trust of Virginia has, once again, facilitated a magnificent easement for the betterment of all Loudoun citizens.”

About the Land Trust of Virginia: Based in Middleburg, Virginia, the Land Trust of Virginia is a private, non-profit organization that exists solely to assist private citizens in Virginia protect open space lands and unique natural and historic resources on their properties through conservation easements. Currently, the Land Trust of Virginia (LTV) holds and stewards 121 easements protecting more than 12,000 acres of land in Loudoun, Fauquier, and surrounding counties. LTV specializes in working directly with private landowners to design easements that protect open space, forests, water quality, biodiversity, and historic values, while ensuring that farming, forestry, and other compatible uses can continue.

For more information, contact John Magistro, LTV Easement Coordinator, by phone at (540) 687-8441 or by email at john@landtrustva.org, or visit landtrustva.org.

5) Snake’s alive! Rattlesnake found outside Blacksburg Kroger

Posted July 24, 2013 – [The Burgs: Community News and Photos from Blacksburg and Christiansburg](#). The Burgs, part of the Roanoke Times family, a website and print publication covering Blacksburg, Christiansburg, and communities of the New River Valley.

Shoppers in Blacksburg were startled as a rattlesnake made its way across the Kroger parking lot at Gables Shopping Center Monday afternoon. The snake was spotted slithering towards the store around 4:30 p.m.

Management called the Blacksburg Police to remove it. Police kept the rattlesnake under a shopping basket as onlookers crowded around to take pictures. The Virginia Department of Game and Inland Fisheries came to retrieve the snake shortly after. According Game and Inland Fisheries employee Derek Wheaton, the rattlesnake was abnormally far from home. “They normally stay up in the mountains, the rocky outcrops, that kind of habitat,” Wheaton said. “Nothing around here is really like what they would want.” Mike Pinder, also from the department, said the rattlesnake could’ve gotten off course as it was moving. He also mentioned the possibility that it could’ve belonged to someone as a pet. “This is really odd that it would ever be here,” Pinder said. “It’s super unusual for the species.”

Wheaton and Pinder took the rattlesnake for measurements before returning it to its natural habitat.

– By Calvin Pynn



Police trapped the snake under a shopping basket until game authorities could arrive. Photo by Calvin Pynn.



6) Why Do Herpers Herp? (Virginia Wildlife magazine features VHS & herps)

The May/June 2013 edition of *Virginia Wildlife* magazine features an article by Glenda C. Booth entitled "Why Do Herpers Herp?," describing the importance of this group of animals that are seldom seen – the reptiles and amphibians – herpetofauna or "herps" for short. Herps are great indicators of the health of ecosystems. This article also features comments from several VHS officers and information on VHS. Go to <http://www.dgif.virginia.gov/virginia-wildlife/feature-spotlight/> to view this great article!

Zoo Updates

Virginia Zoological Park

Norfolk

virginiazoo.org



New arrivals into the herpetological collection at Virginia Zoo include:

- a pair of Tanimbar Pythons (*Morelia nauta*) received from the Sedgwick County Zoo,
- 10 Golden Poison Dart Frogs (*Phyllobates terribilis*) received from Santa Ana Zoo,
- 5 Green Tree Pythons (*Morelia viridis*) received from Oklahoma City Zoo, and
- 2 pairs of Painted Agama (*Laudakia stellio brachydactyla*).

Early hatches this year have included 3 William's (Turquoise) dwarf Geckos (*Lygodactylus williamsi*) and we currently have a clutch of Baron's Racer (*Philodryas baroni*) eggs being incubated.

Remember, VHS Members receive a discount of \$2 off of admission.

– Roger Sweeney

Reptiles Alive!

Northern Virginia & DC Area

www.reptilesalive.com



Here is a list of live reptile shows that are open to the public. These shows are geared towards family audiences - all ages are welcome. Some shows may require tickets, but all the shows are FREE. Contact the venue for details. Be sure to check <http://reptilesalive.com/events> for more public events not listed here.

August 2013

Wednesday August 21st 10:30am-11:15am

Live Animal Show

Reptiles Alive!

Little Tots Series

[Virginia Gateway Shopping Center](http://www.virginiagatewayshoppingcenter.com)

Gainesville VA

October 2013

Friday October 25th 6:30pm-7:30pm & 7:30-8:30 pm

Live Animal Show

Creepy Creatures Alive! + Creepy Creature Encounters

Falls Church Halloween Festival

[Falls Church Community Center](http://www.fallschurchcommunitycenter.com)

Falls Church VA

Remember, VHS Members receive a discount when booking shows.

– Caroline Seitz



Virginia Living Museum

Newport News

thevlm.org



Herp news at the Virginia Living Museum

1) The museum has added an Eastern Box Turtle area to the upper level of the Cypress Swamp Habitarium

2) **Frogs and Friends Day** - Nov. 9
Enjoy a day filled with amphibian-related exhibits, activities and programs. Learn ways to help the frogs and friends around you. See several rare and exotic amphibians including: Poison Dart frogs, Cane Toads, Australian Green Treefrog, Aquatic Salamanders, Eastern Narrow-Mouthed Toads and Crocodile newts. There will also be crafts, games, and story time for the kids.



3) Mark your calendars: **Reptiles Bizarre and Beautiful** – Feb. 15-17, 2014

The museum is located at 524 J. Clyde Morris Blvd., Newport News. Fall hours begin Sept. 3: Monday through Saturday 9 a.m. to 5 p.m. and Sunday noon to 5 p.m.

Admission is \$17 for adults and \$13 for children (ages 3-12). Ages 2 and under are free. VHS Members receive a discount of \$1 off admission. Call 757-595-1900 or visit www.thevlm.org for more information.

– Virginia Gabriele

“The clearest way into the Universe is through a forest wilderness.”
~ John Muir

Conservation Key
Herpetofauna Conservation on Military Installations

*By Tim Christensen, Natural Resources Manager,
Joint Base Langley-Eustis, Fort Eustis, VA*

Military installations around the country constituting some 40 million acres contain various habitats that support the ecological requirements for herpetofauna species. In Virginia, military installations occupy over 260,000 acres. Conservation of reptiles and amphibians on military installations is often addressed through Integrated Natural Resource Management Plans (INRMPs) which serve as policy documents for long-term wildlife and habitat sustainability.

Herpetofauna conservation within the military exists through various efforts; however, the U.S. Department of Defense Partners in Amphibian and Reptile Conservation (DoD PARC) is a leader in effort. DoD PARC was formed in 2009 through efforts of biologists Chris Petersen and Robert Lovich, assigned to the U.S. Naval Facilities Engineering Command (NAVFAC) with the objective of sustaining herpetofauna resources. This effort is representative of the military's commitment to natural resources conservation while retaining national defense readiness via long-term habitat conservation. Membership encompasses military personnel and



civilian employees from across all Military Services (Navy, Marine Corps, Air Force, and Army).

Chris Petersen is a graduate of Old Dominion University where he studied under Dr. Alan Savitzky. His Master's degree was on the habitat use and movement patterns of copperhead snakes in Virginia. He has also been studying the Canebrake rattlesnakes in Virginia for nearly 20 years.

Rob Lovich is a native of Alexandria, Virginia and has studied the natural history and evolution of herpetofauna of the southwestern United States for the past 2 decades. His PhD. dissertation was on the molecular systematics of the Arroyo Toad, and he is also co-editor of "Lizards of the American Southwest."

DoD PARC Goals include:

- Provide sound, science-based management and conservation guidelines, priorities, and objectives for amphibians and reptiles on DoD installations.
- Manage populations of amphibians and reptiles to achieve mission and conservation sustainability goals.
- Provide educational materials, tools and support for amphibian and reptile stewardship and management for incorporation into DoD's Integrated Natural Resource Management Plans and National Environmental Policy Act documents.
- Increase awareness, involvement, and communication among natural resources managers and others within DoD.
- Develop partnerships outside of the DoD community.

Though DoD-PARC is a relatively new organization, it has already made significant accomplishments in herpetofauna conservation. A DoD-PARC Action Plan is under development that when completed will provide guidance and critical information to installation natural resources managers towards incorporating herpetofauna management and research. Additionally, a DoD-PARC website provides a plethora of information in the form of photographs, publications, other literature, links and discussion forums allowing members to communicate across military institutions inclusively. The website can be found at <http://dodparcphotolibrary.shutterfly.com/>. In 2013, DoD-PARC initiated a worldwide survey for

Batrachochytrium dendrobatidis (Bd) fungus that causes chytridiomycosis in amphibians involving over 60 military installations located in the United States and abroad. See the link to the final report from this project, "[Do Frogs Still Get Their Kicks on Route 66?](#)".

A multitude of other herp conservation activities abound on military installations. Major studies on canebrake rattlesnakes have been conducted at the Naval Support Activity Hampton Roads, Northwest Annex in Chesapeake since 1995. At that time the Navy wanted to examine the loss of forestry canopy density on canebrake rattlesnake behavior. This led to an agreement between Northwest Annex and Old Dominion University, with funding and support by Virginia Department of Game and Inland Fisheries (VDGIF) and the Navy. JBLE, Fort Eustis, documented ten snake species, twelve anurans, three salamanders and three lizards. In 2007, a comprehensive turtle inventory was completed with ten species documented out of a possible thirteen. Annually since 2011, a box turtle survey is conducted as part of the installation's Earth Day celebration and has become a popular event



Fort Eustis soldiers and civilians help record box turtle data during Earth Day 2011.

among soldiers, civilian employees and dependents. Additionally, both natural and cultural resources staff keep a kit on hand to document biological data on box turtles found during visual encounters.

Interested in learning more about DoD PARC? Visit their website or contact the DoD PARC Program Coordinators:

Robert Lovich, PhD.
619-532-1478
robert.lovich@navy.mil

Chris Petersen
757-322-4560
chris.petersen@navy.mil



“Humankind has not woven the web of life. We are but one thread within it. Whatever we do to the web, we do to ourselves. All things are bound together. All things connect.”

~ Chief Seattle

New Books

Title: *Frogs of the United States and Canada (Two Volume Set)*

Author: C. Kenneth Dodd, Jr.

Publisher: Johns Hopkins University Press

Publication date: June 2013

Price: \$180.00 (through publisher) OR \$136.49 (through Amazon.com)

Description: With many frog populations declining or disappearing and developmental malformations and disease afflicting others, scientists, conservationists, and concerned citizens need up-to-date, accurate information. *Frogs of the United States and Canada* is a comprehensive resource for those trying to protect amphibians as well as for researchers and wildlife managers who study biodiversity. From acrobatic tree frogs to terrestrial toads, C. Kenneth Dodd Jr. offers an unparalleled synthesis of the biology, behavior, and conservation of frogs in North America. This two-volume, fully referenced resource provides color photographs and range maps for 106 native and nonindigenous species and includes detailed information on- past and present distribution- life history and demography - reproduction and diet- landscape ecology and evolution- - diseases, parasites, and threats from toxic substances- conservation and management. Hardcover. 1032 pages. ISBN-13: 9781421406336.



Title: *A Natural History of the Central Appalachians*

Author: Steven L. Stephenson

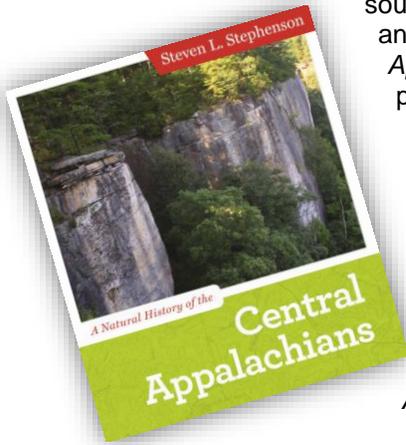
Publisher: West Virginia University Press, Morgantown, WV

Publication date: March 2013

Price: \$29.99 (through publisher) OR \$20.16 (through Amazon.com)



Description: Central Appalachia is the system of linear ridges, intervening valleys, and deeply dissected plateaus that make up the rugged terrain found in western and southwestern Virginia, eastern and central West Virginia, western Maryland, and a portion of south central and southwestern Pennsylvania. Through its concise and accessible approach, *A Natural History of the Central Appalachians* thoroughly examines the biology and ecology of the plants, animals, and other organisms of this region of eastern North America. With over 120 images, this text provides an overview of the landscape of this region, including the major changes that have taken place over the past 300 million years; describes the different types of forests and other plant communities currently present in Central Appalachia; and examines living systems ranging from microorganisms and fungi to birds and mammals. Through a consideration of the history of humans in the region, beginning with the arrival of the first Native Americans, *A Natural History of the Central Appalachians*. Softcover. 304 pp. ISBN 9781933202686.



Title: The Turtles of Mexico: Land and Freshwater Forms

Author: John Legler and Richard Vogt

Publisher: University of California Press

Publication date: July 2013

Price: \$118.75 (See below for ordering information advertised on HerpDigest, with free shipping & handling, and autographed by Richard Vogt)

To order: Send check or money order on a USA bank for (Turtles of Mexico-\$118.75) to the checking account 5-62-6504 of Richard C. Vogt

Mail it to:

P7-PFSC-04-C

PNC BANK BY MAIL

500 First Ave

Pittsburgh, PA 15219-3129

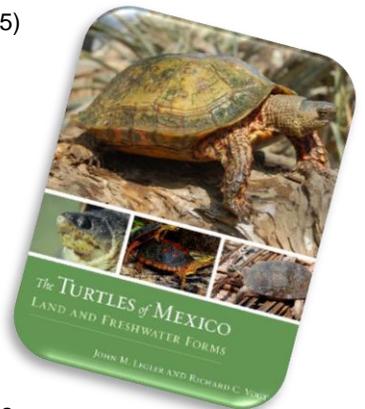
USA

- IF the check is not drawn on a USA bank there is a \$25 service fee.
- And send Dick Vogt (dickturtlevogt@gmail.com) an email with a photocopy of the check when you have mailed it to the bank, and an address of where to send the book(s). He will send an autographed copy of the book(s) when the bank has cleared with the bank.
- If you are asking him to mail the book out of the US, email him first.

Description, as seen in HerpDigest: The Turtles of Mexico is the first comprehensive guide to the biology, ecology, evolution, and distribution of more than fifty freshwater and terrestrial turtle taxa found in Mexico. Legler and Vogt draw on more than fifty years of fieldwork to elucidate the natural history of these species.

The volume includes an extensive introduction to turtle anatomy, taxonomy, phylogeny, biogeography, and physiology. A key to the turtles of Mexico is included along with individual species accounts featuring geographic distribution maps and detailed color illustrations. Specific topics discussed for each species include habitat, diet, feeding behavior, reproduction, predators, parasites, growth and ontogeny, sexual dimorphism, growth rings, economic use, conservation, legal protection, and taxonomic studies.

This book is a complete reference for scientists, conservationists, and professional and amateur enthusiasts who wish to study Mexican turtles. 416 pages, Hardcover, Over 500 illustrations (Drawings and if a photograph in color).





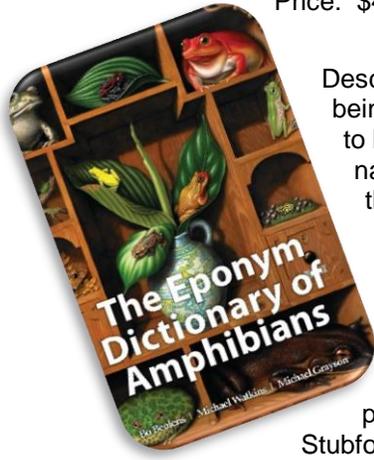
Title: The Eponym Dictionary of Amphibians

Authors: Bo Beolens, Michael Watkins, and Michael Grayson

Publisher: Pelagic Publishing Ltd

Publication date: April 2013

Price: \$49.99 (through publisher) OR \$45.50 (through Amazon.com)



Description from Amazon.com: New species of animal and plant are being discovered all the time. When this happens, the new species has to be given a scientific name in addition to any common, vernacular name. In either case the species may be named after a person, often the discoverer but sometimes an individual they wished to honor or perhaps were staying with at the time the discovery was made.

Species names related to a person are 'eponyms'. Many scientific names are allusive, esoteric and even humorous, so an eponym dictionary is a valuable resource for anyone, amateur or professional, who wants to decipher the meaning and glimpse the history of a species name. Sometimes a name refers not to a person but to a fictional character or mythological figure. The Forest

Stubfoot Toad *Atelopus farci* is named after the FARC, a Colombian guerrilla army who found refuge in the toad's habitat and thereby, it is claimed, protected it. Hoipollo's Bubble-nest Frog *Pseudophilautus hoipolloi* was named after the Greek for 'the many', but someone assumed the reference was to a Dr Hoipollo. Meanwhile, the man who has everything will never refuse an eponym: Sting's Treefrog *Dendropsophus stingi* is named after the rock musician, in honor of his 'commitment and efforts to save the rainforest'. Following the success of their Eponym Dictionary of Reptiles, the authors have joined forces to give amphibians a similar treatment. They have tracked down 1,609 honored individuals and composed for each a brief, pithy biography. In some cases these are a reminder of the courage of scientists whose dedicated research in remote locations exposed them to disease and even violent death. The eponym ensures that their memory will survive, aided by reference works such as this highly readable dictionary. Altogether 2,668 amphibians are listed. 262 pages, hardback.

Virginia Literature

These selections represent articles published or in press during the period September to December 2012 and January 2013. Included articles are focused on (1) studies performed within Virginia, (2) studies on reptiles or amphibians native to Virginia, or (3) additional herpetological topics that are of general interest. Compiled by Susan Watson.

Wood, Petra Bohall and Jennifer M. Williams. Mar 2013. Impact of Valley Fills on Streamside Salamanders in Southern West Virginia. *Journal of Herpetology*. Vol. 47(1): 119-125.

Goodman, Rachel M., Debra L. Miller, and Yonathan T. Ararso. June 2013. Prevalence of Ranavirus in Virginia Turtles as Detected by Tail-Clip Sampling Versus Oral-Cloacal Swabbing. *Northeastern Naturalist*. Vol. 20(2): 325-332.

Homyack, Jessica A. and Carola A. Haas. June 2013. Effects of Repeated-Stand Entries on

Terrestrial Salamanders and their Habitat. *Southeastern Naturalist*. Vol. 12(2): 353-366.

Fairman, Christy M., Larrissa L. Bailey, Randolph M. Chambers, Timothy M. Russell, and W. Chris Funk. June 2013. Species-Specific Effects of Acidity on Pond Occupancy in *Ambystoma* Salamanders. *Journal of Herpetology*. Vol. 47(2): 346-353.

Duke, Clifford S. and John H. Porter. June 2013. The Ethics of Data Sharing and Reuse in Biology. *BioScience*. Vol. 63(6): 483-489.



Wickham, James, Petra Bohall Wood, Matthew C. Nicholson, Williams Jenkins, Daniel Druckenbrod, Glenn W. Suter, Michael P. Strager, Christine Mazzarella, Walter Galloway, and John Amos. May 2013. The Overlooked Terrestrial Impacts of Mountaintop Mining. *BioScience*. Vol. 63(5): 335-348.

Becker, Sharon, Christopher Moorman, Christopher DePerno, and Theodore Simons. June 2013. Quantifiable Long-term Monitoring on Parks and Nature Preserves. *Southeastern Naturalist*. Vol. 12(2): 339-352.

Bruce, Richard C. Jul 2013. Size-Mediated Tradeoffs in Life-History Traits in Dusky Salamanders. *Copeia*. Vol. 2013(2): 262-267.

Williams, Sea Rogers, V.M.D., Sophie Dennison, B.V.M.S., M.R.C.V.S., Dipl. A.C.V.R., Bridget Dunnigan, M.S., D.V.M., Brian Moore, Joanne Nicholson, Kathy Zagzebski, M.E.M., Darlene Ketten, Ph.D., Scott Cramer, and Julie Arruda. June 2013. Diagnosis and Management of Intestinal Partial Obstruction in a Loggerhead Turtle (*Caretta caretta*). *Journal of Zoo and Wildlife Medicine*. Vol. 44(2): 457-461.

Willoughby, Janna R., Mekala Sundaram, Timothy L. Lewis, and Bradley J. Swanson. June 2013. Population Decline in a Long-Lived Species: The Wood Turtle in Michigan. *Herpetologica*. Vol. 69(2): 186-198.

Blaustein, Richard. Feb 2013. Urban Biodiversity Gains New Converts. *BioScience*. Vol. 63(2): 72-77.

Graham, Sean P., Michael A. Alcorn, Elizabeth K. Timpe, and Jennifer Deitloff. Apr 2013. Seasonal Changes of Primary and Secondary Sexual Characteristics in the Salamanders *Eurycea aquatic* and *E. cirrigera*. *Herpetological Conservation and Biology* 8(1): 53 – 64.

Halstead, Brian J., Glenn D. Wylie, and Michael L. Casazza. Apr 2013. Efficacy of Trap Modifications for Increasing Capture Rates of Aquatic Snakes in Floating Aquatic Funnel Traps.

Herpetological Conservation and Biology 8(1): 65 – 74.

Parren, Steven G. Apr 2013. A Twenty-five Year Study of the Wood Turtle (*Glyptemys insculpta*) in Vermont: Movements, Behavior, Injuries, and Death. *Herpetological Conservation and Biology* 8(1): 176–190.

Pierce, Benjamin A. and Alexander S. Hall. Apr 2013. Call Latency as a Measure of Calling Intensity in Anuran Auditory Surveys. *Herpetological Conservation and Biology* 8(1): 199 – 206.



Radzio, Thomas A., Jaclyn A. Smolinsky, and Willem M. Roosenburg. Apr 2013. Low Use of Required Terrapin Bycatch Reduction Devices in a Recreational Crab Pot Fishery. *Herpetological Conservation and Biology* 8(1): 222–227.

Wood, Lawrence D., Robert Hardy, Peter A. Meylan, and Anne B. Meylan. Apr 2013. Characterization of a Hawksbill Turtle (*Eretmochelys imbricate*) Foraging Aggregation in a High-Latitude Reef Community in Southeastern Florida, USA. *Herpetological Conservation and Biology* 8(1): 258 – 275.

Hopkins, Brittney C., Stephanie Y. Chin, John D. Willson, and William A. Hopkins. July 2013. Like Mother, Like Offspring: Maternal and Offspring Wound Healing Correlate in Snakes. *Journal of Experimental Biology*. Vol. 216(14): 2545-2547.

Foden, Wendy B. Foden, Stuart H. M. Butchart, Simon N. Stuart, Jean-Christophe Vié, H. Resit Akçakaya, Ariadne Angulo, Lyndon M. DeVantier, Alexander Gutsche, Emre Turak, Long Cao, Simon D. Donner, Vineet Katariya, Rodolphe Bernard, Robert A. Holland, Adrian F. Hughes, Susannah E. O'Hanlon, Stephen T. Garnett, Çagan H. Şekercioğlu, Georgina M. Mace. June 2013. Identifying the World's Most Climate Change Vulnerable Species: A Systematic Trait-Based Assessment of all Birds, Amphibians and Corals. *PLoS ONE*. Vol. 8 (6): e65427 DOI: [10.1371/journal.pone.0065427](https://doi.org/10.1371/journal.pone.0065427)



Herpetera

6th Symposium on the Ecology, Status and Conservation of Diamondback Terrapins (1 Continue to Celebrate Year of the Snake and Preview 2014's Designation! (2

Second Annual Reptile and Amphibian Law Symposium & Workshop 3) Donate to Salamanders at National Zoo 4) Herpy Humor 5)

1) 6th Symposium on the Ecology, Status and Conservation of Diamondback Terrapins

The Symposium will be held at St. Christopher's Camp and Conference Center from September 13-15th. You will find registration and lodging information on the meeting website listed below. Lodging reservations are made through the registration process. We look forward to seeing you in September on Seabrook Island!

Meeting Website:

<http://www.bio.davidson.edu/terrapin2013/welcome.html>

<http://www.dtwg.org>

Thank you to our partners for their generous support of our meeting!

College of Charleston, Davidson College, Holy City Brewing, Kiawah Island Nature Program, Low Country Institute, Partners in Amphibian and Reptile Conservation, Resort Quest, Savannah River Ecology Laboratory, University of North Carolina Wilmington & Zoo Atlanta

2) Continue to Celebrate Year of the Snake and Preview 2014's Designation!

Continue to celebrate Year of the Snake (2013) with Partners in Amphibian and Reptile Conservation (PARC)! Here's the July issue of the Year of the Snake newsletter, which includes information World Snake Day, which was held on on July 16th:

<http://www.parcplace.org/images/stories/YOS/YearoftheSnakeNewsJuly.pdf>

Additionally, 2014 has been designated as Year of the Salamander, here is more information, including contests for a logo and calendar photos:

<http://www.parcplace.org/news-a-events/2014-year-of-the-salamander.html>

Log on to www.yearofthesnake.org to learn more!



3) Second Annual Reptile and Amphibian Law Symposium & Workshop

The [Reptile and Amphibian Law Symposium & Workshop](#) will include three days of panels, workshops, breakout sessions and talks with the goal of bringing all parties interested in reptiles and amphibians and the law to the table, to discuss changes and issues with current and proposed reptile and amphibian laws and regulations at the local, state, federal, and international levels. This event will take place in Washington D.C., on Nov. 8-10, 2013, at George Washington University.

This event is being organized by a loose working group of people interested in reptiles and amphibians and the law, called the National Reptile Amphibian Advisory Council ([NRAAC](#)), with the assistance of the Pet Industry Joint Advisory Council ([PIJAC](#)), the Association of Reptilian and Amphibian Veterinarians ([ARAV](#)), Association of Zoos and Aquariums ([AZA](#)), and [George Washington University Law School](#) Animal Law Program. If you are interested in participating in this discussion, or possibly assisting/volunteering/participating in this event, please register below, and also join our [working group on Facebook](#), or/and send [an email](#).

4) Donate to Salamanders at the National Zoo!

The Salamander Ambassadors are a group of Friends of the National Zoo volunteers who are working to help Smithsonian's National Zoo help salamanders from Appalachia. For all of 2013, we will be raising money and awareness for these Jewels of Appalachia. Our goal is to raise enough money to build a sophisticated, mixed-



species exhibit in the Reptile Discovery Center. The new exhibit will feature 10 salamander species that can all be found in Virginia.



Please join us by donating today! Your gift will help uncover these elusive treasures and bring these Appalachian jewels out of hiding for all to enjoy. 100% of your donation will go directly to support this effort. Go to www.fonz.org/salamanders and click on "learn how you can help" to donate.

5) Herpy Humor (A Reprint from Catesbeiana Vol. 3 No. 1 & 2)

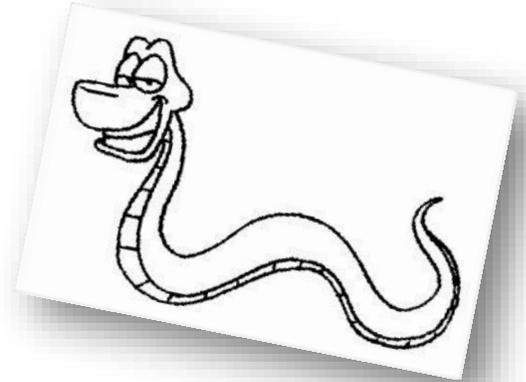
Humor

The following is a bit of wit that was developed at a couple of southern institutions (academic?). We offer it here with the hopes that it may be expanded upon or, at least, may delight your friends.

"Herpetological Myths and the Care and Feeding of a Herpetologist"

In our scientific age, the public has become conversant with a variety of technical subjects. Unfortunately, this general knowledge almost invariably excludes herpetology. The average person seems to know more about conditions on the moon than he or she does about the herpetologist in their own back yard.

The following information is offered in the hope that it will help to correct this inequity. In Part I, for general readers, we wish to present the facts regarding certain fallacies that have gained currency. Part II, for the serious student of herpetology or the spouse, thereof, consists of basic guidelines for care and feeding.



I. Facts and Fallacies

"Shaking Hands with a Herpetologist Can Give You Warts." Clammy palms notwithstanding, shaking hands with a herpetologist will give you no more than a momentary shudder. You can't get warts from a herpetologist unless you kiss a herpetologist. It is widely felt that this is a small price to pay for the thrill.

"A Herpetologist Will Go Out of Its Way To Attack." Wrong! The herpetologist is actually a shy creature, and usually seeks only to escape when surprised. He will defend himself vigorously, however, if you inadvertently step on his or her thesis.

"Herpetologists Swallow Their Young To Protect Them." This absurd superstition no doubt rose from two entirely disparate facts: (1) Herpetologists are often found surrounded by juvenile herpetologists; and (2) adult herpetologists are usually seen to have their mouths open. Let us make one thing perfectly clear: Herpetologists do NOT swallow their offspring. Only ichthyologists do that.

"Herpetologists Live for Centuries." The average life span of a herpetologist is not as long as was once supposed, though it is longer for those with "field" orientation than those confined to laboratory surroundings. Studies of captive herpetologists indicate that most live only as long as they are allowed to, and no longer.

"Herpetologists Hypnotize Their Conquests." This fallacy no doubt gained popular credence because so many people faint or are stunned to immobility when confronted with a herpetologist. It has been perpetuated by ichthyologists in an attempt to explain why herpetologists do better in singles bars than they do. A herpetologist may bore you to numbness, but will not and cannot hypnotize you.

"There Is a 'Hoop' Herpetologist That Rolls Down Hills." Not so! The person who started this rumor probably saw a herpetologist rolling down a hill yelling "Hoop, Hoop, Hoop." This is not a "hoop" herpetologist, but a common herpetologist (*H. mirabilis*) who has either stumbled over a beehive or been too long at a meeting.



II. The Keeper and the Kept

“How To Capture a Herpetologist.” Be a good listener with a strong stomach, or be the first member of the opposite sex seen by the herpetologist after returning from a long trip.

“Care and feeding of a Herpetologist.” Herpetologists are astonishingly easy to care for. They should be kept warm, cuddled frequently, kept dry, and provided with ultra-violet light. They can be persuaded to accept such diverse foods as potato chips, beef, and their own words. Under no circumstances should you offer them turtle soup or frog’s legs; their digestive systems seem to reject these delicacies. Offer fresh water daily and provide them with beer and cheap wine ad libidum.

“Diseases of a Herpetologist.” Herpetologists are much like many other mammals – wart hogs and the chimpanzee come to mind – and have much the same pathology. Do not become overly concerned if your herpetologist appears to be ill. However, if he or she lies without moving for more than two weeks, you’d better get yourself another herpetologist. And, if small horns begin to appear supratemporally, apply the treatment suggested below.

“What To Do If Bitten by a Herpetologist.” If the herpetologist is of the same sex: bite back. If the herpetologist is of the opposite sex, biting may be interpreted with confidence as courtship behavior. The proper response is to gently bite back and stroke the herpetologist’s thighs.

“Determining the Sex of Your Herpetologist.” Bite it and note the response using the criteria mentioned above.





Answers from pages 8-9.

Trivia Answers

1. True or False: Just like bullfrogs, green frogs, and carpenter frogs, the sex of adult wood frogs can be determined by the size of the eye.

- **The answer is False.**



2. According to experts studying the disappearance of the eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*) from some of southwestern Virginia's stretches of streams, what appears to be a big cause of this species' plight, currently?

- **The answer is Pollution.**

3. What Can you identify this native subadult turtle?

- **This is a State Endangered species, the Eastern Chicken Turtle (*Deirochelys reticularia reticularia*)**



4. Can you identify this snake?

- **Brown Watersnake (*Nerodia taxispilota*)**



5. Eastern hellbenders spend most of their time hiding under rocks of stream bottoms to eat what type of animal?

- **Crawfish. (also known as Crayfish, Crawdad, or Mud Bug)**

6. Can you identify this frog?

- **Green frog (*Lithobates clamitans*). On this individual the dorsolateral ridge is shorter than usual on one side. The ridge on the other side of this individual is a more typical length for this species, extending further down the body, but not reaching the groin.**





7. True or False: Eastern hellbenders like warm, slow-moving waters, which are low in oxygen.
 - **The answer is false. They like cool, swift waters, which are high in oxygen.**

8. Can you identify these turtles?

- **Both turtles are Eastern River Cooters (*Pseudemys concinna concinna*) from Chesterfield County. River Cooters in general are highly variable as neonates, and this is especially true along the fall line where its range comes in contact with the Coastal Plain Cooter (*Pseudemys concinna floridana*).**



9. True or False: A strange social interaction exists between Eastern Box Turtles (*Terrapene carolina carolina*) and the Eastern American Toad (*Anaxyrus americanus americanus*). When female box turtles are kept with female American toads, both turtles and toads eat significantly faster than normal.
 - **The answer is True. The source is: Overmann, S. R. and R. Boice, 1970. Social facilitation of feeding in box turtles and American toads. Ecol. Soc. Amer. Bull. 51(4): 23. No satisfactory explanation has been presented for this behavior.**

10. Which of the following are alternative common names for the eastern hellbender? ?

- Snot Otter,
- Devil Dog,
- Allegheny Alligator,
- All of the above.

- **The answer is d., 'All of the above'.**



Send ideas for Herp Trivia to newsletter editor, Susan Watson, newsletter@vaherpsociety.com.





Virginia Native

The purpose of **Virginia Native** is to highlight native species that deserve recognition. Additional information can be found on the website of the Virginia Department of Game and Inland Fisheries (VDGIF).

<http://www.dgif.virginia.gov/wildlife/information>.

Timber Rattlesnake (*Crotalus horridus*)



Timber rattlesnake,
yellow phase



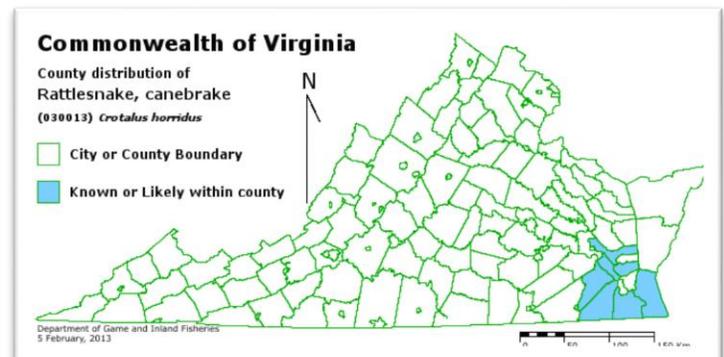
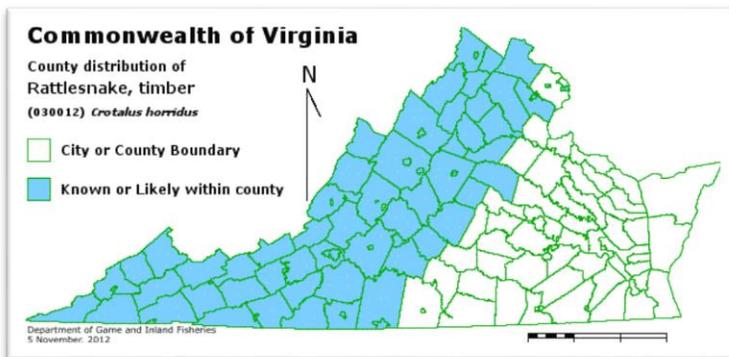
Timber rattlesnake,
black phase



Canebrake rattlesnake,
male guarding female

Characteristics

This species is known in two different populations, located in different geographic locations, in Virginia. The timber rattlesnake is in the western, mountainous portions of the state, while the canebrake rattlesnake is in the extreme southeastern portion of the state. Only the canebrake rattlesnake, or southeastern population of *Crotalus horridus*, is a state endangered species.



The species is sometimes called the "velvet-tail" or "banded" rattler. This large, venomous snake grows to lengths of 36-60 in. (90-152 cm). This species is diurnal in the spring and fall, and nocturnal in the summer. This species has a pit below each eye. The pupil of the eye is vertical and elliptical. The black tail is tipped with a rattle.

In the timber rattlesnake, there are two major color patterns: (1) the yellow phase, in which there are black or dark brown cross-bands on a ground color of yellow, brown, or gray; the crossbands, which may be V-shaped, break up anteriorly to form a row of darker spots down the back, plus a row along each side of the body; and (2) the black phase, in which the head is black and there are black blotches and chevrons on a ground color of dark brown to nearly black. This species will emerge from hibernation in April and May, and mate soon thereafter, sometimes before leaving the den. They give birth to 5-19 young in August and September. In the fall, they congregate in considerable numbers near favored den sites and often hibernate with copperheads and other snakes. This snake does not defend a territory.



The canebrake rattlesnake differs from the timber rattlesnake, in that it is pinkish to light tan with dark-brown to black blotches and chevrons, and it has a marked stripe down the back and a stripe from the eye to the jaw. There are no yellow and black phases in the canebrake. Males grow larger than females. Mating occurs late July to early September, one year previous to the female bearing the live young. This snake bears litters of 7-13 during late August and early September.

Distribution

The timber rattlesnake occurs at elevations up to 6000 feet, and sometimes higher, in the Blue Ridge, in the far western mountains, and in the western Piedmont. It inhabits upland hardwood and mixed pine-hardwood forests, in areas where there are sunny, rocky slopes and ledges. This snake needs places to hibernate that allow it to stay below the frost line, such as large cracks in rocky outcroppings.

The canebrake rattlesnake inhabits hardwood and mixed hardwood-pine forests, cane fields, and the ridges and glades of swampy areas in localized areas of southeastern Virginia. It overwinters in the base of hollow trees or in stumps.

Foods

Both prey mostly on small mammals, but will also eat some frogs and birds. The canebrake is particularly fond of squirrels and occasionally rabbits as its small mammal prey of choice.



Common Name: Timber Rattlesnake (or Canebrake Rattlesnake, as it's southeastern Virginia and state endangered population is known)

Scientific Name: *Crotalus horridus*

Genus: *Crotalus* is derived from the Latin word *crotalum* which means "rattle".

Species: *horrid* is Latin for 'dreadful'.

Average Length: 30 - 60 in. (90 - 152 cm)

Virginia Record Length: 67.1 in. (170.5 cm)

Record length: 74.5 in. (189.2 cm)

Timber rattlesnake populations:

Virginia Wildlife Action Plan Rating Tier IV - Moderate Conservation Need - The species may be rare in parts of its range, particularly on the periphery. Populations of these species have demonstrated a significant declining trend or one is suspected which, if continued, is likely to qualify this species for a higher tier in the foreseeable future. Long-term planning is necessary to stabilize or increase populations.

Southeastern "Canebrake" populations:

Virginia Wildlife Action Plan Rating Tier II - Very High Conservation Need - Has a high risk of extinction or extirpation. Populations of these species are at very low levels, facing real threat(s), or occur within a very limited distribution. Immediate management is needed for stabilization and recovery.



Timber rattlesnake