



John White  
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# VIRGINIA HERPETOLOGICAL SOCIETY

VOL. 26 NO. 1 JANUARY 2016

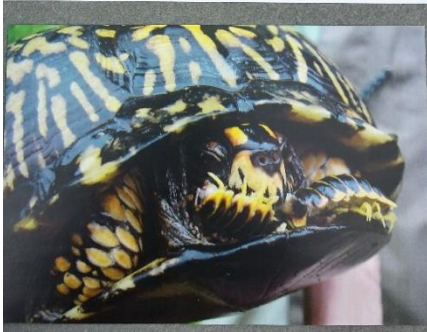
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# Fall Meeting Summary



This year's annual meeting was a great success at a beautiful setting, thanks to the VCU Rice Rivers Center. Marks of success included at least 45 attendees, live reptiles and amphibians on display, great presentations, some nice items up for auction, beautiful photos to view and vote on for the Photo Contest, and a great lunch provided by VHS officers, who volunteered to bring items and grill hamburgers, hot dogs, and veggie burgers.

In appreciation for being such a fantastic host facility that also provides opportunities for its students in education and research in the field of environmental science, VHS presented a \$500 donation to the VCU Rice Rivers Center, with Anne Wright of VCU accepting on behalf of the center.

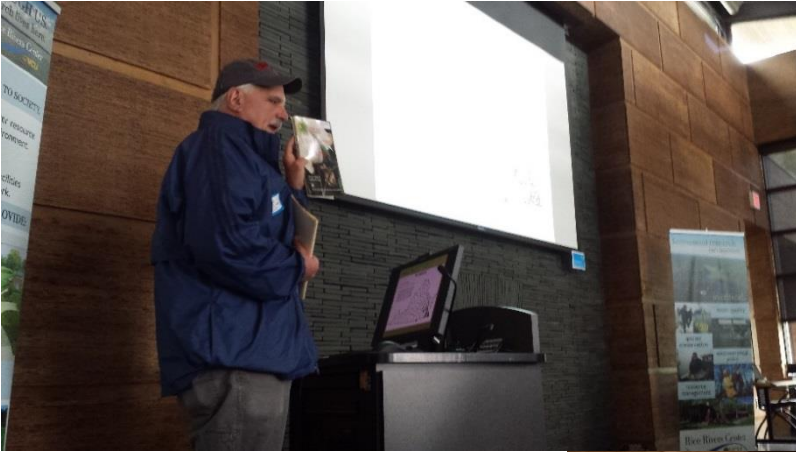
Also, in appreciation for years of diligent dedication to the cause of helping homeless reptiles find suitable adopters and educating the public about reptiles, VHS presented a \$500 donation to Virginia Reptile Rescue (VARR). Bonnie Keller accepted the donation on behalf of her organization. Thank you, Bonnie, for all the great work you do as a volunteer on your own time with both VARR and VHS! VHS greatly appreciates the captive herps you were able to bring to the Fall Meeting! Please check out a great write-up about VARR in the "Save Our Scales" section of this issue. This article also provides photos of some great reptiles that are up for adoption, which may be great additions to the family for the New Year!



*Top: VHS Photo Contest entries*

*Center: VHS Grillers!*

*Bottom: Cassandra Cook's presentation*



Lastly, the meeting was wrapped up with a great business meeting, where the outgoing Vice President, Mike Salotti, presented outgoing President, Kory Steele, with a wonderful award of appreciation for his service as VHS President. Read on for VHS Elections and Other Ex Com Updates!



*Top: Mike Clifford's Presentation*

*Center: Mike Salotti presenting Kory Steele with award of appreciation*

*Bottom: Dr. David McLeod's presentation*



# Herp Trivia

1. WHAT SPECIES OF SNAKE DID THIS FISH EAT?



Photo Credit: Chad Boyce, DGIF

2. What is unique about the dorsolateral ridge of the American Bullfrog (*Lithobates catesbeianus*)?

3. At what state agency exhibit did this pair enjoy learning about and handling snakes?



4. Can you identify this newly described species that is now known to occur in VA?



© J.D. Kleopfer

Solutions  
on page 19!



5. How is NOT raking your leaves beneficial to native herps?

"Creative Commons autumn leaves frame PNG leaf" by Melissa\_tm, used under [CC BY](#) / rotated/resized from original



Image Credit: [Sharpj99](#), licensed by [cc 2.0](#)

## Researchers Confirm Snake Fungal Disease Culprit

Researchers have been able to identify the fungus that's causing snake fungal disease, an emerging disease in the eastern and Midwestern United States that causes lesions on a number of snake species.

While past research has confirmed the fungus *Ophidiomyces ophidiicola* in the snakes' lesions, researchers hadn't tested whether the fungus is the agent causing the disease. "Just because something is correlated with disease, doesn't necessarily make it the causative agent," said Jeffrey Lorch, a microbiologist at the United States Geological Survey National Wildlife Health Center and lead author of the study published in *mBio*, an open-access journal of the American Society for Microbiology.

Lorch, a member of The Wildlife Society, was able to prove this. With his research team, Lorch took healthy corn snakes (*Pantherophis guttatus*) bred in captivity and exposed them to the fungus to see if they developed the same clinical and microscopic signs of the disease. After touching fine grain sandpaper to the snakes' skin to create abrasions, researchers inoculated the fungus onto the snakes' skin. "We also put it on the animals that didn't have their skin abraded," Lorch said. The team also had a control group that wasn't exposed to the fungus at all.

The snakes with abraded skin were more likely to come down with the infection, Lorch said. In the wild, Lorch said that it probably isn't uncommon for snakes to develop the small cuts they simulated in the experiment by simply from crawling on the ground. The team found that none of the snakes from the control group contracted the disease, while all of the ones in the experimental group did.

The team was also surprised by some of their observations in the laboratory. They saw snakes that were infected were exposed in certain areas of their cages although there was no basking light or heat gradient. In the wild, snakes have been observed doing similar abnormal



behaviors such as basking in winter when they should be hibernating. “It’s interesting that we saw this in the lab, too,” Lorch said. With this knowledge, some biologists have proposed opening forest canopy where some rattlesnake dens are becoming shaded, so the snakes’ get more sun exposure to fight off the infection.

They also found that the snakes exposed to the fungus molted almost twice as frequently as the control group, which was abnormal. They were likely doing this in an attempt to shed the fungus from their skin, Lorch said.

“There was strong evidence before that showed the fungus probably was the cause,” Lorch said. “But we didn’t have complete confirmation. Now that we know, we can focus our attention specifically on that fungus and its interactions with snakes that result in disease progression.”



*Dana Kobilinsky is an associate science writer at The Wildlife Society. Contact her at [dkobilinsky@wildlife.org](mailto:dkobilinsky@wildlife.org) with any questions or comments about her article. You can also follow her on Twitter at [@danasaur92](https://twitter.com/danasaur92).*

[Read more of Dana's articles by clicking here.](#)

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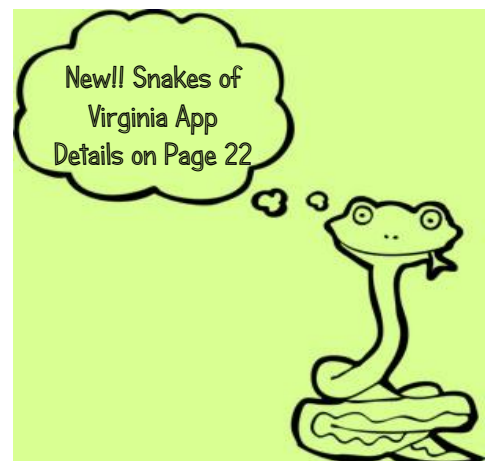
## Scientists discover method to eliminate killer fungus in amphibians

Posted: Nov. 18, 2015 by Zoological Society of London (ZSL) Institute of Technology

Research published today details the first-ever successful elimination of a fatal chytrid fungus in a wild amphibian, marking a major breakthrough in the fight against the disease responsible for devastating amphibian populations worldwide. The highly-infectious chytrid pathogen has severely affected over 700 amphibian species worldwide; driving population declines, extirpations and species extinctions across five continents.

Results from the seven-year study show the first evidence of eradicating the chytrid pathogen *Batrachochytrium dendrobatidis* (*Bd*) affecting amphibians in situ. Published 18 November in *Biology Letters*, [the paper](#) details the outcome of a project led by scientists from the Zoological Society of London (ZSL), the National Museum of Natural History in Spain (MNCN), and Imperial College London.

The study combined antifungal treatment of Mallorcan midwife toad (*Alytes muletensis*) tadpoles with environmental disinfection. By using an antifungal to treat tadpoles and a common laboratory decontaminant to sterilize the environment, researchers were able to clear infection from populations of the toad over the research period.





**The study combined antifungal treatment of Mallorcan midwife toad tadpoles with environmental disinfection. Image (c) Jaime Bosch**

Co-author Dr Trenton Garner, Reader within ZSL's Institute of Zoology, said: "This study represents a major breakthrough in the fight against this highly-destructive pathogen; for the first time we have managed to rid wild individuals of infection for a continued period.

"Amphibian-associated chytrid fungi are a critical conservation issue that requires simple, straightforward and transferrable solutions. Our study is a significant step towards providing these."

Dr Jaime Bosch, Senior Researcher at MNCN, added: "This is the first time that chytrid has ever been successfully eliminated from a wild population - a real positive which we can take forward into further research to tackle this deadly disease. Chytrid is a global issue which affects amphibian populations worldwide, and I am proud to be part of a team of leading institutions at the forefront of this pioneering research working towards a solution."

Chytrid fungal infections causing amphibian mass mortality were first identified at the end of the 20th century by a consortium of scientists, [including ZSL researchers](#).

[Read more about ZSL's chytrid research.](#)

The following is a blog entry from Virginia Department of Game & Inland Fisheries (DGIF)  
**Frog Friday: Atlantic Coast Leopard Frog**

Back in August, we announced the possibility that a new species of frog had been discovered in Virginia. The genetic results are in and we do indeed have a new species: the Atlantic Coast Leopard Frog (*Rana kauffeldi*)! Although we only began studying this species two years ago, we have learned quite a bit about it.

The Atlantic Coast Leopard Frog has been found at multiple locations in the southeastern Coastal Plain, but most likely ranges throughout the Coastal Plain in Virginia. To date, it has been documented in Charles City, New Kent, Sussex, Surry, Southampton, and Isle of Wight counties and in the cities of Suffolk and Chesapeake. Watersheds include the Northwest, Nottoway, Blackwater, and Chickahominy rivers.



*Left: A side-by-side comparison of the two species. (Atlantic Coast Leopard Frog on the left and Southern Leopard Frog on the right.) Photo by J.D. Kleopfer.*

This species is a medium-sized frog that is very similar in appearance to the Southern Leopard Frog. It has 2 or 3 rows of brown or green irregularly placed dark spots between conspicuous dorsolateral ridges. However, with careful observation there are a few visual ways to tell the two species apart. The snout of the Atlantic Coast Leopard Frog is more rounded than that of the Southern Leopard Frog, which has a pointed snout. The Atlantic Coast Leopard Frog also has a more muted pattern. The white spot on the center of the eardrum is much duller in the Atlantic Coast Leopard Frog than in the Southern Leopard Frog,



on which it is often a prominent characteristic. An additional characteristic on the Atlantic Coast Leopard Frog can be found on the inside of its thighs, which have a reticulated yellow or green pattern on a dark to black background.

The Atlantic Coast Leopard Frog appears to be more of a habitat specialist in comparison to the Southern Leopard Frog. It has been found in forested riparian wetlands where it primarily feeds on insects.



Much like the Southern Leopard Frog, it becomes highly terrestrial in late summer as wetlands begin to dry. At this same time of year, they may also appear much darker.

Mating season begins in late February and probably continues until early April. However, vocalization may occur again in the early fall as the rains return. The voice is a quack-like call similar to a wood frog. In some areas, hybridization is occurring with the southern leopard frog, which may produce intermediate phenotypes and vocalizations creating problems with accurate identification.

*Photos by J.D. Kleopfer*



*This article was presented as part of DGIF's year-long [Virginia is for Frogs](#) 2015 campaign. Please visit the campaign [webpage](#) to learn more about Virginia's 28 frog species and ways that you can become involved in their conservation. Are you an educator? Check out the Virginia is for Frogs [Teacher's Corner](#) for frog-related lesson plans and activities.*



*For More information, check out a related article: [New Species of Frog Discovered in Virginia](#)*

Posted: Oct 14, 2015 11:37 AM EDT <http://www.nbc29.com/story/30259364/new-species-of-frog-discovered-in-virginia>

## BREAKING NEWS, DEVELOPING STORIES

US Fish and Wildlife Service decides to block transport of species of salamanders that could potentially serve as carriers of the Bsal fungus:

<http://www.nytimes.com/2016/01/13/science/us-restricts-movement-of-salamanders-for-their-own-good.html>

<http://www.nytimes.com/2015/08/04/science/importing-both-salamanders-and-their-potential-destruction.html>

# Elections and Executive Committee Updates

## VHS ELECTIONS

Congratulations to **Mike Salotti**, who was elected as the new VHS President. Mike also served as Vice President for the previous two years. A big thank you to Mike for stepping up and being willing to take on this important position, and thank you for serving as Vice President the past two years.

A big thank you goes to **Kory Steele** for serving as President the past two years. Kory, as well as previously serving as President back in 2010-2011, will now serve as VHS Immediate Past-President for the next two years.

Newly elected members include **Matt Neff** as our new VHS Vice President, and **Matt Close** as our new VHS Treasurer. Read on to learn more about them. Welcome aboard!

**David Perry**, previously sharing the roles as both Secretary and Treasurer, was elected as VHS Secretary. David also remains our VHS Conservation Chair.

## EXECUTIVE COMMITTEE APPOINTMENTS & CHANGES

**Kory Steele** was appointed to VHS Grants/Research Committee Chair. A special thanks to **Dr. Mike Meyers** for his service as the Research Committee Chair the past two years. Also, we'd like to thank **Larry Mendoza** for stepping up to agree to be a member of this committee to assist Kory.

Changes were made to our VHS Advisory Committee. **John Orr** was appointed as the Advisory Committee Chair. Let's also welcome committee newcomer **Mark Khosravi**! Additional committee members include **Caroline Seitz**, **Kelly Geer**, **Rachel Goodman**, and **Bonnie Keller**.

**Kelly Geer** agreed to the appointment to VHS Store/Merchandise Chair. She will take the place of **Patricia Crane**. We'd like to welcome Kelly and thank Patricia for serving in this important role for the past eight years.

A change was made for **Jason Gibson's** position. Rather than serving HerpBlitz Chair, he will now assume the role of Survey Chair and will help coordinate *all* surveys planned by VHS.

All other officers remained the same: **Mike Clifford** as Education Chair; **Paul Sattler** as Catesbeiana Editor; **Susan Watson & Joellen Welch** as Newsletter Co-editors; and **John White** as VHS Webmaster.

Our sincerest gratitude goes out to all of our committee members, past and present, for stepping up to these important roles!

## NEW FACES: WELCOME!



**Matt Neff:** Matt got his start in the herpetological field when he was 5 years old, listening to frogs call at night with his dad. Ever since he can

remember, he was out in the field with his dad looking for everything slimy or scaly. He graduated from Manhattanville College in 2008 with a Bachelor's degree in Biology. During college and after graduation, he worked at Long Branch Nature Center in Arlington, VA, taking care of their herpetological collection and educational programming. In 2011, he was hired by the Smithsonian's National Zoo. He started the FrogWatch National Zoo chapter in 2012 and was named the regional coordinator in 2015. To date, 250



people have been trained to monitor frog calls throughout DC, MD, VA, and WV and over 700 observations have been submitted. He became involved with VHS in college, attending surveys in the northern Virginia area and became an active member in the early 2010s.

Matt is looking forward to serving as Vice President!

**Matt Close:** Matt grew up in Chesapeake, Virginia and attended Old Dominion University for his undergraduate education.

As a college student, he gained an acute fondness for herpetology while studying under Dr. Alan Savitzky. After graduating from ODU in

2003, Matt was a summer school instructor and a

substitute teacher in the public school system, but left in 2004 to pursue a position as a field technician for the Maryland DNR Wildlife Heritage Program. In Maryland, Matt conducted herpetofaunal surveys on the eastern shore and sampled sand ridge communities in an effort to determine the status of the northern pinesnake.

In 2005, Matt began graduate school at Lehigh University to study snake morphology under Dr. David Cundall. He was involved in several projects, but focused on studying the anatomical basis for lower jaw stretching in snakes for his dissertation research. After many years of study, a marriage and two kids, Matt received his Ph.D. in Integrative and Comparative Biology. Matt returned to Virginia in 2013 and has since been an Assistant Professor at Radford University



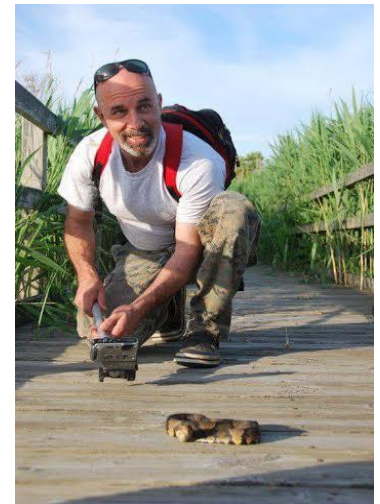
where he teaches Human Anatomy and Physiology, Histology, and Biology for Non-Majors. In 2015 he piloted *Appalachian Herpetology*, a field-intensive course that investigates herp diversity across the three physiographic provinces of Appalachia. He continues to be fascinated by questions in snake morphology, and his lab has expanded to include behavioral studies in the lab and field studies of native herpetofauna.

Matt happily accepted the role of treasurer for the VHS in the fall of 2015.

**Mark Khosravi:** Mark, the newest member of the Advisory Committee, is a Lifetime VHS Member and has been active in VHS for several years.

Mark is in his 18<sup>th</sup> year teaching high school science, which has included 9<sup>th</sup> grade biology and 11<sup>th</sup> & 12<sup>th</sup> grade earth sciences. He has a B.A. in biology and M. Ed. in secondary education curriculum and design. He is also a Naturalist with Fairfax County Park

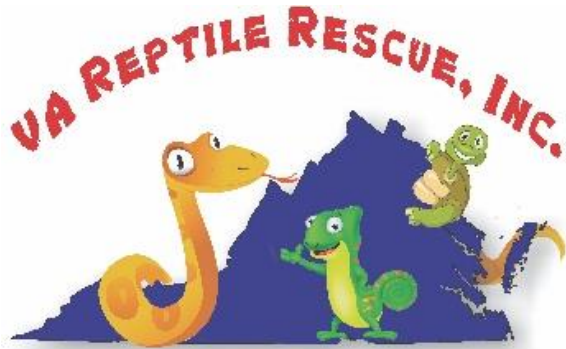
Authority and with the Town of Clifton. His graduate courses included vertebrate zoology and herpetology with Dr. Carl Ernst. He also took training seminars in husbandry and handling venomous reptiles at Catoctin Zoo in 2012 and 2013. From 2010 to present, he has sponsored a high school herpetology club. Other interests include camera trapping for the Smithsonian's emammal project, teaching combative sports & fitness, and relic hunting (metal detecting/treasure hunting).



# Save Our Scales!

## Virginia Reptile Rescue (VARR)

By Bonnie Keller, VA Reptile Rescue, Inc.



Education for Preservation

[WWW.VAREPTILERESCUE.ORG](http://WWW.VAREPTILERESCUE.ORG)

preschools, day camps, summer camps, and birthday parties have introduced hundreds of people to these amazing animals. The programs are a combination of environmental awareness, good pet ownership, and myth-busting of common myths about reptiles.

Another facet of the rescue is snake capture and relocation. I often get calls about wild reptiles (mostly snakes) that are on private properties where they are not wanted. When the owner cannot be convinced to learn to co-exist with it, the animal will be captured and relocated to an appropriate nearby location. To date, no sick animals have been relocated - but several that had injuries have been cared for and then later released when and where appropriate.

In addition to taking in owner turn-ins, VARR is also called on by local and state agencies when reptiles need housing. I have even testified in an abuse and neglect case where a collection of exotic reptiles was abandoned. The person did actually get jail time!

Since VARR is a home-based rescue, we are not open to the public for browsing. All of our adoptions are arranged virtually, through a lengthy adoption application. Once approved, the reptile is then either picked up at the shelter, or shipped (if out of state). A contract is signed that specifies that all animals adopted are to be returned to the rescue if the owner cannot/will not keep it for any reason.

To be clear, VARR is NOT a 501c(3) organization, but the donations received still go towards caring for

VA Reptile Rescue, Inc. is one of the longest-operating reptile rescues in the country. It was started in the fall of 1999 after I returned to Virginia from New Hampshire. Since then, about 800 animals have been housed and rehomed here. Another 500+ have been assisted by finding other rescues for them, or finding adopters without the animal having to come to us. Each year is different, but the recent numbers have been much higher than the earlier ones.

From early on, VA Reptile Rescue has been active in environmental education. Hands-on programs for schools, preschools, day camps, summer camps, and birthday parties have introduced hundreds of people to these amazing animals. The programs are a combination of environmental awareness, good pet ownership, and myth-busting of common myths about reptiles.



California King Snake



the animals. The shelter is supported by these donations, and without them, would close. My salary as a public school teacher certainly doesn't support it completely, so adoption fees and donations are essential.

Animals available for rehoming are shown on the website, [www.vareptilerescue.org](http://www.vareptilerescue.org). Everything from common pet store species to very expensive morphs have come through the rescue. While most of the animals that come in are beginner level, other species have come in that were more challenging. The learning curve is sometimes steep when these cases occur!



Columbian Red-Tailed Boa

Right now VARR has a number of ball pythons available, several bearded dragons, a California kingsnake, and a very large Columbian Redtail boa. She is one of the largest boas we have ever gotten in, and is fully capable of taking a 5-7 lb rabbit. She will need an experienced owner with a large cage. Of course, by the time you are reading this, the list of available animals will have likely changed, so please check it out for yourself! There is also a Facebook page where animals are posted, and relevant reptile-related articles are shared with followers.



Bearded Dragon

As the founder and operator of VA Reptile Rescue, Inc., I have tried to be a good steward of both the exotic and native reptiles here in Virginia. I hope to continue for many years to come.

*Bonnie Keller is also a member of the VHS Advisory Committee.*

*In addition to the animals listed on the rescue page, VARR also has an albino reticulated python that is looking for a home. If you haven't seen him in person, he's a beauty! If interested, contact [info@vareptilerescue.org](mailto:info@vareptilerescue.org).*

# Reminders

## HELP SUPPORT THE VHS!

As we welcome in the New Year, please consider ways to help support VHS, when shopping after the holidays -for all the things you didn't get! Also, don't forget to take advantage of one of the great benefits of being a VHS member; you can save a bit of the money you need for shopping when going on outings with family and friends this time of year to nearby zoos and similar facilities where VHS members get great discounts.



**AmazonSmile** is a simple and automatic way for you to support your favorite charitable organization every time you shop, at no cost to you. Please use the following link to set up Smile donations on your Amazon account, and remember to shop using smile.amazon.com or install a plugin like Smile Always to redirect your browser each time you shop Amazon. VHS thanks you for your support!

<https://smile.amazon.com/ch/27-0589536>



Click [here](#) to go to **VHS Cafe Press Store** to find an assortment of high quality merchandise intended to celebrate the diversity of

amphibians and reptiles native to Virginia. This includes the new **2016 VHS Wall Calendar!**

Check it out at the following link:

<http://www.cafepress.com/vaherpsociety.1657307489>

**goodshop & goodsearch** You search &/or shop! They give, give, give!

**GoodSearch.com:** Use it as you would any search engine, get quality search results from Yahoo, and in return they'll donate up to half of advertising revenue to VHS!

**GoodShop.com** is an online shopping mall featuring hundreds of great stores including

Amazon, Best Buy, Target, Macy's, and many more. GoodShop will donate up to 30 percent of each purchase to your favorite cause

The **GoodSearch - Virginia --Herpetological Society (NEWPORT NEWS VA)** toolbar will earn VHS money every time you shop and search online - even if you forget to go to GoodShop or GoodSearch first!

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

## 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 a dollar or two off of the price of admission does not sound like much, most zoos, aquariums, and museums are expensive to maintain, so it does represent 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. Please have these cards handy when visiting. Click [here](#) to see a list of discounts.

Admission Discounts		Membership Discounts	
<a href="#">Leesburg Animal Park</a>	\$2 off	<a href="#">Virginia Aquarium</a>	25% off Crab, Otter, or Hedgehog membership
<a href="#">Luray Zoo</a>	50% off entry		
<a href="#">Mill Mountain Zoo</a>	\$1 off	Booking Discounts	
<a href="#">Virginia Living Museum</a>	\$1 off	<a href="#">Reptiles Alive! LLC</a> Northern Virginia	\$20 off any live animal show
<a href="#">Virginia Zoo</a>	\$2 off		

## MEMBERSHIP!

Of course, the second reminder should remind us all to start or renew our VHS membership! If you need to start or renew your membership, please click [here](#).



# Salamanders: Jewels of Appalachia



by Matt Neff

## Zoo Updates



Smithsonian  
National Zoological Park  
Conservation Biology Institute

The Reptile Discovery Center (RDC) at Smithsonian's National Zoo just opened their Appalachian Salamander exhibit: Jewels of Appalachia. Many folks flock to the zoo to catch glimpses of exotic megafauna such as pandas and komodo dragons—which are cool animals in their own right, but it's particularly exciting to be a part of an exhibit focusing on local, smaller animals.

So you may be thinking, '*sure salamanders are cool, but they always hide.*' This is true, and it's a huge reason





This fabricated rocky seep simulates a salamander's natural habitat.

why many salamanders aren't exhibited at zoos or nature centers. The *Jewels of Appalachia* exhibit is a fabrication of what a rocky seep would be where many of these mountain-dwelling creatures reside. The water that cycles through the exhibit is pumped through a chiller that can keep the exhibit cool in an otherwise warm building. The ability to chill the water is important because fluctuating temperatures throughout the

year, similar to the seasonal changes they experience in the wild, will get them into breeding condition in the spring and early summer. Also, the salamanders can experience seasonal light changes by use of the exhibit's astrological timers. The zoo hopes to propagate salamanders and set examples for other zoos to exhibit these elusive creatures.

*Jewels of Appalachia* focuses on the salamanders you can find in your own backyard. Salamanders currently on exhibit are varieties you can find in Virginia: Green Salamanders (*Aneides aeneus*), Long-tailed Salamanders (*Eurycea longicauda*), and Red-backed Salamanders (*Plethodon cinereus*). We want visitors to realize that there are very important animals, some very rare, right around them. Virginia is home to 56 species/subspecies of salamanders.



Green Salamander

That's almost 10% of the world's species! Virginia is also part of the Southern Appalachian region, which has the highest amount of salamander diversity on earth. Nowhere else on earth is there salamander diversity like there is here.

In addition to exhibiting a very high diversity in Appalachia, salamanders are also very important animals in this ecosystem. Although you won't usually see them out walking around, you can find most under rocks or rotten logs. For every salamander you see on the surface, there are up to 10 times as many underground (Kroll, 2014). A study completed by Semlitsch et al. in 2014 estimates that the biomass of salamanders is equivalent to the biomass of white-tailed deer. That's pretty impressive for an animal that usually weighs less than a gram.



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The *Jewels of Appalachia* salamander exhibit is a part of the salamander corridor at the RDC. You can also view ongoing studies in the adjacent Salamander Lab. There are climate change studies featuring Eastern Hellbenders (*Cryptobranchus alleganiensis*) and aggression studies featuring the common Red-backed Salamander (*Plethodon cinereus*), as well as the endangered Shenandoah Salamander (*Plethodon shenandoah*). The exhibit will be ever-changing as staff monitor how salamanders interact with one another and as new species come to the zoo.

*Citations:*

Kroll, M. (13 Nov 2014). "Semlitsch Talks about His Study on Salamander Abundance". University of Missouri: Division of Biological Sciences. <http://biology.missouri.edu/news/semlitsch-talks-about-his-study-on-salamander-abundance/> accessed 19 Nov 2015.

Semlitsch, R.D., K.M. O'Donnell, and F.R. Thompson III (2014). Abundance, biomass production, nutrient content, and the possible role of terrestrial salamanders in Missouri Ozark forest ecosystems. *Canadian Journal of Zoology* 92: 997-1004. [http://www.fs.fed.us/nrs/pubs/jrnl/2014/nrs\\_2014\\_semlitsch\\_001.pdf](http://www.fs.fed.us/nrs/pubs/jrnl/2014/nrs_2014_semlitsch_001.pdf) accessed 19 Nov 2015.

## Reptiles Alive!

### "Rainforest Reptiles Alive!" at Doodlehopper 4 Kids, in Springfield & Falls Church



February 20 in Springfield, VA and February 21 in Falls Church, VA - Reptiles Alive will be performing afternoon shows, both at 2 pm, at Doodlehopper 4 Kids. Discover the dynamic world of tropical rainforests while you meet beautiful jungle animals. Live animals from each layer of the forest will be featured along with stories of survival in this fascinating and endangered environment. Featured animals may include an iguana, boa constrictor, turtle and other rainforest creatures.

More information at <http://doodlehopper.com/events/>

and <http://reptilesalive.com/publicevents/publicevents.htm>

Also, check out the Reptiles Alive! Website to see an awesome, educational performance on WJLA, a local Washington D.C. area television station:

<http://www.reptilesalive.com/index.htm>

Hope to ssssee you all there!

Thanks! And remember, VHS Members receive a discount when booking shows!

– Caroline Seitz

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# Virginia Living Museum

## Reptiles: Bizarre and Beautiful

Feb. 13-15

Experience a close encounter of the reptile kind at the Virginia Living Museum. See a wide variety of native and exotic reptiles on display and in live animal programs. Guest exhibitors include Reptile Education of Virginia. Learn about the museum's citizen science projects such as FrogWatch and Turtle Census.

See the differences between venomous and nonvenomous reptiles. There will also be crafts for kids and special planetarium programs. Behind-the-scenes tours of Herpetology areas will be offered at 3pm (additional fee). The museum is open 9 a.m. to 5 p.m. all three days.



## FrogWatch

Peninsula residents who are interested in helping collect data on frog and toad populations in the area can attend training sessions for new FrogWatch USA volunteers in early spring. Please contact [travis.land@thevlm.org](mailto:travis.land@thevlm.org) to receive announcements about training dates.

## Alligator/Snapping Turtle exhibit

Herpetology Curator Travis Land reports the Virginia Living Museum has a new alligator on exhibit. "We received this guy several years ago from Animal Control in Virginia Beach after



Alligator Snapping Turtle

he was found crawling through a backyard. He needed a good home, and luckily we were able to take him in. After being used for programs the past couple of years, he has gotten an upgrade to his living accommodations, and is now on exhibit for the general public to see.

Joining the alligator is the museum's Common Snapping Turtle. The turtle is 12 years old and weighs about 15 pounds.

"The previous alligator was transferred to a facility in Myrtle Beach, S.C. Measuring over 7 feet long, and weighing in at 138 pounds, he simply got too big for his enclosure. While he will be missed, we also know he's enjoying the deluxe outdoor living accommodations," said Land.

*The museum is located at 524 J. Clyde Morris Blvd., Newport News, 164, exit 258A. Admission is \$17 adults and \$13 children (ages 3-12). Children ages 2 and under are free. For more information, call 757-595-1900 or visit the web site at [thevlm.org](http://thevlm.org).*



## Virginia Zoo

Here is a list of the animals produced at the Virginia Zoo over the last year:

- 3 Standings day geckos (*Phelsuma standingi*)
- 2 Williams dwarf geckos (*Lygodactylus williamsii*)
- 10 smallwood anoles, and we have 5 more incubating (*Anolis smallwoodi*)
- 1 Henkels leaf tail gecko (*Uroplatus henkeli*)
- 1 Golden dart frog (*Phyllobates terribilis*)
- 1 Chinese crocodile lizard (*Shinisaurus crocodilurus*)
- 1 bog turtle, 2 were born last year (*Glyptemys muhlenbergii*)
- Approximately 220 Thorny devil stick insects (*Eurycantha calcarata*)



We will be breaking ground on a renovation of our current reptile house in the coming months. This renovation will expand our current collection and provide space for many new species. This renovation should be completed at the end of 2016.

### Herp Trivia Solutions:

1. Brown watersnake (*Nerodia taxispilota*); Bowfin/Grindle (*Amia calva*). *Thanks to VDGIF biologist, Chad Boyce, for providing this photo.*
2. The ridge does not extend down the side of their back; it only wraps around the back of the tympanum. Longer explanation: The American Bullfrog's dorsolateral folds (ridges located on the top/ back of many frog species) are unique in that they do not extend down the length of the body, but rather turn downward just behind the tympanum (the external circular ear located near the frog's eye).
3. VA Dept. of Game & Inland Fisheries (VDGIF); The State Fair
4. Atlantic Coast Leopard Frog (*Lithobates kauffeldi*)
5. It is a habitat/microhabitat for many species, including frogs and many other herp species. Longer explanation: This is also the time of the year when many species of frogs begin to move away from aquatic habitats into the surrounding forested areas in preparation for winter. Leaf-litter is an important component of this habitat and it serves several purposes for frogs and a diversity of other amphibians. Some species even favor particular leaf-litter types as the decomposition process can influence the pH of the soil. Leaf-litter also provides shelter from predators, an abundance of insects for food, and thermal cover for hibernation. It's not just frogs and other amphibians that benefit from leaf-litter: box turtles, butterflies, insect-eating birds, and many other wildlife all benefit from this mini-ecosystem. Still want a neat and tidy yard? Try using the leaves as mulch by raking them into your garden or landscaping beds to create rich soil for next spring. Another option is to rake a couple small leaf piles off into an out-of-the-way corner and allow them to decompose naturally and then re-use the compost as rich soil for planting in the spring. If you are one of those folks that enjoy burning your leaf piles, it is best to do so immediately upon creating them. Otherwise, you may accidentally kill some critters that crawled into the leaf pile seeking shelter, and never burn leaf piles in the spring that have sat over winter. By following these tips, you will create less yard work for yourself in the fall while helping to make a difference for the frogs and other wildlife in your neighborhood.



## Virginia Natives:

### Eastern American Toad

*ANAXYRUS AMERICANUS AMERICANUS*

#### CHARACTERISTICS

This is a large toad with usually just one or two warts in each dorsal color spot, conspicuous cranial crests, and a short spine atop most of the femoral wart. The length is 3 1/2 inches to 4 1/4 inches. The color is highly variable, from brick-red through browns and olive grays to light gray. The belly can be spotted or not. The adults congregate in breeding pools starting in March or April. The eggs are laid in long spiral gelatinous strings and each egg is 1/25 to 1/16 inch in diameter. The eggs, 4000 to 8000 in number, are laid in two strings, and hatch in 3 to 12 days.







© Paul Sattler

## FOODS

While tadpoles are omnivorous, adults are carnivorous. Prey items recorded for the American toad are: beetles, beetle larvae, ants, wasps, crickets, leafhoppers, moths, caterpillars, flies, plant bugs, stoneflies, isopods, spiders, harvestmen, and millipedes.

<b>Common Name:</b>	Eastern American Toad
<b>Scientific Name:</b>	<i>Anaxyrus americanus</i> (American Toad) formerly <i>Bufo americanus</i>
<b>Etymology:</b>	
<b>Genus:</b>	<i>Anaxyrus</i> is Greek meaning "A king or chief"
<b>Species:</b>	<i>americanus</i> refers to America.
<b>Average Length:</b>	2 - 3.5 in. (5.1 - 9 cm)
<b>Record length:</b>	4.4 in. (11.1 cm)

## DISTRIBUTION

This species breeds in shallow pools and is mostly nocturnal, and hides during the day under debris.

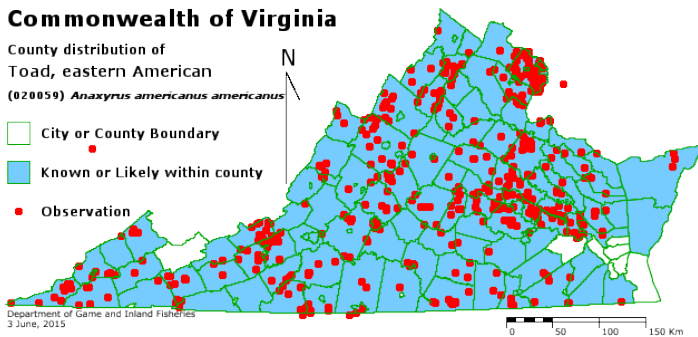
### Commonwealth of Virginia

County distribution of  
Toad, eastern American  
(020059) *Anaxyrus americanus americanus*

□ City or County Boundary

■ Known or Likely within county

● Observation



Department of Game and Inland Fisheries  
3 June, 2015



Strings of Toad Eggs

# New VHS iOS App: Snakes of Virginia

## Snakes of Virginia



Virginia  
Herpetological  
Society



Northern Copperhead  
*Agkistrodon contortrix mokasen*

Eastern Cottonmouth  
*Agkistrodon piscivorus piscivorus*

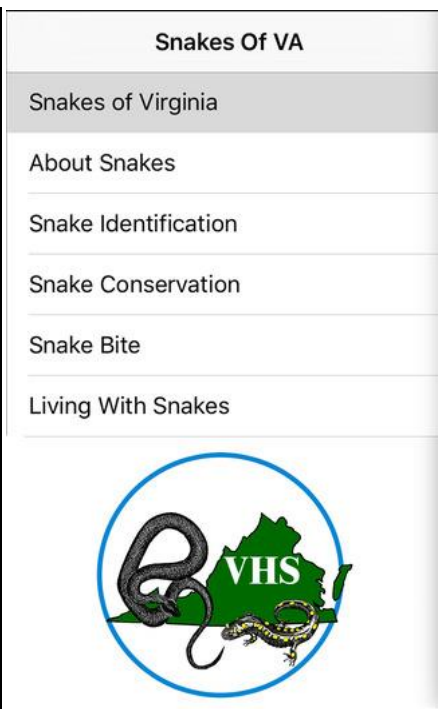
We have released the Snakes of Virginia iOS (iPhone) app while we continue to work on revisions. The app is compatible iPhone, iPad, or iPod touch and are running iOS 9.0 or later. It contains descriptions and photographs of all snakes found in Virginia, as well as important information on snake conservation. An Android-compatible version is in the works.

You can search for Snakes of Virginia in iTunes, or access the app via this [link](#). Let us know if you have any comments or suggestions!

**Length**  
Up to 48 in. (122 cm)

**Description**  
A heavy bodied snake, pinkish to tan in color with several dark hourglass bands across the back. Juveniles look similar to adults but have a bright yellow tail tip.

**Habitat**





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# VIRGINIA LITERATURE

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These selections represent articles published or in press during 2015. 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 and formatted by Susan Watson and Joellen Welch.

- ☞ Moore, Jean-David, and Martin Ouellet. Oct 2014. A Review of Colour Phenotypes of the Eastern Red-backed Salamander, *Plethodon cinereus*, in North America. *Canadian Field-Naturalist*. Vol. 128(3): 250-259.
  
- ☞ Feaga, Jeffrey B., and Carola A. Haas. Jun 2015. Seasonal Thermal Ecology of Bog Turtles (*Glyptemys muhlenbergii*) in Southwestern Virginia. *Journal of Herpetology* Vol. 49(2): 264-275.
  
- ☞ Curtis, Jessica, and Peter Vila. Jun 2015. The Ecology of the Wood Turtle (*Glyptemys insculpta*) in the Eastern Panhandle of West Virginia. *Northeastern Naturalist* Vol. 22(2): 387-402.
  
- ☞ Mittermeier, Russell A., Peter Paul van Dijk, Anders G. J. Rhodin, and Stepehn D. Nash. Jun 2015. Turtle Hotspots: An Analysis of the Occurrence of Tortoises and Freshwater Turtles in Biodiversity Hotspots, High-Biodiversity Wilderness Areas, and Turtle Priority Areas. *Chelonian Conservation and Biology* Vol. 14(1): 2-10.
  
- ☞ Oswald, Heather R., Jayme L. Waldron, Shane M. Welch, Stephen H. Bennett, and Timothy A. Mousseau. Mar 2015. Environmental Effects on Southern Two-lined Salamander (*Eurycea cirrigera*) Nest-Site Selection. *Copeia* Vol. 103(1): 7-13.
  
- ☞ Bushar, Laretta M., Neha Bhatt, Melissa Costa Dunlop, Christina Schocklin, Megan A. Malloy, and Howard K. Reinert. Sept 2015. Population Isolation and Genetic Subdivision of Timber Rattlesnakes (*Crotalus horridus*) in the New Jersey Pine Barrens. *Herpetologica* Vol 71(3): 203-211.
  
- ☞ Semlitsch, Raymond D. and Dana L. Drake. Jun 2015. Structure and Dynamics of *Lithobates sylvaticus* (Wood Frog) at the Periphery of Its Range in Missouri. *Southeastern Naturalist* Vol. 14(2): 329-341.
  
- ☞ Adamovicz, Laura, D.V.M., Ellen Bronson, D.V.M., Dipl. A.C.Z.M., Kevin Barrett, B.S., and Sharon L. Deem, D.V.M., Ph.D., Dipl. A.C.Z.M. Mar 2015. Health Assessment of Free-living Eastern Box Turtles (*Terrapene carolina carolina*) In and Around the Maryland Zoo in Baltimore, 1996-2011. *Journal of Zoo and Wildlife Medicine* Vol 46(1): 39-51.

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- ☞ Bredehoeft, Keila E. and Blaine W. Schubert. Mar 2015. A Re-evaluation of the Pleistocene Hellbender, *Cryptobranchus guildayi*. *Journal of Herpetology* Vol. 49(1): 157-160.
  
  - ☞ Paluh, Daniel J., Cameron Eddy, Kaloyan Ivanov, Cari-Ann M. Hickerson, and Carl D. Anthony. Oct 2015. Selective Foraging on Ants by a Terrestrial Polymorphic Salamander. *The American Midland Naturalist* Vol. 174(2): 265-277.
  
  - ☞ Zapparlori, Robert, Joanna Burger, and Frank Peterson. Mar 2015. Home Range Size and Distance Traveled from Hibernacula in Northern Pinesnakes in the New Jersey Pine Barrens. *Herpetologica* Vol. 71(1): 26-36.
  
  - ☞ Rumschlag, Samantha L. and Michelle D. Boone. Sept 2015. How Time of Exposure to the Amphibian Chytrid Fungus Affects *Hyla chrysoscelis* in the Presence of an Insecticide. *Herpetologica* Vol. 71(3): 169-176.
  
  - ☞ Geller, Gregory A. Jun 2015. A Test of Substrate Sweeping as a Strategy to Reduce Raccoon Predation of Freshwater Turtle Nests, with Insights from Supplemental Artificial Nests. *Chelonian Conservation and Biology* Vol. 14(1): 64-72.