



# Virginia Herpetological Society Newsletter

Volume 23, Number 1

February 2013

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**Celebrate! Year of the Ssssnake!**

2013 YEAR of the Snake

See Page 14!

**Coming Soon:  
Survey Season!**



Page 2!

**Can snakes hear  
air borne  
sounds?  
Herp Trivia  
Page 8!**

**Alert!**  
**Send in your photos  
for the VHS 2014  
Calendar!  
See page 4!**

*This month's Virginia Native-  
Page  
26!*



Eastern Ratsnake



**Herpetological Job, Course, and Volunteer Opportunities! Page 18!**

**Zoo Updates, Page 15! VHS Member discounts at zoos, Page 4!**

Home Page: <http://www.virginiaherpetologicalsociety.com>  
 Online Store: <http://www.cafepress.com/vaherpsociety>  
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### Coming Events

EVENT	LOCATION	DATES
VHS Annual Spring Mtg & Survey	Back Bay NWR, Virginia Beach	May 3-5
Powhatan BioBlitz	Powhatan County	May 18
VHS Annual HerpBlitz	Dick Cross WMA, Mecklenburg County	Jun 8-9
2014 Calendar Submissions	<a href="mailto:Merchandise@vaherpsociety.com">Merchandise@vaherpsociety.com</a>	Sept 1

## VHS BUSINESS

**New VHS Officer (1)**  
**VHS Annual Spring Meeting & Survey (2)**  
**Powhatan Survey (3)**  
**VHS Annual HerpBlitz (4)**

**5) VHS Representatives on Virginia Dangerous Animals Initiative Workgroup**  
**6) Need Photos for 2013 VHS Calendar!**  
**7) REMINDERS!**



Dr. Michael Meyer

### 1) New VHS Officer:

Please welcome our newest officer, Dr. Michael Meyer, who has agreed to serve as our Research Committee Chair! Dr. Meyer is an associate professor with Christopher Newport University. He has a background in entomology as well as herpetology. Congratulations and a sincere thank you to Dr. Meyer for serving as Research Committee Chair!

A sincere and well deserved thank you goes to Dr. Joy Ware for all the service she did for us as our past Research Committee Chair! As a professor in the Department of Pathology at Virginia Commonwealth University, Joy led VHS in exploring and documenting potential disease and parasite issues found in the herps that were surveyed. She led a side project known as Snake Force One for several years, after several snakes were found with questionable lesions during a 2005 survey at Rappahannock River Valley National Wildlife Refuge.

This is also a good time to send many thanks for the service of a few other officers who have had to move on. First, thank you to Craig Pelke, who recently left his position on the VHS Advisory Committee due to a change in jobs. He was working for the Virginia Zoo in Norfolk, but recently left for a position at the San Antonio Zoo in Texas. We will miss him and wish him luck in his new endeavor. Second, thank you to Tim Christensen, who recently left his position as the VHS Conservation Committee Chair. Tim is now busy continuing his education. Best of luck to Tim on his endeavor. Last but not least, thank you to Leeanna Pletcher, who left her position on the VHS Advisory Committee. Leeanna is a busy mom, who now has two young boys. Best of luck to Leeanna and her family!

### 2) VHS Annual Spring Meeting & Survey

**Friday-Sunday, May 3-5**

The VHS will hold its Annual Spring Meeting & Survey at Back Bay National Wildlife Refuge and a portion of False Cape State Park, in Virginia Beach! Public vehicle access is not allowed beyond the visitor center at Back Bay NWR nor in any part of False Cape State Park. VHS will rely on Park personnel to provide transport to and from several of the survey zones. VHS will have access to certain impoundment areas not open to the public. Several species not frequently encountered have been sited within these parks, including rainbow snakes, glass lizards and chicken turtles. VHS has agreed to observe/photograph but avoid trying to capture any glass lizards. Also, eastern cottonmouths are frequently encountered within the refuge, so snake boots/knee high rubber boots are strongly recommended for all survey participants. Please keep checking the [VHS website](#), and click on Events in the left menu, for further details about the event as we get closer to the date.

**Location:** [Back Bay National Wildlife Refuge](#), City of Virginia Beach (southern end of this locality); physical address: 4005 Sandpiper Rd., Virginia Beach, VA 23456

[False Cape State Park](#), 4001 Sandpiper Road  
 Virginia Beach, VA 23456





**Lodging:** Primitive tenting is allowed in False Cape State Park. Camping/tenting is not allowed on the wildlife refuge. There are two campgrounds nearby (within 4-5 miles of the Back Bay Visitors Center):

**Indian Cove Resort**  
1053 Sandbridge Road  
Virginia Beach, VA  
(757)-426-2601

**North Bay Shore Camping**  
3257 Colechester Rd  
Virginia Beach, VA  
(757)-426-7911



Each provide trailer camper sites and hook-ups and Indian Cove advertises 10 tent sites.

**Host Website and Phone:** <http://www.fws.gov/backbay/index.html>; (757) 301-7329

**Contact/ Leader:** David Perry at [vicepresident@vaherpsociety.com](mailto:vicepresident@vaherpsociety.com) and Larry Mendoza at [president@vaherpsociety.com](mailto:president@vaherpsociety.com). Please RSVP, if you plan to attend! We will need a pre-survey headcount to coordinate transportation to and from survey zones.

### 3) Powhatan BioBlitz

The VHS will participate in a BioBlitz in Powhatan County on Saturday, May 18, 2013. VHS member and past Vice President, David Van Gelder, is coordinating this event. Please keep checking the [VHS website](#), and click on Events in the left menu, for further details about the event as we get closer to the date.

**Location:** Powhatan County (keep checking the [VHS website](#) for location)

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

**Contact/ Leader:** David Van Gelder. Please keep checking the [VHS website](#) for more details!

**Saturday, May 18**



### 4) VHS Annual HerpBlitz

This year's VHS Annual HerpBlitz is being planned to take place at Dick Cross Wildlife Management Area (WMA) in Mecklenburg County. Please keep checking the [VHS website](#), and click on Events in the left menu, for further details about the event as we get closer to the date.

**Location:** Dick Cross WMA, Mecklenburg County; From U.S. Route 58 between Boydton and South Hill, take State Route 4 south. Go about 5 miles to the management area entrance.

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

**Host Website and Phone:** <http://www.dgif.virginia.gov/wmas/detail.asp?pid=13>; (434) 525-7522

**Contact/ Leader:** HerpBlitz Chair, Jason Gibson, at [frogman31@gmail.com](mailto:frogman31@gmail.com). Please RSVP, if you plan to attend!

**Saturday-Sunday, June 8-9**





## 5) VHS Representatives on the Virginia Dangerous Animals Initiative Workgroup

VHS President, Larry Mendoza, graciously accepted an invitation to be a representative for VHS on the Virginia Dangerous Animals Initiative Workgroup back in the late summer to early fall of 2012. VHS Vice President, Dave Perry, graciously agreed to be an alternate for Larry, when Larry was unable to attend some of the meetings. This initiative came about as a response to the 2011 incident in Ohio, in which several exotic animals were released by the owner, who then committed suicide, leaving first responders the task of dispatching of the animals. Many of these animals were considered “dangerous” animals, such big cats, bears, and wolves. After the Ohio incident, a couple of members of Virginia’s General Assembly jumped the gun by introducing bills during the 2012 session regarding banning certain “dangerous” exotic animals. This legislation did not pass due to lack of data on some species and the redundancy of regulations on other species (existing VDGIF regulations already ban some of these species, unless a special permit is obtained). In response to the combination of the Ohio incident and the hastily introduced bills by Virginia’s General Assembly, this initiative began. During the fall of 2012, a series of meetings of the workgroup for this initiative took place in order to come up with sound recommendations for legislators and other government officials to use for any future moves to update Virginia’s legislation and/or agency mandates regarding “dangerous” exotic animals in the state. The [Virginia Dangerous Animals Initiative’s website](#) currently has a link to the [Final Report and Recommendations](#) (developed by the Workgroup and finalized in February 2013).

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

The VHS Store manager, Patricia Crane, needs high resolution pictures in good quality. Images should have the subject in focus and with very little background distraction. Photos will be required to be at least 2700x1800 pixels in landscape orientation. The next calendar will also show the proper credit for each photograph, without being cut off at the bottom of the calendar page as it has been in previous years. Images received by September 1<sup>st</sup> will be considered for the 2014 calendar, but any late submissions will be saved for consideration in the 2015 calendar. Please send your submissions to [Merchandise@vaherpsociety.com](mailto:Merchandise@vaherpsociety.com)

## 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:

### Admission Discounts

Virginia Zoo	Norfolk, VA	\$2 discount	<a href="http://virginiazoo.org">virginiazoo.org</a>
Virginia Living Museum	Newport News, VA	\$1 discount	<a href="http://thevlm.org">thevlm.org</a>
Leesburg Animal Park	Leesburg, VA	\$2 discount	<a href="http://leesburganimalpark.com">leesburganimalpark.com</a>
Mill Mountain Zoo	Roanoke, VA	\$1 discount	<a href="http://mmzoo.org">mmzoo.org</a>
Luray Zoo	Luray, VA	Half off regular admission	<a href="http://lurayzoo.com">lurayzoo.com</a>

### Membership Discounts

Virginia Aquarium	Virginia Beach, VA	25% discount off membership levels of Crab, Otter, or Hedgehog	<a href="http://virginiaaquarium.com">virginiaaquarium.com</a>
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### **Booking Discounts**

Reptiles Alive! LLC	Northern Virginia	\$20 discount off any live animal show	reptilesalive.com
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Now go to the Zoo Updates section (Pages 12-13) 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](http://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 and GoodShop**

[GoodSearch.com](http://www.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](http://www.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>

#### **(New this year) GoodDining-You dine. They give.**

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 here, and don't forget to select the Virginia Herpetological Society as your charity of choice:

<https://www.goodsearch.com/gooddining-rn>

##### **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.





## EVENTS

	Northern Va Reptile Expo	Richmond Reptile Expo
Dates	2/16, 5/4, 8/24/2013	3/24, 7/28/2013
Location	Prince William County Fairgrounds Manassas, Virginia 20108	The Holiday Inn Select 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	<a href="http://www.mdreptilefarm.com/shows/va/nva.asp">http://www.mdreptilefarm.com/shows/va/nva.asp</a>	<a href="http://www.mdreptilefarm.com/shows/va/richmond.asp">http://www.mdreptilefarm.com/shows/va/richmond.asp</a>

	Repticon Bristol	Hampton Roads Reptile Expo
Dates	5/4-5, 10/26-27/2013	3/3, 6/2/2013
Location	Bristol Conference Center 3005 Linden Drive Bristol, VA 24202	Point Plaza Suite 950 J. Clyde Morris Blvd. Newport News, VA 23601
Admission	\$10 / \$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	<a href="http://repticon.com/bristol.html">http://repticon.com/bristol.html</a>	<a href="https://www.facebook.com/Hrrexp">https://www.facebook.com/Hrrexp</a>

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

## EVENTS (CONTINUED)

### LOUDOUN WILDLIFE CONSERVANCY PROGRAMS and FIELD TRIPS

**LWC Board Meeting** — The Board normally meets the first Tuesday of every month at 7:00 p.m. All LWC members are welcome. Contact Nicole Hamilton at [nhamilton@loudounwildlife.org](mailto:nhamilton@loudounwildlife.org) for additional information.

**Children's Nature Book Club — Starting Friday, January 11, 10:00 – 11:30 a.m.** The Children's Nature Book Club welcomes young nature lovers three to six years old, accompanied by a parent or caregiver, for its Winter session every Friday from January 11 through March 15 (except for January 18). The group will meet at the Rust Nature Sanctuary to listen to a story, take a nature walk, and participate in a music/arts/craft activity with a nature-based theme. Leaders are Loudoun Wildlife Conservancy volunteers, previous preschool teachers, and Master Naturalists. Cost \$3.00/child per class; enrolment is limited. Participants should dress for the outdoors; boots recommended.

**Registration required:** Contact Ellie Daley at [pedaley@verizon.net](mailto:pedaley@verizon.net) or 540-338-6528, or ANS at [susanneo@audobonnaturalist.org](mailto:susanneo@audobonnaturalist.org) or 703-669-0000 x1. For more information, visit



[www.audubonnaturalist.org/index.php/about-ans/sanctuaries/rust-leesburg-va](http://www.audubonnaturalist.org/index.php/about-ans/sanctuaries/rust-leesburg-va). Co-sponsored by Audubon Naturalist Society and Loudoun Wildlife Conservancy.

**Why Natives, Why Now? — Sunday, February 17, 2:00 p.m., at Rust Library.** Come hear Janet Davis, owner and principal designer for Hill House Farm and Nursery, explain the how's and why's of befriending butterflies, beckoning birds and pampering pollinators by using native plants in your garden. This will occur in time for you to work on your plant list before the Spring Native Plant Sale on April 6. Program sponsored by Loudoun Wildlife Conservancy.

**Registration required:** [Sign Up Online](#) or contact Ann Garvey at [ahgarvey@aol.com](mailto:ahgarvey@aol.com).

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)

	<b>Salamander Excursion!</b>	<b>Riverfest 2013</b>	<b>Virginia Natural History Society Spring Meeting</b>
Dates	3/2/2013	4/27/2013	5/23/2013
Location	Elizabeth Furnace, Front Royal, VA	Constitution Park, Waynesboro, VA	Virginia Tech, Blacksburg, VA
Admission	Use code 2741864301 for \$20/individual; Use code 2741864302 for \$45/family sign up at <a href="#">Parktakes</a> online or call 703-631-0013	Free	Free
Time	3:30 to 8:30 pm	10 am to 4:30 pm	All day
Contact	<a href="#">Fairfax County Park Authority</a> , Ellanor C. Lawrence Park	<a href="http://www.riverfestwaynesboro.org/">http://www.riverfestwaynesboro.org/</a>	<a href="#">VNHS 2013 Meeting</a>
Details	Witness the first signs of spring by observing Jefferson salamanders, spotted salamanders, and red-spotted newts breeding in vernal pools. Visit a real fossil wall and climb wood stock tower. Bring flashlights, your dinner to cook on a grill and dress for the weather.	Annual river-side event with activities that include: <b>VHS EXHIBIT</b> , Reptile Shows, Stream Safari, Fish & Fun Rodeo, Farmers' Market, Canoe Rides, Kids' Arts & Crafts, Stream Electrofishing, and capped off by the Great South River Duck Race!	Members of the Virginia Natural History Society (VNHS) are invited to participate in a joint meeting with the Virginia Academy of Science (VAS) at its 91st Annual Meeting. VNHS members DO NOT need to be VAS members to present a paper or poster, but all presenters must register to attend the meeting. This is a one time trial & change of policy for VAS.  VAS sections: Botany, Environmental Science, Biology, and Natural History & Biodiversity. The latter is the section formed by VNHS. <a href="#">Call for titles of presentations</a>  Titles are due February 11 <sup>th</sup> to the secretary of the appropriate section (see the <a href="#">VAS website</a> for contact). Registration information will be posted on the VAS website when available. There are awards for best student papers in most sections.



*"All things share the same breath – the beast, the tree, the man, the air shares its spirit with all the life it supports."* ~ Chief Seattle, Suquamish Chief

## 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. The following five vernacular names were used back in the 1700's – 1800's for five native Virginia snakes. Can you identify all five species?

- A. Punctuated Viper
- B. Fodder Snake
- C. Horned Snake
- D. Blaney's Snake
- E. Cope's Milk Snake



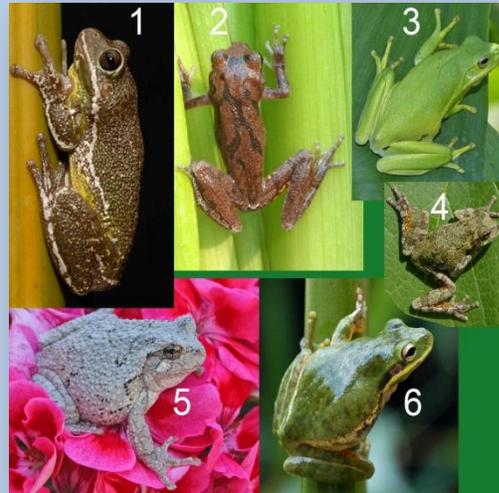
2. Can you identify this turtle?

3. Can you identify these native snakes?





4. Can you identify these native treefrogs?



5. How many Virginia native reptiles and/or amphibians contain the name of another state (not Virginia) in their common name?



6. Can you identify this turtle?

7. True or False – Snakes cannot hear air borne sounds.

8. Can you identify these native Virginia “black snakes”?





9. Can you identify this frog?



10. Can you identify these 7 native snakes?



Answers can be found on pages 24-25.

**NOTICE: Submissions for *Catesbeiana* Vol. 33 No. 1 are due March 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](mailto:pwsattler@liberty.edu).



## NEWS

**Not a Chickenhawk; I'm a Chicken Turtle! (1 | 3) Turkeycock Wildlife Area a 'jewel'...  
Wild-snake study suggests virgin births.. (2 | 4) Celebrate Year of the Snake!**

### 1) I'm Not a Chickenhawk; I'm a Chicken Turtle!

*An article from [virginiaoutdoors.com](http://www.virginiaoutdoors.com), a website by the Virginia Department of Conservation and Recreation.  
<http://www.virginiaoutdoors.com/article/more/3960>*

**By Erik Molleen & J.D. Kleopfer**

#### **The Elusive Chicken Turtle has been found at First Landing State Park**

A state endangered species, the chicken turtle (*Deirochelys reticularia*) is a semiaquatic species that is only known to occur at two locations in Virginia, one being First Landing State Park. Since 2006, **Virginia State Parks'** District Resource Specialist Erik Molleen and **Department of Game and Inland Fisheries'** Biologist, J.D. Kleopfer, have been searching for the chicken turtle as part of an ongoing research project.

On July 30th, 2012, **Old Dominion University** biology intern, Justin Westerfield, was checking the traps, and found a chicken turtle in one of park's interdunal ponds. The common name is believed to have come from an 1800's written account of how it was the most palatable of all the freshwater turtles, and that it "tasted like chicken".

A small population of less than 10 chicken turtles was documented at the park in the early 1990's. However, only one turtle had been found since then and it was believed that they may have been extirpated from the **First Landing State Park**. Because they spend just as much time on land as they do in the water and are highly mobile, this lifestyle makes them highly vulnerable to predation from foxes and raccoons, and interactions with vehicles.

Biologists have attached a transmitter to the turtle the hopes of finding important behavioral and habitat information about this species. They hope that this turtle will lead them to other chicken turtles. In Virginia, chicken turtles are known to inhabit interdunal swales, feeding primarily on aquatic invertebrates such as crayfish and dragonflies. Information gathered during this investigation will contribute to larger conservation efforts to protect chicken turtles in Virginia.

"A rare find like this give us hope that the chicken turtle population has not been entirely lost from the park," said Erik Molleen, **Virginia State Parks'** District Resource Specialist.

The chicken turtle that was trapped had extensive damage to the upper-right portion of her shell, most likely caused by a motor vehicle. Biologists repaired the shell, secured the transmitter, took genetic samples, and released her back into the wild. Park visitors are encouraged to be mindful of wildlife in roadways, and to take care to avoid the wildlife when safely possible.

**First Landing State Park** has 20 cabins and over 200 campsites. The park is located in Virginia Beach, Virginia.

**LOCATION:** From I-64, take Northampton Blvd.-U.S. 13 North (Exit 282). Go through eight lights, and then turn right at the Shore Drive/U.S. 60 exit (last exit before the Chesapeake Bay Bridge Tunnel). Take a right on Shore Drive and go four and a half miles to the park entrance. To reach the Chesapeake Bay Center, park office, camping or cabins, turn left off U.S. Rt. 60 at the stoplight and check in at the contact station. For the Trail Center, picnic area and trails, turn right instead.

**Drive Time:** Northern Virginia, three and a half hours; Richmond, two hours; Tidewater/Norfolk/Virginia Beach, 20-30 minutes (this facility is in the area); Roanoke, five and a half hours.



*The rarely seen, endangered Chicken Turtle was thought lost to the park*

### 2) Wild-snake study suggests virgin births may be common

**Scientists stunned to see female pit vipers reproduce solo, even when males are around**

**By Charles Choi** Contributor; From [Science on NBCNews.com](http://www.nbcnews.com), updated 9/11/2012 8:43:55 PM ET

Wild female pit vipers can reproduce without a male, suggesting that virgin births may take place in nature far more than before thought.

Asexual reproduction is common among invertebrates — that is, animals without backbones. It occurs rarely in vertebrates, but examples of it are increasingly being discovered. For instance, the Komodo



dragon, the world's largest living lizard, has given birth via parthenogenesis, in which an unfertilized egg develops to maturity.

Such virgin births have also been seen in sharks at least twice; in birds such as chickens and turkeys; and in snakes such as pit vipers and boa constrictors.

Although virgin birth has been observed in vertebrates in captivity, scientists had not yet seen it happen in the wild. This raised the possibility that such asexual reproduction might just be a rare curiosity outside the mainstream of vertebrate evolution.

"Until this discovery, facultative parthenogenesis — asexual reproduction by a normally sexual species — has been considered a captive syndrome," said researcher Warren Booth, a molecular ecologist at the University of Tulsa in Oklahoma.

Now, genetic analysis reveals examples of virgin birth in two closely related species of pit viper snakes — the copperhead (*Agkistrodon contortrix*) and cottonmouth (*Agkistrodon piscivorus*).

### **Mama's offspring**

The researchers collected genetic samples from long-term studies of the snakes — copperheads from Connecticut, and cottonmouths from Georgia. They gathered specimens from 22 litters of copperheads and 37 litters of cottonmouths, both the mothers and their offspring. DNA analysis confirmed that in one litter from each species, the offspring were solely the product of the mother, with no genetic contributions from a father.

The researchers were able to analyze the large amount of data due to collaborations with Charles Smith and Pam Eskridge of the Copperhead Institute and Wofford College in South Carolina; and Shannon Hoss, a graduate student at San Diego State University.

"We just sat there stunned at the discovery," Booth told LiveScience. "This is something that we always believed existed, but in order to investigate it, it would take a massive amount of work in the field. ... To detect it in both species in our first attempt was astounding.

"I think the frequency is what really shocked us," Booth added. "In the copperhead population, we detected one instance in 22 litters, whereas in the cottonmouths, it was one in 37 litters. Essentially, somewhere between 2.5 and 5 percent of litters produced in these populations may be resulting from parthenogenesis. That's quite remarkable for something that has been considered an evolutionary novelty, even by me up until this finding."

Pit vipers and many other creatures carry out meiosis, in which cells divide to form sex cells, each of which only possess half the material needed to make offspring. In the female pit vipers, pairs of their sex cells likely fused to generate embryos. The results were progeny that included only the mother's genetic material. However, these offspring weren't clones of the mother since they were not made using identical halves of her genome.

### **What limits virgin births?**

How prevalent, then, is virgin birth? And could it possibly extend to humans?

"In terms of other species, it is evident now that reptiles are a group that appear predisposed to parthenogenesis, whether facultative, as we address here, or obligate, where the primary reproductive mode is parthenogenesis and few or no males are known within the species," Booth said.

Obligate parthenogenesis may have arisen from ancestral interbreeding between species, though scientists aren't sure why some animals seem to randomly give birth without help from the male (the facultative type).

"What is common to those that reproduce facultatively is the lack of genomic imprinting— by that, I mean a process in which a specific set of genes are provided by the mother, and a second set from the father," Booth said. "These genes of different parental origin must interact in a process called genomic imprinting in order for the development of an embryo. This, as far as we are aware, occurs in all mammals with the exception of the monotremes — platypus and echidnas — and therefore explains why we cannot have facultative parthenogenesis in mammalian species without significant intervention by scientists." Originally, Booth and his colleagues thought such virgin births might happen if potential mates were not present, but over the years, they have seen six captive female boa constrictors give birth via parthenogenesis even when males were around during their breeding cycles. The number of times virgin births have occurred with different females also seem to rule out a freak accident causing it to occur, Booth and colleagues said.



They are now investigating other possible causes for these virgin births — "these include genetics, viruses, tumors and bacteria," Booth said.

In the future, the researchers also hope to investigate other species for virgin births, such as water snakes in Oklahoma. In addition, they plan to see how well the offspring of virgin births survive and reproduce. It may be that virgin mothers can establish whole area populations of snakes by themselves.

"We will know if this is possible in the next two to three years," Booth said.

■ The scientists detail their findings online in the journal *Biology Letters*.

### 3) Turkeycock Wildlife Area a 'jewel' of outdoor adventure

#### Wildlife area to host 'herp blitz' (Led by long-time VHS member, Jason Gibson!)

From the [Martinsville Bulletin](#)

Tuesday, September 4, 2012

By PAUL COLLINS - Bulletin Staff Writer

The Turkeycock Mountain Wildlife Management Area is a "jewel" that some people may not know about.

"If it's a mountain top outdoor experience you seek, Turkeycock Wildlife Management Area (WMA) can provide it. This rugged, forested area, named for the mountain on which it is located, offers the opportunity to hunt, hike and view wildlife from some of the highest elevations in the vicinity," according to the description of the area on the Virginia Department of Game and Inland Fisheries (DGIF) website.

But few people use it, except during hunting season, according to Jason Gibson, longtime member and past president of the Virginia Herpetological Society and a biology teacher at Galileo Magnet High School in Danville.

Gibson will lead what's called a herp blitz to Turkeycock Mountain Wildlife Management Area on Friday, looking for as many species of reptiles and amphibians as possible. Herpetology is the branch of zoology dealing with reptiles and amphibians.

A group from the 2012 Virginia Master Naturalist Statewide Volunteer Conference will go on the herp blitz, according to an online schedule of the conference. The conference will be based at the Virginia Museum of Natural History.

Gibson called the WMA "a jewel, tremendous for walking, hiking, maybe horseback riding, hunting in season, (and) fishing in a pond."

The area is significant, he said, because it is "very biodiverse" being as far west as the Piedmont extends and as far east as the mountains extend. He also pointed out that little public land in Virginia is ridge land.

The area lies along the ridge of Turkeycock Mountain northwest of Martinsville.

"Here, the mountain's ridge also forms the boundary between Franklin and Henry counties, and the management area's 2,679 acres extend into both counties," the DGIF website states. "The area is predominantly a forested landscape with several wildlife openings located throughout the WMA. Elevations range from 1,100 to over 1,700 feet. There are a number of small streams that drain the area and Scout Pond is located near the area's southwestern corner. Efforts to improve timber quality and create habitat diversity through the sale of timber, as market conditions allow, are the most efficient wildlife management options on this area."

Turkeycock Mountain WMA is on the Virginia Birding and Wildlife Trail. Turkeys, deer, raccoons and squirrels primarily are hunted, and the black bear population is expanding slowly, the website states. There are several miles of rough gravel roads and a number of paths into this relatively dense hardwood forest. The dense forests sometimes make wildlife somewhat difficult to see. Larger species such as wild turkey and white-tailed deer are visible only when they come in to the open along the



Turkeycock Mountain Wildlife Area offers the chance "to hunt, hike, and view wildlife from some of the highest elevations in the vicinity," according to the Virginia Department of Game and Inland Fisheries (DGIF) website. Scout Pond is shown above. (Bulletin photos by Paul Collins)



roadsides or larger paths.

Bird species found in the area include eastern wood-pewee, great-crested flycatcher, blue jay, Carolina chickadee, tufted titmouse, Carolina wren, blue-gray gnatcatcher, wood thrush, red-eyed vireo, ovenbird, scarlet tanager, eastern towhee and American goldfinch. The edges of the pond on the western end of the WMA are worth checking for sunning eastern painted turtles or skulking ebony jewelwings. Spicebush swallowtails can often be found in sunspots scattered along the road.

Jim Bowman, a wildlife biologist with VDGIF, said there were some limited timber sales at Turkeycock Mountain WMA three or four years ago to help create habitat diversity. By and large, the WMA has mature timber except for those cuts, he said.

The WMA had a history of some abuse years ago when it was overrun by ATV traffic and trail bikes, Bowman said. In recent years, much of the uncontrolled activity has subsided.

The Department of Game and Inland Fisheries has tried to control access to Turkeycock Mountain WMA. There is one primary access road now. Some side roads up either side of the mountain have been closed off. There also has been more law enforcement attention, which has helped control abuse, Bowman said.

The WMA gets a fair amount of public use, considering it is in an out-of-the-way area, but “there’s no way to do a head count,” he said.

The WMA is a good area for hiking, he said. The primary trail is the main access road, and there are some former logging roads, he added.

“We feel like it’s (Turkeycock Mountain WMA) an asset to the community. We hope the public does take the opportunity to visit the area and use and enjoy the area,” Bowman said.

Brian Williams, program manager for the Dan River Basin Association, said he has hiked most of the Turkeycock Mountain WMA. “The hiking is good. I enjoy it. It’s pretty strenuous. You’re going uphill the whole way (to the ridge),” he said. He added that on the ridge, looking east you can see flat land and looking west you can see mountains.

The WMA is a great place for nature photography because there is a wide variety of environments, plants and animals, Williams said. For instance, rhododendron, mountain laurel and wildflowers can be seen.

He said he has fished at the pond, which has bass, brim, catfish and maybe some crappy. He also has hiked with a herpetologist looking for salamanders, and there may be a subspecies of salamander there, dusky salamander.

Williams said a lot of anecdotal information indicates there are timber rattlesnakes at the WMA, but there have been three “blo blitzes” and not one timber rattlesnake has been found. A bio blitz is an intense period of biological surveying.

One of the “cool” reptiles at Turkeycock Mountain WMA is the hog-nosed snake, Gibson said.

“This is a stout, medium-sized snake that grows to lengths of 20-33 (inches),” the DGIF website states. “The upturned nose is characteristic. This docile snake is also identifiable by its tendency to inflate its head and neck, coil, hiss and strike when initially disturbed. It does not bite, however, and if this display does not scare away the predator, the snake will writhe and feign death. It is quite variable in color, but usually tan to dark brown, and sometimes yellowish.”

Hikers at Turkeycock Mountain WMA also may see old tobacco barn foundations, rock fences and ridge-line structures, Williams said, adding, “I don’t know what they are.”

There are no amenities such as portable toilets, he noted.

#### 4) Celebrate Year of the Snake!

Partners in Amphibian and Reptile Conservation (PARC) is celebrating 2013 as the Year of the Snake! This effort aims to raise awareness about the global status of snakes and the threats and human perceptions that contribute to their decline. As the Year of the Snake unfolds, it is the goal of PARC (& VHS) to educate the public about the importance of these species, their importance to our ecosystems, the value of snakes to humans, and the beauty and mystique of these animals and the places they inhabit. Log on to [www.yearofthesnake.org](http://www.yearofthesnake.org) to learn more!





## ZOO UPDATES

### Reptiles Alive!



### Northern Virginia & DC Area

[www.reptilesalive.com](http://www.reptilesalive.com)

Reptiles Alive LLC Newsss-

CobraCaroline will be presenting a program at Huntley Meadows Park on the Dyke Marsh Herp Survey that she and VHS did for the Friends of Dyke Marsh back in May 2012:

Sunday, March 3<sup>d</sup>  
2-4 pm  
"The Herps of Dyke Marsh Preserve"  
Huntley Meadows Visitor Center  
Alexandria, VA  
<http://www.fodm.org/>

Here are more upcoming events by Reptiles Alive! that are free and open to the public:

Saturday April 13 2-2:30 pm  
Live Animal Show  
"Deserts Alive!"  
Doodlehopper 4 Kids Toy Store  
Springfield VA  
<http://www.doodlehopper.com/events.php>

Sunday April 14 2-2:30 pm  
Live Animal Show  
"Deserts Alive!"  
Doodlehopper 4 Kids Toy Store  
Falls Church VA  
<http://www.doodlehopper.com/events.php>

Saturday April 20 11:30am -1:30 pm  
Live Animal Shows  
Rain Forests Alive! (3 shows)  
Campus Green Festival  
[Northern Virginia Community College](#)  
Annandale VA

Thursday June 27th Multiple show times throughout the day  
Live Animal Show + Animal Encounters  
"Reptiles Alive!"  
Chinn Park Regional Library  
[Chinn Park Library Website](#)  
Prince William, VA  
703.792.4800

Be sure to check out our public events page  
at [www.reptilealive.com/events](http://www.reptilealive.com/events) for more herpetological fun!

– Caroline Seitz





**Virginia Living Museum**

**Newport News**

[thevlm.org](http://thevlm.org)



Herp news at the Virginia Living Museum

- 1) New! Salamander Exhibit – The museum has revamped a previous exhibit to house a variety of salamander species that currently include: Cave Salamanders (*Eurycea lucifaga*), Slimy Salamanders (*Plethodon glutinosus*), and Northern Red Salamanders (*Pseudotriton ruber*). This exhibit is located in the Virginia Underground Gallery on the lower level.
- 2) Two-Toed Amphiuma –The reclusive two-toed amphiuma is on display in the Virginia Underground Gallery Discovery Center.
- 3) Reptiles Bizarre and Beautiful Feb. 16-18 – Connect with several herpetological rescue and conservation organizations. Watch presentations from other professionals about their experiences or conservation work. See many exotic species of reptiles and amphibians from all over the world – including Asian Water Monitor, Asian Cobra, African Dwarf Crocodile babies (endangered), Waxing Monkey Tree Frogs, Giant Day Geckos, Cane Toad, eyelash vipers, rattlesnakes, iguanas, bearded dragons, pythons and boas of all shapes and sizes, and of course many native Virginia species!



The museum is open 9 a.m. to 5 p.m. Monday through Saturday and noon to 5 p.m. on Sunday. Admission is \$17 adults, \$13 children (ages 3-12). It's located at 524 J. Clyde Morris Blvd., Newport News. Call [757-595-1900](tel:757-595-1900) or visit [thevlm.org](http://thevlm.org).  
– *Virginia Gabriele*

**Mill Mountain Zoo**

**Roanoke**

[www.mmzoo.org](http://www.mmzoo.org)



Mill Mountain Zoo has been hard at work sprucing up the herp house. The building has a new jungle theme, including vines and plants on the ceiling, and sounds playing throughout the day. There are many more changes planned which include a refurbished exhibit for the two Burmese Pythons. Our largest python is now one of our oldest animals in the zoo at 25 years old. This will be the fourth exhibit change in his life time at the zoo and possibly the best. The new exhibit is planned to begin construction in the spring by a local boy scout who has taken it on as his Eagle Scout project. The new exhibit will include a larger and deeper pond, and heated flooring. Fundraising has begun for the project which includes a donation box outside the exhibit for patrons to contribute.  
– *Kontessa St.Clair*

“Nature holds the key to our aesthetic, intellectual, cognitive, and even spiritual satisfaction.”

~ *Edward O. Wilson*



## CONSERVATION KEY

### The Eastern Box Turtle

By Todd Fredericksen, School of Natural Sciences and Mathematics, Ferrum College

The Eastern Box Turtle (*Terrapene carolina carolina*) is considered to be a common species throughout most of Virginia. Most of us have encountered this endearing tortoise plodding along a forest trail, crossing a road, or wandering through our backyard. Although currently common, it may be surprising that there is increasing concern about the future of this species. The Eastern Box Turtle is listed as a Tier III species in the Virginia Wildlife Action Plan, indicating a high conservation need and recommending action to stabilize or increase populations of the species.

Box turtles are long-lived animals. Adult turtles have few natural predators, and they do not have demanding habitat requirements. The Eastern Box Turtle thrives in just about any area where there is some forest cover and openings for basking. They are consummate omnivores, feeding on foliage, fruits, mushrooms, invertebrates and carrion. Adult turtles have relatively few diseases, although they sometimes succumb to ear and respiratory infections. Because of their simple habitat requirements and limited threats from predators and diseases, it is not uncommon for box turtles to live to 50 years or more (Hall et al. 1999, Dodd, 2001). Juvenile turtles, with a thinner shell, are more vulnerable to predation by medium-sized mammals. Box turtles tend to spend the first years of their lives hiding in thick cover. I monitored the movements of a two-year-old box turtle this past summer. It never wandered from an area of thick vegetation in an open field comprising an area of about 10 x 10 yards until just before hibernation when it crossed a shallow creek and moved about 20 yards into a bottomland hardwood forest. In contrast, the home range of adult turtles that I have tracked is more typically around 5 acres.

The threat to box turtles comes on two fronts. First, adults are threatened by development which fragments forests and intersects the home ranges of turtles with paved roads where they more frequently encounter their major non-natural predator – automobiles. When forests are logged and cleared, some turtles may be killed in the process (Fredericksen and Bernard 2010). Even if they survive, they will be vulnerable to mortality if they cannot find suitable

habitat nearby. Some openings created in forests from logging, however, may possibly be beneficial for box turtles because they often prefer edge habitats (Dodd, 2001). Land that is converted to lawns and hayfields may be more problematic because box turtles may fall prey to mowers, particularly riding mowers and hay tractors which move fast and make it less likely for the driver to see and avoid a turtle. More frequent encounters with humans also increase the chance that they will be taken home as pets or relocated (often with good intentions) away from their home range. People will sometimes move turtles from roads, or other areas that they perceive as dangerous, to locations where they believe the turtle will be more safe. Box turtles, however, imprint on their home range and will try to return to it if moved away. We conducted a study at Ferrum College where we moved turtles a short distance away (1 mile) from their home range. They promptly returned to it within 1-2 days. One turtle that was moved approximately 8 miles from its home range, moved more than 1 mile in attempt to find its home range (unfortunately, it moved in the wrong direction). It may thus be futile to try to move box turtles from their home range because they are likely to try to return there, crossing roads and other dangerous areas along the way.

The other threat to the conservation of this species involves recruitment of juveniles. Box turtle females typically have one clutch of eggs per year and, unlike aquatic turtles, the clutch size is small, with an average of 2-4 eggs per clutch (Dodd, 2001). Females reach reproductive maturity between 5-10 years of age. Thereafter, box turtles do not necessarily produce eggs each year. In a population study in the Virginia Piedmont, Wilson and Ernst (2005) found that 40% of females were gravid in a given year, and before predation, slightly less than half of the eggs laid by these females produced viable hatchlings.

Both nests and hatchlings are vulnerable to predation by mesopredators such as raccoons, skunks, foxes, and opossums. Due to forest fragmentation, ex-urban development, and a loss of large predators, populations of mesopredators have increased, perhaps increasing predation rates on eggs and hatchlings. Domestic dogs are



also a threat to juvenile turtles, as well as adult turtles if the dog is large enough.

Another issue potentially affecting juvenile recruitment is the nesting behavior of females. Females typically seek nesting sites in areas with higher insolation, such as fields and other clearings in the forest, presumably for the higher incubation temperatures there. In some cases, females may have to move large distances to find such areas, which may increase the probability of crossing roads and also make them more vulnerable to injury or death from mowers. Some studies have documented male-skewed sex ratios in populations of both terrestrial and aquatic turtles (Hall et al. 1999; Gibbs and Steen, 2005), which may be attributable to the higher mobility of female turtles. The delayed sexual maturity of turtles also limits recruitment (Klemens 2000). Some turtle researchers are concerned that increased adult mortality, particularly for females, coupled with slow recruitment and recruitment failures from excessive juvenile predation, may threaten the long-term viability of populations.

Conservation of the Eastern Box Turtle is linked to larger conservation issues related to controlling urban and suburban sprawl and associated habitat fragmentation. Much can be done for this species, however, through educational programs that help people understand how they can help reduce turtle mortality by not relocating turtles away from their home range, mowing during midday when box turtles are less likely to be in fields, and discouraging children to keep wild turtles as pets. To promote box turtle conservation and education efforts, the Mid-Atlantic Turtle and Tortoise Society has produced CDs for use in educational programs for schools and the general public

called "Eastern Box Turtles: Disappearing Gems of the Forest" ([www.matts-turtles.org](http://www.matts-turtles.org)). In addition, a series of workshops on the species for scientists, educators, and turtle enthusiasts have been held with one coming up in Asheboro, North Carolina on March 22-23. The web site for this group is [www.boxturtleconservation.org](http://www.boxturtleconservation.org). In many ways, the box turtle is a flagship species that may help the public get behind conservation efforts on a larger scale.

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## HERPCETERA

**Job Opening: Reptile Keeper at Reptiles Alive! (1) FrogWatch USA – National Zoo DC Chapter (2) 3) Graduate and Professional Course – Species Monitoring and Conservation: Reptiles**

### 1) Job Opening: Reptile Keeper (Part-time) at Reptiles Alive!

Reptiles Alive LLC has an open keeper position at a starting salary of \$11 per hour. This position involves the care and maintenance of over 40 species reptiles, amphibians, and invertebrates. Position requires a high school diploma or equivalent. Previous experience with herpetological husbandry preferred. Good organizational skills and the ability to work well with others in a team environment are a must. Candidate



should be able to lift 50 pounds; this position may require other physical demands such as bending, stretching, climbing, etc.. Position is open until filled. A background check is required of the final candidate. Resumes and cover letter should be submitted to:

Caroline Seitz  
[reptilesalive@gmail.com](mailto:reptilesalive@gmail.com)

## 2) FrogWatch USA – National Zoo DC Chapter

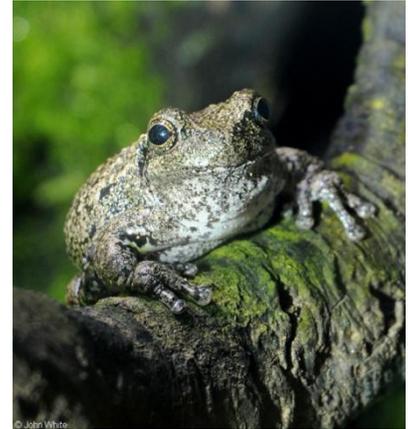
A FrogWatch USA chapter has started here at the National Zoo. If you didn't know, FrogWatch is a citizen science program through the Association of Zoos and Aquariums that tracks frog populations throughout the United States. Participants choose a monitoring site that is easily accessible and close to where they live or work to listen to frogs that are calling throughout the warmer months. There are 3 indoor trainings to help orient people with the frogs that are in the DC-metro area and their calls. These sessions are the same, so choose one that fits your schedule. There will also be two field sessions here at the Zoo/Rock Creek Park. If you are interested please contact: [neffm@si.edu](mailto:neffm@si.edu)

Trainings:

Sun., March 3rd, 1:30-3:30pm

Sun., April 7th, 4:00-6:00pm – field training 7:00-8:00pm

Sun., May 5th, 4:00-6:00pm – field training 7:00-8:00pm



## 3) Graduate and Professional Course – Species Monitoring and Conservation: Reptiles

May 13-24, 2013

Smithsonian-Mason School of Conservation

At the Smithsonian Conservation Biology Institute, Front Royal, VA, USA

Visit <http://SMconservation.gmu.edu> or contact [SCBItraining@si.edu](mailto:SCBItraining@si.edu) for more information.

**Reptiles** is an introduction for graduate students and professionals in wildlife management and conservation to the essential aspects of reptile conservation (both in-situ and ex-situ). The course focuses on the use of field, laboratory, computational, and captive techniques to measure, monitor, and conserve reptile populations. Participants will gain first-hand experience by working with professionals in a variety of settings designed to address current and developing issues in the conservation of reptile diversity.

During the 12-day intensive residential session, participants will learn the principles of study design, develop and carry out field assessments, and use the latest techniques to analyze their data. Practical training in hands-on field techniques, including distance sampling, modern surveillance, trapping, handling and marking methods, sample collection for disease monitoring, and radio-telemetry will be provided by scientists who use these methods as part of their research programs. Participants will also be introduced to use of relevant analytic software, such as DISTANCE, PRESENCE, and MARK, for the application of field-monitoring data to population management and decision making.

Course instructors include experts from the Smithsonian's National Zoological Park (Curator Jim Murphy and Biologist Matt Evans) and National Museum of Natural History, the Virginia Department of Game and Inland Fisheries, the University of Massachusetts, and national and international NGO's. While most instruction takes place on the 3200-acre campus in Front Royal at the newly opened facilities of the Smithsonian-Mason School of Conservation, the course also includes trips to field sites around the region and visits to the National Zoo's Reptile Discovery Center and the National Museum of Natural History's Division of Amphibians and Reptiles, which houses the world's largest curated reptile collection.

The total course fee, which includes instruction and course materials, food, shared lodging, and transport to/from Washington-Dulles International Airport (IAD) is \$3,478. All other travel costs and incidental expenses are the participant's responsibility. Partial scholarships are available on a competitive



basis. Participants earn Continuing Education Units; graduate course credit (3) is available for qualified applicants through George Mason University at an additional fee. Participants should have previously completed a college- level basic ecology/evolution course. For first consideration, apply before March 4, 2013. *Courses such as this have been full during previous offerings, so you are encouraged to apply early.*

**Additional Upcoming Courses:**

For more information on each of these, see: <http://SMconservation.gmu.edu>

- Statistics for Ecology and Conservation Biology (March 4-15, 2013)
- Estimating Animal Abundance and Occupancy (April 1-12, 2013)
- Species Monitoring & Conservation: Terrestrial Mammals (April 29-May 10, 2013)
- Non-Invasive Genetic Techniques in Wildlife Conservation (June 1-7, 2013)
- Adaptive Management for Conservation Success (June 10-21, 2013)
- Conservation Breeding Centers for Wildlife Sustainability (October 7-14, 2013)





***“People care about the things they understand. The more they understand the more interesting it becomes,”*** posits Brodie. ***“It’s exciting to tell the story about a salamander under a rock. We know that one salamander may have been under the same rock six to eight years. When people begin to understand that, they think twice before driving a bulldozer through an area.”***

*~ Dr. Edmund Brodie, UVA (quote from an upcoming herp article, written by Glenda Booth, and scheduled for the May/June issue of Virginia Wildlife magazine)*

## NEW BOOK

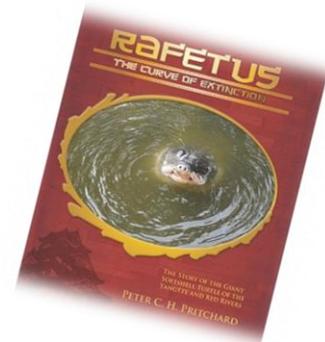
Title: **Rafetus: The Curve of Extinction**

Author: Peter Pritchard

Price: \$69.50 plus \$6.00 S&H (through HerpDigest) (Overseas, including Canada, email us at [asalzberg@herpdigest.org](mailto:asalzberg@herpdigest.org) for S&H price.)

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- 3) By credit card, Master or Visa, Discover and Amex, only, send us your credit card number, expiration date, billing and shipping address to [asalzberg@nyc.rr.com](mailto:asalzberg@nyc.rr.com). (Though I haven't heard of this happening, a credit card number stolen from an email, I'm told to prevent this send card number divided into two emails.) And, don't forget to include those 3 numbers from the back of the credit card.



Description from HerpDigest: In this, Dr. Peter Pritchard's eleventh book, he tells the incredible story of the world's rarest turtle, Rafetus swinhoei, a true giant of the chelonian world. This freshwater Loch Ness Monster, is represented by a single mystical giant living in Lake Hoan Kiem in downtown Hanoi, a juvenile in Dong Mo, perhaps a few specimens living in the shadows of deep lakes in nature, and a large adult pair who lived alone as zoo specimens for more than fifty years, separated by thousands of miles. By a miraculous feat of politics, ingenuity, and human labor, these two individuals were brought together for the purpose of saving the species. In RAFETUS: The Curve of Extinction, Dr. Pritchard presents a story of looming loss, but also of hope.

This book is a beautiful large format 184 page hardback with a dustjacket. Color pictures throughout. (2012)

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## 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.

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Walguarnery, Justin W., Rachael M. Goodman and Arthur C. Echternacht. Dec 2012. Thermal biology and temperature selection in juvenile lizards of co-occurring native and introduced *Anolis* species. *Journal of Herpetology*. Vol. 46(4): 620-624.

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Answers from pages 8-10.

## TRIVIA ANSWERS

1. The following five vernacular names were used back in the 1700's – 1800's for five native Virginia snakes. Can you identify all five species?

- A. Punctuated Viper = **southern ring-necked snake (*Diadophis punctatus punctatus*)**
- B. Fodder Snake = **northern ring-necked snake (*Diadophis punctatus edwardsii*)**
- C. Horned Snake = **eastern mudsnake (*Farancia abacura abacura*)**
- D. Blaney's Snake = **eastern smooth earthsnake (*Virginia valeriae valeriae*)**
- E. Cope's Milk Snake = **scarlet kingsnake (*Lampropeltis triangulum elapsoides*)**

2. Can you identify this turtle?

- **The turtle is a yellow-bellied slider (*Trachemys scripta scripta*).**



3. What Can you identify these native snakes?

- 1. **Northern black racer (*Coluber constrictor constrictor*)**
- 2. **Eastern ratsnake (*Pantherophis alleghaniensis*)**
- 3. **Eastern gartersnake (*Thamnophis sirtalis sirtalis*)**
- 4. **Northern copperhead (*Agkistrodon contortrix mokasen*)**



4. Can you identify these native treefrogs?

- 1. **Barking treefrog (*Hyla gratiosa*)**
- 2. **Pine woods treefrog (*Hyla femoralis*)**
- 3. **Green treefrog (*Hyla cinerea*)**
- 4. **Gray treefrog/Cope's gray treefrog (*Hyla versicolor/chrysoscelis*)**
- 5. **Gray treefrog/Cope's gray treefrog (*Hyla versicolor/chrysoscelis*)**
- 6. **Squirrel treefrog (*Hyla squirella*)**



5. How many Virginia native reptiles and/or amphibians contain the name of another state (not Virginia) in their common name?

- **2 amphibians (Kentucky spring salamander and New Jersey chorus frog).**



6. Can you identify this turtle?

- **Eastern Musk Turtle (*Sternotherus odoratus*).**



7. True or False – Snakes cannot hear air borne sounds.

- **The answer is false.**

Snakes do hear air borne sounds, typically in the low frequency range from 150-600 Hertz. The peak response is a 300 Hertz. The path for air borne sounds is as follows: Sound waves hit the skin on the temporal area on the side of the head and are transferred through the jaw muscle to the quadrate bone. The quadrate bone abuts the ear bone (columella or stapes) which is attached to the underside of the cranium and in turn transmits vibrations to the inner ear and its sound sensitive cells. Despite the use of the jaw mechanism for sound reception, there is no reduction in sound reception when the snake is eating. Snakes hear via the columella whether or not the head touches the ground.

8. Can you identify these native Virginia “black snakes” ?

1. **Eastern cottonmouth (*Agkistrodon piscivorus piscivorus*)**
2. **Eastern black kingsnake (*Lampropeltis getula niger*)**
3. **Eastern hog-nosed snake (*Heterodon platirhinos*)**
4. **Eastern mudsnake (*Farancia abacura abacura*)**
5. **Northern ring-necked snake (*Diadophis punctatus edwardsi*)**
6. **Northern black racer (*Coluber constrictor constrictor*)**
7. **Eastern ratsnake (*Pantherophis alleghaniensis*)**



9. Can you identify this frog?

- **Southern leopard frog (*Lithobates sphenoccephalus*), this is an unusually patterned specimen, with the dorsal pattern being almost absent and lacking a well defined tympanic spot.**



10. Can you identify these 7 native snakes?

1. **Northern pinesnake (*Pituophis melanocleucus melanocleucus*)**
2. **Timber rattlesnake (*Crotalus horridus*)**
3. **Common ribbonsnake (*Thamnophis sauritus sauritus*)**
4. **Timber rattlesnake (*Crotalus horridus*)**
5. **Eastern ratsnake (*Pantherophis alleghaniensis*) (neonate)**
6. **Eastern hog-nosed snake (*Heterodon platirhinos*)**
7. **Queen snake (*Regina septemvittata*)**



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

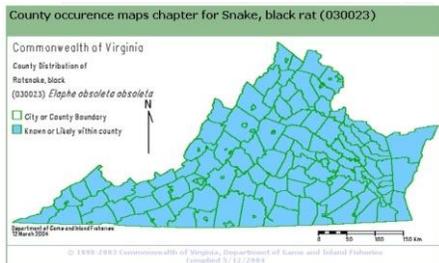


## VIRGINIA NATIVE

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>.

### Eastern Ratsnake (*Pantherophis alleghaniensis*)



Juvenile eastern ratsnake



#### Characteristics

Formerly known as the "black ratsnake", this solid, shiny black and grows to lengths of 42-72 in. (106.7-183 cm). It may show traces of a spotted pattern when the skin is stretched, as after a meal. The light areas of skin between the scales may be white, yellow, orange, or red. The belly displays a vague checkerboard pattern of gray or brown on white or yellowish. Juveniles have a pattern of black to dark brown blotches on a peppered black and white to gray body and a brown stripe from the front of the eye to the margin of the mouth. Adult eastern ratsnakes may be confused with adult northern black racer, *Coluber constrictor*; however, the latter has smooth scales, a round body in cross section, and white only on the chin. Juveniles are sometimes confused with small copperheads but the latter have brown hourglass-shaped crossbands and a yellow tip tail. Ratsnakes emerge from hibernation in April and mate in May or June. The eggs, numbering 5-25, are laid in July, in decomposing logs, mulch or sawdust heaps, or hollow trees. The eggs hatch in late August or September. This snake is often active just after sunset, when it may travel considerable distances.

#### Distribution

This species is distributed statewide in Virginia below 1350 meters elevation. This is a terrestrial species that also climbs trees. It is found in a variety of habitats, including agricultural areas, most types of hardwood forest, isolated urban woodlots, and forested wetlands. This snake is often found in barns and old buildings where it preys on mice and other small rodents.

#### Foods

The primary prey items are rodents, birds, and bird's eggs. Prey is killed by constriction, and eggs are swallowed whole and then broken in the throat.



**Common Name:** Eastern Ratsnake

**Scientific Name:** *Pantherophis alleghaniensis* (formerly *Elaphe obsoleta*)

**Genus:** *Pantherophis* is derived from the Greek words "pan" which means bread, referring to the bread loaf, cross-section shape of the snake, "thero" means a wild beast of summer and "ophis" means snake.

**Species:** *alleghaniensis* refers to its habitat in the Allegheny Mountains.

**Average Length:** 42 - 72 in. (106.7-183 cm)

**Virginia Record Length:** 79.8 in. (202.8 cm)

**Record length:** 101 in. (256.5 cm)