



Virginia Herpetological Society Newsletter

Volume 21, Number 2

August 2011

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Record-breaking Survey Attendance! Summary on the Website!



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Join Us at the VHS Fall Meeting!



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Alert!

**New User Fee for
VDGIF properties
begins on January 1,
2012! See page 6!**

This month's Virginia Native- page 19

Wood Turtle



... Continuing to celebrate,
Year of the Turtle!



UPDATES! MORE DISCOUNTS WITH VHS MEMBERSHIP CARDS. PAGE 2!

Home Page:	http://www.virginiaherpetologicalsociety.com
Message Board:	http://groups.yahoo.com/group/VaHS
Online Store:	http://www.cafepress.com/vahersociety
Facebook Page:	http://www.facebook.com/pages/Virginia-Herpetological-Society/

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Coming Events		
EVENT	LOCATION	DATES
Cave Survey for Salamanders	Highland County, VA	Aug 20
2012 Calendar Photo Submissions	Merchandise@vaherspsociety.com	Sept 1
VHS Fall Meeting	Bridgewater, VA	Oct 22

VHS BUSINESS

New VHS Member Discounts (1)
VHS Annual Fall Meeting (2)
Cave Survey for Salamanders (3)

4) NEED Photos for VHS 2012 Calendar!
5) VHS Website Updates
6) Reminders

1) New VHS Member Discounts (at Zoos and Other Educational Facilities):

We have added two new facilities to our membership discount benefit.

- **Mill Mountain Zoo** located in Roanoke, Virginia will provide \$1 off admission. Please remember to present your membership card at the ticket counter.
- **Reptiles Alive!** located in Northern Virginia, performs in the Northern Virginia, Washington DC, and lower Maryland areas. They will provide \$20 off any live animal show booking. Please remember to mention your membership card during the reservation and present the card at the time of your showing.

2) VHS Annual Fall Meeting

Saturday, Oct 22

The VHS will hold its Annual Fall Meeting at Bridgewater College, in the beautiful Shenandoah Valley. Please keep checking the VHS website, [events section](#), for further details about the event as we get closer to the date.

Location: Bridgewater College
402 East College Street
Bridgewater, VA 22812

Lodging: <http://www.bridgewater.edu/Admissions/VisitCampus/PlacestoStay>

Host Website: <http://www.bridgewater.edu/>

Host Phone: (540) 828-8000



3) Cave Survey for Salamanders

Saturday, August 20

The Herp Society is going to take a departure from our usual type of survey to go spelunking! Virginia is full of unique geologic formations, including over 4,300 caves. The Herp Society has teamed with the Virginia Highlands Grotto (VHG) to take a small group of Herp Society members to two privately owned caves to look for salamander inhabitants. There will be no guarantee that salamanders will be in the caves at the time of the survey, but we are sure to have a fun experience with the guided tour of the caves provided by VHG.

Registration: Since this is a departure from the Herp Society's usual survey, registration will be required to attend. A web-based registration form will be available, first come first serve, about one month prior to the event. Herp Society members will get an e-mail when this form is available, but also check the Herp Society website.

Who Can Attend: Herp Society members and their guests; children 10 years and up. Due to the *limited space available* for this trip, each Herp Society member will be allowed two guests each. Others not going into the caves are welcome at the survey's site.

Cost: \$15 will cover the cost of equipment rental (helmet and lights) for each attendee.



Required Equipment: Gloves, hiking boots, long sleeves, pants, and knee pads. Temperatures inside the caves will be 54°F, so dress warmly!

Suggested Equipment: Backpack, beverages, extra flashlights (no spot lights please) and since you will get dirty and possibly wet, a change of clothes. You will need to bring your own meals.

Location: Attendees will meet in McDowell, in Highland County, Virginia. The exact location will be e-mailed to registered attendees.

Expected Duration: 2-3 hours

Note: This survey will be conducted on private property. All attendees will be required to sign a liability waiver.

Please note that these caves are not show-caves like Luray Caverns. Be prepared to climb, crawl and shimmy. Only primitive amenities are available on-site such as a pit toilet. This is a rural area of Virginia and the nearest stores are located 10 miles away.



Virginia's caves are protected by law; please familiarize yourself with the Cave Do's and Don'ts here:

<http://www.caves.org/safety/index.shtml>

Herp Society members will strictly adhere to any rules imposed by the VHG in order to protect the caves and their inhabitants. This is not your only chance to go into a cave! There are [numerous grottoes in Virginia](#) that welcome guests on their frequent cave trips. Contact Kory Steele (president@vaherpsociety.com).

4) NEED Photo Submissions for the VHS 2012 Calendar!!!

The VHS Store manager, Pattie Crane, needs high resolution pictures in good quality. Images should have the subject in focus and with very little background distraction. Images received by September 1st will be considered for the 2012 calendar, but any late submissions will be saved for consideration in the 2013 calendar. Please send your submissions to Merchandise@vaherpsociety.com



5) VHS Website Updates

a) Check out the survey summaries so far, including the Pocahontas Survey that resulted in record-breaking attendance for a VHS survey:

<http://www.virginiaherpetologicalsociety.com/2011-events/2011-events.htm>





- b) VHS Education Committee Chair, Mike Clifford, has modified, for Virginia (with permission), some of the Powerpoint presentations and Word documents created by Mike Dorcas at Davidson College. This new content is now available at: <http://www.virginiaherpetologicalsociety.com/education/education-material.htm>.



6) Reminders

a) Your support is a beautiful thing!! Simple clicks on the internet you can support VHS and our mission to conserve, research, and educate the public on native herps. In addition to fundraising, donations are always accepted, in any monetary amount. 100% of your donation goes to 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](#); [GoodSearch.com](#) & [GoodShop.com](#); and [Café Press – The VHS Store](#).

b) VHS officers have new email addresses:

<http://www.virginiaherpetologicalsociety.com/contacts/vhs-contacts.htm>

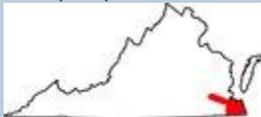
EVENTS

	Northern Va Reptile Expo	Richmond Reptile Expo
Dates	9/17, 12/10/2011	10/30/2011
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	http://www.mdreptilefarm.com/shows/va/nva.asp	http://www.mdreptilefarm.com/shows/va/richmond.asp

HERP TRIVIA

Most of 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 distribution map represents the VA distribution of which venomous snake?



2. You can accurately age a rattlesnake by counting rattle segments. True or False?

3. Can you name the two native skinks that have one postmental scale?

4. Recently, VHS asked Facebook users "Which type of native herp would you most like to see on a VHS t-shirt?". Out of 22 votes, which of the following types of herps received the most votes: Frog/Toad, Lizard, Turtle, Snake(venomous), Snake (non-venomous), or Salamander?





5. The Pocahontas State Park Survey generated a species list large and diverse. Including:
Anurans (frogs and toads) - 9 species
Salamanders - 7 species
Turtles - 4 species
Lizards - 4 species
And, for this question, how many species of Snakes?

6. What sex is this bullfrog?



7. With which species of salamander can one determine the sex by the color of the light dorsal bands?

8. What species of rattlesnake was falsely considered part of VA's snake fauna from 1957 to about 1964?

9. What native amphibian is called the "Allegheny alligator" or "snot otter"?
Hint: It was a target species at HerpBlitz survey in Hungry Mother State Park.

10. Can you identify these critters and what is the purpose of the yellow tail tip?



11. Which native salamander has one of the largest amounts of DNA, approximately 25 times more than the human genome?

12. Can you identify this salamander?





13. Some of the vernacular names for this native VA herp include: Carolina Toad, Gray Toad, Land-Frog, Latreille's Toad, Charming Toad and Hop Toad. What is this herp?

14. Are the particles collected by a snake's tongue tips deposited on the top or the bottom of the snake's mouth?

15. Can you identify this snake?



Answers can be found on pages 17-18.

NOTICE: Submissions for *Catesbeiana* Vol. 31 No. 2 are due September 1, 2011!

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

NEWS

New VDGIF Fee (1 | 3) “Look! It’s, er, a Dark Snake!”
On the invasive turtle hunt in Norfolk (2 | 4) “A Guide to the Frogs and Toads of VA”

1) New VDGIF Fee: New User Fee goes into effect January 1, 2012

At their May 3, 2011 meeting, The Board of Game and Inland Fisheries created a facility use permit for Virginia Department of Game and Inland Fisheries (VDGIF) wildlife management areas or public fishing lakes that will go into effect January 1, 2012. So, if you like to use VDGIF's wildlife management areas for herping, birding, hiking, primitive camping, biking, canoeing or kayaking, but do not hunt, fish, or operate motorized boats, you may soon need to purchase a permit, either daily or annual, to use these facilities.

Anyone over 16 years old who does not have an annual hunting, fishing, or trapping license or a boat registration will need this new use permit. Users will have the choice of paying \$4 for a daily pass or \$23 for an annual pass to all VDGIF facilities (\$23 is the same price for a basic annual hunting or fishing license). This will allow VDGIF to get new funds from non-traditional constituents to help go towards nongame wildlife-related, including herp-related, conservation and management.

For a list of fishing and hunting licenses and the fees to purchase them, including the cost for non-residents, visit <http://www.dgif.virginia.gov/licenses/fees/>.

For information about angling, boating, hunting and wildlife watching in Virginia, visit the Department's website at www.dgif.virginia.gov.



Other news and information of interest from VDGIF:

New iPhone App; new Mattaponi WMA and map; and electronic Outdoor Report sign in



2) On the invasive turtle hunt in Norfolk

As published in The Virginian-Pilot on June 25, 2011, by Diane Tennant

In late May, J.D. Kleopfer went out for Chinese.

He brought a boat. He brought a stack of hoop nets. And he brought Ryan Niccoli, whose job it was to put on chest waders, hop out of the boat periodically and plant the hoop nets in shallow water around Lake Whitehurst, baited with a slightly opened can of sardines packed in soybean oil. What they expected to happen, overnight, was for a Chinese softshell turtle to follow its piglike nose into the net, proof positive that the invasive species had taken up residence in the Norfolk city reservoir.

That wasn't what happened at all.

Of the many kinds of turtles to be seen in Virginia waters, the Chinese softshell is one you don't want to find. It's an Asian species, but between the demands of the pet trade and the cooking pot, Chinese softshells are spreading throughout the world. They compete with native species for food and habitat, and they compete with fishermen, because Chinese softshells are carnivores.

The invaders had been reported basking on the shorelines of Lake Whitehurst, a 400-acre freshwater reservoir that wraps around the Norfolk Botanical Garden and snubs up against the airport and Little Creek amphibious base. It is nowhere close to China. So when the reports came in to the state Department of Game and Inland Fisheries, Kleopfer, a herpetologist, went out to discover whether it was true.

Lots of little turtle heads poked up out of the water as the boat motored away from the ramp and rounded a corner. Under a bright sun they all looked uniformly black and identical, but Kleopfer said a Chinese softshell is distinctive. "It looks like a baby piglet swimming across the water," he said. That would be due to the snout, which field guides describe as looking like a dual snorkel. No aquatic porcines appeared, so Kleopfer steered for the sloping concrete wall near the dam. The wall had been baking in the sun for several hours, and turtles of various sizes were on it, enjoying a spa-like experience. "I see them basking," Kleopfer said, from quite a distance away. "I bet you that's them right there," but when he took a close look through binoculars it was not. "Those are cooters," he reported, which are hard-shelled reptiles whose name derives from the African word "kuta," or "turtle." "Good-lookin' basking spot for them, though," he added. "Nice hot rocks."

This end of Lake Whitehurst is boating depth right up to its edges, so Niccoli, a field technician, sounded with an oar until he found the shallower spots and slipped over the side of the boat. The first turtle was a red-eared slider. Niccoli didn't even have to use a net. He just grabbed at a half-submerged tree branch and caught a turtle no longer than an inch and a half, bright lime green with an attractive pattern of darker green lines.

"Five dollars in a pet store," Kleopfer said. Red-eared sliders are on the list of the 100 most invasive species in the world. They're native to the Mississippi River valley, but they're popular in the pet trade, and when they outgrow that little fish bowl with the fake palm tree, and the owners realize those turtles could live for another 50 years, well, the easiest way to get rid of them while salving the conscience is to drop them off in the nearest lake or stream. "It's extremely irresponsible of any pet owner to dump their pets," Kleopfer said. "It's a lifetime commitment, not until you get bored with it." Red-ears crowd out native species, hybridize with them, and are suspected of spreading turtle diseases. Kleopfer is not given to looking gloomy, but he didn't look optimistic when he added, "I expect we'll catch a lot of red-eared sliders."

The second turtle was a northern red-bellied. "Oh, there's somebody interesting," Kleopfer said, as Niccoli lugged a net full of turtles to the boat. "Not what I'm lookin' for, but that's a big female, native turtle." "That's a good-looking one," Niccoli agreed. Red-bellied turtles have a blush of orangish-red on the bottom of the shell. They can be overwhelmed by the red-ears, such as the third turtle pulled from the net, so Kleopfer was glad to see the fourth one was another red-bellied.

Then the fifth turtle came out. "This is a Coastal Plain cooter!" Kleopfer exclaimed. "A really big female. Vegetarian. Pretty shell. Isn't that a gorgeous shell? I might get a couple photographs of the shell." Niccoli folded the net and heaved himself back into the boat while Kleopfer snapped away. Turtles scrambled around them, trying to get out. "That's a pretty turtle," Kleopfer said. "Pretty turtle." He placed the cooter in the bottom of the boat while Niccoli tipped some of the others over the edge of the bow. "Man, that's a nice pattern," Kleopfer said, admiring the maze-like swirl of yellow and black. "I love turtles. What a beautiful animal." The Coastal Plain cooter is a Southern species, barely reaching into Virginia



south of the James River. When the photo session was finished, he released it back into Lake Whitehurst, which is well away from the James, and motored to another set of nets.

Niccoli hauled out the next batch of turtles. "No softshells," Kleopfer said, looking them over. "Well, this is how it goes." Niccoli pulled out the empty sardine can. An aggressive and clever turtle had peeled the lid all the way back and had lunch. "They got in the can?" Kleopfer was surprised, but not as surprised as when a big male red-bellied turtle was removed from the net. "This is as big a male as you'll ever see," he said. "Because it's the biggest one I've ever seen." He turned it upside down and studied the marks on the bottom of the shell. Probably a hybrid of native turtle and red-eared, he concluded.

Niccoli waded over to the next net. "I think there's a snapper in that one," Kleopfer warned. "I saw a big head stick up." Niccoli pulled the net out and the snapper snapped. "Yeah, there's a snapper," he said, and laughed. Its shell was probably 15 inches long, and it didn't take kindly to the men trying to get the net off. Niccoli patted its back soothingly, and finally just pressed it down until Kleopfer got it clear and lifted it up by the tail. It snapped again, and he tossed it in the water, then reached for another turtle. "There's another native, a painted turtle," he said. "That's as big as they get."

They headed for the last net. "No softshells?" Kleopfer asked, as Niccoli flopped the net on board. "Nope." They pulled out a bunch of red-ears and one interesting turtle. "Let's see here," Kleopfer said. "That's a true yellow-belly." He pointed out the yellow vertical stripe on the face of the yellow-bellied slider, another Virginia native. "It's amazing to see that there are still some in here." The yellow-belly went back into the lake, and the boat went back on the trailer. From the truck, Kleopfer pulled out distribution maps for each turtle species.

"This is a new record for Norfolk," he said. "It's never been documented here before - the Coastal Plain cooter. It's not shocking. It just indicates how little we know about what's out here." He read a little further. The yellow-bellied slider was also a new species for Norfolk. "Even in a concrete jungle, it's surprising what you can find," he said. Or not find.

Kleopfer concluded that he'll need a different method to trap Chinese softshells, since the hoop nets and sardines didn't work. He'll be back at Lake Whitehurst. Because he knows they're out there.

Diane Tennant, (757) 446-2478 or diane.tennant@pilotonline.com

Source URL (retrieved on 06/27/2011): <http://hamptonroads.com/2011/06/invasive-turtle-hunt-norfolk>

3) "Look! It's, er, a dark snake!"

Virginia has some black snakes, just don't call them that.

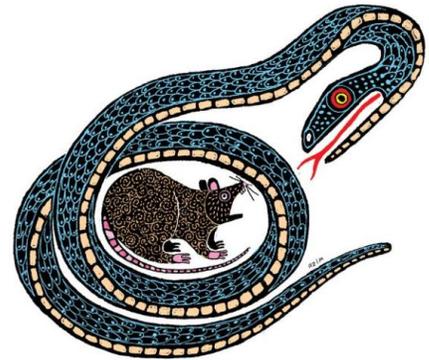
As published in Virginia Living magazine by [Caroline Kettlewell](#) 5/25/11 (featuring VHS President, Kory Steele) <http://www.virginaliving.com/articles/dark-snake>

Illustration by Robert Meganck

Here is what you may be surprised to learn about the black snake: there is no such thing in Virginia. That is, there is no snake so named. When you see something long and black slipping through the grass or basking in the sunshine on your back stoop, not only is it not called a "black snake," it might actually be either one of two different native species of snake, or possibly even a third.

"In Virginia, we have three different species of snake that can be solid black," explains herpetologist Kory Steele, president of the Virginia Herpetological Society. These snakes would be: the Northern black racer, the Eastern ratsnake, and the sometimes-but-not-always-black Eastern hognose. Though all three are non-venomous, harmless and native to Virginia, it is the first two, according to Steele, that are likely most often confused—and little wonder. For one thing, to the casual observer, at least, the adults look remarkably alike. To complicate matters, both go by a host of vernacular names including—no surprise here—"black snake." To further confuse the situation, the Eastern ratsnake (*Pantherophis alleghaniensis*) until quite recently went under the common name Eastern black ratsnake until DNA analysis got it reclassified.

Nevertheless, "These are two very different snakes," says Ryan Dumas, herpetologist at the National Aquarium in Washington, D.C., who admits that the generic misnomer "black snake" is something of a pet peeve with him and that he would like to set the record straight. So, if you want to hold your head high among herpetologists, how should you tell the difference?





"When you walked up to it, and it slithered away, did it do so at a seemingly supernatural pace?" asks Steele. That's one check mark for the Northern black racer and also a clear indicator of how the racer got its name. "It barely seems to move its body, but it flies out of there," says Steele. "I've literally had my hands around a racer, and in the second I hesitated to grab it he moved off and I couldn't get him."

Is it really long? Not that you're likely to be taking out your tape measure, but while racers taper out around three to four feet, the Eastern ratsnake is the one snake in Virginia that can grow longer than six feet—the longest Eastern ratsnake on record was more than eight feet. Ratsnakes are also climbers, the ones that slither up trees to raid birds' nests and make their way into the rafters of barns and garages as well. And the ratsnake is crepuscular, which is to say that it is most active in the twilight hours of dawn and dusk and at night.

Check out another recent article featuring VHS President, Kory Steele, which also discusses snakes, in the Hopewell News: http://www.hopewellnews.com/article_3553.shtml

4) "A Guide to the Frogs and Toads of Virginia"

"A Guide to the Frogs and Toads of Virginia" is a 44 page field guide that covers all 27 species of frogs and toads that inhabit Virginia. Species accounts, descriptions, biology, behavior, habitats and conservation issues are all described and illustrated through more than 80 photographs and drawings. Included is a complimentary CD of *The Calls of Virginia Frogs and Toads*. Copies of the guide are now available to purchase through the [VDGIF on-line gift shop](#).



ZOO UPDATES

Virginia Zoological Park

Norfolk

virginiazoo.org



Busy as usual here at the Virginia Zoo. We are currently working on introductions between our 3 VA venomous (copperhead, cottonmouth, and timber rattlesnake) that have been successful, and they will eventually share an enclosure that is going to be renovated/refurbished. We just had a group of red splash-backed poison dart frogs cleared from quarantine and will be going on exhibit in a refurbished enclosure. Also out of quarantine are 0.2 northern pine snakes that were promptly placed on exhibit to further display some of Virginia's finest. The last herps clearing quarantine are a pair of mangrove snakes. One is a project due to its lack of interest in eating, and the other is a project due to its lack of size. We will be moving the smaller (good eater) on exhibit to display these vibrant rear-fanged species.

Just recently we hatched a pair of Williams' dwarf geckos, one of the smallest species of lizards in the world, and without doubt the smallest baby to hatch (or born) at the Virginia Zoo. We are one of only 3 AZA institutions in North America to maintain this species.

New herps on the horizon will include the addition of 2 northern diamondback terrapins and possibly some Mexican axolotls.

– Craig Pelke

Reptiles Alive!

Northern Virginia & DC Area

www.reptilesalive.com



Fun this Fall for Virginia Herp Fans!

Reptiles Alive will be performing at many public events and festivals this Fall including:

Sunday September 18 Celebrate Gaithersburg Festival, Gaithersburg MD 12 noon - 5 pm : "Reptiles Alive!" show performances on stage all day long in conjunction with a *Reptiles Alive Zoo Exhibit*. Discover amazing secrets about reptiles from our wildlife educators and meet exotic reptiles including a giant albino python, American alligator, African tortoise and many more awesome animals.



Saturday October 1 Fall Wildlife Festival, Woodbridge VA
10:30 am - 2:30 pm: "*Backyards Alive!*" show performances plus a special "*Backyard Reptile Encounter*" feature the incredible herps living right here in northern Virginia. Learn what to do when you encounter a snake or see a turtle crossing the road. Discover the truth about the reptiles living in your neighborhood and meet live animals including a huge bull frog, snapping turtle, rat snake, and more amazing native creatures.

We will be at many other events that are open to the public as well. Visit our public events page at www.reptilesalive.com/events and follow us at [Facebook.com/reptilesalive](https://www.facebook.com/reptilesalive) for updates on upcoming events.

— *Caroline Seitz*

"Earth and sky, woods and fields, lakes and rivers, the mountain and the sea, are excellent schoolmasters, and teach some of us more than we can ever learn from books."
— *John Lubbock*

CONSERVATION KEY

Timber harvesting and forest herpetofauna

Article by: Todd S. Fredericksen, VHS
Conservation Committee Member, School of
Natural Sciences and Mathematics, Ferrum
College, Ferrum, VA 24088

Introduction

Many species of reptiles and amphibians are likely to be affected by timber harvesting, although the effects may vary significantly depending upon the method of harvesting and retention of important habitat features during harvesting. Since timber harvesting opens the forest canopy and increases solar radiation to the understory, some amphibian species may be negatively affected because of reduced humidity in the understory (Petranka et al. 1993, Knapp et al. 2003, Hicks & Pearson 2003) leading to an increased possibility of dehydration (Rothermel & Semlitsch 2002, Rothermel & Luhring 2005). In contrast, reptiles may benefit from timber harvesting because of an increase in basking areas as well as increased cover in the form of slash (remnant branches and logs) and increased understory plant cover resulting from opening of the canopy (Enge & Marion 1986, Greenberg et al. 1994, Loehle et al. 2005). An increase in small mammals and invertebrate prey in harvested stands may also support larger populations of reptiles (Miller et al., 2004, Shively et al., 2006).

Amphibians

Many studies have focused on the impact of timber harvesting on salamander species (e.g., Enge & Marion 1986, Pough et al. 1987, Harpole & Haas 1999, Petranka et al. 1993, Ash et al. 2003, Knapp et al. 2003, Patrick et al. 2006). A review of eighteen studies on the impact of clearcutting on amphibians by De Maynadier & Hunter (1995) concluded that harvesting generally has negative short-term impacts on amphibian species, especially salamanders. Longer-term negative impacts were likely to occur in forest plantations with intensive site preparation and other silvicultural treatments. They also suggested, however, that many of the negative impacts could be mitigated by retention of suitable microhabitat.



Logging may increase sedimentation of streams and alter temperature and humidity within forests which may negatively affect both aquatic and terrestrial salamanders. Moseley et al. (2008) found that long-term partial timber harvests reduced the abundance of *Desmognathus* salamander species, speculating that it may be attributed to stream sedimentation. They concluded, however, that this harvesting did not appear to threaten long-term persistence of *Desmognathus* in these streams. Ross et al. (2000) found that salamander species declined in



selectively-logged hardwood stands after forest canopy cover dropped below 60-70%. In another study of selectively logged hardwood forests in New York, Messere & Ducey (1998) found no effects of harvesting on red-backed salamander (*Plethodon cinereus*) populations and McKenny et al. (2006) found that red-backed salamander populations were not affected by three different uneven-aged harvesting treatments.

The duration of effects of harvesting on salamander populations vary with harvest intensity. In a study in Appalachian cove hardwood forests, Ford et al. (2002) found that salamander populations were slow to recover from clearcutting with some effects lingering more than 50 years. Similarly, from studies in the Ridge and Valley forests in the central Appalachian Mountains, Homyack & Haas (2009) suggested that more than 60 years may be needed for populations of the red-backed salamander to return to preharvest levels following clearcutting. The effects of less intensive harvesting, however, may be more ephemeral. For example, Brooks (2001) noted that the abundance of red-backed salamanders recovered from partial pre-salvage logging of eastern hemlock (*Tsuga canadensis*) within a few years.

Anurans are more tolerant of the warmer and dry conditions following logging than salamanders (Todd & Rothermel 2006). The presence of water sources within or adjacent to a stand may be a more important determinant of anuran abundance than logging (Russell et al. 2002b). Ross et al. (2000) and Fredericksen et al. (2006) found no differences in the abundance or species richness of anurans between selectively logged and mature hardwood forests. It was noted that pickerel frogs (*Lithobates palustris*) and green frogs (*Lithobates clamitans*) frequently use deep ruts on skid trails. These temporary water sources may be important refuges during dispersal of young frogs and toads. These ruts also contain tadpoles, but it is unclear how many frogs successfully hatch from these areas since

they are subject to drying out during prolonged dry periods. Todd & Rothermel (2006) found no difference in the abundance of southern toads (*Bufo terrestris*) among clearcut, partially-harvested, and mature loblolly pine (*Pinus taeda*) forests, but toads

placed in enclosures within clearcuts grew less over a two-month period compared to those in enclosures within partially-harvested and mature



forests. Hocking & Semlitsch (2007) found that gray treefrogs preferred breeding pools in clearcuts compared to partially-harvested areas or uncut controls probably because of higher quality foods and increased temperatures for enhanced growth. Some species of amphibians, however, prefer ponds within closed canopy forests, such as the wood frog (*Lithobates sylvatica*) (Skelly et al. 2002).

Reptiles

Fewer studies have examined the impact of timber harvesting on reptiles. Todd & Andrews (2008) observed a reduced abundance of six species of small snakes in clearcut stands compared to uncut stands and thinned longleaf pine (*Pinus palustris*) stands during the first two years after treatment. Thinned forest stands had the highest abundance of snakes. Clearcuts where coarse woody debris was removed had the lowest abundance. Greenberg et al. (1994) found that reptile species richness and diversity did not differ between clearcutting and site preparation treatments and mature sand-pine scrub forest although species composition differed markedly. Perison et al. (1997) found that the small northern ringneck snake (*Diadophis punctatus*) had higher abundance in bottomland hardwood forests compared to adjacent clearcuts and Russell et al. (2002a) found that the abundance of the larger black racer snake (*Coluber constrictor*) was also higher in wetland forests compared to recent clearcuts. Enge & Marion (1986) found that reptile abundance was reduced by intensive site preparation following clearcutting in slash pine (*Pinus elliotii*) forests, but not by low intensity site preparation. Arboreal lizard populations were dramatically reduced due to clearcutting and overall reptile species richness was reduced.

In selectively-logged hardwood forests, Ross et al. (2000) and Fredericksen et al. (2006) found a higher abundance of snakes and lizards in logged stands compared to unlogged hardwood stands. Fredericksen et al. (2006) found no difference in the abundance of eastern box turtles (*Terrapene carolina*) between logged and unlogged sites. Using radiotelemetry, Fredericksen & Bernard (2010) documented the death on one eastern box turtle, apparently run over by a skidder, on a site that was clearcut followed by complete chipping of harvest residues. Three other box turtles present within the stand at the





time of harvest escaped injury and were found on adjacent forested tracks following clearcutting and chipping. In addition to roadkills, vehicle traffic along roads and skidtrails during harvesting can also modify habitat and restrict movement of some herpetofauna species (Loehle et al. 2005). De Maynadier & Hunter (1995) concluded that road traffic was probably not a major source of direct mortality to herpetofauna, but that roads could possibly be a barrier to movement.

Harvesting Methods and Conservation of Herpetofauna

For species negatively affected by timber harvesting, protection or retention of habitat features can be used to mitigate effects. For example, salamanders and other aquatic species can benefit from protection of riparian areas, leaving uncut patches, and retaining coarse woody debris (Dupuis et al. 1995; Semlitsch & Bodie, 2003; Willson & Dorcas, 2003; Petranka & Smith, 2005). Protection of riparian areas is critical for many types of amphibians and other. Most areas close to water in forests managed for timber production are already normally treated as streamside management zones where harvesting is restricted (Loehle et al. 2005).

Intensive forestry practices that include clearcutting, short rotations, site preparation and chipping of slash for biomass may have both short- and long-term impacts on some types of herpetofauna. Despite negative impacts on some species, however, plantation forests can still provide habitat for a wide-variety of wildlife (Miller et al. 2009). Even-aged management with short rotations may not allow time for some species, such as salamanders, to recover following logging (Herbeck & Larsen 1999). If managed species are sensitive to clearcutting, uneven-aged management or variable retention harvests are possible alternatives (Miller et al. 1999, McKenny et al. 2006). Biomass harvesting that removes most or all of residues in addition to mature trees may have large impacts on wildlife, at least in the short term, through loss of vegetation cover and removal of dead and downed wood (Lattimore et al. 2009).

Although nearly all intensities of forest harvesting will affect some herpetofauna species, it is important to recognize that these effects are temporary and recovery of populations will occur as plant succession follows disturbance. The higher the intensity the harvesting and site preparation, the greater the likely temporary impact will be on wildlife species and the longer the recovery time will be to a mature forest condition. Post-harvest and/or intermediate

silvicultural treatments, such as site preparation, prescribed burning, thinning, and timber stand improvement may delay or modify the course of succession. While forests tend to recover quickly from disturbance in the eastern United States, some mature forest specialists may require long periods of time for recovery (Ford et al. 2002). Forest harvesting, especially clearcutting, has often been confused with deforestation, but this type of habitat loss only occurs when forests are converted to non-forest land uses (Fredericksen 1998, Miller et al. 2009).

It is equally important to recognize that harvest impacts on wildlife are scale- and landscape-dependent. Harvests on small stands are likely to have few impacts, unless it occurs on one of the few remaining forest stands in the landscape. Harvests within a matrix dominated by mature forests are likely to have positive effects on landscape diversity by increasing habitat diversity (Loehle et al. 2005). Maintaining landscape connectivity is important to allow for recolonization of cut sites by non-vagile species, such as salamanders (de Maynadier & Hunter 1995), and to allow dispersal routes for juvenile amphibians (Mitchell et al. 1997, Rothermel, 2004, Patrick et al. 2006).

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HERPCETERA

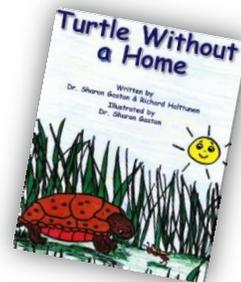
Turtle Without a Home (1 | 2) Continue to Celebrate: Year of the Turtle!

1) Turtle Without a Home

Here is more information about Turtle Without a Home (featured in the New Books section of the last VHS Newsletter), which is finally releasing this summer. The hardcover book has a retail value of \$17.95 but a bulk order is available through Creative Minds Publications. Two websites below provide more information about the book.

www.creativemindspublications.com

www.turtlewithoutahome.com



2) Continue to Celebrate: Year of the Turtle!

The Virginia Herpetological Society in conjunction with PARC and other turtle conservation groups have designated 2011 as the Year of the Turtle. The VHS created the Year of the Turtle video used on [YOT website \(yearoftheturtle.org\)](http://YOTwebsite(yearoftheturtle.org)). The VHS has been and is currently working on other educational, multimedia YOT projects this year. Also check out the latest newsletters and calendars on the YOT website.



The World Congress of Herpetology invites all the world's herpetologists, as well as ichthyologist colleagues from ASIH and AES to the World Congress of Herpetology in 2012, in Vancouver:

<http://wch2012vancouver.com/>

It is a wholesome and necessary thing for us to turn again to the earth and in the contemplation of her beauties to know of wonder and humility. ~Rachel Carson

NEW BOOKS

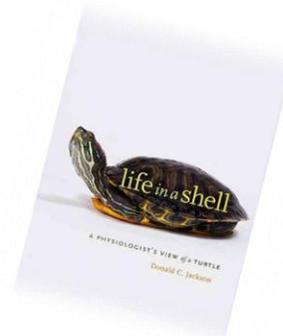
Life in a Shell: A Physiologist's View of a (1 | 2) Venomous Reptiles of the United States, Turtle Canada, and Northern Mexico

1) Title: Life in a Shell: A Physiologist's View of a Turtle (Hardcover)

Author: Donald C. Jackson Price: \$29.95

Description from a CNAH Announcement in HerpDigest: Trundling along in essentially the same form for some 220 million years, turtles have seen dinosaurs come and go, mammals emerge, and humankind expand its dominion. Is it any wonder the persistent chelonian bested the hare? In this engaging book, physiologist Donald Jackson shares a lifetime of observation of this curious creature, allowing us a look under the shell of an animal at once so familiar and so strange.

Here we discover how the turtle's proverbial slowness helps it survive a long, cold winter under ice. How the shell not only serves as a protective home but also influences such essential functions as buoyancy control, breathing, and surviving remarkably long periods without oxygen, and how many other





physiological features help define this unique animal. Jackson offers insight into what exactly it's like to live inside a shell—to carry the heavy carapace on land and in water, to breathe without an expandable ribcage, to have sex with all that body armor intervening.

Along the way we also learn something about the process of scientific discovery—how the answer to one question leads to new questions, how a chance observation can change the direction of study, and above all how new research always builds on the previous work of others. A clear and informative exposition of physiological concepts using the turtle as a model organism, the book is as interesting for what it tells us about scientific investigation as it is for its deep and detailed understanding of how the enduring turtle “works.” 192 pages. Donald C. Jackson is Professor Emeritus of Medical Science, Brown University.

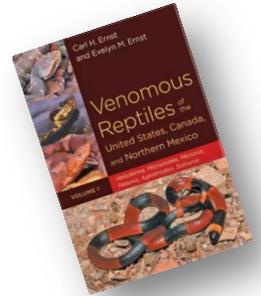
2) Title: **Venomous Reptiles of the United States, Canada, and Northern Mexico: Heloderma, Micruroides, Micrurus, Pelamis, Agkistrodon, Sistrurus: Volume 1**

Authors: Carl H. Ernst and Evelyn M. Ernst Price: \$75.00

Description from HerpDigest: (Volume 2 is scheduled to come out next spring)

Carl and Evelyn Ernst completely revised their landmark reference *Venomous Reptiles of North America* to present the most comprehensive review of these animals in years.

Volume One of this definitive work presents dramatically improved species accounts of the venomous lizards and elapid and viperid snakes found north of Mexico's twenty-fifth parallel. Volume Two will cover the twenty-one rattlesnakes in the United States, Canada, and, for the first time, species only in northern Mexico. Ernst and Ernst have painstakingly researched and verified the highly valuable and detailed information, including every detail of the lives of these fascinating and sometimes deadly animals. The book provides facts on each animal's diet, reproductive behavior, physiology, ecology, and conservation status. There are also details on snakebite, how venom is delivered, venom composition, antivenom production, and medical treatments of envenomation. Each account includes vivid photographs for identification and detailed range maps. The latest research is represented and includes the most extensive bibliography on the subject. Anyone interested in venom, snakes, or general herpetology will find a wealth of information in these impressive volumes.



ONLINE RESOURCE

The Hidden Jewels of Appalachia

The Appalachian region of the eastern United States is the world's epicenter for salamander biodiversity. These secretive creatures, ranging in size from two inches to more than two feet, are a keystone species at risk from a perfect storm of threats, including: development, mountaintop mining, climate change, invasive species, disease, transportation corridors, acid rain, pollution, and more. Learn what these declining "canaries in the coal mine" are telling us about the state of our environment. The final release of the video is now online, here is the link: <http://vimeo.com/26202702>

When one tugs at a single thing in nature, he finds it attached to the rest of the world. ~John Muir



VIRGINIA LITERATURE

These selections represent articles published or in press during the period February to July 2011. 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.

Keyser, Patrick D, Lori A. Williams, Katherine M. Kelly, Carola A. Haas, Victor L. Ford, and T. Bently Wigley. Jul 2011. An Assessment of Distribution Patterns of Terrestrial Salamanders in the Central Appalachians Using Two Landscape Models. *The American Midland Naturalist*: Vol. 166(1): 194-210.

Chambers, David L. Jun 2011. Increased Conductivity Affects Corticosterone Levels and Prey Consumption in Larval Amphibians. *Journal of Herpetology*. Vol. 45(2): 219-223.

Burgmeier, Nicholas G., Trent M. Sutton, and Rod N. Williams. Jun 2011. Spatial Ecology of the Eastern Hellbender (*Cryptobranchus alleganiensis alleganiensis*) in Indiana. *Herpetologica*. Vol. 67,(2): 135-145.

Otto, Clint R. V. and Gary J. Roloff. Jun 2011. Comparing Cover Object and Leaf Litter Surveys for Detecting Red-Backed Salamanders, *Plethodon cinereus*. *Journal of Herpetology*. Vol. 45(2): 256-260.

Perry, Gad and Michael Farmer. Mar 2011. Reducing the Risk of Biological Invasion by Creating Incentives for Pet Sellers and Owners to Do the Right Thing. *Journal of Herpetology*. Vol. 45(1): 134-141.

Mott, Cy L. and Timothy J. Maret. Mar 2011. Species-Specific Patterns of Agonistic Behavior among Larvae of Three Syntopic Species of Ambystomatid Salamanders. *Copeia*. Vol. 2011(1): 9-17.

Davis, Andrew K. and John C. Maerz. Mar 2011.

Assessing Stress Levels of Captive-Reared Amphibians with Hematological Data: Implications for Conservation Initiatives. *Journal of Herpetology*. Vol. 45(1): 40-44.

Raithel, Christopher J., Peter W. C. Paton, Penelope S. Pooler, and Francis C. Golet. Mar 2011. Assessing Long-Term Population Trends of Wood Frogs Using Egg-Mass Counts. *Journal of Herpetology*. Vol. 45(1): 23-27.

James, Stacy M. and Raymond D. Semlitsch. Jun 2011. Terrestrial Performance of Juvenile Frogs in Two Habitat Types after Chronic Larval Exposure to a Contaminant. *Journal of Herpetology*. Vol. 45(2): 186-194.

Cundall, David and Abigail Pattishall. Jun 2011. Foraging Time Investment in an Urban Population of Watersnakes (*Nerodia sipedon*). *Journal of Herpetology*. Vol. 45(2): 174-177.

Goris, Richard C. Mar 2011. Infrared Organs of Snakes: An Integral Part of Vision. *Journal of Herpetology*. Vol. 45(1): 2-14.

Hart, Kristen M. and Larry B. Crowder. Feb 2011. Mitigating By-Catch of Diamondback Terrapins in Crab Pots. *Journal of Wildlife Management*. Vol. 75(2): 264-272.

Neuman-Lee, Lorin A. and Fredric J. Janzen. Mar 2011. Atrazine Exposure Impacts Behavior and Survivorship of Neonatal Turtles. *Herpetologica*. Vol. 67(1): 23-31.





Answers from pages 4-6.

TRIVIA ANSWERS

1. The following distribution map represents the VA distribution of which venomous snake?



- **Eastern cottonmouth (*Agkistrodon piscivorus piscivorus*).**

2. You can accurately age a rattlesnake by counting rattle segments. True or False?

- **False.** A new rattle segment is added when the snake sheds, which may occur a few times per year or less, this varies. Also, rattle segments frequently break off.

3. Can you name the two native skinks that have one postmental scale?

- **The northern coal skink (*Plestiodon anthracinus anthracinus*) and the little brown skink (*Scincella lateralis*) have one postmental scale.** The Five-lined Skink, Southeastern Five-lined and the Broad-headed Skink have two postmental scales.



4. Recently, VHS asked Facebook users "Which type of native herp would you most like to see on a VHS t-shirt?". Out of 22 votes, which of the following types of herps received the most votes: Frog/Toad, Lizard, Turtle, Snake(venomous), Snake (non-venomous), or Salamander?

- **Lizard**

5. The Pocahontas State Park Survey generated a species list large and diverse. Including:

Anurans (frogs and toads) - 9 species

Salamanders - 7 species

Turtles - 4 species

Lizards - 4 species

And, for this question, how many species of Snakes?

- **13**

6. What sex is this bullfrog?



- **The frog is indeed a male as indicated by the larger than the eye tympanum and the yellow throat.**

7. With which species of salamander can one determine the sex by the color of the light dorsal bands?

- **Marbled salamander (*Ambystoma opacum*).** The males have white colored bands on the dorsum (back) and females have grayish bands (the male is to the right in the below photo).



8. What species of rattlesnake was falsely considered part of VA's snake fauna from 1957 to about 1964?

- **Pigmy rattlesnake (*Sistrurus miliarius*).** A single reddish pigmy rattlesnake was found near



Rt. 17 east of the Dismal Swamp on November 4th, 1957. Since there have been no other specimens it is assumed that the snake was a released or escaped pet.

9. What native amphibian is called the "Allegheny alligator" or "snot otter"?

Hint: It was a target species at HerpBlitz survey in Hungry Mother State Park.

- **Eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*).**

10. Can you identify these critters and what is the purpose of the yellow tail tip?



- **The snakes are northern copperheads (*Agkistrodon contortrix mokasen*), and the yellow tail tips are used as lures for small prey (caudal luring).**

11. Which native salamander has one of the largest amounts of DNA, approximately 25 times more than the human genome?

- **Two-toed amphiuma (*Amphiuma means*)**

12. Can you identify this salamander?



- **Mole salamander (*Ambystoma talpoideum*)**

13. Some of the vernacular names for this native VA herp include: Carolina Toad, Gray Toad, Land-Frog, Latreille's Toad, Charming Toad and Hop Toad. What is this herp?

- **Southern Toad (*Anaxyrus terrestris*).**

14. Are the particles collected by a snake's tongue tips deposited on the top or the bottom of the snake's mouth?

- **Using carbon dust and radioactive particles it has been determined that the tongue transfers odor particles to a tissue pad on the bottom of the mouth. This pad is then pressed against the roof of the mouth and thus transferring the particles to the Jacobson's organs. It was once incorrectly assumed that the tongue tips were inserted into the vomeronasal organs.**

15. Can you identify this snake?



- **Southern Ring-necked Snake (*Diadophis punctatus punctatus*)**

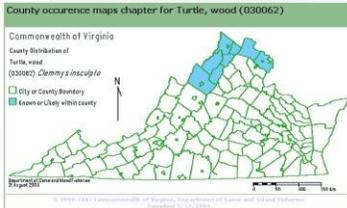
Send ideas for Herp Trivia to newsletter editor, Susan Watson, newsletter@vaherpsociety.com.



VIRGINIA NATIVE

The purpose of **Virginia Native** is to highlight native species that are deserving of 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>.

wood turtle (*Glyptemys insculpta*) *State Threatened Species*



Characteristics

This is a medium turtle, up to 9 inches (22.86 cm) in length, with a keeled, sculptured carapace. The broad, low carapace is rough with each large scute supporting an irregular pyramid formed by a series of concentric growth ridges. The skin is dark brown to black, often with orange to red pigment on the forelegs and neck. The tail is rather long. Hatchling wood turtles are gray to brown and lack orange to red pigment. They lay 7-14 eggs, and hatchling emergence is usually June to August. This species is usually solitary except when mating. This species is generally terrestrial during the warm months and aquatic during cool spells and hibernation. It hibernates in deep pools under the mud or sand bottom, or sits on the bottom, or crawls under woody debris or overhanging roots of trees along the bank. Virginia specimens observed in winter were under submerged logs, in beaver lodges, and in muskrat burrows. Although highly terrestrial, wood turtles must remain in moist habitats as they experience a greater evaporative water loss than the more terrestrial box turtles. Population decline is due to aquatic habitat degradation, wetland loss, habitat fragmentation, urbanization, being killed by vehicular traffic, and collection for the pet trade.

Distribution

In Virginia, this species has a restricted range extending from Arlington and northern Fairfax counties westward through Loudoun, Clarke, Frederick, Warren, Shenandoah, and northwestern Rockingham Counties. They prefer clear brooks and streams within deciduous woodlands, but are known to wander far from water.

Foods

The wood turtle eats both animal and plant food items, including berries, herbs, algae, moss, fungi, grass, insects, mollusks, earthworms, dead fish, tadpoles, newborn mice and other turtles' eggs. It will forage on the ground, in the water, in herbaceous vegetation, and on logs.



Common Name: Wood Turtle

Scientific Name: *Glyptemys insculpta*

Genus: *Glyptemys* is a combination of the Greek words *glyptos* meaning 'carved' and *emys* meaning 'fresh-water tortoise'.

Species: *insculpta* is derived from the Latin word *insculptus* which means "engraved".

Average Length: 5.5 - 8 in. (14 - 20 cm)

Virginia Record Length: 8.5 in. (21.6 cm)

Record length: 9.2 in. (23.4 cm)