



Virginia Herpetological Society

Newsletter

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1958 - 2008



VHS Business

- 1) Message from the President
- 2) Elections & Biographies
- 3) Website Updates
- 4) Fall Meeting results
- 5) Surveys
- 6) Snake Force One

1) Message from the President

Susan Watson – (susan.watson@dgif.virginia.gov)

As VHS President, I would like to keep up the successful path that VHS has been on in recent years. But, for our 50th year and beyond, I would also like to continue to make improvements such as: making sure the Society is formally established as a non-profit status organization; encouraging members to also become involved in WildlifeMapping and Master Naturalists, since these programs are in need of herpers' participation; and promoting another volunteer opportunity for members, the Virginia Frog and Toad Calling Survey, which is also in need of more herpers to gather data. One other goal that we should always have for VHS is to encourage everyone to become as active in VHS as possible, especially now that there are so many different activities. Such as: helping with special events, participating in surveys, attending the Fall Symposium, submitting items to our publications and website, getting involved in a VHS committee, checking out the VHS Yahoo Group, and/or shopping at the VHS Store.

The VHS is already planning to be involved in at least four surveys for 2008. First, Past-President, Jason Gibson, is coordinating an Amphibian/Reptile BioBlitz in Danville's Dan Daniel Memorial Park and Riverwalk for May 10th. Second, the Annual VHS Survey will be at Colonial National Historical Park on May 16th – 18th. Third, VHS has agreed to participate again in the Resource Ramble at the Boy Scout Reservation in Pulaski County on Saturday, June 14th. Finally, Jason is planning the 3rd Annual HerpBlitz for Grayson-Highland State Park for the weekend of June 28th.

VHS will also plan on having exhibits at the annual reptile events at the Virginia Living Museum and the Virginia Museum of Natural History. "Reptiles Bizarre and Beautiful" will be held at the Virginia Living Museum on the weekend of February 16th -18th, in Newport News. The Reptile Day Festival will be held at the Virginia Museum of Natural History on Saturday, July 26th, in Martinsville.

In celebration of the VHS 50th Anniversary, we plan to have a two-day weekend event for the Annual VHS Fall Symposium, instead of the usual one day meeting. Virginia Commonwealth University graciously offered to host our Symposium again in Fall of 2008. The event will be held during one of the weekends in October. Information on the fall meeting, and updates will be posted as they develop on our [website](#) and the [Yahoo Group](#).

2) New Elected Positions & Biographies

During the 2007 fall meeting, the VHS elected several new members to the Executive Committee. Susan Watson moves from vice president to *the first female president in VHS history*. Two members (Dave Van Gelder and Emily Cole) were inducted into positions in the VHS for the first time. Long time Secretary / Treasurer Paul Sattler, resumes his previous role as the Editor of *Catesbeiana* (an appointed position). Below are biographies of the elected positions:

Susan Watson – President (susan.watson@dgif.virginia.gov)

Susan currently works as a research specialist with the [Virginia Department of Game & Inland Fisheries](#) (Wildlife Information Services Section) in Richmond. Her interest in wildlife, and animals in general, has always been one of her great passions in life, and she always had a special affinity for the animals that many people disliked or feared. This passion led her to get a Bachelor's degree in Wildlife Science at Virginia Tech. Susan's first jobs after college were at [Rockwood](#) and [Three Lakes Nature Centers](#), and these opportunities provided much of her knowledge and appreciation of herpetology. After the nature centers, she accepted a full time position in state government with the [Virginia Coastal Program](#) at the [Department of Environmental Quality](#). She was able to work with a broad array of environmental topics affecting Virginia's Coastal Zone.



Susan has been a member of the VHS since 1999 and has participated in numerous surveys, teacher workshops and meetings. Before serving as president, Susan was vice president under Jason Gibson. Susan lives in Prince George County with her husband Noel, with whom she shares a cornsnake.

Dave Van Gelder – Vice President (dvangelder@rcn.com)

Dave and his son, Wes, have been active in the VHS for a number years, participating in surveys and fall meetings. Wes and Dave got started in herps early in Wes' life as Wes always loved to catch critters and has always been fascinated by them. They first joined the Richmond Herp and Bug Club, at which they were introduced to the VHS. Wes is excellent at spotting and catching herps and Dave loves photographing them.

Dave has a bachelors degree in Environmental Biology and Chemistry and a graduate MPA. He currently works in water and wastewater management dealing with numerous water and environmental quality issues, especially the Chesapeake Bay. He is married to Anne, who teaches at the University of Richmond as an Assistant Director of Dance, and Wes is in 11th grade and is an aspiring pilot. The family reside in Powhatan County with their Mexican mountain kingsnake and anoles.

Emily Cole – Co-Secretary / Treasurer (ixzamnu@gmail.com)

Emily is relatively new to the VHS and herps. She has been working in the medical field for over 10 years as a medical assistant at an Ob/Gyn. Emily has lived in Hampton with her 11 year old son, Elijah, who has his own snake hook and field boots for herping. Easing into herpetoculture, Emily has a pair of leopard geckos. Emily has a strong interest in nature photography and gardening, and has been helping out with Snake Force One. Most of the secretarial duties will be handled by Emily.

Pattie Crane - Co-Secretary / Treasurer (pattiecrane@gmail.com)

Pattie currently takes care of two young sons, Isak and Aidan, while working towards a degree in information technology. Pattie lives in Newport News with her husband, Aaron. She joined after seeing the VHS display at the Virginia Living Museum's Reptile Weekend in 2006. Pattie had always had an interest in reptiles and amphibians, but never looked at joining a group because she wasn't a scientist. However, the VHS is open to anyone with an interest in Virginia's herps, and the VHS has found double roles for her as the Merchandise Committee Chair, and now as the Co-Secretary / Treasurer. She also finds time to attend Snake Force One surveys. Most of the treasury duties will be handled by Pattie.

3) Website Updates

Webmaster John White offers the recent additions to the VHS Website: www.vahepsociety.com

1. Photos from the 2007 Fall Meeting have been added.
<http://fwie.fw.vt.edu/VHS/2007fallmeeting.htm>
2. A new search feature has been added to the VHS website. The new search engine searches the VHS and the VNHS (Virginia Natural History Society) websites, and covers both *.htm and *.pdf files. Give it a try!. The search engine is located on the front page near the bottom.

4) Fall Meeting a Success!

The 2008 fall meeting of the Virginia Herpetological Society was a great success. The VHS would like to thank Joy Ware and the Virginia Commonwealth University for their hospitality and hosting our meeting. We would also like to thank our guest speakers Billy Flint, Whit Gibbons, Joe Mitchell and Lou Verner. The quality of our guest speakers was the major reason for the quantity (approximately 70) attendees.





Thanks to student presenters Sarah Budischak, Anna Fredrickson, Kelsey Holzman, Brianna Lam, Leeanna Pletcher, Shannon Pittman and Charlotte Steelman. Thanks to Sarah Crane, Karen Duncan, Kristine Grayson and Leeanna Pletcher for participating in the poster competition.

- Sarah Budischak for winning the first Richard L. Hoffman Award for her presentation "Two sides of a coin: The reciprocal influence of parasites and pollution on developing amphibians.
- Kristine Grayson for her firstplace poster "The Effects of Population Density and Sex Ratio on the Life Strategy of the Red-spotted Newt (*Notophthalmus viridescens*)" in the first Franklin J. Tobey Award.
- Karen Duncan for her second place poster "Monitoring Amphibian Disease and Abnormalities in Urban and Non-urban Areas of Central Virginia.
- Sarah Crane and Leeanna Pletcher who both tied for third place. Sarah's poster was titled "Non-lethal Effects of Predators and Competition on Growth Efficiency in Larval Anurans". Leeanna's poster was titled "Surveys of Spotted Salamanders (*Ambystoma maculata*) in Vernal Pools at the Walter and Inger Rice Center for Environmental Life Sciences".

5) Surveys

A) Annual Survey – Colonial National Historic Park, May 16-18

The VHS will explore the nearly 10,000 acres of the [Colonial National Historic Park](#) in James City County and York County, for the Annual Survey. Preliminary planning has begun and details will be posted on the VHS website and the Yahoo group. Areas that are being considered for the survey include a former plantation site with no documented herp surveys ever having been conducted. Local hotels will be plentiful and a [KOA campground](#) can be used by campers. The state threatened [Mabee's salamander \(*Ambystoma mabeei*\)](#) has been documented in the area, so there are opportunities for rare species. Abundant cottonmouths can also be seen at the nearby [Newport News Park](#) for anyone looking for a side trip.

B) Amphibian/Reptile BioBlitz May 10, 2008

Calling all lovers of creeping critters, nature, and scientific study! You have the opportunity to assist in a local survey to document the different species of reptiles and amphibians in [Dan Daniel Memorial Park](#) and along the Riverwalk. Jason Gibson, past president of the Virginia Herpetological Society and biology instructor at DCC and [Galileo Magnet School](#), will coordinate teams of volunteers for the study. The focus will be on estimating relative abundance, species diversity and examining the health of all animals found. What an exciting project for amateur and experienced naturalists! Co-sponsored by the Virginia Herpetological Society, the Dan River Chapter of Virginia Master Naturalists and Danville Parks, Recreation & Tourism.

Saturday, May 10, 9:00am – 5:00pm

Dan Daniel Memorial Park – Meet at Picnic Shelter #17

Please pre-register by Monday, May 5 by calling 799-5215 or emailing crossks@ci.danville.va.us to facilitate organization of teams.

C) Resource Ramble, June 14

We will be participating in the Resource Ramble 2 on June 14 at the [Blue Ridge Scout Reservation](#) in Paluski County. We will be surveying Camp Powhatan this year. Primitive camping and meals will be provided by the boy scout camp. People can contact Jason Gibson (frogman31@gmail.com) about any arrangements for this survey.

D) 3rd Annual HerpBlitz – June 28th

Past-President Jason Gibson will lead a team of VHS herpers in his 3rd annual HerpBlitz at Grayson Highlands State Park on June 28. More details will be posted as they develop on our [website](#) and the [Yahoo Group](#).

www.dcr.virginia.gov/state_parks/gra.shtml



Herp Trivia

1. What is the name of a group of worm-like, burrowing reptiles? These reptiles are closely related to lizards and snakes.
A) Amphisbaenian B) Anole C) Gavial
2. Approximately what percentage of snakes have venom that is harmful or fatal to human beings?
A) 25 percent B) 15 percent C) 50 percent
3. Which Virginia native frog sounds like a herd of sheep when calling?
A) Fowler's Toad B) Sheep Frog C) Eastern Narrowmouth Toad
4. What percent of all snakes give birth to live young?
A) 1/3 B) 1/5 C) 1/4
5. Reptiles have voluntary control over the muscles in their eyes, which determine their pupil size. This means that they are able to constrict or dilate their pupils at will, not just in response to light.
A) True B) False C) Depends on species
6. The brain of a reptile is no more than what percent of it's body mass?
A) 8% B) 5% C) 1%
7. Some reptile species are known to store sperm and produce young 3 and perhaps 6 or more years after a single, successful mating. In some cases, it is possible to have an infertile clutch followed by a fertile clutch without further matings.
A) False B) True C) Only in lizards, not snakes
8. How can you tell that a legless lizard is not a snake?
A) They have no ears openings or eyelids
B) They have eyelids and you can see an opening for their ears.
9. Which Ambystomatid salamander has the most limited range in Virginia?
A) Mabee's Salamander B) Mole Salamander C) Tiger Salamander
10. The Greater Siren has 4 toes on its front limbs. How many toes are on the hind limbs?

Answers can be found on page 15

6) SNAKE FORCE ONE Continues to Strike!



Snake Force One, a group of dedicated snake lovers, will begin their third year of surveying for external skin lesions and disease on snakes at three area National Wildlife Refuges in April of this year. The refuges surveyed are Rappahannock River Valley National Wildlife Refuge (NWR) (Wilna Pond and Tayloe Units), James River NWR, and the Presquile Island NWR.



In addition to examining the snakes and, where appropriate, performing biopsies, we will continue to PIT-tag those snakes that are large enough to tag and monitor for re-capture of those tagged last year. The photograph below shows a black rat snake's external lesion, which was determined to be an infection by the bacteria *Pseudomonas* sp.

Snake Force One consists of both the baseline team (who participate in almost all surveys) and those only be able to join us a few times. We welcome all fellow snake-enthusiasts, whether you can join once or all the time! Participants have included: John Agee, Jeanie Bishop, Patricia Crane, Larry Mendoza, Leeanna Pletcher, Justin Pletcher, Scott Duncan, Joy Ware, Susan Watson, Kory Steele, Ken Yanek, John Kleopfer, Mun, Nick & Tim Christensen, Emily & Elijah Cole, Mike Rosati, Brian Cutler, Greg Cutler, Laurie Cutler, Mike Rosati, Rebecca Parada Rivera, Catherine Tucker, and Kyle and Gavin Rogers. If you think that you may wish to join us this spring, please email Joy Ware at jware@mcvh-vcu.edu.



Events

- | | |
|----------------------|------------------|
| 1) Reptile Weekend | 4) Reptile Expos |
| 2) Reptile Day | 5) Nature Hikes |
| 3) Terrapin Workshop | |

1) Reptiles! Bizarre and Beautiful at the Virginia Living Museum Feb. 16-18, 2008

Meet one of the last of the world's giant turtles, a turtle that is older than you'll ever be. It is Crunch, a 165-lb., 150-year-old alligator snapping turtle. Crunch will be on display at the [Virginia Living Museum](http://www.thevlm.org) for three days only, Feb. 16-18, as part of the museum's annual "Reptiles! Bizarre and Beautiful" weekend.

Crunch's home is at the Blackwater Turtle Refuge in Churubusco, Indiana. Crunch has been featured on CNN and by the Associated Press. Curator Rusty Reed will be on hand to discuss Crunch and explain how what began as a hobby quickly turned into a personal obsession to do something for a species of turtle that had been slaughtered to near depletion by man. Also meet Crumb, a baby alligator snapping turtle that is only a few inches long.

Reptiles are perhaps the most misunderstood and most feared creatures on earth, but the staff at the Virginia Living Museum wants the public to see their fascinating and attractive aspects as well.

Museum visitors can see a wide variety of native and exotic reptiles and amphibians on display, including all three venomous snakes found in Virginia: rattlesnake, cottonmouth and copperhead. There will be live animal presentations throughout the day with reptiles native to Virginia. Children can make crafts. Visitors will see displays by [FIRST Iguana Rescue](http://www.firstiguanarescue.com), the [Virginia Dept. of Game and Inland Fisheries](http://www.dfg.virginia.gov) and the Virginia Herpetology Society. These special guests will be present Saturday and Sunday only.

Virginia's natural heritage comes alive at the Virginia Living Museum. The museum introduces visitors to more than 250 living species native to Virginia through exhibits, discovery centers and interactive hands-on exhibits. The museum's exhibits bring people in contact with more habitats, wildlife and plant species than would be encountered in a lifetime of outdoor adventures.

Admission is \$13 for adults and \$10 for children (ages 3 to 12). Children ages 2 and under and members are free.

CRUNCH™





2) 2nd Annual Reptile Day

On July 26th 2008, the VHS will be sponsoring a reptile day Saturday event at the [Virginia Museum of Natural History](#) in Martinsville, Virginia. During this one day reptile and amphibian celebration there will be live animal displays, live reptile presentations by [Mark Kilby](#) of [Luray Zoo](#), an educator's workshop, and other displays related to reptiles and amphibians. If you can volunteer to help with the VHS booth or with this event please contact Susan Watson (susan.watson@dgif.virginia.gov). We hope to see many VHS members, come out and support this event!

Highlights from 2007's Reptile Day: fwie.fw.vt.edu/VHS/vmnhreptileday.htm

3) Southeast Regional Diamondback Terrapin Workshop February 27, 2008

February 27, 2008 8:30am - 2:30pm, Charleston, South Carolina

The ACE Basin, Sapelo Island, North Inlet/Winyah Bay and North Carolina National Estuarine Research Reserves, in partnership with the SE Diamondback Terrapin Working Group, are pleased to announce a one-day workshop on February 27, 2008 highlighting the status of diamondback terrapin research, management and education in the Southeast. The meeting will serve to update attendees on the accomplishments and specific needs of the region, as well as facilitate networking within and between states in the Southeast. Presentation topics include:

- Population research and causes for decline;
- Crab trap clean-up, by-catch reduction device (BRD) research with fishermen, BRD education programs;
- Efforts to reduce terrapin mortality, and
- Impacts of mercury on terrapin health.

The workshop will also provide time for break-out discussions by state to determine next steps for that state's research, management and education.

Please register at <http://www.sapeloislandnerr-ctp.org/> for the workshop and the pre-meeting Aquarium tour. Attendees are welcome to display posters, please indicate this on the registration form. Contact Suzanne at Suzanne_Vanparreren@dnr.state.ga.us or 912-485-2251 regarding registration or Rebekah at SzivakR@dnr.sc.gov or 843-953-9024 regarding room reservations.

4) Reptile Expos

	Manassas	Richmond	Timonium, MD
Show	February 16, 2008	March 30, 2008	September 13 & 14, 2008
Dates	May 10, 2008 July 26, 2008 December 13, 2008	October 26, 2008	
Location	Prince William County Fairgrounds Manassas, Virginia 20108	The Holiday Inn Select 1021 Koger Center Blvd. Richmond, VA 23235	Days Hotel 91615 Deereco Rd. Timonium, MD 21093
Admission	\$6	\$7	\$9
Time	9 am to 3 pm	10 am to 3 pm	10 am to 5 pm
Contact	www.kingsnake.com/nva	www.kingsnake.com/richmond	www.reptileinfo.com

"It is horrifying that we have to fight our own government to save the environment."

- **Ansel Adams**



4) Nature Hikes



Ellanor C. Lawrence Park
5040 Walney Road, Chantilly, VA 20151
703-631-0013

- Wood Frogs! March 15, 2008
(8 yrs. and up), 6-7:30pm. Watch a short film then head outdoors to look for breeding frogs in vernal pools. Assist in collecting and recording important data, plus releasing. Wear water-proof boots and bring flashlights! Reservations and advanced payment required. \$5
- Copperheads and Black Racers! May 3, 2008
(12 yrs. and up), 9-11am. Assist a naturalist with a reptile survey. Head out into the outback of the park searching, capturing, identifying and releasing snakes. Learn the habits and preferred habitats of our native snakes. Reservations required. \$5

NOTICE: Submissions for *Catesbeiana* Vol. 28 No. 1 are due March 1, 2008!

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

Conservation Key

Tim Christensen - VHS Conservation Committee Chair

Conservation of Amphibians: The Role of Disease Prevention

Disease is a natural component of all ecosystems including the amphibian element. It is as natural as predation by a Northern watersnake on an adult green frog under ordinary conditions. So, if disease is a natural phenomenon, should there be an issue when it comes to diseases amongst amphibians?

The answer to that question is an emphatic "yes", and it should be expressed in a greater exclamatory tone. Consider today's environmental conditions in which amphibians exist. Amphibians are faced with an array of threats beyond the natural stressors, such as predation and climatic conditions. These threats comprise a multitude of direct and indirect anthropogenic activities. Think for a moment and many will likely come to mind: habitat loss/fragmentation from development and agriculture; feral/uncontrolled domestic animals especially domestic cats; road kill; pesticide use (including herbicides); contamination by road de-icing materials; uncontrolled/unsustainable collection; the introduction of invasive species (plant and animal)...and the list goes on.

Yet disease is an important threat though it is less obvious from a visual perspective and more insidious, more complex than others. If amphibian

populations (if not entire species in some cases) are already stressed by natural factors compounded by the anthropogenic factors noted above, then the impact of disease can be dramatic in my opinion.

Amphibian diseases include viruses, bacteria and fungi, and also include a host of metazoan and protozoan parasites (Crawshaw, 2000). The [Northeast Amphibian Research and Monitoring Initiative](#) provides an Amphibian Disease List summarizing some special aspects of each. These include ranaviruses, the ichthyophonous fungus, the chytrid fungus, water molds (including Saprolegniasis fungi), and a yeast-like organism called mesomycetozoon. Ranaviruses infect certain insects, fish and amphibians and in the latter case infection occurs in larvae (anuran tadpoles and aquatic salamanders). These pathogens have been documented in spotted salamanders, green frogs, wood frogs, spring peepers and bullfrogs. The ichthyophonous fungus is primarily a disease of fish but infection of wood frogs and red-spotted newts has been documented. The chytrid fungus is infection by the microscopic fungus *Batrachochytrium dendrobatidis* occurring on a global scale. Water molds have been documented in spotted salamanders and boreal toads, and the



mesomycetozoon organism has been implicated in wood frog tadpole mortality in Virginia.

Yet didn't I say disease is a natural component by which ecosystems function? I did... but under "ordinary" circumstances. So many activities are other than ordinary and some are ripe for the spread of diseases over considerable geographical distances.

What examples could we include here?

Two examples exist from our own wildlife conservation efforts. The first concerns distribution of fish species from warm-water hatcheries (such as in the southeastern United States) to stock natural water bodies to support sport fishing and wildlife/habitat management. Dodd and Barichivich (2007) cite the transportation of some three million bluegill (*Lepomis macrochirus*) from the Orangeburg Fish Hatchery in South Carolina to the Harris Neck National Wildlife Refuge in Georgia intended as food for a colony of (endangered) wood storks and also may have included bullfrog larva. Green and Dodd (2007) examined anuran larva and hatchery records (of several hatcheries and one refuge) to assess of amphibian larva distribution and potentially contribute to the spread of disease. Some results included identifying a previously undescribed fungal (microsporidian) parasite and the *Batrachochytrium dendrobatidis* organism, and the authors indicate that the release of large numbers of amphibian larva, for which health status remains unknown, could contribute significantly to disease spread. This situation led me to be more concerned when a coworker mentioned finding a large tadpole amongst a koi shipment received from a North Carolina distributor. Are we facing the same issue when other fish species are distributed for garden ponds?

The second example also originates directly from amphibian conservation efforts. Amphibian captive breeding programs that include head-starting/relocation, repatriation and translocation have been suggested by Bloxam and Tonge (1995), and I would think such efforts might be considered by many in the conservation community. Dodd (2005) suggested that many efforts of this sort have occurred and including transport across continents without any consideration to the distribution of disease pathogens. If you recall from the Virginia

Herpetological Society's July 2007 Newsletter, my conservation article (Effects of Wetland Compensatory Mitigation on Amphibians) mentioned the attempted relocation of an entire population of Blanchard's cricket frog (*Acris crepitans blanchardi*) as described by Richard, Sonntag and Zippel (2004). Did they take into account the potential for disease transmission before they undertook this effort?

Disease prevention is an important, if not one of the more, critical components of amphibian conservation. This poses difficult questions. Can we screen amphibians for disease pathogens before they are distributed? Do we have sufficient knowledge of the known pathogens? Can we screen (or manage) for novel, undescribed pathogens? What other means of distributing amphibians exist that need to be examined? On the local level, this could include educational forums such as 4-H programs, school teachers or children that capture native amphibians for temporary displays or pets and release these specimens elsewhere. Cumulatively, all means of uncontrolled distribution comprise the risk of disease distribution.

Literature Cited

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Photographers!

We know you take lots of digital photos of herps. Why not send them to the VHS to have it featured as Photo of the Month? Email us a picture of a Va native herp and the story behind the picture, and we'll put it on the website!

[Hhttp://fwie.fw.vt.edu/VHS/photograph_of_the_month.htm](http://fwie.fw.vt.edu/VHS/photograph_of_the_month.htm)



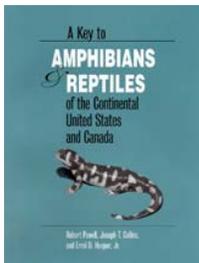
Book Review

1) A Key to Amphibians and Reptiles

2) Science and Conservation of Vernal Pools

1) Powell, R, JT Collins and ED Cooper. 1998. A Key to Amphibians and Reptiles of the Continental United States and Canada. University Press of Kansas. 257 pp. ISBN 978-0-7006-0929-1

Tim Christensen - VHS Conservation Committee Chair



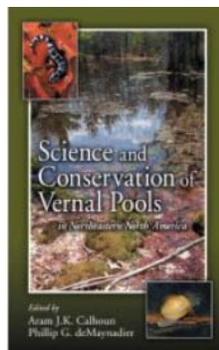
Probably most of us have been challenged with identifying a reptile or amphibian on more than one occasion. Quite frequently, we reach for the nearest field guide available to accomplish the task at hand. Needless to say, a good field guide is indispensable and for some of us we've taken to bringing more than one version when afield. The Peterson Field Guides edition for Reptiles and Amphibians Eastern/Central North America (Conant and Collins, 1998) became my personal favorite after a seemingly exhaustive search for a single comprehensive guide.

Field guides feature practical photographs and drawings; however, such facets do not capture all angles of the subject or coloration that sometimes preclude effective identification. Subsequently, reference to a dichotomous key may become necessary. The question of course is what's the best dichotomous key for herpetofauna or for that matter is there even such a publication available to anyone? Admittedly, I did not pursue another exhaustive search but rather came upon A Key to Amphibians and Reptiles of the Continental United States and Canada by chance.

Upon examination of this publication, I feel that I may have stumbled on an excellent dichotomous key despite having nothing by which to compare. It is comprehensive by covering most if not all herpetofaunal families. This publication is probably intended for college level laboratory studies (to which it would be invaluable) or for classifying preserved or dead specimens; however, it is softbound and lightweight making highly useful for augmenting even the best field guide when in the field. I particularly like the illustrations (drawings and diagrams of various structural/morphological aspects) that help support the descriptive narrative (there are 257 illustrations). The book does not use common names and for some people that may be an issue; however, when it comes to positive identification scientific names should be employed. It also contains a helpful glossary. I recommend this book to professional biologists, students of herpetology and amateurs alike.

2) Calhoun, A. J. K. & deMaynadier, P. G. 2007. *Science and Conservation of Vernal Pools in Northeastern North America*. CRC Press, Boca Raton, Florida. 363pp. ISBN 978-0-8493-3675-1

Joy Ware - Research Committee Chair



Published in 2008, this book is an excellent interdisciplinary overview of vernal pools and both knowledge and actions that will increase the preservation of these valuable resources. The book includes chapters on the hydrology and physical characteristics of vernal pools, the biology of the principal flora and fauna, and a variety of approaches to increase the knowledge and enthusiasm of the general public for conserving these pools.

The book was designed to interest and inform a wide variety of people from herpetologists and ecologists to teachers, children, and the general public. I highly recommend this book for all universities, as well as members of VHS with an interest in vernal pools and amphibian breeding and survival. The book is available from Amazon.com and costs \$99.95.

Time's fun when you're having flies.





Herpcetera

Phylogeography of Red-Spotted Newts (*Notophthalmus viridescens viridescens*) in Virginia, Based on the Mitochondrial Cytochrome b Gene.

I'm interested in salamander phylogeography, particularly the red-spotted newt. Phylogeography is the study of the geographic distribution of populations of a species in the context of their phylogenetic (evolutionary) relationships. By combining the two, it is possible to reveal historical patterns of colonization of the species in a given area. To date, no one has examined the phylogeography of this species and studies over small geographic areas (like an individual state) are comparatively rare. Thus, this study will contribute to our understanding of salamander population genetics and the effects of geography (drainage systems, regional geology and topography) on species dispersal over small scales.

In order to be successful, I need to collect about 6-10 specimens from newt populations across the state. I've got specimens from Rockingham, Augusta, Wise, Scott, and Charles City counties, but there is a lot of state left to sample. Basically, I need help finding good collecting sites and my hope is that the membership of the VHS can help me out. If you could either send specimens along with locality data or simply send me information about good collecting sites that would go a long way towards making this project a success. I'm particularly interested in collecting specimens from Shenandoah, Rockbridge, Montgomery, Rappahannock, Augusta, Floyd, Fairfax, Pittsylvania, and Goochland, but I'll accept specimens/localities from any county in the state. I can be reached at (540)828-5467 or glawson@bridgewater.edu if you'd like to contact me. Thanks very much in advance for your help!



Dr. Gavin R. Lawson
Associate Professor of Biology
Bridgewater College



Ecuador Research

Reptile Research under the direction of Dr. Paul Hamilton of Arizona State University is looking for interested volunteers to participate in surveys of reptiles and amphibians in Western Ecuador. They are now accepting applications for students, interns, and volunteers to join their field team to survey and monitor the reptiles and amphibians in Ecuador. Survey sites include the the Lalo Loor Dry and Moist Forest Reserve as well as other locations in the rainforests of western Ecuador. Volunteers pay for expedition expenses, which comes to between \$1050 to \$2850 depending on the length of participation. There are 2, 4 and 6-week excursions available. If interested, visit the website www.ReptileResearch.org for more information.

Herpetology Mythology

We started "Herpetology Mythology" in the previous Newsletter and included a potential myth that dogs will die if they consume a skink. We found a website from the University of Massachusetts Amherst that focuses on snake mythology. Visit the website for some common and unique snake myths. Here's a just a sample:

- Puff adders (aka hognose snakes...) mix poison in their breath that can kill a person at a distance of 25 feet.
- Swimmers in New England are advised to watch out for venomous cottonmouths, also known as water moccasins.

www.umass.edu/nrec/snake_pit/pages/myth.html

Tim Christensen

Wildlife Mapping

We have discussed the importance and need for more volunteers to help with Virginia's WildlifeMapping Program in several previous Newsletters. Thanks to John White, those of you who are interested, you can access the WildlifeMapping Program from a link on the VHS website! Just go to the link at the bottom of the home page.



WildlifeMapping is an outreach program that allows volunteer individuals and community groups to collect wildlife-related information that greatly contributes to Virginia's biological databases. Data on herpetofauna is particularly needed. Dr. Lou Verner from the Department of Game and Inland Fisheries gave a sterling presentation on the program at the Fall 2007 meeting.

To become a volunteer you need only attend a one-day training workshop. Several VHS members have completed the training and are actively contributing data. We could use more volunteers. You can also contact Tim Christensen for more information or to schedule a training workshop at mtnc066@msn.com or 757-878-2375 ext 21.

www.dgif.state.va.us/wildlifemapping

Online Resources

1) The Kansas Herpetological Society is pleased to announce that the back issues of the Journal of Kansas Herpetology, older than one year, are available to the herpetological community as gratis pdf downloads.

www.cnah.org/khs/KHSbackIssues.html

2) This website has over 20 pages of herp related books that have been used by the author as a reference. Each book has a thumbnail picture of the front cover, and a paragraph description of the books. Need a gift idea? Need to know what books you are missing from your collection? Go here to find out and to see the author's herp photographs from around the world.

www.wildherps.com/references.html

News

- | | |
|---|--|
| 1) Amphibian Decline or Extinction? | 3) Warming Causes Salamanders to Lose
Their Stripes |
| 2) More Protection For Loggerhead Turtles | |

1) Amphibian Decline or Extinction?

Current Declines Dwarf Background Extinction Rate.

Abstract: Amphibian declines and extinctions are critical concerns of biologists around the world. The estimated current rate of amphibian extinction is known, but how it compares to the background amphibian extinction rate from the fossil record has not been well studied. I compared current amphibian extinction rates with their reported background extinction rates using standard and fuzzy arithmetic. These calculations suggest that the current extinction rate of amphibians could be 211 times the background amphibian extinction rate. If current estimates of amphibian species in imminent danger of extinction are included in these calculations, then the current amphibian extinction rate may range from 25,039–45,474 times the background extinction rate for amphibians. It is difficult to explain this unprecedented and accelerating rate of extinction as a natural phenomenon

Malcolm L. McCallum. 2007. Journal of Herpetology. 41(3): 483-491

A gratis PDF of this article is available from the Center for North American Herpetology PDF Library at www.cnah.org/cnah_pdf.asp

"It is our task in our time and in our generation, to hand down undiminished to those who come after us, as was handed down to us by those who went before, the natural wealth and beauty which is ours."

- John F. Kennedy



2) Advocates Want More Protection For Loggerhead Turtles

By Scott Harper, The Virginian-Pilot

Two environmental groups are expected to ask the federal government today to declare the loggerhead sea turtle an endangered species. The loggerhead is by far the most common sea turtle seen in Virginia waters, including the Chesapeake Bay, each summer and fall, and is listed as "threatened" by the government. But the two groups, Oceana and the Center for Conservation Biology, fear that without elevated federal attention and protection, the docile marine reptile may become extinct.

"Clearly, more needs to be done," said Elizabeth Griffin, a marine wildlife scientist with Oceana. She noted that loggerheads have been classified as threatened under the Endangered Species Act since 1978, yet their numbers remain weak throughout the Atlantic Ocean. The groups are expected to deliver a petition this morning to federal wildlife regulators in Washington. The action will initiate a 90-day process in which government scientists must determine if the request has merit. If so, a full-blown review would be undertaken, which would take at least a year to complete.

A draft copy of the petition cites a five-year government study published last summer that found all five nesting populations in the North Atlantic are declining. The study describes how commercial fishing gear - nets, especially - are a major culprit, along with shoreline development, lost habitat, global warming and other factors. However, the study concludes that "we do not believe the loggerhead should be delisted or reclassified," though it does suggest additional study.



Atlantis, a loggerhead sea turtle under the care of the Virginia Aquarium Stranding Response Team at the stranding center in Virginia Beach.

(L. Todd Spencer/ The Virginian-Pilot)

Five types of sea turtle are known to visit the coasts of Virginia and North Carolina, usually between May and November, during their coastal migration. Three are endangered and two are threatened, including the loggerhead. About 3 feet long and weighing an average of 250 pounds, loggerheads are known for their orange-brownish coloring, powerful jaws and passive demeanors. Juveniles especially are drawn to the Chesapeake Bay, where they feast on crabs, horseshoe crabs and sea snails.

Concerns about their standings on mid-Atlantic beaches prompted the government to impose fishing restrictions in the Bay during summer months - limits that have irked fishermen, who resent being

implicated in turtle deaths. Environmentalists tried unsuccessfully to elevate the loggerheads to endangered-species status in 2003 - but only for one subpopulation, which nests on beaches from North Carolina to Georgia. This time, according to petitioners, they are seeking such status for all populations in the western North Atlantic - essentially, the entire East Coast.

Griffin said a new classification would require the government to establish guidelines for designating and protecting "critical habitat." In this case, that would mean nesting beaches from Virginia to Florida.

Several biologists and state experts were not sure what the new status would accomplish, given that fishing restrictions and nesting protections already exist for loggerheads and other sea turtles.

"It's not a bad thing to at least ask if there's a justification for it," said Mark Swingle, director of research and conservation at the Virginia Aquarium and Marine Science Center in



Virginia Beach. Kate Mansfield, who wrote her doctoral thesis last year about sea turtles in state waters while studying at the Virginia Institute of Marine Science, reached a different conclusion than the petitioners. In her paper, Mansfield wrote that pound-net fishing "no longer is a significant source of sea turtle mortality in Virginia." She concluded that increased standings and beach deaths might best be attributed to "a larger turtle population or changes in mortality over time."

3) Warming Causes Salamanders to Lose Their Stripes

by Liz Osborn CurrentResults.com

Red-backed salamanders in eastern North America have responded to warming temperatures by losing their namesake red stripe. Over the last century, the proportion of salamanders sporting a red dorsal stripe declined by 6%. At the same time, temperatures across the salamander's range climbed by 0.7 °C (1.3 °F).

Salamanders of the species *Plethodon cinereus* have either a bright red stripe running from head to tail, or a plain black back. Striped salamanders aren't just distinctively marked. They're also genetically predisposed to living in cooler temperatures.

Compared with striped salamanders, plain ones don't survive as well in cold, take cover earlier in fall, and have a lower metabolic rate. The red form of red-backed

salamanders is more common at higher elevations and the northern parts of its range, where conditions are cooler.

The black form comprised

20% of all red-backed salamanders in the early 1900s. By 2004, 26% of the red-backed salamander population lacked a red back. A warming trend is selecting for salamanders without a stripe.

Scientists from State University of New York who discovered the decline in red backs figure that even more than regional climatic warming, changes in forest cover are spurring the color shift.

Red-backed salamanders typically live among the logs and leaf litter of woodland floors. Most of the original forests in the salamander's range, including Illinois, Indiana and Pennsylvania, were logged over the last 300 years. After old growth forests are cleared, a site's soil can warm by several degrees.



Reference

James P. Gibbs, Nancy E. Karraker. 2006. Effects of Warming Conditions in Eastern North American Forests on Red-Backed Salamander Morphology. *Conservation Biology*. 20(3): 913-917.

Join the VHS **YAHOO!** Group at:

<http://groups.yahoo.com/group/VaHS>

Since 2005 and with nearly 100 members, the VHS Yahoo group has provided up-to-the-date information on Virginia's amphibians and reptiles.

Go there for interesting news and VHS updates. Recent topics include:

-Box turtle hibernation
-Treatment of mites

-Survey Results
-Transparent frogs?

-Herp Shows
-ID this snake



Answers from page 5

Herp Trivia Answers

1. What is the name of a group of worm-like, burrowing reptiles? These reptiles are closely related to lizards and snakes.

A) **Amphisbaenian** B) Anole C) Gavial



2. Approximately what percentage of snakes have venom that is harmful or fatal to human beings?

A) 25 percent B) **15 percent** C) 50 percent

3. Which Virginia native frog sounds like a herd of sheep when calling?

A) Fowler's Toad B) Sheep Frog C) **Eastern Narrowmouth Toad**



4. What percent of all snakes give birth to live young?

A) 1/3 B) **1/5** C) 1/4

5. Reptiles have voluntary control over the muscles in their eyes, which determine their pupil size. This means that they are able to constrict or dilate their pupils at will, not just in response to light.

A) **True** B) False C) Depends on species

6. The brain of a reptile is no more than what percent of it's body mass?

A) 8% B) 5% C) **1%**

7. Some reptile species are known to store sperm and produce young 3 and perhaps 6 or more years after a single, successful mating. In some cases, it is possible to have an infertile clutch followed by a fertile clutch without further matings.

A) False B) **True** C) Only in lizards, not snakes



8. How can you tell that a legless lizard is not a snake?

A) They have no ears openings or eyelids

B) **They have eyelids and you can see an opening for their ears.**

9. Which Ambystomatid salamander has the most limited range in Virginia?

A) Mabee's Salamander B) **Mole Salamander** C) Tiger Salamander

10. The Greater Siren has 4 toes on its front limbs. How many toes are on the hind limbs?

Trick Question! The Sirens are the only amphibians in Virginia without any hind limbs!



Send your suggestions for Herp Trivia to the newsletter editor, Kory Steele, colchicine@gmail.com.

"I identify most strongly with the turtle: I patiently plod along till I reach my destination--and occasionally I stick out my neck."

Paulette Peltan



Virginia Literature

These selections represent articles published or in press, July to December 2007. Included are articles focused primarily on (1) studies performed within Virginia environments, (2) studies on reptiles or amphibians found within Virginia, or (3) additional herpetological topics that are of interest in terms of research and/or conservation of reptiles and amphibians. Compiled by Dr. Joy Ware.

Reptiles

Tesauro, Jason and David Ehrenfeld. 2007. The effects of livestock grazing on the Bog turtle [*Glyptemys* (= *Clemmys*) *muhlenbergii*]. *Herpetologica*. 63 (3): 293-300.

Braun-McNeill, Joanne, Christopher R. Sasso and Larisa Avens. 2007. Estimates of realized survival for juvenile Loggerhead sea turtles *Caretta caretta* in the United States. *Herpetological Conservation and Biology*. 2 (2): 100-105.

Hamilton, Alison M., Elaine R. Klein, Mallory E. Eckstut and Emily E. Hartfield. 2007. A simple, inexpensive method to capture arboreal lizards. *Herpetological Conservation and Biology*. 2 (2): 164-167.

Walde, Andrew D. and Timothy P. Christensen. 2007. *Terrapene carolina* threats. *Herpetological Review*. 38 (3): 334-335.

Rossmann, Douglas A. and Jeff Boundy. 2007. A previously undescribed bone in the snout of the Brown Watersnake, *Nerodia taxipilota*. *Herpetological Review*. 38 (3): 280-282.

Ford, Neil B. and Debra L. Lancaster. 2007. The species-abundance distribution of snakes in a bottomland hardwood forest of the southern United States. *Journal of Herpetology*. 41 (3): 385-393.

Iglay, Raymond B., Jacob L. Bowman and Nathan H. Nazdrowicz. 2007. Eastern box turtle *Terrapene carolina carolina* movements in a fragmented landscape. *Journal of Herpetology*. 41 (1): 102-106.

Amphibians

Davis, Andrew K. and John C. Maerz. 2007. Spot symmetry predicts body condition in

spotted salamanders, *Ambystoma maculatum* *Applied Herpetology*. 4 (3): 195-205.

McCallum, Malcolm L. and Stanley E. Trauth. 2007. Physiological trade-offs between immunity and reproduction in the northern Cricket Frog *Acris crepitans*. *Herpetologica*. 63 (3): 269-274.

Dantzer, Benjamin J. and Robert G. Jaeger. 2007. Male Red-backed salamanders can determine the reproductive status of conspecific females through volatile chemical signals. *Herpetologica*. 63 (2): 176-183.

Kinkead, Karen E. and David L. Otis. 2007. Estimating superpopulation size and annual probability of breeding for pond-breeding salamanders. *Herpetologica*. 63 (2): 151-162. 63 (2): 176-183.

Davis, Andrew K. and Kristine L. Grayson. 2007. Improving natural history research with image analysis: The relationship between skin color, sex, size and stage in adult Red-spotted newts *Notophthalmus viridescens viridescens*. *Herpetological Conservation and Biology*. 2 (1): 65-70.

Becker, CG, Fonseca, CR, Haddad, CF, Batista, RF, and Prado, PI. 2007. Habitat split and the global decline of amphibians. *Science*. 318(5857):1775-7.

Come visit our message board and online store!

YAHOO! GROUPS

<http://groups.yahoo.com/group/VaHS/>



New 2008 Calendar Available!

<http://www.cafepress.com/vahersociety>

Virginia Native

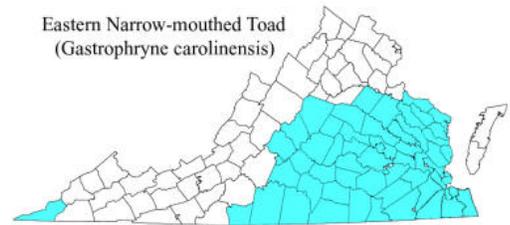
The purpose of **Virginia Native** is to highlight native species that are deserving of recognition. Additional information can be found on the website of the Virginia Department of Game and Inland Fisheries (VDGIF). <http://www.dgif.virginia.gov/wildlife/information>.

Gastrophryne carolinensis (Holbrook, 1836) **Eastern Narrowmouth Toad**

One of the few amphibians that feeds regularly on ants. Fold of skin on head is used to push ants away from eyes. Outside of breeding season it is found in rotten stumps and beneath rocks, logs, bark, and other objects on ground. Weak jumper, moves by short, rapid hops.

Breeds in summer. Male usually calls from edge of water, concealed under plant debris. Call is a high-pitched buzz or "baaa" reminiscent of distressed lamb. They are famous for stopping their call as soon as you start to locate them. When male amplexes female, sticky substance secreted from glands on his belly glues him temporarily to her back. Female lays over 800 tiny eggs in one layer at water surface. Embryos hatch in a few days and tadpoles transform in 20-70 days. Tadpoles are also unique since they are filter feeders with upturned mouth parts for skimming the water's surface.

Despite their common name, narrowmouths are not "true toads", which usually refers to members of the Bufonidae family, such as our native Fowler's and American toads. Narrowmouths are part of the Microhylidae family that has the largest number of genera out of any frog family (69 total)!



<http://pick4.pick.uga.edu/mp/20q?search=Gastrophryne+carolinensis>

Etymology:

Genus: *Gastrophryne* is derived from the Greek words *gaster* meaning "belly" and *phrynos* meaning "toad".

Species: *carolinensis* refers to South Carolina, where the toad was first found and described.

NOTICE to Members: If you have an email address, please send it to Pattie Crane (pattiecrane@gmail.com). Then, for future issues of the newsletter, you will be notified via email upon its release on the website along with a link. Thank you for helping to save some trees, or should we say herp habitat!

MEMBERSHIP APPLICATION

Please sign me up for membership in the Virginia Herpetological Society for the year(s) of _____.
Membership begins and ends on a calendar year.

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Daytime phone: (_____) _____

E-mail address: _____

Check Membership Type		
Under 18	\$8.00	_____
Regular	\$15.00	_____
Family	\$20.00	_____
Life	\$225.00	_____

Make check or money order payable to:
Virginia Herpetological Society

VIRGINIA HERPETOLOGICAL SOCIETY
Patricia Crane, VHS Treasurer
71 Jefferys Drive
Newport News, VA 23601-2709

