Virginia Herpetological Society Newsletter

Volume 19, Number 2

August 2009

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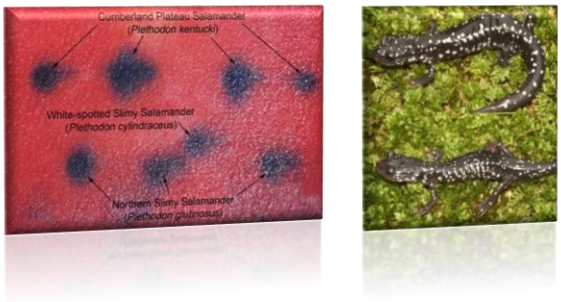
The recent survey at Breaks Interstate Park yielded two nearly identical salamanders. Paul Sattler (*Catesbeiana* Editor) ran a protein electrophoresis to determine the species. See the results on the VHS website.



Zoo View: **Quarantine**- by Craig Pelke

What is a VOMERONASAL organ?
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New VHS Forum!
www.frogstamp.org/vhsforum
Post pictures and links easier

THIS MONTH'S VIRGINIA NATIVE- PAGE 16

Green Salamander

COMING EVENTS

EVENT	LOCATION	DATES
Resource Ramble	Pulaski County	Aug 29
VHS Calendar Photos	pattiecrane@gmail.com	Sept 14
Virginia's Natural History	Va Museum of Natural History	Sept 26
VHS Annual Meeting	Three Lakes Nature Center	Oct 24

Home Page: http://www.vaherpsociety.com
Message Board: http://groups.yahoo.com/group/VaHS
Online Store: http://www.cafepress.com/vaherpsociety

Newsletter Editor: **Kory Steele** **colchicine@gmail.com**

VHS Business

1) Message from the President

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

So far, it has been a good year filled with great VHS events. Three surveys have been conducted so far, and each has resulted in at least one county record for the given location, plus several more records for species whose records were soon to become historical records. Special events and educational events have taken place, too, including another well-attended Reptile Weekend at the Virginia Living Museum, herpetology question and answer sessions at the Virginia Science Olympiad, Snake Force One's VHS exhibit at the Rappahannock River Valley National Wildlife Refuge ceremony for acquiring a new tract of land, and the third annual Reptile Day Festival at the Virginia Museum of Natural History that drew a steady crowd.

At least three other events are in the works for the rest of this year. These include the third year we will participate in the Blue Ridge Scout Reservation's "Resource Ramble" survey event, or "Resource Ramble III"; on August 29, an educational program about snakes that may be encountered on Fort Lee Army base during an event about safety for families living on the base; and the 2009 VHS Fall Meeting, which will be at Three Lakes Nature Center & Aquarium, on October 24.

The fall meeting is shaping up to be a good one this year, with keynote speaker Dr. Reid Harris, of James Madison University. Dr. Harris will talk to us about his exciting research on bacteria found on certain amphibian skin that interacts with the lethal chytrid fungus, which may lead to possible treatment or cure for this fungus. The chytrid fungus has shown to cause population declines in many amphibian species around the world. Additionally, we plan to have the following presentations: Tom Thorp, supervisor of Three Lakes Nature Center & Aquarium will discuss his work with bog turtles; Jason Gibson & Dr. Paul Sattler will talk about the life history of the eastern spadefoot; and Dr. Joy Ware will discuss the work and findings of Snake Force One. Of course, the symposium will also include student posters and papers submissions, photo contest, silent and live auctions, and the business meeting. All of this will be in a great setting, too, Three Lakes Park in Henrico County, just north of Richmond. The Nature Center & Aquarium houses wonderful exhibits and a large array of herpetofaunal species, many native to Virginia, as well as several native to other parts of North America.

I look forward to the upcoming events and seeing everyone! Please keep checking our website (www.vaherpsociety.com) for event details, now, and as they develop in the near future!

2) VHS Now Has a New Forum

A new forum is under evaluation at http://www.frogstamp.org/vhsforum. This forum has contemporary software allowing members to place pictures and links within a post easily. The forum is customizable for each member with avatars and signatures. There are numerous subforums for native herps, field topics, photography, general discussion, and even native invertebrates. The VaHS Yahoo Group is still in use as well, pending the outcome of the forum's evaluation. Note that you must be a member to view the forum, and inactive users are frequently removed. So bookmark the forum and visit often!

4) Photo Submissions for the 2010 VHS Calendar

We are accepting photographic submissions for the 2010 VHS calendar. Deadline for submissions will be September 14, 2009, so be sure to send any pictures you wish to enter right away. There is no limit this year on the amount of submissions one can

send in, and all current members are eligible to submit material. All images must be high resolution JPG files, and they must be at a minimum of 2000 pixels in width and 1500 pixels in height or larger. If you are unsure about these requirements, feel free to email me and I'll be happy to help you.

Patricia Crane pattiecrane@gmail.com VHS Store Committee

5) Fall Meeting Information October 24, 2009 Henrico County

The 2009 Annual VHS Fall Symposium will feature paper/poster sessions for students (with monetary prizes awarded), special presentations, silent & live auctions of herp-related items, & the VHS business meeting. Our keynote speaker will be Dr. Reid Harris, of James Madison University, who will talk about his exciting research to help combat amphibian decline, by studying amphibian skin bacteria that can interact with the lethal skin fungus, Batrachochytrium dendrobatidis, or Chytrid fungus.

Keynote Speaker**:** Dr. Reid Harris - http://csm.jmu.edu/biology/harrisrn/site/Home.html
Location: Three Lakes Park & Nature Center, 400 Sausiluta Dr., Richmond, VA 23227 (Henrico Co)
Directions: Link to Google Maps
Date: Saturday, October 24, 2009
Parking: Parking is free
Cost: **Pre-registration is $5** which will include a pizza and soft drinks. If you don't want lunch, the meeting is free. Please fill out and send in the registration form found on the VHS website.
Updates: Be sure to check the VHS website and the Yahoo Group frequently for any changes or updates.

6) Resource Ramble August 29 Pulaski County

The VHS will participate in Resource Ramble III at the Blue Ridge Boy Scout Reservation in Pulaski County. We will headquarter at Camp Ottari as we did in 2007, the first year. We will have the facilities to ourselves as there will be no Scout groups there at that time. Therefore, we will be able to stay in the staff cabins. There will be hot showers and restroom facilities for both women as well as men. Breakfast will be provided for Saturday and Sunday, and dinner on Saturday. We are hoping for sunny weather so we can pick up reptiles on that side of the reservation since it was so rainy in 2007 and we saw so few then. Paul Sattler will have a reservation form soon, members should email pwsattle@liberty.edu to request the form to reserve space for this last survey of the 2009 season.

7) 2009 Survey Photos

Summaries for all 2009 surveys can be found on the VHS website: www.vaherpsociety.com

Annual Survey at Occoneechee State Park
May 1-3, 2009

Scarlet Kingsnake Blitz
June 13-14,2009

4th Annual HerpBlitz – Breaks Interstate Park
July 10-12,2009

Snake Force One

Events

Reptile Expos (1 | **2) Educational Program**

1) Reptile Expos

	Northern Va Reptile Expo	Richmond Reptile Expo	Mid-Atlantic Reptile Show
Dates	8/29, 10/10, 12/12/09	10/25/09	September 19 & 20
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	$7 / $3 child	$8 / $3 child	$9 / $7 child
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**

2) Virginia Natural History Society presents "Historical Explorations into Virginia's Natural History"
Date: Saturday, Sept. 26, 2009
Location: Virginia Museum of Natural History in Martinsville, Va.
For additional information see:
http://fwie.fw.vt.edu/VNHS/2009symposium/Natural%20History%20symposium%20registration.pdf

NOTICE: Submissions for *Catesbeiana* Vol. 28 No. 1 are due September 1, 2009!
Please support the VHS by submitting any papers, field notes, or artwork for *Catesbeiana* to: Dr. Paul Sattler, Editor, *Catesbeiana,* .pwsattle@liberty.edu.

If we knew what it was we were doing, it would not be called research, would it?
- Albert Einstein

Herp Trivia

Herp Trivia

1. Reptiles and amphibians fall in the superclass called tetrapoda, which means:
   a. A vertebrate that can fly, walk, slither or swim
   b. A vertebrate with four limbs
   c. A vertebrate with scales
   d. A vertebrate that has evolved an amniotic egg

2. The Jacobson's Organ (also known as the vomeronasal organ) evolved for what purpose?
   a. Infrared vision
   b. Ultraviolet vision
   c. Chemoreception (smells such as pheromones and other chemical cues)
   d. To impress females during courtship

3. What reproductive evolutionary advancement set the reptiles apart from amphibians?
   a. Scales
   b. Vomeronasal organ
   c. Sexual dimorphism
   d. Amniotic egg

4. During the juvenile eft stage of development, *Notophthalmus viridescens viridescens (Red-spotted Newt)* exhibits very bright coloration throughout its body. The purpose of this coloration is to warn predators of its highly toxic skin. This type of coloration is called:
   a. Aposematic coloration
   b. Cryptic coloration
   c. Mimicry coloration
   d. Agouti coloration

5. *Chelydra serpentina serpentina (Eastern Snapping Turtle)* is a species of turtles that is omnivorous.
   True
   False

6. *Lampropeltis calligaster rhombomaculata (Mole Kingsnake)* is primarily an arboreal snake.
   True
   False

7. In what geologic era did snakes radiate and diversify?
   a. Cenozoic era
   b. Mesozoic era
   c. Paleozoic era
   d. All the above

8. What is the most obvious sexually dimorphic characteristic in *Sceloporus undulatus (Eastern Fence Lizard)*?
   a. Coloration difference between males and females
   b. Tail length difference between males and females
   c. Snout to vent length difference between males and females
   d. Toe length difference between males and females

9. Identify this snake by using the Va Herp Society Snake Guide:
   a. Round Pupil
   b. Rostral Scale rounded
   c. Keeled scales on dorsum
   d. 2 prefrontal scales present
   e. No Longitudinal stripes
   f. Pre-ocular scale not present; loreal scale elongated and touching the orbit

10. What is the largest known animal capable of freeze tolerance?
   a. *Crotalus horridus horridus* (Timber Rattlesnake)
   b. *Terrapene carolina carolina* (Eastern Box Turtle)
   c. *Caretta caretta* (Loggerhead Sea Turtle)
   d. *Thamnophis sirtalis sirtalis* (Eastern Gartersnake)

Answers can be found on page 17

Conservation Key

Tim Christensen - VHS Conservation Committee Chair

The Value of Reptiles and Amphibians

Always it seems we must justify why species are worth protecting, let alone acknowledging their very existence. It's my opinion that snakes compose the group most difficult to rationalize. The extent of turtle roadkill, however, seems to lead credence to the issue quite well also. Conservation has no meaning if an organism has little or no value in society's point of view. What value *can* be assigned to native reptiles and amphibians? Yet, when we attempt to answer this, it seems it must always be in terms of direct benefit to people. If it does not benefit people then it cannot serve any useful purpose therefore having no value. Certainly a rattlesnake can't be of value because it is dangerous as some people would proclaim. Has any value been lost when box turtles become extinct?

Such opinions exist in the public making it important to find the appropriate context for determining the value of such species. A trip to western Virginia helped find a possible answer. A few years ago my family visited the Natural Bridge area with the intent of enjoying a vacation. While we met our objective it was also rather productive with regards to reptiles. No less than nine Northern watersnakes were observed along a stream, with the herp highlight being the discovery of a queen snake that turned out to be a new county record. Our visit lacked an agenda and at some point we managed to wander into an antique store where I spent time delving through some old books.

One book in particular that caught my eye was a small, worn paperback entitled, *The Forest and the Sea* by zoologist Marston Bates published in 1960. Its publication format seemed unfitting for a scientific work, and I was not familiar with the author. However, a cursory review revealed a thought-provoking perspective on ecology and the influence of human activities. Bates relates typical questions posed by curious observers about organisms such as "What is it?", "Where does it live?", and "What does it do?". Such answers to these questions provided by a biologist are straightforward; however, he stresses one question being much less tangible: "What good is it?" Instead of answering this, Bates rephrases the question more aptly as "What is its role in the economy of nature?"

Take this concept a step further. Bates quotes British ecologist Charles Elton who stated (in his book *Animal Ecology* published in 1927), "food is the burning question in animal society, and the whole structure and activities of the community are dependent on food supply." Collectively, reptiles and amphibians are ingredients of this food supply. While most

herpetofauna species are predators (with a few exceptions), all serve as prey. Even top reptilian predators such as Burmese pythons and Komodo dragons are potential prey as juveniles. Many amphibian species produce large numbers of eggs and subsequent larva/juveniles. Though not necessarily at the same magnitude, many reptiles also produce large numbers of offspring. Collectively, herpetofauna represent important food sources for invertebrate and vertebrate predators.

The diversity of herpetofauna further supports this perspective. More diversity might represent more food sources, and Bates refers to this “economy of nature” as “ecology”. Diversity means a healthy ecological system, and reptiles and amphibians contribute to its sustainment. Perhaps this is the context by which society can understand why these species have value.

Zoo View

Quarantine And The Backyard Herper

Craig Pelke
Curator, Reptiles & Amphibians
Virginia Zoological Park

Depending on who you are the term "quarantine" often brings up mixed feelings and definitions ranging from thoughts of illness, like the recent swine flu pandemic, to more fictitious scenarios brought about by movies such as "Outbreak." However, when the term quarantine is presented to people, both lay and professional herpetoculturists, it can also have a varied result. To a zoo curator, there are thoughts of logistics; to the private herpetoculturist, it has potential financial ramifications. But what does quarantine mean to the backyard herper, the person who has a genuine interest in their local reptiles and amphibians who enjoys keeping a herp or two during the summer period to watch and appreciate them up close? Regardless of the keeper’s professional standing or knowledge level, quarantine is an essential aspect of animal husbandry that should be exercised with any animal in captivity, whether it be herptile, fish, bird, mammal, or invertebrate.

Placing new animals in quarantine is simply a process of isolating the new animals from the existing collection for a specific duration so that they can be easily observed for any potential illnesses, parasites, or behavioral problems. This can be done easiest by housing them in a simple set up that is easy to clean and maintain, but still meets the necessary husbandry requirements of the animal. Too elaborate of a set up can make detection of parasite or behavioral issues difficult. If the new animal is the first animal in a collection, maintaining them in a similar set up is still important for easier detection of health and behavioral problems. In the case of herptiles, the quarantine period can be variable depending on the caretaker, veterinarian, etc. As a professional, I place reptiles on a 90 day minimum quarantine and amphibians on a 60 day period. This provides ample time for even the most stubborn or dormant parasites to run through their life cycles and make their appearance, and also allows for enough fecal samples from even the most irregular species.

For the sake of this article, the discussion on the quarantine of herptiles is going to be focused on the backyard herper. This is the herper who thoroughly enjoys the natural wildlife found in their backyard or neighboring natural areas, but takes it a step further by bringing home the wildlife, herptiles for this topic, so they can enjoy them on a more close and personal level. In many cases, this is "just for the summer," so the herper can enjoy the herptile during its active season with the intent to liberate the creature in time for it to prepare itself for natural winter brumation. For many, this is how we started, or perhaps the only way we could enjoy a captive reptile or amphibian close up for an extended time to study, learn, or simply cultivate excitement for these incredible creatures. For myself, this was how I first experienced reptiles and amphibians while growing up in Wisconsin due to the scarcity (or ignorance?) of these creatures and the intolerance of my family. While doing this, however, the thought of quarantine, illnesses, and parasites never entered my mind. Now as a professional and hobbyist herpetologist and herpetoculturist, these thoughts weigh heavy on my mind when a new herptile becomes part of my collection plan, whether it be at work or at home. With this type of knowledge and information available from abundant sources, all herpers out there should have thoughts of quarantine on their minds if they are thinking of taking in a herptile short or long-term.

One of the first scenarios the backyard herper comes across is adding a local reptile or amphibian to your collection so you can study one of "the locals." This is an excellent chance to observe and learn

about one of your local favorites with a front row seat, and then return them to the wild so you and others can continue to enjoy them. Why should you worry about the health of your permanent herptile collection when this new herptile will only be with you for the summer? Reptiles and amphibians, like many other creatures, have the ability to harbor numerous other creatures, externally and internally, that may go unseen due to their microscopic size or the keeper's untrained eye. While in the wild, healthy herptiles can fend off or keep these parasites or other organisms at manageable numbers with their natural defense systems. But when these wild herps are brought into captivity, the stress levels alone can suppress their defenses, tipping the balance in favor of the parasites which allows them to flourish, resulting in illness. When proper quarantine protocols are not followed, and this scenario plays itself out, parasites can quickly expand their ranges into neighboring enclosures and begin infecting other herps. If these neighboring herps are not from the same natural range, their natural systems are not designed to defend themselves and succumb more quickly. Add onto this the natural behaviors of herps when ill: most do not show illness until they are deeply affected by the cause as a form of defense to predators. Before you know it, you are treating the entire population of herps in your collection and possibly scrambling to save them. Imagine how this all could have been avoided by simply maintaining your new temporary herp in another room of the house until you released it at the end of the summer.

Another common scenario of the backyard herper follows a similar path to the first one mentioned above but with a slightly different result. The wild herp is caught and kept with all the great intentions mentioned above, but is kept alongside the keeper's permanent collection of herps that may be infected with external or internal parasites, or perhaps some other infectious and contagious herp malady. Again, the herp hides its illness, but is then released back into the wild to live with a thriving population of herptiles that may be healthy, but are now introduced unwillingly to a foreign infectious agent that they are not naturally equipped to fight off. A good example of this type of action is the Desert Tortoise (*Gopherus agassizii*). Often captured and maintained as a backyard pet in California and Arizona, it is just as frequently released back into the desert once the owner tires of it, it eats too much of the expensive landscaping, or it simply escapes on its own. Many of these released tortoises carried Upper Respiratory Tract Disease, a disease cultivated by captive-related stresses such as malnutrition, back to the desert to share with unsuspecting tortoises, thoroughly infecting the local population.

Despite the incredible wealth of herpetological and herpetocultural information available literally with just a few clicks of the computer mouse, the simple process of quarantine is often ignored and/or avoided due to its supposed labor and inconvenience. However, in the end when quarantine is skipped, the end result leads to a great deal of labor and inconvenience far surpassing the initial steps of basic quarantine. Some will not comprehend the importance of this process unless it hits them in the wallet, but a contagious disease running rampant in one's private collection could result in losses of thousands of dollars due to veterinarian bills and lost potential income from offspring. Legalities are also something to consider when the plan is to maintain a wild local herp with the catch and release later scenario. In my opinion, the worst effect is what occurs in our natural ecosystems when an infectious pathogen, chytrid for example, is introduced into the free-ranging populations of amphibians that we hold in such high regard. Just imagine the great ecological destruction that can be avoided by simply implementing a basic quarantine plan. I think you will find that quarantine is definitely worth the trouble at any level of herp keeping.

As a former bomb disposal technician, I kept a sign on my desk that I looked at several times a day. The sign was only two words and now hangs on my snakeroom door.....It reads "complacency kills".

- Anonymous

Zoo Updates

Editor: This is the second installment of a new section to highlight Virginia's zoos, museums and nature centers. By providing biannual updates on the changes to exhibits and collections, I hope you'll find a reason to visit these places often.

Virginia Living Museum **Newport News** **thevlm.org**

With the warm summer weather, visitors can not only enjoy our reptile and amphibian exhibits, but also our native herps in the onsite lake. A walk on our outdoor trail will bring views of northern watersnakes, eastern painted turtles, redbelly cooters, and sliders. The museum also has several new additions this summer, including our outdoor amphitheater, renovated planetarium, and impressive living "green" house. Our featured special exhibit for the summer is Amazon Voyage: Vicious Fishes and other Riches, where visitors can learn about the diversity and importance of the Amazon River.

In the herpetology department, we are currently seeing breeding behavior in our spotted turtle exhibit. Behind the scenes, we have been spending time renovating and improving the filtration on our aquatic turtle tanks. – *Stephanie Kokosinksi*

Virginia Zoological Park **Norfolk** **virginiazoo.org**

New Exhibits:

Poison Dart Frogs-Splashback PD Frogs (Dendrobates galactonatus) & Green & Blacks PD Frogs (D. auratus)

Madagascar Exhibit-Panther Chameleon (Furcifer pardalis) and Tomato Frog (Dyscophus guineti)

Milky Tree Frogs (Trachycephalus resinifictrix)

Brazilian Red & White Tarantula (Nhandu chromatus)

Additions:

0.1 Chinese Crocodile Lizard (Shinisaurus crocodilurus)-PMP recommendation to breed with our 1.0

0.1 Argentine Tegu (Tupinambis merianae)-for education programs

0.0.6 Angolan Pythons (Python anchietae)-first time hatching of this endangered species at the Virginia Zoo

1.2 Aldabra Tortoises (Geochelone gigantea)-trio of 3 year olds currently living off-exhibit; zoo is planning Aldabra exhibit for future

Future:

1.1 Aldabra Tortoises (Geochelone gigantea)-large adults for future exhibit

Dying Poison Dart Frogs (Dendrobates tinctorius)

4.4 Danube Crested Newts (Triturus dobrogicus)

– Craig Pelke

Herpcetera

Life in Cold Blood: A Must See - Leeanna Pletcher

I recently was recommended the BBC series "Life in Cold Blood" by a friend who knows I love herps. This documentary series is...in a word... "*extraordinary*!" Host David Attenborough frequently describes herps with this affectionate adjective. The BBC produced this documentary. It travels around the world visiting the burrows of amphibians like caecilians and in the leaves where rattlesnakes hang out. Images of reproduction, egg laying and hatching are amazing. It truly is footage you will see nowhere else. They use infrared cameras to show unique attributes of marine iguanas. The birth of baby chameleons was my favorite part - a live birth where the offspring drops from the tree branches and uses a tiny hand to catch a twig on the way down. A great behind the scenes segment follows each chapter and shows how images were captured. I highly recommend this documentary to any lover of amphibians and reptiles.

The Virginia Reptile Rescue is now under new leadership!

Bonnie Keller is back in charge at VA Reptile Rescue. However, the rescue has moved to Christiansburg from Richmond. There have been a large number of intakes recently due to a legal case in northern VA, and a pet store closing in central VA. Please see the website for details on what is still available, if you are interested in captive herps.
http://vareptilerescue.org/

WWW.VAREPTILERESCUE.ORG

Virginia Living Museum Becomes AZA Accredited

NEWPORT NEWS - The Virginia Living Museum joined an elite group of zoos and museums this week when it became the first institution in the state — and only the 12th in the country — to earn accreditation from both the Association of Zoos and Aquariums and the American Association of Museums.

The pioneering natural history and wildlife museum received its certification from the AZA on March 24 following a hearing on its application. It has been accredited by the AAM since 1976, when it became one of the first museums in the state to meet the organization's operating standards.

The staff has worked for nearly two years in preparation for this accreditation," Living Museum Executive Director Page Hayhurst said, describing the rigorous process of meeting the AZA's benchmarks for animal care and exhibition. "It is recognition by our peers that we meet the highest standard in the country — and that is possible only with the staff's passion for their work and their institution."

Despite the museum's long record of accreditation from the AAM, Hayhurst and her colleagues decided to pursue a second certification more than two years ago because of the large number of animals used in their exhibits and programs.

The museum's collection includes hundreds of animals ranging over more than 250 species, and accreditation by the national consortium of zoos and aquariums not only validates the quality of its care but makes it easier to acquire new specimens from other institutions. In addition to a comprehensive self-evaluation, the accreditation process required a detailed application and a meticulous on-site inspection by a team of specially trained zoo and aquarium professionals.

The inspecting team observed all aspects of the Living Museum's operation in such critical areas as animal care — including the living environment and daily enrichment of the animals. They also examined the museum's standards for keeper training, educational programs, conservation efforts and veterinary programs as well as its financial stability, risk management policies and visitor services. "Only the very best zoos and aquariums can meet and maintain AZA accreditation standards," AZA President and CEO Jim Maddy said in a statement announcing the approval of the Living Museum's application. "Newport News should be proud to have one of the top facilities in North America as a valuable community asset and economic engine."

The AZA accredits 217 institutions around the country, while 776 institutions are accredited by AAM.

Book Review

Paul Sattler *Catesbeiana* Editor

The Frogs and Toads of North America, by Lang Elliott, Carl Gerhardt and Carlos Davidson. 2009. Houghton Mifflin Harcourt, 343pp.

The Frogs and Toads of North America is a paperback well worth owning. There are 101 species covered in this text. For each species, there are very high quality photos and sound recordings, as well as very brief accounts of the appearance, range and habitat, behavior, description of the voice, and a small

range map. The text for each species is fairly brief, no more than a page for each species account as this book is not a field or identification guide. However, the photos, mostly full page (8.5 x 9"), are truly spectacular. Photo credits included our own John White (webmaster). The color is true-to-life and often involves at least one photo of amplexus, and another of males with vocal sacs expanded in call. If you enjoy seeing high quality photos of frogs and toads, this book is a must for your collection.

The book is accompanied by a CD, which includes sound recordings for 99 species. The call recordings typically include a single male and a chorus, but some also include release and/or alarm calls as well. Prior to the species accounts, there are brief sections on anuran classification, natural history, evolution and speciation, and conservation issues, often accompanied by illustrative photos. I particularly appreciated the photos of interspecific amplexus, satellite males, and the toad "mating ball". If you are looking for a fact-filled book with lots of detailed information in the species accounts, the Peterson Field Guide by Conant and Collins is better.

However, if you are looking for a coffee-table style book with fantastic photos, plus a good clear CD of calls, this is the book for you! The $20 price tag makes it available to all, and well worth the price.

New Books

1) Title: *Urban Herpetology*
Authors: Edited by Joseph C. Mitchell, Robin Jung Brown, and Breck Bartholomew
Price: $75
Description: *Urban Herpetology* contains 40 chapters and 13 case studies written by 120 contributing authors from around the world. It is believed that 1/3 of the decrease in amphibian populations worldwide is due to urbanization. This book shows how the studies of amphibians and reptiles in urban systems by scientists, conservation biologists and land managers, coupled with conservation, education, and management efforts can slow down, if not stop, this spiral to the extinction of reptiles and amphibians in urban areas.

The book is grouped into eight sections:
- Direct and Indirect Effects of Habitat Loss and Alteration
- Effects of Roads, Trails, and Railroad Tracks
- Chemical and Light Pollution
- Stormwater Ponds, Swimming Pools, Urban Lakes, and Golf Courses
- Introduced Species, Urbanophiles, and Urbanophobes
- State, Regional, and Country Reviews
- Management and Regulations
- Education and Citizen Involvement

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2) Title: *Common Kingsnakes, A Natural History Of* Lampropeltis getula
Authors: Brian Hubbs
Price: $60
Description: This is the most comprehensive book on Common Kingsnakes ever compiled. Four years in the making, this volume includes: 436 pages, 560 photos of Common Kingsnakes and their habitats, most in full color. Over 40 range maps (the most up-to-date and detailed maps available anywhere). All 8 subspecies fully described and illustrated, including the new *L. g. meansi*. All known naturally occurring aberrant color/pattern variants described. 68 of 70 known natural California Kingsnake color/pattern variants pictured (all mapped).

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3) Title: *Herpetology* (Second Edition)
Authors: Laurie Vitt & Janalee Caldwell
Price: $80
Description: The 720 page second edition has been thoroughly revised. . All this plus new color systematics sections will maintain this book as the leading textbook on the biology of amphibians, turtles, reptiles, and crocodilians. The book will also showcase amphibians, turtles, reptiles, and crocodilians as model systems in conceptual areas of biology. Such a text will help integrate herpetology as a discipline into conceptually oriented undergraduate programs. The book should also appeal to a large audience of sophisticated lay people interested in amphibians, turtles, reptiles, and crocodilians.

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4) Title: *Snakes: Ecology And Conservation*
Authors: Edited by Stephen J. Mullin & Richard A. Seigel
Price: $60.00
Description: In this book, the first on snakes to be written with a focus on conservation, the editors bring together leading herpetologists to review and synthesize the ecology, conservation, and management of snakes worldwide. These experts report on advances in current research and summarize the primary literature, presenting the most important concepts and techniques in snake ecology and conservation. Applied topics such as methods and modeling, and strategies such as captive rearing and translocation, are also covered. Each chapter provides an essential framework and indicates specific directions for future research, making this a critical reference for anyone interested in vertebrate conservation generally or for anyone implementing conservation and management policies concerning snake populations.
DISCOUNT: All individuals receiving this announcement from CNAH can obtain a 20% discount on the book. All you need to do is visit the book's web site and then when ordering enter the Special CNAH Promotion Code, CAU6, to get the 20%discount.
http://www.cornellpress.cornell.edu/cup_detail.taf?ti_id=5307

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5) Title: *A Guide To The Rattlesnakes Of The United States*
Authors: Brian Hubbs and Brendan O'Connor
Price: $20
Description: Covering all species of rattlesnakes native to the United States. This 5 1/2 by 8 1/2 inch guide will be informative and intriguing for those who know nothing about snakes, and handy and entertaining to members of the herpetological community.

This full color book includes: all species and subspecies of rattlesnakes native to the U.S. and Canada; 101 photos of rattlesnakes; 31 range maps; natural history; rattlesnake myths; protected or non-protected status of each rattlesnake.

Online Resources

1) REPTILE TRADING CARDS

Diamondback Trading Cards has released a series of trading cards for the reptile enthusiast. The cards are produced to the trading card industry standards for size and quality, printed on a traditional press using heavy board stock and varnished for a glossy appearance. This initial series includes reptiles from around the world with favorites like the Bearded Dragon alongside some lesser known but equally

intriguing reptiles. REPTILES SERIES ONE is a limited edition set, but don't worry, if you miss it Diamondback Trading Cards plans to follow it up with many more sets each featuring new reptiles. Their first release entitled REPTILES-SERIES ONE is available for purchase at select retailers or from their website.
http://www.diamondbacktradingcards.com/

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2) INTERNATIONAL JOURNAL OF ZOOLOGY

We invite you to submit a herpetological article to the "International Journal of Zoology," which provides a rapid forum for the dissemination of original research articles as well as review articles in all areas of zoology.

International Journal of Zoology is published using an open access publication model, meaning that all interested readers are able to freely access the journal online without the need for a subscription. The journal has a distinguished editorial board with extensive academic qualifications, ensuring that it maintains high academic standards and has a broad international coverage.
http://www.hindawi.com/journals/ijz/contents.html

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3) AMPHIBIAN PORTAL

If you are a field biologist, a naturalist, or just an interested citizen who would like to know more about amphibians, we invite you to visit the USGS-NBII online Amphibian Portal. This comprehensive website features summaries of important issues related to amphibian biology and conservation and provides links to additional online resources. It also provides listings of upcoming meetings, seminars, and workshops for amphibian biology and wetland conservation. You can visit the site at: http://www.nbii.gov/amphibians .

4) NORTH AMERICAN REPORTING CENTER FOR AMPHIBIAN MALFORMATIONS

We would also like to make you aware of the North American Reporting Center for Amphibian Malformations for the online reporting of amphibian deformities and malformations. If you observe malformed or deformed amphibians at any time in the field, you can submit a record online to be added to the database. Each new record is reviewed by amphibian biologists and all sensitive data and private information are removed from each record before it is added to the database. You can also search for similar records by species or region using our database search engine. To learn more about amphibian malformations and deformities, or to report new records, please visit: http://www.nbii.gov/narcam .

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5) "HERPERS", THE FIRST FEATURE LENGTH DOCUMENTARY ON HERPETOCULTURE

When Dāv Kaufman decided to take a break from the more mainstream forms of filmmaking, and make a documentary on a subject he himself has a deep passion for. The result is a funny, informative, and entertaining film that celebrates our reptile culture and the passion people have for it. Turned off by the "shock effect" used in most media that deals with reptiles, Kaufman was meticulous in doing the opposite, showing Herpers and our culture as a real, diverse and intelligible group of people.

The DVD is available by direct order through www.herpersmovie.com .

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6) HERP HOBBY POLL

The Ratsnake Foundation has set up a survey siteto gather information on a variety of reptile related topics, the results of which will hopefully be of interest to many societies and individuals within herpetological societies. Subject matter can range from specific disciplines to more general matters.

To start the ball rolling, we have launched this site with a 'Reptile Hobby Survey', covering basic points regarding the hobby. Additional surveys will be added over time. We hope to include as many organizations as possible, from general herpetological societies to those with a specialist interest. Help us to help you and share information for the benefit of all.

The site can be found at this web address:- http://www.reptilesurveys.info/ .

News

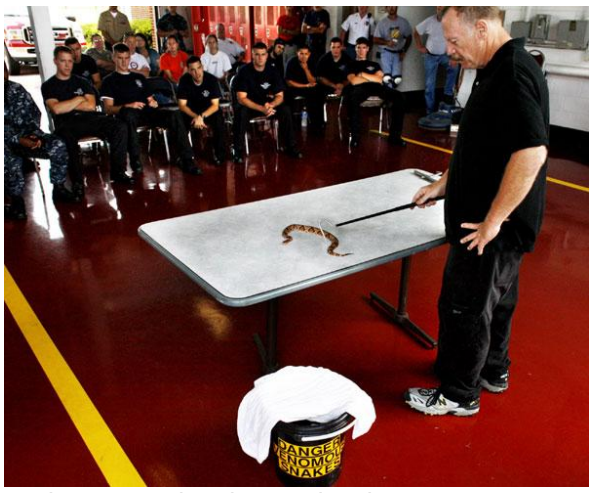
Snake Expert (1 | 2) Snake Time

1) SNAKE EXPERT SHARES TIPS WITH FIRST RESPONDERS

David B. Hollingsworth | The Virginian-Pilot
CHESAPEAKE, Va

Hisssssssss. OK, so it's a snake. But what kind? Is it poisonous? Is it sleeping or poised to strike? One thing's for sure - you don't want to get close enough to find out, right? Besides, it's a snake. Yuck!

Jimmi Bonavita says that's the attitude of most people. It's a frame of mind that really sticks in his craw. "They are good animals, and they do so much good," he said. "And they are one of the most misunderstood animals." Bonavita, a 56-year-old former police officer, started collecting the reptiles when he was a child in Franklin. Now he's a certified herpetologist. He earns his living advising area military installations on environmental issues and volunteers his time to educate people about snakes.



Snake expert Jimmi Bonavita shows a copperhead snake to a group of rescue people, firefighters and police officers during a lecture he gave at Fentress Naval Auxiliary Landing Field in Chesapeake.

His target audience: servicemen and -women and area firefighters and law enforcement officers, especially those who might be first-responders in a snakebite emergency. During a presentation at the Navy's auxiliary landing field at Fentress, Bonavita introduced a group to some live samples of southeastern Virginia's three species of poisonous snakes - the copperhead, the water moccasin (cottonmouth) and the canebrake rattlesnake.

"It's good to know what you're dealing with," said Pierre Toussaint, a Navy firefighter at Fentress who said he sees snakes often in the base's rural setting. "It's good to know what types are out here and what they look like" and " how they act."

First out of Bonavita's bag - actually an old pillowcase - was a female northern copperhead. Smallish, with a pinkish-orange color and hourglass shapes on its back, the snake immediately set up in a striking position and stared down Bonavita. Its eyes - the pupils of most poisonous snakes have vertical apertures, like a cat's eyes, whereas those of nonpoisonous species are round - were dark and didn't waver. Its tongue flicked out, then up and down. Its tail wiggled. Bonavita poked at the creature with the handle end of his snake stick, provoking a strike.

Several in the class - many of them strapping young firefighters - jumped back, startled.

Nobody got close enough to touch any of the snakes, and Bonavita wasn't about to let them. The copperhead's bite left venom on the handle, which Bonavita described as "kind of like orange juice. But you don't want to drink this for breakfast." Bonavita said each of the three species he showed off is docile. To prove his point, he picked up the copperhead that had just bitten his handling stick and laid the snake at his feet.

More fire fighters in the class of about 50 moved from the front row toward the back as the snake eased its way onto the instructor's shoes and around his legs. Some in the group gasped. "They're not the human-attacking creatures so many people think they are," Bonavita said as the snake slowly slithered around his feet, "unless they are provoked. "Leave it alone and it won't bother you."

He added that 75 percent of all bites are "illegitimate," meaning that the animal was provoked. "The rest of the time, it's because of something like sitting in the woods, or putting your hand on something, or stepping on one... when you don't see it," he said. "Most real bites are accidental. "The other ones are people asking for trouble."

Local poisonous snakes are not deadly. But, Bonavita said, "you might wish you were dead after the bite: very painful for a long time." That's because Virginia's three poisonous species carry hemotoxin, a poison that destroys tissue, eating at muscle and rotting the skin.

"There are people who still can't use their hands or feet very well years after being bitten, " he said.

Snakes often will "dry bite," meaning that no venom comes out of their fangs. Bonavita tried to get his second visual aid, a small water moccasin, to prove his point, giving it a nudge as he had with the copperhead. Again, the result was a lightning-quick strike - this time two in succession. The back of the room was getting crowded.

"They're just defending themselves," he said, again showing the group some venom on his snake stick. "Snakes generally avoid people at all costs." Bonavita's third show-and-tell participant was the canebrake rattler, which, before it even got out of the bag, was advertising how it got its name. "All snakes, when scared, will shake their tail," he explained. "But rattlers want to let you know they're there."

Most bites from poisonous snakes in southeastern Virginia are from copperheads and occur in the fall, Bonavita said, when the snake's markings and colors blend in with fallen leaves and twigs. Bonavita stressed that many of the area's nonpoisonous species have coloration and habits that make them look like their more dangerous brethren. "It's a defense mechanism," he said. "They look like the poisonous ones on purpose."

The best at it locally is the brown watersnake. "People kill lots of them thinking they are a moccasin," he said. "It's a real shame. "And it's born out of ignorance." That's something Bonavita is trying to change - one class of wide-eyed participants at a time.

Rattler facts

** The snakes are heavily bodied and can grow up to a length of more than 5 feet.*
** Timber rattlers have a coloration from yellow to black with darker bands across the body.*
** The snakes will not attack humans unless harassed.*
** During the summer, male timber rattlers travel as far as a mile to mate with females.*

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2) SNAKE TIME

By BOB STUART | NewsVirginian.com
Published: June 24, 2009

It's the season of slither in the muggy weather of the Shenandoah Valley. The mounting heat of summer means that timber rattlesnakes are on the move in the Shenandoah Valley, traveling through rocks, woods and paths seeking food and a mate.

A recent daylight sighting of a timber rattler at Humpback Rocks on the Blue Ridge Parkway is considered unusual since National Parks Service personnel say the reptiles generally come out in the cooler summer evenings, under the cover of darkness, to look for food. Those who spot a timber rattler should not worry, though, according to a state wildlife biologist.

"Timber rattlesnakes are reclusive and very docile," said J.D. Kleopfer, a wildlife biologist with the Virginia Department of Game and Inland Fisheries who oversees all reptiles and amphibians for the agency. Kleopfer said the rattlers won't bother a human unless harassed. If one is seen, the biologist suggests simply walking around it.

The venomous snakes can mature to a length of more than 5 feet. They feast on mice and chipmunks in the Shenandoah Valley and in other mountainous portions of western Virginia. Canebrake rattlesnakes, found in southeastern Virginia, eat squirrels. Kleopfer said the timber rattlers will travel far for food, and perhaps as much as a mile when looking to mate. July and August is when the males will travel long distances looking for a female," he said.

While Shenandoah Valley snake tales about large numbers of timber rattlers are the stuff of urban legends, the snakes do gather in dens in October close to locations such as Humpback Rocks, said Bob Maruca, a park guide and ranger at the Humpback Rocks Station. "They go back in the den area in September and October," Maruca said. Kleopfer said there is a reluctance to talk about the den locations because the snakes are potential prey for reptile poachers.

The timber rattler population also faces the threat of encroaching development such as roads and housing developments, he said. Many states have declared timber rattlers an endangered species. "If anything, the populations are decreasing because more and more folks are coming into contact with the snakes through development," Kleopfer said. "Usually, when there is human-snake interaction, the snake comes out on the short end." The increased number of roads also contribute to the snake's mortality rate. Interstate 81 "might as well be the Berlin Wall because the snake won't get across it alive," Kleopfer said. "Even small roads become little Berlin Walls."

VDOT Staunton District spokeswoman Sandy Myers said the agency does not actively track snake killings since there is no carcass left by the death of a snake. The agency does have a cleanup associated with the killing of deer along its roads. There have also been more bear killings recently on area roads than in years past, she said. If the snake escapes being killed on the road or by humans in its habitat, its longevity is substantial. "Timber rattlers can live to the mid to upper 20s," Kleopfer said.

Virginia Literature

These selections represent articles published or in press during the period January to August 2009 . 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 Joy Ware.

Baldwing, RF and Demaynadier, PG. 2009 Assessing threats to pool-breeding amphibian habitat in urbanizing landscape. Biological Conservation. vol 142 (8), pages 1628-1638.

Gamble, LR, McGariagal, K, Sigournery, DB, et al. 2009 Survival and breeding frequency in marbled salamanders (*Ambystoma opacum*): Implications for spatio-temporal population dynamics. Copeia issue 2 pages 394-407, Jun 12.

Harris RN, Lauer A, Simon MA, et al. 2009 Addition of antifungal skin bacteria to salamanders ameliorates the effect of chytridiomybcosis. Diseases of Aquatic Organisms Vol 83(1) pages 11-16.

Germano JM, Bishop PJ : Suitability of amphibians and reptiles for translocation. Conservation Biology 23(1) pages 7-15, Feb 2009.

McCallum ML, McCallum JL, Trauth SE: Predicted climate change may spark box turtle declines. Amphibia-Reptilia 30(2) pages 259-264, 2009.

Langen TA, Ogden KM, Schwarting LL: Predicting hot spots of herpetofauna road mortality along highway networks. J. of Wildlife Management vol 73 (1) pages 104-114, Jan 2009.

Answers from page 5 Answers

Herp Trivia Answers

Reptiles and amphibians fall in the superclass called tetrapoda, which means:
c. A vertebrate with four limbs

1. The Jacobson's Organ (also known as the vomeronasal organ) evolved for what purpose?
   c. Chemoreception (smells such as pheromones and other chemical cues)

2. What reproductive evolutionary advancement set the reptiles apart from amphibians?
   a. Amniotic egg

3. During the juvenile eft stage of development, *Notophthalmus viridescens viridescens (Red-spotted Newt)* exhibits very bright coloration throughout its body. The purpose of this coloration is to warn predators of its highly toxic skin. This type of coloration is called:
   a. Aposematic coloration

4. *Chelydra serpentina serpentina (Eastern Snapping Turtle)* is a species of turtles that is omnivorou
   True 

5. *Lampropeltis calligaster rhombomaculata (Mole Kingsnake)* is primarily an arboreal snake.
   False

6. In what geologic era did snakes radiate and diversify?
   a. Cenozoic era

7. What is the most obvious sexually dimorphic characteristic in *Sceloporus undulatus (Eastern Fence Lizard)*?
   a. Coloration difference between males and females

8. Identify this snake by using the Va Herp Society Snake Guide:
   Virginia striatula (Rough Earthsnake)

9. What is the largest known animal capable of freeze tolerance?
   b. *Terrapene carolina carolina* (Eastern Box Turtle)

Thanks to Larry Mendoza for creating this month's trivia!
Send your suggestions for Herp Trivia to the newsletter editor, Kory Steele, colchicine@gmail.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.

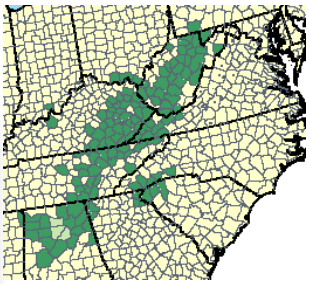
GREEN SALAMANDER (*Aneides aeneus*)

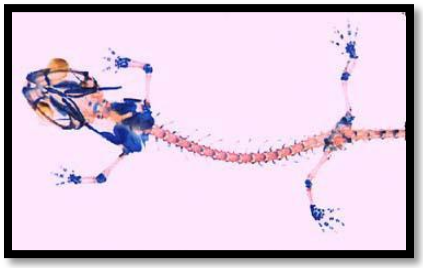
The VHS was very fortunate to have encountered several green salamanders at the 4th annual HerpBlitz at Breaks Interstate Park. Many members were able to add this salamander to their life list as it is a salamander with a very limited distribution in Virginia.

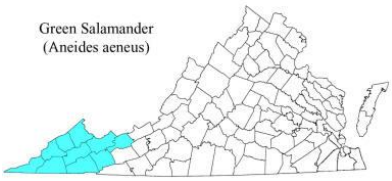
It is the only representative of the genus *Aneides*, or "Climbing Salamanders," in the eastern United States and is also considered a relict of the previously circumpolar "Arcto-tertiary" forest. The Green Salamander is primarily considered a rock-crevice dwelling species easily identified by the presence of greenish lichen colored patches on a black dorsum, a flattened body, long legs, and squared toe-tips. During the spring and summer, breeding females require cool, clean and moist horizontal crevices or narrow chambers in which to suspend their eggs from an overhead substrate.

The rarity of *Aneides* is linked to the loss of old-growth mixed mesophytic forests dominated by American Chestnut. The results of a long term monitoring project in North Carolina has shown a 98% population decline since 1970.

This salamander is found primarily in the Cumberland Plateau and portions of the Ridge and Valley Province with sandstone outcrops south and west of the New River. It prefers sandstone cliffs that are moist but not wet, and it hides in crevices out of direct sunshine. The type of rock apparently is not a limiting factor but the presence of crevices, their depth and position, appear to be important.







Common Name: Green Salamander

Scientific Name: *Aneides aeneus*

Genus: ***Aneides*** is Greek and means "lacking form or shape".

Species: ***aeneus*** is Latin and means "bronze or copper". Referring to the lichen-like patches of dorsal color.

Average Length: 3.3 - 5 in. (8.3 - 12.5 cm)

Record length: 5.5 in. (14 cm)

Virginia Department of Game and Inland Fisheries info