

CATESBEIANA



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BULLETIN INFORMATION

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Manuscripts submitted for publication should be typewritten (double-spaced) on good quality 8½ by 11 inch paper, with adequate margins. Consult the style of articles in this issue for additional information, including the appropriate format for literature citations. The metric system should be used for reporting all types of measurement data. Computer diskettes (Word or WordPerfect format) are desired for longer papers. Submissions concerning the herpetofauna of selected areas, such as a park, city or county, should be prepared in article rather than field note format. Articles will be refereed by the editor and one or more qualified reviewers. All changes must be approved by the author before publication; therefore, manuscripts must be received by the editor before **March 1** and **September 1** to be considered for publication in the spring and fall issue, respectively, of *Catesbeiana*. Reprints of articles are not available, but authors may reprint their own articles to meet professional needs.

(Editorial policy continued on inside back cover)

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Next Meeting

October 2, 2004
Virginia Living Museum
Newport News, Virginia
See page 87 for details



Cope's Gray Treefrog (*Hyla chrysoscelis*)
Drawing by Vincent Passaro

Herpetofaunal Biodiversity of the Rice Center for Environmental Life Sciences, Charles City County, Virginia

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Introduction

The third annual Virginia BioBlitz was held on 12-13 June 2004 at Virginia Commonwealth University's Inger and Walter Rice Center for Environmental Life Sciences in Charles City County. This annual event is held to document the diversity of flora and fauna in a different region of Virginia. The BioBlitz is co-sponsored by many regional natural history societies, universities, and state game and conservation departments. The Rice Center is located approximately 25 km southeast of Richmond along the north side of the James River between the Shirley and Berkeley plantations, south of State Route 5. The property consists of 140 ha (343 acres) of land and a 28 ha (70 acre) man-made lake named Lake Charles. The land component includes many varied habitats such as upland hardwood forest, vernal pools, ephemeral streams, an abandoned swimming pool, abandoned cabins and trailers, pine plantations, a tidal shoreline and stream, a freshwater stream, and open grassy areas. The tidal change of the James River at the Rice Center can be as much as one meter. The upland hardwood forests are characterized by white oak, southern red oak, black oak, tulip poplar, mockernut hickory, and sycamore. The subcanopy is dominated by American holly, sweet gum, and American beech. A tidal stream, Kimages Creek, was dammed at its mouth to create Lake Charles. The elevation of the Rice Center ranges from 1 m (3 ft) to nearly 14 m (45 ft) above sea level. The soils are well drained and composed of Coastal Plain sediments. A full review of cultural and ecological descriptions of the property can be found in the Rice Center Site Development Plan (Virginia Commonwealth University, 2002).

Study Sites

The following sites were examined for amphibians and reptiles during the BioBlitz survey. Numbers refer to the areas indicated on Figure 1.

- Site 1: Bluffs overlooking finger-like eastern spur of Lake Charles, beech, pine and laurels predominating.
- Site 2: Hillsides east of Lake Charles, hardwood deciduous forest.
- Site 3: Earthen dam to Lake Charles, spillway and surrounding areas.
- Site 4: Shoreline of James River just west of Lake Charles.
- Site 5: Abandoned cement swimming pool from former Camp Weyanoke, 1-3 m deep with a substrate of mud and leaf litter.
- Site 6: Deciduous/pine forests around Rice Center buildings.
- Site 7: Flooded portion of soybean field west of Lake Charles.
- Site 8: Bluffs overlooking northwest end of Lake Charles. Many large trees were down as a result of Hurricane Isabel in the fall of 2003.
- Site 9: Kimages Creek and lowlands feeding the north end of Lake Charles.
- Site 10: Mixed deciduous and pine forest with vernal pools along the eastern border.

Materials and Methods

The 2004 BioBlitz survey was conducted over a 30-hr period that extended from 0900 h on 12 June until 1500 h on 13 June. One team of 19 people (Jason Gibson/leader, Jennifer Ciminelli, David Dawson, Mark Gibson, Chris Hobson, Paul Leduc, Amy Martin, Paul Sattler, Janet Siddle, Rachel Smith, David and Wes Van Gelder, Susan Watson, John White family, Greg Woody, and Sarah Zuckoff) sampled the above-listed sites for amphibians and reptiles. Terrestrial species were sought by overturning rocks, logs, leaf litter, bark, trash piles, sphagnum moss mats, and by hand capturing animals that were visually encountered. Binoculars were used to view turtles basking on logs in Lake Charles. Male anurans were detected by listening for vocalizations during the day and at night. Digital recordings were made of notable species. Aquatic species were captured by dipnetting, seining, and setting baited (sardines) turtle traps (5 hoop traps were set in various locations including the abandoned swimming pool [1], Lake Charles [2], Kimages Creek [1], and the spillway of the dam at the south end of Lake Charles [1]). Visual

Rice Center Herpetofauna

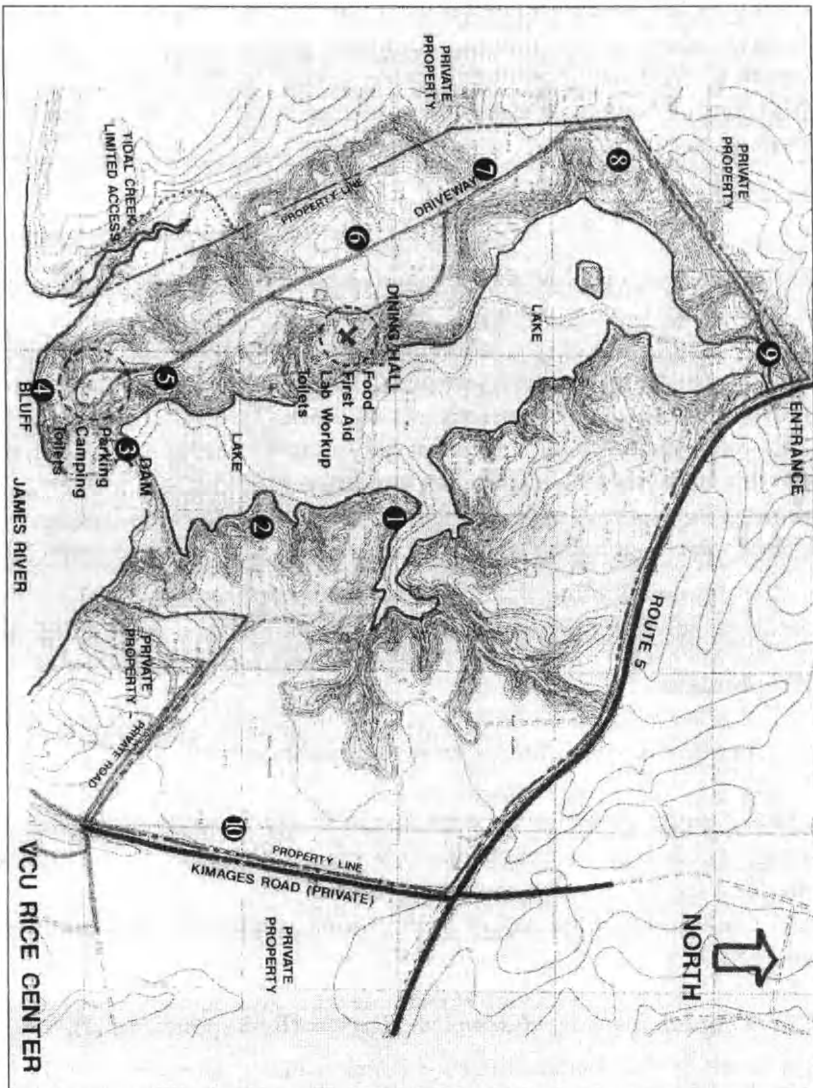


Fig. 1. Map of Rice Center property.

identifications were made of all animals captured and were agreed upon by at least two members of the team. Each specimen found was recorded, photographed (if determined to be a county record or if it had an unusual injury), observed for unusual behavior, and inspected for mutations or injuries. Voucher specimens were taken to the Liberty University Museum of Natural History for proper preservation, documentation, and storage.

Results

Fifty-three species of reptiles and amphibians are known to inhabit Charles City County (Mitchell and Reay, 1999). During this survey only 29 species of reptiles and amphibians were found, including 13 species of amphibians (three salamanders and 10 anurans) and 16 species of reptiles (seven turtles, three lizards, and six snakes). Two observations of female nest attendance behavior in *Eumeces fasciatus* extend the recorded dates for this behavior in Virginia. An annotated checklist of the species found during the survey appears below. Numbers after the species names correspond to sampling sites listed above and shown on the map (Fig. 1).

Annotated Checklist

Amphibians

1. *Ambystoma maculatum* (Spotted salamander), 10

Spotted salamander larvae were found in the remains of several drying vernal pools along Kimages Road bordering the eastern property line of the Rice Center. *Ambystoma maculatum* is probably common in the area and likely to be found earlier in the spring when the vernal pools are full and active.

2. *Notophthalmus viridescens viridescens* (Red-spotted newt), 5, 9, 10

The Red-spotted newt was found in moderate abundance throughout the property. Several adults were found in wetlands on the west side of Lake Charles, several efts were found in the woodlands along Kimages Road, and numerous larvae and a few adults were found in the swimming pool, which functioned like a vernal pool.

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3. *Plethodon chlorobryonis* (Atlantic coast slimy salamander), 8

Despite extensive searching, only a single specimen (LUNHM 587) was uncovered under a log in the woodlands northwest of Lake Charles. There had been considerable rain within 24 hours of the survey, so the ground was not particularly dry. We would, therefore, classify *Plethodon chlorobryonis* as rare at this site.

4. *Acris crepitans crepitans* (Eastern cricket frog), 3, 7, 8, 9

The cricket frog was abundant at the Rice Center, being found in most of the suitable habitats. Adults were observed along the margins of streams and ponds. A small chorus of calling males was heard on the edge of a soybean field just west of the entrance driveway on the west side of Lake Charles.

5. *Bufo americanus* (American toad), 2

Two American toads were observed in the woodlands on the eastern side of Lake Charles. Because Fowler's toad was much more abundant both here and elsewhere, it was obvious that *Bufo americanus* was in the minority at this site, and classified as scarce.

6. *Bufo fowleri* (Fowler's toad), 2, 7, 8, 10

Fowler's toad was abundant over most terrestrial habitats at the Rice Center, including both the east and west sides of Lake Charles. Adults were abundant in the understory throughout the forested habitats. A small chorus was observed on the edge of a soybean field, calling along with *Hyla chrysoscelis*, *Gastrophryne carolinensis*, and *Acris crepitans*.

7. *Gastrophryne carolinensis* (Eastern narrow-mouthed toad), 7

A small chorus of about a half-dozen males was heard calling from a flooded area at the edge of a soybean field. Most of the males were calling from grassy clumps at the edge of the water, but at least two were calling from a floating position in more open water. Two specimens were collected (LUNHM 576 & 577).

8. *Hyla chrysoscelis* (Cope's gray treefrog), 3, 5, 7, 10

Gray treefrogs were abundant throughout the Rice Center. Because of the recent rains and humid air, isolated males were heard calling in almost all forested habitats throughout the day. Sizable choruses were heard at night from the abandoned swimming pool, the shallows at the Lake Charles dam, and the flooded soybean field on the western side of the property. One male was found under the loose bark of a tree along Kimages Road.

9. *Hyla cinerea* (Green treefrog), 3

A chorus of green treefrogs was heard the evening of June 11 during a rainstorm, in the shallows at the Lake Charles dam. None were observed or heard at any time during the actual BioBlitz survey.

10. *Rana catesbeiana* (American bullfrog), 4

Bullfrogs must occur in Lake Charles, but they were not observed there on the few survey attempts by the herpetology group. A single adult was captured along with a black racer which was in the process of consuming it, from the west side of Lake Charles, the exact location not recorded.

11. *Rana clamitans melanota* (Northern green frog), 2, 9

Green frogs were not uncommon in the wetlands surrounding Lake Charles. Numerous individuals (five captures) were recorded from the lake's dam, and two males were heard calling from a pond-like habitat formed by Kimages Creek flowing into the lake from the north.

12. *Rana palustris* (Pickerel frog), 5

Pickerel frogs are probably more abundant in the area than recorded during the survey. Metamorphosing larvae were captured at the swimming pool in fair numbers (6-12).

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13. *Rana sphenocephala* (Southern leopard frog), 3, 9

Leopard frogs probably occur throughout Lake Charles. They were observed at the large inlet on the western side of the lake, and from the pond-like wetland at the north end of the lake.

Reptiles

14. *Chelydra serpentina serpentina* (Eastern snapping turtle), 5

A large snapping turtle was observed by the BioBlitz fish survey team in the swimming pool to the west of Lake Charles. *Chelydra serpentina* must also occur in the lake itself, but we failed to capture any in our traps.

15. *Chrysemys picta picta* (Eastern painted turtle), 9

Painted turtles probably occur throughout Lake Charles, however we observed and trapped only one (LUNHM 587) from the pond-like habitat formed by Kimages Creek at the northern end of the lake.

16. *Kinosternon subrubrum subrubrum* (Eastern mud turtle), 4

The shell of an adult was found along the bluffs overlooking the James River just south of the camping area by the dam. No live mud turtles were captured or trapped during the survey.

17. *Pseudemys concinna* (River cooter), 3

One juvenile turtle tentatively identified as a river cooter was netted by hand thanks to the incredibly long reach of Dave Van Gelder from the outflow of the Lake Charles dam. Identification was confirmed by Chris Hobson (Virginia Department of Conservation and Recreation).

18. *Sternotherus odoratus* (Eastern musk turtle)

The BioBlitz fish survey team brought in the shell from a dead musk turtle, presumably from Lake Charles. No live musk turtles were captured or trapped during the survey.

19. *Terrapene carolina carolina* (Eastern box turtle), 8, 10

Box turtles are rather common at the Rice Center. Adults were observed on both sides of Lake Charles. At least one road-killed specimen was observed on the private road leading west from the end of Kimages Road.

20. *Trachemys scripta elegans* (Red-eared slider), 1, 5

Red-eared sliders have been introduced into Lake Charles at some time in the past. Several were observed from a distance in the eastern spur of the lake floating at the surface. A male (LUNHM 584) was captured in the swimming pool, where it must have fallen in and been unable to escape the vertical walls. Traps near the dam and on the western shore of Lake Charles also yielded adults (LUNHM 585).

21. *Eumeces fasciatus* (Five-lined skink), 2

Five-lined skinks were observed in the woods on the eastern shore of Lake Charles. A gravid female and two females, each with a nest of 9 eggs, were also captured and identified. Scale analysis confirmed the identity of *Eumeces fasciatus*, rather than *E. inexpectatus* or *E. laticeps*. Mitchell (1994) reported that females attending nests have been documented in Virginia between 16 June and 26 July. This report of 12 June extends the early date by four days. The observation of a gravid female from the same area as nesting females suggests that the nests were probably recent.

22. *Scincella lateralis* (Little brown skink), 2, 3, 4, 6

Little brown skinks were found at four sites at the Rice Center. Near the dam of Lake Charles, one adult was found under driftwood on the wooded shore of the James River. A second adult was reported from an abandoned house trailer in the woods on the western side of Lake Charles. The BioBlitz dragonfly survey team (led by Steve Roble) captured and photographed one adult near the camping area and also observed at least two others in the forested hillsides east of Lake Charles.

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23. *Sceloporus undulatus* (Northern fence swift), 4

A single adult was observed just below the bluffs overlooking the James River on the western side of Lake Charles.

24. *Agkistrodon contortrix mokasen* (Northern copperhead), 5

A small (total length ca. 0.3 m) copperhead was observed crossing the road between a woodlot and a grassy meadow near the abandoned swimming pool. The specimen was captured and released farther from the heavily populated camping area.

25. *Carphophis amoenus amoenus* (Eastern wormsnake), 2

Although expected in larger numbers, only two adult wormsnakes were captured from under logs in a forested area east of Lake Charles.

26. *Coluber constrictor constrictor* (Northern black racer), 2, 4

Two black racers were recorded during the survey. One was captured while in the process of trying to consume a bullfrog (and would have done so if not interrupted) from the camping area near the dam. A second specimen was observed from the wooded area east of Lake Charles.

27. *Elaphe obsoleta obsoleta* (Black ratsnake), 6

Two black ratsnakes were observed inside abandoned house trailers in the woods opposite the Rice Center main buildings on the west side of Lake Charles.

28. *Nerodia sipedon sipedon* (Northern watersnake), 3

Several watersnakes were observed in the outflow spillway from Lake Charles at the dam. One was captured and identified as *Nerodia sipedon*; it was an adult approaching one meter in total length.

29. *Storeria dekayi dekayi* (Northern brownsnake), 1

One adult brownsnake was captured in the woods on the east side of Lake Charles. It was found in typical habitat under a log.

Discussion

Despite more than 30 hours of surveying with many varied collecting techniques, the scarcity of salamander species collected is quite puzzling. Conditions and habitat seemed optimal for salamanders. Rain occurred the night prior to the start of the survey. Of nine species known from the county, we only collected three. At least eight species of salamanders are found in surrounding counties but have not yet been documented in Charles City County (Table 1). Future biological inventories of this area could greatly increase the known salamanders for this area.

Ten of 15 species of anurans known from Charles City County were found during this survey. The species not collected breed in early spring. Future surveys of this area should focus on collecting during all seasons to fully document the anurans that inhabit this area. Mitchell and Reay (1999) documented seven additional species of anurans in counties that adjoin Charles City County (Table 1).

All of the turtles known for this area with the exception of *Kinosternon baurii* and *Clemmys guttata* were recorded during the BioBlitz survey. *Malaclemys terrapin* likely inhabits the tidal waters of the James River but our sampling techniques did not allow for its capture. The literature on the status of *Trachemys scripta* in this county is confusing. Mitchell (1994) reported an introduced record of *Trachemys scripta elegans* from Charles City County but Mitchell & Reay (1999) did not report any of the various subspecies. Both of the voucher specimens collected during the BioBlitz were *Trachemys scripta elegans*. An important observation that may spawn future research interests in this area is that all of the turtles that were caught in Lake Charles exhibited some kind of shell injury or deformity. This may be a coincidence due to the low numbers captured. Before the creation of Lake Charles, a tidal creek flowed in this area. With its proximity to Hopewell, it is possible that pollution trapped in the sediments might affect the development and health of turtles today.

Rice Center Herpetofauna

Three of five species of lizards and six of 17 species of snakes known from Charles City County were found during the BioBlitz. A cold weather front that arrived the night before the survey may have substantially decreased the number of active lizards and snakes. It was odd to not find common species like *Diadophis punctatus* and *Heterodon platirhinos* despite the proper habitats and large numbers of toads. Mitchell & Reay (1999) reported three species of lizards and seven species of snakes in surrounding counties that have not been documented for Charles City County (Table 1).

Much work remains to be done at the Rice Center property and Charles City County. Future plans to make a world-class research facility at this site should allow this area to be one of the best-researched and known in Virginia. Fully documenting the biodiversity of the land surrounding the research facilities should be a top priority. Once a complete catalogue of species is known, many avenues of research can be undertaken by undergraduate and graduate students. Much remains to be learned about the reptiles and amphibians of Virginia. Potential research projects would include long-term phenological and reproductive success studies that can determine the health of the local ecosystem. Range extensions for many species may be found on this or surrounding properties. The Rice Center and Lake Charles could provide an important wildlife refuge if development in Virginia, and the Richmond area continues. In addition to taxonomic surveys such as this, basic quantitative studies on the soils and water quality should be conducted to establish baseline chemical levels for future comparisons. Other research could focus on long-term population monitoring, reproductive biology, physiology, home ranges, and development of new equipment or sampling techniques.

Acknowledgments

We thank Steve Roble for editorial comments which improved this manuscript.

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Table 1. List of reptiles and amphibians found in counties adjoining Charles City County but not yet recorded from that county.

Amphibians	Reptiles
<i>Ambystoma mabeei</i>	<i>Malaclemys terrapin</i>
<i>Amphiuma means</i>	<i>Aspidoscelis (=Cnemidophorus)</i>
<i>Desmognathus auriculatus</i>	<i>sexlineatus</i>
<i>Eurycea guttolineata</i>	<i>Eumeces laticeps</i>
<i>Plethodon cylindraceus</i>	<i>Ophisaurus attenuatus</i>
<i>Pseudotriton ruber</i>	<i>Agkistrodon piscivorus</i>
<i>Siren intermedia</i>	<i>Elaphe guttata</i>
<i>Stereochilus marginatus</i>	<i>Farancia abacura</i>
<i>Acris gryllus</i>	<i>Farancia erytrogramma</i>
<i>Bufo terrestris</i>	<i>Regina septemvittata</i>
<i>Bufo quercicus</i>	
<i>Hyla gratiosa</i>	
<i>Hyla squirella</i>	
<i>Hyla versicolor</i>	
<i>Pseudacris ocularis</i>	

First Records of Four Anurans from Essex County, Virginia

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Introduction

Essex County is located in the upper Coastal Plain physiographic region of Virginia, approximately 160 km (100 mi) south of Washington, D.C. and 72 km (45 mi) northeast of Richmond. The total land area of the county is 678 km², of which nearly two-thirds (63%) is forested and one-third (33.7%) is devoted to agriculture (Essex County website).

Five frog species that represent new county records were found during the Essex County survey of the Virginia Frog and Toad Call Surveys (Grimm, 2004; this paper). These surveys are part of the North American Amphibian Monitoring Program (NAAMP). The Essex County survey route is situated in the southwestern part of the county, an area characterized by habitats such as swamps, small streams, farm ponds, and vernal pools.

Survey Sites

Tappahannock is the closest town to the survey route. It is located along U.S. Route 17, about 11 km (6.7 mi) north of the intersection with County Route 607 (Upright Road). The site numbers below correspond to the sampling stations of the Essex County Frog and Toad Call Survey Route.

White Marsh Swamp

This site is on County Route 607, 1.4 km southwest of U.S. Route 17 (at Ozeana) and is a small finger of White Marsh Swamp. The area immediately surrounding the swamp is characterized by mixed hardwoods of sweetgum (*Liquidambar styraciflua*), silver maple (*Acer saccharinum*), white oak (*Quercus alba*), and river birch (*Betula occidentalis*) plus an occasional loblolly pine (*Pinus taeda*).

Site 3

Site 3 is on County Route 607, 1.3 km southwest from the White Marsh Swamp site. It is an area of flooded woods that partially dries during the late summer months. The surrounding woodlands consist of sweetgum, silver maple, willow oak (*Quercus phellos*), red oak (*Q. rubra*), and post oak (*Q. stellata*).

Site 6

Site 6 is a farm pond located 4.2 km southeast of the intersection of county routes 607 and 684 (Howerton Road). It is surrounded by agricultural fields and kept mowed to the edges. There are emergent water lilies (*Nymphaea odorata*) on the side of the pond closest to the road.

Site 8

Site 8 is a farm pond undergoing succession along County Route 719, 1.3 km southeast of the intersection with County Route 604. Emergent plants are cattail (*Typha angustifolia*), pickerelweed (*Pontederia cordata*), and southern willow (*Salix caroliniana*). It is surrounded by a small band of trees consisting of sweetgum, yellow poplar (*Liriodendron tulipifera*), and American sycamore (*Platanus occidentalis*) trees. Outside the small band of trees are agricultural fields.

Materials and Methods

The data contained in this paper are from Virginia Frog and Toad Surveys conducted between 2 July 2003 and 16 June 2004. Anuran species were identified by vocalizations. Digital recordings from the White Marsh Swamp site will be deposited in the VHS archives to document the populations in Essex County.

Results

The four species discussed below are documented from Essex County for the first time. Previously, I reported *Gastrophryne carolinensis* as new for this county (Grimm, 2004).

Essex County Anurans

1. *Acris crepitans crepitans* (Eastern Cricket Frog) White Marsh Swamp, 6, 8

Cricket frogs were heard at three of the four study sites. At 2128 h on 2 July 2003 the temperature was 22.2° C and there was a slight drizzle throughout the survey. At the White Marsh Swamp site a full chorus was heard (continuous and overlapping calls). A digital recording was made. An hour later a full chorus also was heard at site 6. Full choruses were heard again at site 6 at 2215 h on 8 May 2004 (13.9° C; partly cloudy) and at 2224 h on 16 June 2004 (25° C; slight drizzle). At 2248 h on the latter date, calls of individuals with some overlapping were heard at site 8.

2. *Hyla femoralis* (Pine Woods Treefrog) White Marsh Swamp, 3

Upon arrival at the White Marsh Swamp site on 2 July 2003, we immediately heard the Morse code calls of one *Hyla femoralis* in addition to many cricket frogs. A digital recording of this male was obtained. I returned to this site five nights later and made more recordings, but failed to obtain a photograph or voucher specimen. On that night I heard approximately six *H. femoralis* calling, five near the edges of the swamp and one from high up in an emergent tree, indicating the presence of a small but perhaps viable breeding colony. Concurrently calling that night were a few *Hyla chrysoscelis* and several *Rana clamitans melanota*. On 16 June 2004 at 2135 h (26° C; cloudy and overcast with a slight drizzle), individual calls of *H. femoralis* could be distinguished at the White Marsh Swamp site, but there was some overlapping of calls. When I reached site 3 at 2147 h that same night, it became apparent that two males of *H. femoralis* were calling even though this species had not been heard there during the previous year's surveys.

3. *Rana clamitans melanota* (Northern Green Frog) White Marsh Swamp, 3, 6, 8

Green frogs were present at all four study sites. Several males were heard at site 6 at 2222 h on 2 July 2003 (22.2° C; light drizzle). At 2252 h several individuals also were calling at site 8. On 7 July 2003 several calling green frogs were recorded at the White Marsh Swamp site along with *Hyla femoralis*. Several green frogs were heard on the night of

8 May 2004 (13.3° C; cloudy) at each of three sites: White Marsh Swamp, site 6, and site 8. At 2147 h on 16 June 2004, the temperature was 26.1° C and there was a slight drizzle falling during the survey. Several individuals were heard calling at site 3 with some overlapping of calls. Stops at sites 6 and 8 during the next hour revealed the presence of several calling males at both sites.

4. *Rana sphenocephala* (Southern Leopard Frog)
White Marsh Swamp, 6, 8

Leopard frogs were heard at three of the four study sites. On 6 March 2004 at 0956 h, the temperature was 8.9° C, the sky was partly cloudy, and there was a slight breeze. At the White Marsh Swamp site, I recorded the somewhat aberrant call of a *Rana sphenocephala*. It sounded like a deep rumbling hum with a barely discernible chuckling note accompanying only some of the calls. The call was identified by Steve Roble. Concurrently calling was a full chorus of *Pseudacris crucifer*. At 2052 h the temperature at site 6 was 7.8° C and there were a few males calling. Several leopard frogs also were calling (some overlapping of calls) at site 8 at 2113 h (10° C).

Discussion

Even though *Acris crepitans crepitans*, *Rana clamitans melanota*, and *Rana sphenocephala* are common frogs throughout eastern Virginia, Mitchell and Reay (1999) did not note any voucher specimens or records for Essex County. The lack of data for these frogs is probably due to sampling artifact from previous surveys because they appear to be abundant in this part of Virginia.

Documentation of *Hyla femoralis* in Essex County extends its known distribution slightly north and east of previous records in King and Queen County (Mitchell and Reay, 1999). When I first set up my survey route in the fall of 2001, the White Marsh Swamp site was dry. I found it dry again when I conducted a daytime inspection of the route on 15 July 2002. I first discovered the presence of *Hyla femoralis* in the White Marsh Swamp site on 2 July 2003 while running my Virginia Frog and Toad Call Survey Route with one of my students. The White Marsh Swamp site is not an official part of the survey but was a site that I had

Essex County Anurans

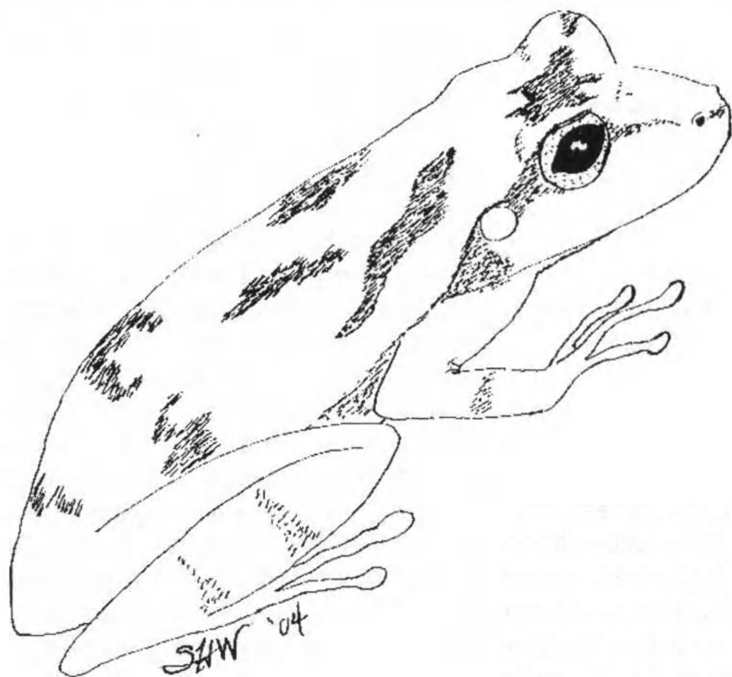
occasionally monitored. It would be interesting to monitor connected waterways in future years to determine if the frog has a more northern distribution.

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Pine Woods Treefrog (*Hyla femoralis*)
Drawing by Susan Horne Watson

Comments on the Northern Range Limit of *Plethodon welleri* Walker

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Weller's salamander (*Plethodon welleri*) is endemic to the higher elevations of the Appalachian Mountains, occupying a narrow range that is restricted to southwestern Virginia, northwestern North Carolina, and extreme northeastern Tennessee (Thurow, 1964; Highton, 1971; Conant and Collins, 1998; Petranka, 1998). The species is strongly associated with red spruce (*Picea rubens*) and Fraser fir (*Abies fraseri*) forests above 1500 m (ca. 5000 ft), but has been taken as low as 700 m (2300 ft) in Tennessee (Organ, 1960; Thurow, 1963; Petranka, 1998). The range and habitat of the pygmy salamander (*Desmognathus wrighti*) in Virginia closely match those of Weller's salamander (Pague, 1984). Both species are currently classified as Species of Special Concern by the Virginia Department of Game and Inland Fisheries (VDGIF) and *P. welleri* also is regarded as a Sensitive Species by the George Washington and Jefferson National Forests (F. Huber, pers. comm.).

Walker (1934) first reported *P. welleri* from Virginia, documenting it on Whitetop (= White Top) Mountain. Hoffman and Kleinpeter (1948) subsequently found *P. welleri* (in greater abundance) on nearby Mount Rogers, the highest peak in the state. Organ (1960) conducted extensive life history and ecological studies of the *P. welleri* population in the Whitetop-Mount Rogers area and reported that this species occupies elevations ranging from 1341 m (4400 ft) to the summit of Mount Rogers (1746 m, or 5729 ft). His surveys of this species in that area have continued to the present day (J. Organ, pers. comm.). Pague (1984) provided the most recent detailed discussion of the range of *P. welleri* in Virginia, stating that this species is known only from the higher elevations of Whitetop Mountain, Mount Rogers, and Pine Mountain (a new record), all of which lie within the Mount Rogers National Recreation Area. The species accounts for *P. welleri* authored by Krakauer (1979), Tobey (1985), Pague and Mitchell (1987), and Pague (1991) provided little, if any, new information regarding the distribution of this species in Virginia.

Plethodon welleri

During the 1980s, Dr. James Organ (*in litt.*) discovered a population of *P. welleri* inhabiting the upper 76 m (250 ft) of Beech Mountain in Washington County (ca. 1.8 km W of Whitetop Mtn.), but failed to find it near the summit of Bluff Mountain in Grayson County. He also found this species in a beech (*Fagus grandifolia*) forest on Pond Mountain in Ashe County, North Carolina, just below the Virginia state line (Fig. 1).

The most recent publication concerning the distribution of *P. welleri* in Virginia is the herpetological atlas compiled by Mitchell and Reay (1999). These authors plotted a new record for *P. welleri* in extreme northwestern Smyth County (vicinity of Big Tumbling Creek Falls), a range extension of approximately 37-38 km (23-24 mi) NNW from both Whitetop Mountain and Mount Rogers, and a supposed new northern range limit for the species. The locality was plotted in the atlas as a "VDGIF collection permit report" rather than as a voucher specimen record. In my review (Roble, 1999) of the atlas, I suggested that this record was the single most significant new distributional record in the entire atlas. However, I noted a discrepancy between the plotted site and Hayters Gap (ca. 15 km to the west on Clinch Mountain along State Route 80 at the Russell-Washington county line; a town by the same name occurs farther south in Washington County at a much lower elevation), the locality mentioned in the accompanying text for *P. welleri*. I also noted that Pinder and Greenlee's (1999) summary of the Virginia Herpetological Society's 1998 spring survey of the Clinch Mountain Wildlife Management Area (location corresponds to the new atlas dot for *P. welleri*) did not mention *P. welleri* (however, VHS members did not survey the higher elevations of this property, although others have [R. Highton, pers. comm.; R. Hoffman, pers. comm.]).

Mitchell and Reay (1999) attributed the Hayters Gap record of *P. welleri* to Dr. Richard Highton, the leading authority on the genus *Plethodon* (e.g., Highton, 1971, 1995; Highton and Peabody, 2000; Highton et al., 1989), thus lending much credibility to the record. He has sampled for *Plethodon* species in the Hayters Gap area, but disavowed any knowledge of the *P. welleri* record when I contacted him for details (R. Highton, pers. comm.). A subsequent inquiry of the VDGIF data management staff revealed that the record was actually reported by an out-of-state student under a VDGIF collection permit (K. Reay, pers. comm.). Apparently none of the 12 reported specimens of "*Plethodon welleri*" found on 25

May 1997 was retained and the student subsequently retracted the identifications when queried about the report (K. Reay, pers. comm.).

Unfortunately, this dubious record of *P. welleri* from "Hayters Gap" has already been perpetuated in the popular literature (Fergus, 2003). This example underscores the importance of collecting and preserving voucher specimens (and having experts verify their identification) when documenting significant range extensions or other important distributional records. It should also serve as a note of caution to natural resource agencies and managers to more carefully scrutinize unvouchered reports or sightings before entering such records into their computer databases. In the absence of future discoveries of *P. welleri* on the Clinch Mountain Wildlife Management Area, Hayters Gap, or elsewhere in Virginia, the distribution of this species in the state (and its northern range limit) should be regarded as confined to the higher elevations of the Whitetop-Mount Rogers region (Organ, 1960; Pague, 1984).

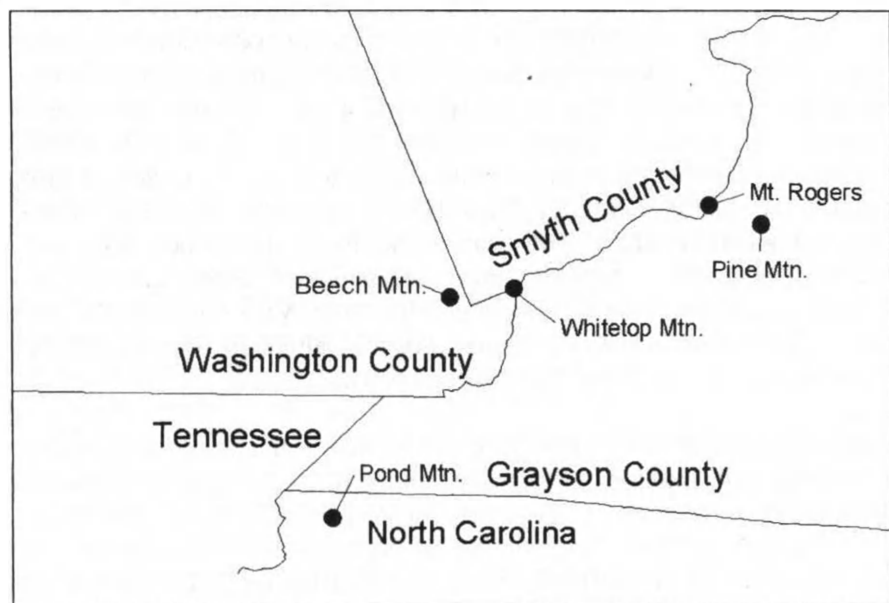


Fig. 1. Distribution of *Plethodon welleri* in Virginia and adjacent North Carolina (other North Carolina and Tennessee localities are not shown; see Thurow, 1956, 1964; Highton, 1971).

Plethodon welleri

Acknowledgments

Karen Reay provided information regarding the VDGIF permit collection report of *Plethodon welleri*. I thank Drs. Richard Highton, Richard Hoffman, and James Organ for reviewing a draft of this manuscript (minus the map). Dr. Organ also kindly allowed me to include his previously unpublished records of *P. welleri* from Beech Mountain (Virginia) and Pond Mountain (North Carolina) in this paper.

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Virginia Herpetological Atlases available on VHS Website

Earlier this fall, VHS webmaster John White proposed to include the herpetological atlases of Tobey (1985) and Mitchell and Reay (1999) on the society's website. The Tobey atlas has been out of print for many years and thus unavailable to most current members of the society until now. Permission was sought and granted to scan copies of both atlases and they are now available (as downloadable pdf files) on the VHS website: <http://fwie.fw.vt.edu/vhs/>. Thanks to John White, Paul Sattler, Frank Tobey, Kathy Graham, and Lynda Richardson for their contributions to this important project.

Citations:

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FIELD NOTES

Eumeces anthracinus (Coal Skink). VA: Franklin Co., ca. 1.5 km E jct. VA Rt. 116 and Co. Rt. 678. 27-28 June 2004. Jackie, Arielle, and Kali Lapradd.

On 27 June 2004 at 1730 h, an adult coal skink was found in a field underneath a log at the base of an abandoned pile of firewood. The next day another individual was discovered approximately 9 m from the pile resting beneath a discarded piece of tin. Both observations were made on private land belonging to The Roanoke Rifle and Revolver Club. According to Mitchell (1994. *The Reptiles of Virginia*. Smithsonian Institution Press, Washington, DC. 352 pp.), Mitchell and Reay (1999. *Atlas of Amphibians and Reptiles in Virginia*. Special Publication Number 1, Virginia Department of Game and Inland Fisheries, Richmond, VA. 122 pp.), and Tobey (1985. *Virginia's Amphibians and Reptiles, A Distributional Survey*. Virginia Herpetological Society, Purcellville, VA. 114 pp.), *Eumeces anthracinus* has not been previously recorded from Franklin County. Digital photographs were submitted to the VHS for archiving after confirmation by Steve Roble, Richard Hoffman, and Joe Mitchell.

JACKIE, ARIELLE, and KALI LAPRADD

1550 Shannon Street
Roanoke, Virginia 24014



Eumeces anthracinus from Franklin County, Virginia.

Field Notes

***Heterodon platirhinos* (Eastern Hognose Snake).** VA: Campbell Co., Melrose, 37° 02.768" N, 79° 03.006" W. 6 June 2004. David L. Dawson.

On 6 June 2004 at 1645 h, a gravid female eastern hognose snake was found beside the southern railroad tracks at an elevation of 126 m. The temperature was approximately 22° C. This section of track is an embankment bordered on the south by the Staunton (Roanoke) River which is about 17 m north of the tracks. The north side also has a vernal marsh and hardwood forest. The snake had a total length of approximately one meter and was of the black or melanistic form. She subsequently laid 34 eggs in captivity. This specimen is the first record for Campbell County according to Mitchell (1994. *The Reptiles of Virginia*. Smithsonian Institution Press, Washington, DC. 352 pp.), Mitchell and Reay (1999. *Atlas of Amphibians and Reptiles in Virginia*. Special Publication Number 1, Virginia Department of Game and Inland Fisheries, Richmond, VA. 122 pp.) and Linzey and Clifford (1981 [1995 printing]. *Snakes of Virginia*. The University Press of Virginia, Charlottesville, VA. 173 pp.). Digital photographs were submitted to the VHS for archiving.

DAVID L. DAWSON
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Gladys, Virginia 24554

***Lampropeltis getula getula* (Eastern Kingsnake).** VA: Chesterfield Co., Virginia State University Campus, old greenhouse, south wing. 11 May 2004. Jonathan D. Jeffreys; VA: Chesterfield Co., VA Rt. 10 at Appomattox River. 15 May 2004. Jonathan D. Jeffreys.

On 11 May 2004 at approximately 0930 h, a female eastern kingsnake was found crawling across the concrete floor of the south wing of the old greenhouse on the Virginia State University (VSU) campus. This wing of the greenhouse is used by agricultural education personnel for cultivating various species of plants. Upon my approach, the specimen demonstrated nominal defense posturing while "rattling" its tail and releasing copious amounts of musk. Once captured, however, the specimen became quite docile and remained so throughout processing. Snout-vent length was 660 mm, tail length was 100 mm, and the weight was 98.9 g. Air temperature

in the greenhouse was approximately 26° C. The specimen was released back into the undeveloped wooded area below the greenhouse on the VSU campus. Four days later I noted a second, much larger male specimen DOR on State Rt. 10, westbound, just after crossing the Hardaway Marks Bridge over the Appomattox River into Chesterfield County. These are the first documented records for this species in Chesterfield County (Mitchell, J. C. 1994. *The Reptiles of Virginia*. Smithsonian Institution Press, Washington, DC. 352 pp.; Mitchell, J. C., and K. K. Reay. 1999. *Atlas of Amphibians and Reptiles in Virginia*. Special Publication Number 1, Virginia Department of Game and Inland Fisheries, Richmond, VA. 122 pp.). Photographs were obtained of both specimens and copies have been deposited in the VHS archives.

JONATHAN D. JEFFREYS

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Opheodrys vernalis (Smooth Greensnake). VA: Bland Co., VA Rt. 52, 330 m S junction Forest Road 282 [UTM 0488332 4109822 (NAD83)]. 27-29 August 2004. A. A. Roberts and J. D. Tickle.

On 27 August 2004 at 1800 h, Jerry Tickle captured a smooth greensnake in a mowed yard on the south-facing crest of Brushy Mountain at approximately 885 m elevation. The yard is bounded on three sides by mixed forest and on the fourth by State Route 52. The snake was identified and photographed on 29 August by Amy Roberts. Its total length was 46 cm, with a nearly healed superficial injury about 1 cm long, located approximately 21 cm from the tip of the snout.

This is the first verified record for smooth greensnakes from Bland County according to Mitchell (1994. *The Reptiles of Virginia*. Smithsonian Institution Press, Washington, DC. 352 pp.) and Mitchell and Reay (1999. *Atlas of Amphibians and Reptiles in Virginia*. Special Publication Number 1, Virginia Department of Game and Inland Fisheries, Richmond, VA. 122 pp.) and the westernmost known location for the species in Virginia. Tobey (1985. *Virginia's Amphibians and Reptiles, A Distributional Survey*. Virginia Herpetological Society, Purcellville, VA. 114 pp.) plotted an unvouchered record from east of

Field Notes

Mechanicsburg in Bland County (Mitchell, *op. cit.*). According to Green and Pauley (1987. *Amphibians and Reptiles in West Virginia*. University of Pittsburgh Press, Pittsburgh, PA. 241 pp.), the smooth greensnake occurs in Greenbrier, Raleigh, and Wyoming counties, among others. These three counties are separated from Bland County by one or more counties for which there are no vouchered records for this species. Digital photographs were submitted to the VHS for archiving.

AMY ROBERTS

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JERRY TICKLE

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Bland, Virginia 24315

Pseudemys rubriventris (Northern Red-Bellied Cooter). VA: Prince George Co., VA Rt. 156, 1.1 km S jct. VA Rt. 10. 27 June 2004. Jonathan D. Jeffreys and Robert E. Jeffreys, IV.

On 27 June 2004 at approximately 1715 h, a male northern red-bellied cooter was found lying on its dorsum in the northbound lane on State Route 156 (Jordan Point Road) approximately 1.1 km (0.7 mi) south of State Route 10 (James River Drive) in Prince George County. The specimen showed no external signs of trauma except for a slightly bent claw on its right, front third toe. Presumably the victim of highway traffic, the specimen demonstrated nominal offensive behaviors upon approach and capture. There is a narrow creek (Billy Creek) running east/west approximately 6 m north of this specimen's location. Billy Creek lies in heavy mixed hardwood and deciduous forest and empties into the James River east of Jordan Point. The specimen was found approximately 1.9 km (1.2 mi) south of the James River at Jordan Point. Tobey (1985. *Virginia's Amphibians and Reptiles, A Distributional Survey*. Virginia Herpetological Society, Purcellville, VA. 114 pp.) plotted an unvouchered record from Jordan Point (Mitchell, J. C. 1994. *The Reptiles of Virginia*. Smithsonian Institution Press, Washington, DC. 352 pp.). Although there is a record of *P. rubriventris* for the City of Hopewell (Mitchell, J. C., and K. K. Reay. 1999. *Atlas of Amphibians and Reptiles in Virginia*. Special Publication Number 1, Virginia Department of Game and Inland Fisheries, Richmond, VA. 122 pp.; Mitchell, *op. cit.*), this specimen documents its occurrence within the formal boundaries of Prince George

County. The specimen was photographed and released along the edge of Billy Creek. Color photographs have been deposited in the VHS archives. I thank Dr. Joe Mitchell for help in positively identifying this specimen.

JONATHAN D. JEFFREYS

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Clemmys guttata (**Spotted Turtle**). VA: Cumberland Co., Appomattox River, ca. 1 km E (downstream) Co. Rt. 621. 30 June 2004. Stephen, Rob, and James Ritchie.

On 30 June 2004, a mostly sunny day, my dad, brother, and I were canoeing the Appomattox River between Cumberland and Powhatan counties. At about 1330 h, I noticed movement on a fallen tree leaning into the river. Upon closer approach, I observed a turtle moving with peculiar deliberation towards the Cumberland County bank of the river. It walked down the log and onto the shore, and then attempted to climb the bank. To my surprise it never tried to dive into the river, which was fairly swift and deep at this point. We paddled over and I captured it. The turtle was a male *Clemmys guttata* that looked very aged. Mitchell (1994. The Reptiles of Virginia. Smithsonian Institution Press, Washington, DC. 352 pp.) did not report the spotted turtle from Cumberland or Powhatan counties, but there is an unvouchered record for Amelia County to the southeast and several records for the eastern portion of Goochland County to the northeast. The Appomattox River is not typical habitat for spotted turtles, leaving open the possible interpretation that this specimen was either a release or escaped pet. Arguing against a release is the fact that the area was so isolated. If natural, this record would extend the western range by one county farther into the Piedmont. I believe the turtle was pursuing tadpoles which were abundant in vernal pools along the river. The turtle was released at its capture site. Digital photographs were submitted to the VHS for archiving.

STEPHEN RITCHIE

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Field Notes

***Terrapene carolina carolina* (Eastern Box Turtle).** VA: Henrico Co., Richmond National Battlefield Park, Malvern Hill unit. 3.9 km SW Glendale (37° 24' 58.88" N, 77° 15' 28.47" W). 12 June 2004. C. Todd Georgel.

Kyphosis has been reported for several species of emydid turtles such as painted turtles (*Chrysemys picta*), snapping turtles (*Chelydra serpentina*), and stinkpots (*Sternotherus odoratus*) (Necker, W. L. 1940. Hump-backed turtles. *Chicago Naturalist* 3: 62; Nixon, C. W., and H. M. Smith. 1949. The occurrence of kyphosis in turtles. *Turtlox News* 27: 1-2) but not for the eastern box turtle (Ernst, C. H. et al. 1994. *Turtles of the United States and Canada*. Smithsonian Institution Press, Washington, DC. 578 pp.; Mitchell, J. C. 1994. *The Reptiles of Virginia*. Smithsonian Institution Press, Washington, DC. 352 pp.; Dodd, C. K. 2001. *North American Box Turtles, A Natural History*. University of Oklahoma Press, Norman, OK. 231 pp.). An adult female *T. carolina* (119.3 mm carapace length, 374 g) with moderate kyphosis was found in the Malvern Hill unit of the Richmond National Battlefield Park on 12 June 2004 in mixed hardwood and pine forest near a beaver-maintained pond. The anterior right pleural region of the carapace was elevated on the dorsal portion of the first and anterior part of the second pleural scutes (Fig. 1). No other part of the shell architecture was apparently affected. Despite the mild abnormality, this female has been able to grow steadily since birth, as evidenced by the many lines of arrested growth. Of 19 eastern box turtles documented for the Malvern Hill unit of the Richmond National Battlefield Park system, only this one individual exhibited any form of kyphosis or shell anomaly. The rarity of abnormalities in *T. carolina* should inspire others to photograph, measure, and report all examples observed anywhere in its range.

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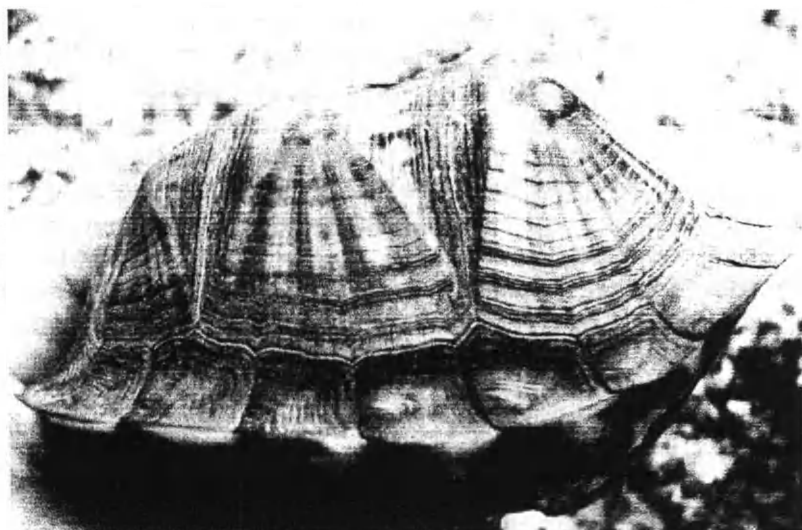


Fig. 1. Kyphotic *Terrapene carolina* female from Henrico County, Virginia. Photo by Todd Georgel.

***Terrapene carolina carolina* (Eastern Box Turtle) and *Rana palustris* (Pickerel Frog).** VA: Henrico Co., Richmond National Battlefield Park, Malvern Hill unit. 3.7 km NW Granville (37° 24' 48.60" N, 77° 15' 10.25" W). 21 May 2004. C. Todd Georgel.

An adult female *Terrapene carolina* (106.4 mm carapace length, 250 g) was observed feeding on an adult *Rana palustris* in mixed hardwoods adjacent to a stream on 21 May 2004 (Fig. 1). The weather was cloudy with an air temperature of 27° C. The turtle had apparently eaten several pieces of the frog because only one rear leg remained intact and some of the internal organs were strewn under the remaining bones and attached flesh. The muscle masses of the rear limb remaining showed little decomposition, whereas some of the flesh on several of the bones looked like they had been exposed to the weather. It thus appears that the frog had died or was killed before being found by the turtle. Eastern box turtles are known to eat fresh meat and frogs on occasion (Mitchell, J. C. 1994. *The Reptiles of Virginia*. Smithsonian Institution Press, Washington, DC. 352 pp.). Consumption of various vertebrate carrion, including amphibians (no specific species noted), has been reported by Ernst et al.

Field Notes

(1994. Turtles of the United States and Canada. Smithsonian Institution Press, Washington, DC. 578 pp.) and Dodd (2001. North American Box Turtles, A Natural History. University of Oklahoma Press, Norman, OK. 231 pp.). Consumption of the skin suggests that eastern box turtles are able to tolerate the toxins in pickerel frog skin glands. Pickerel frog skin contains toxic glandular secretions that are known to kill other species of frogs (Wright, A. H., and A. A. Wright. 1949. Handbook of Frogs and Toads of the United States and Canada. Cornell University Press, Ithaca, NY. 1,105 pp.). Such effects are known to occur when *R. palustris* is included in the same collecting container during transport (JCM, pers. obs.). In this observation, the frog's skin gland toxins would likely still have been active for some time following death. Thus, it is of interest to know whether box turtles can detoxify the chemicals in this frog or tolerate their effects like those in the poisonous mushrooms that they are known to eat (Dodd, *op. cit.*).

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Fig. 1. *Terrapene carolina* female consuming remains of an adult *Rana palustris*. Photo by Todd Georgel.

Trachemys scripta scripta (Yellow-bellied Slider). VA: Dinwiddie Co., Co. Rt. 608 (Johnson Road), 1.3 km (0.8 mi) S jct. Flank Road. 9 June 2004. Jonathan D. Jeffreys.

On 9 June 2004 at approximately 1120 h, a female yellow-bellied slider was found crossing Co. Rt. 608 (Johnson Road) and heading towards a heavily wooded area to the east. The wooded area is comprised of mixed pine and deciduous forest and lies opposite the road from a private condominium complex that contains a manmade pond. The turtle had possibly recently mated at this pond. Air temperature was approximately 35° C. Weather was dry and approximately 20% overcast. The specimen was photographed and released at the site of capture. This specimen represents the first vouchered record for *Trachemys scripta scripta* from Dinwiddie County, although Roble et al. (2003. Records of amphibians and reptiles from Fort Pickett, Virginia. *Catesbeiana* 23: 35-60) reported a sight record from Twin Lakes in the Dinwiddie County portion of the Fort Pickett Military Reservation. Color photographs have been deposited in the VHS archives.

JONATHAN D. JEFFREYS

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Hopewell, Virginia 23860

Rana palustris (Pickerel Frog). VA: King George Co., Caledon Natural Area. 14 July 2004. John M. Orr and Maria E. Orr.

On 14 July 2004 at approximately 1130 h, a pickerel frog was observed beside a small stream along the Laurel Glen Trail in Caledon Natural Area. Many anurans, including other pickerel frogs, were seen on the trails that same day, especially around the boardwalk on the Laurel Glen Trail. Air temperature and humidity were high, and a thunderstorm moved through the county that afternoon.

This is the first vouchered record of *Rana palustris* from King George County although Hill and Pierson (1986. The herpetofauna of Caledon State Park, Virginia. *Catesbeiana* 6: 11-17) reported observing this species at Jones Pond in Caledon State Park (= Caledon Natural Area). The pickerel frog was not found during a survey of the nearby Naval

Field Notes

Surface Warfare Center (Buhlmann, K. A., and J. C. Mitchell. 1997. Ecological notes on the amphibians and reptiles of the Naval Surface Warfare Center, Dahlgren Laboratory, King George County, Virginia. *Banisteria* 9: 45-50). It is also not recorded for King George County by Mitchell and Reay (1999. Atlas of Amphibians and Reptiles in Virginia. Special Publication Number 1, Virginia Department of Game and Inland Fisheries, Richmond VA. 122 pp.) or Tobey (1985. Virginia's Amphibians and Reptiles, A Distributional Survey. Virginia Herpetological Society, Purcellville, VA. 114 pp.). A digital photograph has been submitted to the VHS for archiving.

JOHN M. ORR and MARIA E. ORR

4030 N. Washington Boulevard #3
Arlington, Virginia 22201

***Gastrophryne carolinensis* (Eastern Narrow-mouthed Toad).** VA: Sussex Co., VA Rt. 35, 10678 Jerusalem Plank Road. 12 June 2003. Jonathan D. Jeffreys and Christian A. d'Orgeix.

On 12 June 2003 at approximately 2137 h, and during intermittent light rainfall, a female eastern narrow-mouthed toad was found motionless in a water puddle on a dirt access road adjacent to a newly planted peanut field and deciduous forest. Surrounding substrate was sandy soil. Air temperature was approximately 26° C and the water temperature in the puddle was approximately 25° C. This is the first documented record for this species in Sussex County (Mitchell, J.C., and K.K. Reay. 1999. Atlas of Amphibians and Reptiles in Virginia. Special Publication Number 1, Virginia Department of Game and Inland Fisheries, Richmond, VA. 122 pp.). The specimen was released at the site of capture. A color photograph has been deposited in the VHS archives.

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President's Corner

We are looking forward to a great VHS Fall Meeting on October 2nd at the newly remodeled and fantastic Virginia Living Museum in Newport News. Our Vice President Kory Steele is coordinating the Educator's Workshop, the VLM tour, and overall facilities for the meeting. Kory can be contacted at kory.steele@valivingmuseum.org. I'll be coordinating lunch, the VHS business meeting, and the afternoon presentations. Please contact me at mjc4h@vt.edu if you have suggested agenda items for the fall business meeting or other questions concerning the October 2nd events. Barring one of our weekly hurricane remnants migrating through the state, we hope to have a great turnout of VHS members and science educators.

At our fall business meetings, an annual topic for discussion and decision is the location and timing for the following Spring Meeting and Survey. We have a good offer on the table for 2005 (details at the meeting), but other proposals are welcome, both for the coming spring and beyond. If you have a grand idea for our spring gathering, please do a little homework to help the decision-making process. Selection considerations include:

1. Is the county/region in need of herp survey?
2. What are the "featured species" and when is the best seasonal time to do the survey?
3. Are accessible and desirable survey location(s) available?
4. Is there an adequate meeting and headquarters site?
5. Are lodging/camping facilities available nearby?

We had a productive spring business meeting and an interesting herp survey in Halifax County on May 21-23. Thanks go to VHS members Mike Hayslett and Jerry Craig for their work in planning, scouting, and coordinating the survey at "The Cove". Thanks also to all of those who participated in the survey and to the Ward Burton Wildlife Foundation for inviting us to their wonderful refuge. Twenty-four herp species were recorded - four salamanders (1 county record), eight anurans (2), three turtles (1), three lizards, and six snakes (1). Mike and Jerry will publish the complete findings in an upcoming issue of *Catesbeiana*. We also made fairly extensive use of GPS receivers in combination with electronic topographic mapping programs.

President's Corner

Another agenda item for the upcoming business meeting is the report from the VHS Publications Committee. Jason Gibson, our immediate past-president, is chairman. The committee has been conducting a review of several publication-related issues, with recommendations to be brought forward to the Society. Issues relating to the VHS archives (locations, storage technologies, etc.) and to vouchering standards are on the committee's agenda. Suggestions related to *Catesbeiana*, the VHS Newsletter, and to the VHS website are also under review. Contact Jason at frogman31@earthlink.net to provide your input.

I'd like to take this opportunity to thank our publications people for their outstanding and dedicated work on behalf of the Society: *Catesbeiana* editor Steve Roble, VHS webmaster John White, and VHS Newsletter editor Shelly Miller (along with her temporary substitute Susan Watson). The reason that Shelly has a substitute editor is that she gave birth to a baby girl during the VHS spring survey weekend, although fortunately in a hospital instead of at "The Cove". Congratulations Shelly and Dean!

Mike Clifford [mjc4h@vt.edu]
VHS President

REMINDERS

Membership in the VHS is on a calendar year basis (expires annually on December 31). Please consider renewing your membership for 2005 now (or at least before January 1) to save our treasurer the time and expense needed to mail you a renewal notice. See the last page of this bulletin for the membership application/renewal form. Save postage by paying your dues at the Fall Meeting if you are planning to attend this exciting event.

If you would like to start receiving the VHS Newsletter via email rather than as a printed copy, please contact Shelly Miller at shelly.miller@dgif.virginia.gov. Also, if you already receive the newsletter via email but your address has changed, please provide your new address to Shelly. Please send any appropriate materials for inclusion in the newsletter to Shelly Miller, Virginia Herpetological Society, 1700 Blakemore Road, Richmond, VA 23225, or via email to the address above. Many members were notified via email that the July 2004 newsletter was available on-line (for the first time) at the VHS website.

Minutes of VHS Meeting
May 21, 2004
**Staunton River State Park/
Ward Burton Wildlife Foundation**

Mike Clifford opened the meeting at 7:05 PM at Staunton River State Park with 24 members and guests in attendance. After everyone introduced themselves, Mike brought up the suggestion that future meetings should include some type of preregistration to determine at least how many members might be expected at any meeting. The various Reports were then requested.

Paul Sattler gave the Secretary/Treasurer's Report. The minutes of the Fall 2003 meeting were published in *Catesbeiana* 24(1). The Treasurer's Report as of April 2004 was also published in *Catesbeiana* 24(1). After payment of costs for *Catesbeiana* 24(1) and a few incidental costs for the Spring meeting such as pavilion rental and the collection permit, the checking account currently has a balance of approximately \$6,000. The treasury is in good standing.

Jason Gibson gave a brief Report for the new Publications Committee. He reported that the committee would soon visit the Virginia Museum of Natural History to determine the condition of the herpetological collection and the VHS archives. The Committee will also ask similar organizations what they do with their archives. There was considerable discussion as to where a complete set of the VHS publications could be housed. The Committee will look into whether an accessible library can be identified to commit to housing and maintaining these publications.

Steve Roble gave the *Catesbeiana* Report. In response to previous concerns over the difficulty of producing lead articles, the two major articles needed each year could be provided by the results of the VHS Spring Survey and the BioBlitz results, provided the BioBlitz continues into the future. Steve mentioned that he is in need of new artwork. He would like to produce a 25-year index for *Catesbeiana* with members of the Publications Committee. The amount of effort needed to produce the index would depend on the level of detail included in it.

Susan Watson gave the Newsletter Report for Shelly Miller, who was giving birth to a new daughter. Best wishes were passed on to Shelly's family. Susan will be doing the next newsletter, which is due out in July.

Spring Meeting Minutes

John White sent in a written Website Report because he could not attend the meeting. Mike Clifford mentioned that the Site must be generating considerable interest, judging from the number of emails he is receiving. John is working on a new section for herp identification, focusing on how to differentiate easily confused species. Kory Steele volunteered to help answer questions of herp identification. John was asking for donations for the few species for which the website still lacks pictures.

A list of species for which the website lacks a photo of the adult includes: *Pseudacris brachyphona*, *Pseudacris brimleyi*, *Pseudacris feriarum kalmi*, *Aneides aeneus*, *Desmognathus auriculatus*, *Desmognathus marmoratus*, *Desmognathus orestes*, *Desmognathus welteri*, *Gyrinophilus porphyriticus danieli*, *Necturus maculosus*, *Necturus punctatus*, *Plethodon chlorobryonis*, *Plethodon kentucki*, *Plethodon punctatus*, *Plethodon shenandoah*, *Plethodon ventralis*, *Plethodon wehrlei*, *Pseudotriton montanus diasticus*, *Pseudotriton ruber nitidus*, *Siren intermedia*, *Eumeces inexpectatus*, *Farancia abacura*, *Farancia erytrogramma*, *Regina rigida*, *Virginia valeriae pulchra*, *Dermodochelys coriacea*, *Eretmodochelys imbricata*, *Graptemys geographica*, *Lepidochelys kempi*, *Sternotherus minor peltifer*, *Trachemys scripta scripta*, and *Trachemys scripta troosti*.

John asked for permission to place additional *Catesbeiana* articles on the website. The Publications Committee was asked to make a recommendation on how soon after publication articles should be posted. There is a conflict between wanting the most recent information on the website and this being a deterrent for individuals paying dues to receive the same information. John asked the VHS to consider renewing the sponsorship of the rattlesnake exhibit at the Luray Zoo. It was moved, seconded, and approved to donate \$100 to continue this sponsorship for another two years. John also asked if nature centers could be given a free membership, perhaps for a short time period, to work on increasing VHS visibility and future membership. There was considerable discussion over how many nature centers there are, how broadly to define the term, and how much it would cost. The Education Committee was asked to review the concept, develop a list of nature centers and related facilities, and bring a recommendation to a future meeting. The Education Committee lacked a Chair. Mike Hayslett was nominated and accepted the lead role

for the committee. He will begin developing a list of nature centers and related facilities.

The office of Vice President (currently Kory Steele) was given the Chair of the Fall Meeting Committee. Kory will begin pulling together a list of presentations, and will coordinate the facilities and the teacher workshop for the Fall 2004 Meeting.

Mike Clifford said that he had come across references to a Membership Committee in past minutes, but could find no recent mention. Jerry Craig said that in all of the other organizations he was associated with, the Vice President always headed up the Membership Committee. Kory Steele agreed to accept this responsibility.

New Business:

The VHS had received a request to place an advertisement in one or more of our publications. The Executive Committee had discussed the issue of paid advertisements and was not in favor of it, but wanted it discussed by the membership. After a brief discussion, it was moved, seconded, and voted to not accept any form of advertisement in any of the VHS publications.

Mike Clifford raised the question as to who would write up the results of the Spring 2004 Survey. It was suggested that the first opportunity go to the individual(s) who coordinated each survey, in this case Mike Hayslett. and Jerry Craig. Mike and Jerry accepted the offer and will work on the draft for *Catesbeiana*.

The Fall 2004 Meeting site was the next agenda item. The Virginia Living Museum in Newport News was suggested. Kory Steele said they had good facilities and have a staff that is accustomed to giving educational presentations. Kory was asked to look into obtaining materials for the auction/raffle; it was mentioned that the SSAR would usually donate some books if the President of the VHS signed the request. It was asked whether the workshop was advertised to a wider audience than just teachers, and the answer was given that it was. Kory was also asked to look into the possibility of having a lunch provided on-site so that officers and presenters would not have to find time to leave the facility. Mike

Spring Meeting Minutes

Hayslett offered to do a snake presentation oriented towards youth. It was suggested that the sponsors/hosts begin to keep a list of responsibilities or duties that they could pass on to future hosts to save them the trouble later on.

The 2004 BioBlitz was announced for the VCU Rice Center at Lake Charles during the weekend of June 12th. There is information available on the VHS website concerning the location and details. One or more sites on the Potomac River are likely to be used for the 2005 BioBlitz.

The meeting was adjourned at 8:30 PM for a break before Jason Gibson gave a slide presentation on the herps likely to be found at the Ward Burton Wildlife Foundation at "The Cove".

Paul Sattler
VHS Secretary/Treasurer

Guidelines for VHS Field-Study Grants

The purpose of Field-study Grants from the Virginia Herpetological Society is to stimulate and encourage herpetological research in Virginia. These Grants will be in variable amounts up to \$200.00 and are available to VHS members who do not have access to other sources of funding, such as institutions of higher learning and government grants.

Grant requests should include a description of the proposed research, or in the case of surveys the extent of the geographic area to be surveyed, and the methods which are to be used. A rough budget would be helpful. A brief justification of the importance of the work in contributing to the knowledge of Virginia's herpetofauna, citing standard works (e.g., Mitchell, J. C. 1994. *The Reptiles of Virginia*. Smithsonian Institution Press, Washington, DC. 352 pp.; Mitchell, J. C. and K. K. Reay. 1999. *Atlas of Amphibians and Reptiles in Virginia*. Special Publication No. 1, Virginia Department of Game and Inland Fisheries, Richmond, VA. 122 pp.; and Tobey, F. J. 1985. *Virginia's Amphibians and Reptiles, A Distributional Survey*. Virginia Herpetological Society, Purcellville, VA. 114 pp.) should be included. The results of all funded surveys must be submitted in manuscript form for publication in *Catesbeiana*.

Grant requests will be received by the current President until **March 15** of each year. The President will then send copies to Executive Committee members by the end of March, and a Committee vote will be scheduled sometime during the annual Spring meeting. The Executive Committee will first determine that funds are available, and then that the Grant request is worthy of funding. A majority ruling is required for both votes. When a grant is approved, the Secretary/Treasurer will so inform the recipient, send a check for the amount determined by the Committee, and inform the recipient of the requirement to publish the results in *Catesbeiana*.

**Virginia Herpetological Society
Treasurer's Report
September 2004**

Previous Checking Balance April 2004	\$6,427.68
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Receipts:

May Dues	\$185.00
June Dues	\$ 80.00
July Dues	\$ 45.00
August Dues	\$ 95.00
Total Receipts	\$405.00

Disbursements:

Catesbeiana 24(1)	\$401.74
Spring Meeting Costs	\$ 47.03
Spring Meeting Collection Permit	\$ 40.00
Luray Zoo Sponsorship	\$100.00
Scanning costs for Tobey atlas	\$ 64.74
Scanning costs for Mitchell and Reay atlas	\$119.23
July 2004 Newsletter	\$ 86.30
Total Disbursements	\$859.04

Balance on Hand September 2004	\$5,973.64
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Paul Sattler
VHS Secretary/Treasurer

VIRGINIA HERPETOLOGICAL SOCIETY 2004 FALL MEETING

The VHS will hold its fall meeting on Saturday, October 2, 2004 at the Virginia Living Museum in Newport News. The meeting will include a teacher workshop, business meeting, paper session, silent auction, and photo contest. Please bring any books, posters, or other items related to herpetology that you would like to donate to the silent auction. Also bring your best herp-related photo. Presentations will include a radio telemetry study of eastern cottonmouths, reptiles and amphibians of the U.S. Army Transportation Center, DGIF's Comprehensive Wildlife Conservation Strategy, and an update concerning the Virginia Fish and Wildlife Information Service (VAFWIS).

Mike Clifford, Bonnie Keller, Amy Martin, and Mike Hayslett will conduct this year's teacher workshop. During this four-hour workshop, teachers will have the opportunity to learn what amphibians and reptiles live in Virginia, reptile and amphibian identification, captive care and handling of these animals, and obtain an introduction to the online database of the Virginia Department of Game and Inland Fisheries. Area teachers have already been contacted about this workshop. For more information about the workshop contact VHS Vice President Kory Steele at kory.steele@valivingmuseum.org.

Important: Only teachers registered for the workshop and VHS members attending the meeting will be admitted to the museum free of charge. **Other family members and all guests must pay the applicable museum admission fee** unless you have a family membership to the VHS. The admission fee is \$11.00 for adults and \$8.00 for children (ages 3-12).

Meeting Schedule

8:00 am - 12:00 noon	Educational workshop for teachers
12:00 noon	Lunch (sandwiches, etc.)
1:00 pm	Business meeting
2:00 pm	Paper Sessions
	Silent auction
	Photo contest winners
3:30 pm	Tour of Virginia Living Museum

VHS Business Meeting

Agenda items include:

- selection of the Spring Meeting/Survey location and date
- Publications Committee report, discussion, and possible decisions
- other Committee reports (*Catesbeiana*, Newsletter, website, etc.)

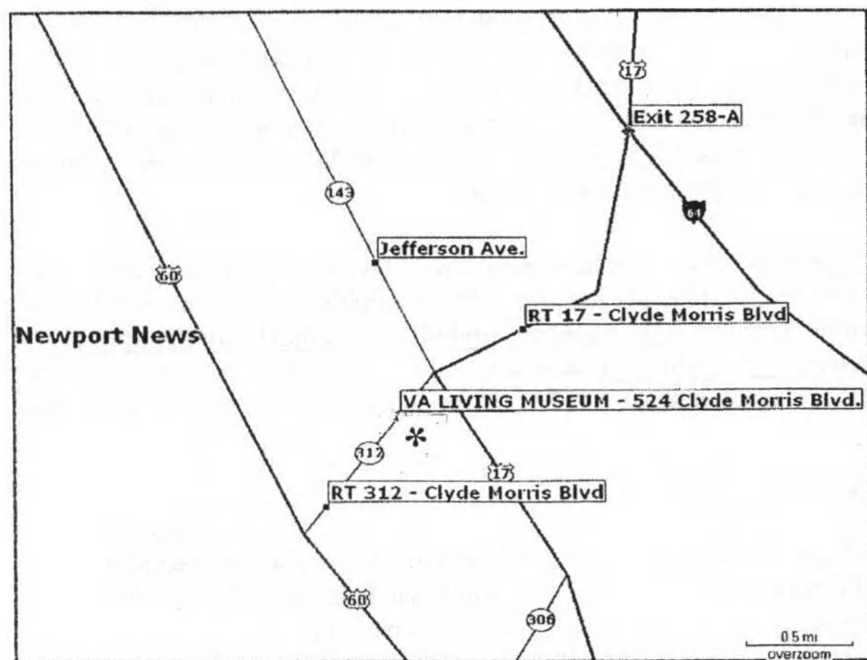
Directions to Virginia Living Museum

From Williamsburg take I-64 east to exit 258-A.

From Norfolk or Virginia Beach take I-64 west to exit 258-A.

Take Route 17/J. Clyde Morris Boulevard for about 2 miles.

Continue straight on J. Clyde Morris Blvd. crossing Jefferson Avenue (Rt. 143). Turn left at the next traffic light. Fire station is on the right.



Virginia Living Museum

524 J. Clyde Morris Blvd.
Newport News, VA 23601

(757) 595-1900

<http://www.valivingmuseum.org/>

MEMBERSHIP APPLICATION

I wish to initiate renew membership in the Virginia
Herpetological Society for the year 2004 2005 2006.

Name _____

Address _____

_____ Phone _____

email address: _____

Dues Category: Regular (\$15.00)

Family (\$20.00)

Under 18 (\$8.00)

Life (\$225.00)

Interests: Amphibians Reptiles

Distribution Research

Captive Husbandry

Specifically _____

Make checks payable to the Virginia Herpetological Society and send to:
Dr. Paul Sattler, VHS Secretary/Treasurer, Department of Biology,
Liberty University, 1971 University Blvd., Lynchburg, VA 24502

Visit the VHS web site at: <http://fwie.fw.vt.edu/VHS/>

Field Notes

The field notes section of *Catesbeiana* provides a means for publishing natural history information on Virginia's amphibians and reptiles that does not lend itself to full-length articles. Observations on geographic distribution, ecology, reproduction, phenology, behavior, and other topics are welcomed. Field Notes will usually concern a single species. The format of the reports is: scientific name (followed by common name in parentheses), state abbreviation (VA), county and location, date(s) of observation, observer(s), data, and observations. The name(s) and address(es) of the author(s) should appear one line below the report. Consult the editor if your information does not readily fit this format. **All field notes must include a brief statement explaining the significance of the record** (e.g., new county record) **or observation** (e.g., unusual or rarely observed behavior, extremely early or late seasonal record, abnormal coloration, etc.). Submissions that fail to include this information are subject to rejection. Relevant literature should be cited in the body of the text (see Field Notes in this issue for proper format). All submissions will be reviewed by the editor (and one other person if deemed necessary) and revised as needed pending consultation with the author(s).

If the field note contains information on a **new county (or state) record**, **verification is required in the form of a voucher specimen** deposited in a permanent museum (e.g., Virginia Museum of Natural History) or a **photograph** (print, slide, or digital image) **or recording** (cassette tape or digital recording of anuran calls) deposited in the archives of the Virginia Herpetological Society. Photographs and recordings should be sent to the editor for verification and archiving purposes; the identity of voucher specimens must be confirmed by a museum curator or other qualified person. Include the specimen number if it has been catalogued. Prospective authors of distribution reports should consult Mitchell and Reay (1999. *Atlas of Amphibians and Reptiles in Virginia*), Mitchell (1994. *The Reptiles of Virginia*), and Tobey (1985. *Virginia's Amphibians and Reptiles: A Distributional Survey*) [**both atlases are available on-line on the VHS website**] as well as other recent literature to determine if they may have a new county record. New distribution records from large cities that formerly constituted counties (Chesapeake, Hampton, Newport News, Suffolk, and Virginia Beach) are acceptable, but records from smaller cities located within the boundaries of an adjoining county will only be published if the species has not been recorded from that county. Species identification for observational records (e.g., behavior) should be verified by a second person whenever possible.

PHOTOGRAPHS

High contrast photographs (prints, slides, or digital images) of amphibians and reptiles will be considered for publication if they are of good quality and are relevant to an accompanying article or field note. Prints should be on glossy paper and no larger than 5 x 7 inches. Published photographs will be deposited in the archives of the Virginia Herpetological Society.