REPTILES OBSERVED ON THE SKYLINE DRIVE AND BLUE RIDGE PARKWAY, VA

by W. H. MARTIN, III*
Leesburg, VA

In 1975, while working in Shenandoah National Park, VA., I kept a record of all reptiles seen, dead or alive, on the Skyline Drive between Routes #33 and #250. During 1974, not all species were recorded. From mid-June to August 1969, I worked on the Blue Ridge Parkway, VA., between Rte.#60 and the James River Ranger Station near milepost 66, but I did not keep record of all species seen. I include these records for the sake of comparison.

Elevations on the south section of the Skyline where these observations were made are between 1900 and 2980 feet. The spur road to Loft Mountain is included in this survey and the elevation there goes up to 3,400 ft. This section of Skyline Drive goes through four counties: Rockingham, Greene, Augusta, and Albemarle. The section of the Blue Ridge Parkway observed is in the counties of Amherst, Rockbridge, and Bedford. The elevations here are from 700 to 2,500 feet.

There seem to be some correlations between the various habitats and the species of reptiles seen. From mile 76 to mile 96 the drive crosses an area of altered sedimentary rocks -- quartzites, mudstones, arkose, and shale. The resulting soil is rather poor, droughty and very acidic. The forest, predominantly chestnut-oak, has an understory of blueberry and mountain laurel. The woods are open and sunny. Scree or talus slopes are numerous.

When the Shenandoah Nat'l Park was in its earliest years (circa 1935), this area was almost entirely wooded although it had been cut over (lumbered). Human habitations were few, due to the poor soil. The timber rattlesnake seems to be the only reptile that is most common in this relatively sterile habitat.

From about mile 70 to mile 76, around Loft Mtn., and from mile 96 to the south end of the Skyline Drive at mile 105, is an area of altered fine-grained basalt called greenstone. The soil is rich and is the least acidic in the park. The forest consists of a wide variety of hardwoods with a lush understory including a great variety of weeds. These woods tend to be much damper than the preceding type. Blue berry and mountain laurel are scarce here, occuring sparingly on drier southwest slopes and exposures. Much of this area was cleared for pasture and crop land, and some of it is still grassland. Most reptiles seem to reach their greatest abundance here, probably due to the high biological potential. Copperheads are very common, especially at lower elevations. The black rat snake reaches its greatest abundance here. All but two of the hognosed snakes observed were from this area.

The eastern king snake was found near mile 75 in GREENE County at an elevation of about 2,550 ft. They seem to be more rare in the south section of the park than in the north (see VaHS B#73). None of the employees who were shown this snake could remember ever seeing one.

One of the eastern ribbon snakes was found on Loft Mtn. spur road at about 3,200 feet elev. and far from any stream.

Although apparently not occuring in the south section of the park, as a point of interest I note here that the wood turtle (Clemmys insculpta) was found by Park Ranger

VaHS BULLETIN is a newsletter appearing at least four times a year. Its pages are open for articles or comment on topics related to Virginian herpetology. The principal activity is the state survey of reptiles and amphibians. (See VaHS BULLETIN Number 80.)
ROSTER ISSUE UNDER PREPARATION

VaHS BULLETIN is sent free of cost to Virginia's university and college biology, zoology, and natural science departments. Science and biology teachers, --high school or junior high-- may receive the VaHS BULLETIN with full membership for $1 a year; please make request on a school letterhead, if possible.

Reptiles Observed in SNP,BRP: Continued

Norman Trout at Low Gap near mile 8 in WARREN Co.

Granitic rocks occur in a small area of the south section of the park from mile 65 to mile 70. The soil is very acidic but is much richer than the soils formed from the sedimentary rocks. In general, the vegetation is somewhat intermediate between the two preceding types. Mountain laurel and blueberry are often abundant but the woods are not so open and sunny as in the sedimentary areas. Outcrops generally take the form of bare smooth ledges or huge rounded boulders with few crevices and little talus or broken rock. This type occupies too small an area in the south section to draw any conclusions, but based upon my experience in the other sections of the park, I would say that the timber rattlesnakes are less common here than in the other areas.

The section of the Blue Ridge Parkway on which I worked actually leaves the Blue Ridge for several miles and skirts the eastern edge of the mountains before crossing the James River. The soils here are formed mainly from sedimentary rocks and are acidic. The chestnut-oak, scrub pines, laurel, and blueberry are the dominant species. Lusher vegetation occurs at lower elevations near the James River. The lower elevation, no doubt, accounts for the greater abundance of the corn snake and the rough green snake. Less activity on my part accounts for the lower numbers for most species in comparison with the Skyline Drive. A number of aquatic turtles were observed near Otter Creek and the James River, but no attempt was made by me to determine the species.

Naturally, this survey is biased toward the larger, slow-moving, and more diurnal (daytime) species. Many small snakes were undoubtedly overlooked and many more carried off by scavengers. The ring-necked snake is probably the commonest snake here. But its small size, nocturnal and secretive habits give it a lower place in the survey. Were it not for their almost total habit of night-time foraging, an even larger number of copperheads would have been recorded. Lizards occasionally are seen crossing the drive, but I was not able to determine the species.

(See frequency list on next page.)

(Mr.) W.H. Martin, III*
Rt. #3, Box 138-C
Elkton, VA 22827

139 Shenandoah Street
Leesburg, VA 22075

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PHOTOGRAPHS FOR CONSIDERATION

AS BIOSCIENCE COVERS

MAY BE SENT TO:

Walter G. Peter, III
Managing Editor,
BioScience Magazine
1401 Wilson Blvd.
Arlington, VA 22209

Color transparencies sought. (Give camera type, focal plane, f/stop, shutter speed, and film type.)

BioScience is the magazine of the American Institute of Biological Scientists.

REPTILES SEEN, ALIVE AND DEAD, ON THE SKYLINE DRIVE AND THE BLUE RIDGE PARKWAY, VIRGINIA		Skyline Drive 1975	Skyline Drive 1974	B.R.Pky 1969
Timber rattlesnake	Crotalus h. horridus	37	28	4
Northern copperhead	Agkistrodon contortrix mokasen	110	85	48
Black rat snake	Elaphe obsoleta obsoleta	44	28	4
Corn snake	Elaphe guttata guttata	0	1	4
Northern water snake	Natrix sipedon sipedon	2	1	--
Eastern milk snake	Lampropeltis t. triangulum	13	13	5
Eastern kingsnake	Lampropeltis getulus getulus	0	1	0
Northern ringneck snake	Diadophis punctatus edwardsi	15	--	--
Eastern worm snake	Carphophis amoenus amoenus	3	--	2
Eastern hognosed snake	Heterodon platyrhinos	7	7	0
Smooth green snake	Opheodrys vernalis vernalis	8	5	1
Rough green snake	Opheodrys aestivus	1	0	5
Eastern garter snake	Thamnophis sirtalis sirtalis	32	--	3
Eastern ribbon snake	Thamnophis sauritus sauritus	2	0	0
Northern brown snake	Storeria dekayi dekayi	0	0	1
Northern black racer	Coluber constrictor constrictor	16	6	3
Eastern box turtle	Terrapene carolina carolina	26	--	--

Note: Lizards were not included, though seen. I was not able to examine any at close range to determine the species.

WHM

(See article covering this list on pages 1-2.)

. . . . . .

SUPPORT OF VaHS PROGRAM

WHEN YOU MAKE A CONTRIBUTION in support of the VaHS program, please use the VaHS membership (application or renewal) blank. One is at the bottom of final page of each VaHS BULLETIN.

Fill out the form and mail it to the VaHS Treasurer, Mr. L.C. Baker, YORKTOWN HIGH SCHOOL, 5201 No. 28th St. ARLINGTON, VA. 22207 with your check or money order. Make it payable only to the Virginia Herpetological Society (VaHS).

PLEASE DO NOT MAIL CASH, and do send your contribution to the VaHS Treasurer. Money sent to the VaHS BULLETIN's P.O. address has to be re-sent to Arlington, VA for deposit in the VaHS bank account.

All items for use in the VaHS BULLETIN should be sent to the P.O. Box #1376, LEESBURG, VA. 22075. Items sent to the VaHS Treasurer are remailed to Leesburg at VaHS expense. Your cooperation appreciated.

VALLEY & RIDGE SALAMANDER P. hoffmani, NEW SPECIES!

The Valley and Ridge Salamander (Plethodon hoffmani) is, according to Dr. Richard Highton, "an eastern small plethodon of the cinereus group with a modal number of 21 or 22 trunk vertebrae (usually 22); a dark belly with a moderate amount of white mottling; and a chin heavily mottled with white pigment. It differs from nettingi, hubrichti, and shenandoah (see VaHS-B #80) in possessing more trunk vertebrae and a more heavily mottled belly and chin. It differs from cinereus in usually having more trunk vertebrae (sympatric populations of the two species always differ by a modal number of one to three vertebrae), in usually lacking the striped phase (when present in hoffmani the stripe is different from that of cinereus in being narrower), and in having less white mottling on the belly. It differs from richmondi in possessing more white mottling on the chin. Where the known ranges of hoffmani and richmondi are closest (in the New River Valley) the two also differ in number of trunk vertebrae; richmondi has a modal number of 21, and hoffmani, 22." (See credit at end of next column.)

COW KNOB SALAMANDER (P. punctatus) A NEW SPECIES!

The Cow Knob Salamander is "an eastern large Plethodon of the wehrlei group with a modal number of 19 trunk vertebrae and many white or yellowish-white dorsal spots. It differs from all other eastern large plethodons in possessing a higher number of trunk vertebrae (although there is overlap in the range of variation of the number of trunk vertebrae with wehrlei, the number is 18 in wehrlei, and 19 in punctatus . . .). It also differs from wehrlei in color pattern. Most wehrlei . . . have young with red dorsal spots. In wehrlei there is usually dorsal brassy flecking, although this character is geographically variable. Neither the red nor the brassy pigments have been observed on the dorsum of punctatus. The dorsal yellowish-white spots of punctatus are much larger and more abundant than those of wehrlei."

Both items on New Species were taken from:
"The Distributional History of the Biota of the Southern Appalachians" -- Part III: --Vertebrates-- edited by Holt, Patterson and Hubbard, Research Division Monograph 4, VPI & SU, Blacksburg, VA. December 1971

VaHS PHENOLOGY PROJECT, I: A PLEA

The author of a recent letter published in the VaHS BULLETIN (#78, 1976) requested assistance from the society's members in gathering seasonal observation data on the spotted salamander (Ambystoma maculatum) along with the flowering or foliage appearance of skunk cabbage (Symplocarpus). This, and a growing national interest in herpetological phenology (see Dowling, 1974, Yearbook of Herpetology), initiated a new VaHS program:

Phenology of Reptiles and Amphibians in Virginia

By definition, phenology is that branch of biology that deals with the influence of climate on the reoccurrence of animal life history phenomena. For example, annual dates of migration to breeding ponds for Ambystoma (mole salamanders), calling periods of anurans (frogs and treefrogs), appearance of new offspring, dates of spring appearance and disappearance of reptiles, times of anuran metamorphosis, etc., are all phenological events.

(VaHS Phenology Project - Continued on next page.)

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VaHS Phenology Project, I: A PLEA Continued:

These phenomena respond to environmental cues and, as widely known, these cues fluctuate annually. Knowledge of these responses gives us valuable information not only of reptilian and amphibian life histories in our geographic region but how these responses may have evolved.

The predictive power of correlated phenological events shouldn't be underestimated. That is why such things as recording what plants are flowering or producing leaves (at the time of recording data) are very important parts of phenology. For instance, if skunk cabbage flowers at the same time spotted salamanders migrate we can predict these migrations by monitoring the more easily observed skunk cabbage.

The phenology coordinator of VaHS will collect and compile phenological data received from VaHS Bulletin reader-contributors.

Why should you become involved ? First and foremost, to further knowledge of our native amphibians and reptiles; so little is known of the fluctuation of phenological events in our state. Second, keeping notes on (continued in next column) the animals you see will help you to learn more about them. The recording of observations on plant life widens your knowledge of the environment. Reptiles and amphibians are not aloof from their natural surroundings.

Methods: The method is a simple one; keep notes on reptilian and amphibian activity seen during the year. But, along with these notes record information on most other obvious events: the condition of plants, and the weather. Record your data in a personal notebook easily handled in the field. Other useful and easily obtainable items would be A Field Guide to Reptiles and Amphibians, a book of local plant identification, good maps (road and topographic) and, possibly, a thermometer.

After a period of observation, those data applicable to phenology are transferred to data sheets (provided in the VaHS-B, or obtained from the VaHS coordinator) for return to the phenology coordinator. His job will be to keep a file of these cards for each species and compile these data into a tabular or illustrated form to be discussed at meetings or in periodic reports published in the VaHS BULLETIN.

In accord with the advancement of scientific knowledge these data will be available to national researchers with credit to VaHS contributions.

High School Biology, or Camp Nature Project Idea

High school biology teachers or camp nature counselors may find this phenology project to be of value. Individuals or small groups of members may find pursuit of these data to be rewarding. In either case, the program does not end with gathering and recording the data. It is of utmost importance to pass on the data to the coordinator.

I urge you to participate in what I believe to be a valuable scientific and educational project. Your comments are welcomed.

(Mr.) Joseph C. Mitchell*
Grad Program in Ecology,
University of Tennessee,
408 Tenth Street
Knoxville, TN 37916

Joseph C. Mitchell* is the VaHS Phenology Program Coordinator. He is a longtime VaHS member with his home in Richmond, VA. FJT

See sample form on next page; blank forms with this, and next VaHS-Bs.

ENDANGERED AND THREATENED AMPHIBIANS & REPTILES OF THE U.S. -- A booklet is available by writing to:

Dr. Henri Seibert (BIOL)
OHIO UNIVERSITY
ATHENS, OHIO 45701

The price of the booklet is $3.00 a copy. This is a 1976 publication of the Society for Study of Amphibians and Reptiles..

SAMPLE DATA SHEET AND
(Simulated) DATA ENTRY

VaHS PHENOLOGY DATA SHEET FOR RECORDING PHENOLOGICAL DATA OR EVENTS (VA)

SPECIES OBSERVED: Fowler's Toad (Bufo w. fowleri) DATE: 1 June 1976

ACTIVITY: calling in roadside ditch TIME: 2100 EDT

LOCALITY: 1 mile N. Richmond (City of) COUNTY: HENRICO, VA
(airline distance to nearest town)

LATITUDE: (optional) LONGITUDE: (optional) ELEV.: 100 ft.

TEMPERATURES: AIR: 78°F WATER: 65°F RAINFALL(daily) 0 cm.

PLANTS & FOLIAGE: Lizard's Tail (Saururus cernuus)flowering
Phlox (Phlox carolina) flowering

ASSOCIATED ANIMALS & ACTIVITY: Gray Treefrog (Hyla versicolor) calling
Barn Owl foraging

NAME(S) OF OBSERVER(S): John S. Doe, Jane T. Doe

ADDRESS: 1111 Commonwealth Street P.O. Richmond, VA
ZIP 23299

INSTITUTIONAL AFFILIATION: VIRGINIA COMMONWEALTH UNIV. (COUNTY) HENRICO

DATE FILED WITH VaHS COORDINATOR (PHENOLOGY PROGRAM): Rec'd: 18 August 1976/JCM

COMMENTS:

- 6 -

"I have been a VaHS member for 10 to 12 years and really enjoy the VaHS BULLETIN. My interest is southeastern U.S. hylids. You may remember the slide program I gave at the fall 1966 VaHS meeting near Richmond, VA. I have taken the Pine Barrens Treefrog (Hyla andersoni) in 16 North Carolina counties and at 3 South Carolina locations. (HERPETOLOGICA 21:2, pp. 154-155, June 25, 1965.) I enjoyed the H. crucifer article in VaHS-B #79.

I hope to explore southeastern Virginia for any likely H. andersoni locations and would welcome any suggestions or assistance. I believe Hyla andersoni may exist in Virginia. To demonstrate this sincere belief, I'm willing to devote my time and expenses."

Best regards to all,

(Dr.) A. J. Bullard,Jr.*
103 Smith Chapel Rd
Mount Olive, N.Car.
28365

Editor's Note: Dr. A. J. Bullard* is a serious student of Virginia and Carolina herpetology. He has worked closely with William M. Palmer,* N.C. State Museum, Raleigh. Dr. Bullard has adopted a species which a few have said "is not found in VA." Your comments solicited.

LETTERS, IDEAS, COMMENTS:

" On April 28, 1974, an adult female eastern hognosed snake (Heterodon p. platyrhinos) measuring 42.5 inches (total length) was observed along Bailey Creek, Hopewell, VA. The sandy area where the animal was encountered was adjacent to a moderately populated area, only a short distance from a well-traveled road. Unhealed lacerations were noted along the ventral surface, while the dorsum was scarred with old and recent wounds. The relatively thin snake 'performed' as only members of the genus Heterodon are able to do. Unidentified parasites were found throughout the inner surfaces of the snake's mouth. It appeared that the reptile was blind in one eye. The dorsal surface was black with small brown blotches found on the posterior two-thirds of its body, while the ventral surface was gray. Apparently the snake was a very old individual and I suspect its length is somewhere near the maximum for the species."

(Dr. Conant says maximum length is 45.5 in. (115.6 cm.) Others have reported 45-inch, plus, specimens from scattered VA areas.)

(Mr.) Ronald Pace*
1324 East Hayden
Pocatello, Idaho
83201

(See top of third column.)

*(VaHS member)

Editor's Note: Ron Pace* holds a Master of Science degree in Zoology. He is occasionally in the Fort Lee (Petersburg) area on two-week tours as an Army Reservist. He has been working in the field of limnology but has a great interest in herpetology.

VaHS "ADOPT A SPECIES!" PROGRAM OFFERS A FREE MAP

VaHS members with access to transportation, some leisure, and a genuine interest in Virginian herpetology, should adopt a species of amphibian or reptile with the goal of finding out as much about its habits, range, variation, ecology, etc., as possible. Dr. Bullard* (see first column) has accepted just such a task!

In an effort to encourage "Adopt A Species," VaHS is setting aside a set of the mini-maps of VA. One map, for the species of your choice, will be sent to the first applicants making a pledge to follow up on an individual form. (In applying, list three preferences. See VaHS-B #80 for ideas.) The idea was first pushed by Dr. A. J. Barton* of Arlington, who adopted the Bog Turtle. Ken Nemuras* of Pasadena, MD., has added to knowledge of its range in Virginia and Carolina. (See application blank at bottom of this page.)

. . . . . .

VaHS "Adopt A Species" Program

TO: VaHS BULLETIN
P.O. Box #1376
LEESBURG, VA 22075

DATE: _____19

Please send me a copy of one of the VaHSurvey mini-maps for one of the following:

(1st)
(2nd)
(3rd)

The undersigned pledges to keep VaHS BULLETIN informed of any new developments arising from this investigation.

(NAME) _____
(P.O.)
(ZIP)

ORGANIZATION PAGE

NATIONAL HERPETOLOGICAL SOCIETIES (SSAR, HL) TO MEET IN LAWRENCE, KANSAS

The 20th annual meeting of the Society for Study of Amphibians and Reptiles (SSAR) will be held jointly with the Herpetologists' League (HL) and with the cooperation of the Kansas Herpetological Society (KHS) 8-13 August 1977 in Lawrence, Kansas, at The University of Kansas. The meeting will feature a symposium on South American reptiles and amphibians, as well as contributed papers, photographic and art displays, and live exhibits. VaHS members, whether members of either of the two national societies or not, are welcome to attend. The afternoon of 8 August has been set aside for items of interest to regional or state herpetological societies. It will be chaired by Drs. James B. Murphy, SSAR Liaison Committee, and Kraig Adler*, editor of SSAR Facsimile Reprints in Herpetology.

VaHS members planning to attend the Univ.of Kansas meeting please notify the VaHS Secretary by post card or in the course of normal correspondence.

Please address mail to:

Editor, VaHS BULLETIN
P.O. Box # 1376
LEESBURG, VA 22075

NEXT MEETING OF THE EASTERN SEABOARD HERPETOLOGICAL LEAGUE MARCH 5th

The next meeting of the Eastern Seaboard Herpetological League (ESHL) will be in the Baltimore, Maryland area. The date is March 5, 1977. Please mark your calendar now. Details in early 1977!

The meeting place is at the Essex Community College Administration Bldg. lecture hall. The program will run from 12:00 noon to 6:00 p.m. with 12: to 12:30 for registration. The Maryland Herpetological Society will host the March 5th meeting. Motels and restaurants are in the area close to the ECC.

Directions: The Essex Community College is near the junction of Rte. I-95 and the Baltimore Beltway but, best access to the college is from Exit 32 on the Beltway. Take Belair Rd. to Ridge Rd. using Ridge Road and Spring Avenue to Rossville Blvd. (going under I-95) to the college campus.

Questions: Mr. Herbert S. Harris, Jr., MdHS 2643 N Charles St. Baltimore, MD

Dr. Lester E. Harris* and Mr. Robert J. Gagnon* are the VaHS representatives to the Eastern Seaboard Herpetological League.

VaHS BULLETIN: A mailing consists of 200 to 300 Va HS BULLETINS. The first mailing is sent to VaHS members and "exchange"-members in other states. The second mailing goes to prospective members and teachers in Va. High Schools or, in summer, to camp & park naturalists. Requests for sample VaHS BULLETINS are filled as soon as possible, normally in the second mailing.

Membership cards are put in the mail all at one time, yearly, so that the uniformity of size and weight requirement under Postal Service regulation will not be violated.

MEMBERSHIP CARDS (VaHS)

Your updated membership card will be enclosed in the next VaHS BULLETIN.!!

Those not receiving a new card with VaHS-B#82 may write to the Secretary if an error has been made or to the Treasurer if support has not been given to VaHS in the past two years or more: $2 will get most off the hook; if out-of-state, $3 will be in order to accomplish it.

(Mr.) Louis C. Baker*
VaHS Treasurer
5201 No. 28th Street
Arlington, VA 22207

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*CLIFFORD, Mr.Mike
P.O. Box #[redacted] 311
AMELIA C.H.,VA.23002

VaHS PHENOLOGY DATA SHEET

FOR RECORDING PHENOLOGICAL DATA or EVENTS (VaHS-B#81)

SPECIES OBSERVED: _____ DATE: _____

ACTIVITY: _____ TIME: _____

LOCALITY: _____ VA.COUNTY _____
(airline distance to nearest town)

LATITUDE: _____ LONGITUDE: _____ ELEV.: _____

TEMPERATURES: AIR: _____ WATER: _____ RAINFALL (daily) _____

PLANTS & FOLIAGE _____

_____

ASSOCIATED ANIMALS & ACTIVITY: _____

_____

NAME(S) of OBSERVER(S): _____

ADDRESS: _____ P.O.: _____

_____ ZIP: _____

INSTITUTIONAL AFFILIATION: _____ (COUNTY) _____

DATE FILED WITH VaHS COORDINATOR (PHENOLOGY PROGRAM): ___/___/ 19__

COMMENTS:

REFERENCE: See VaHS BULLETIN No. 81 pp. 4-6 (November-December 1976).

Phenology Coordinator: Joseph C. Mitchell, current address (see VaHS BULLETIN).

. . . . . (detach) . . . .

APPLICATION FOR MEMBERSHIP IN VaHS, or RENEWAL OF MEMBERSHIP . FOR YOUR RECORDS:

(name) INTRODUCTORY ( ) . Contributed $____
(address) ( ) RENEWAL . to VaHS programs
(p.o.) PLEASE GIVE YOUR NEAREST COUNTY . on check or money
(County) IF YOU LIVE IN A "FREE CITY" . order no._____
VIRGINIA- _____ ZIP CODE: . dated:
_____ . ___/___/ 19__

(title) Dr. Mrs. Mr. Ms. VaHS Sec'y/Treas. notes: .
(occupation) Rec'd $___. .
Card sent with VaHS-B#___ .

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(age) under 18 over with contribution to .
(strike one) VaHS Treasurer. .