VIRGINIA HERPETOLOGICAL SOCIETY

BULLETIN No. 74 April-May 1974

TIGER SALAMANDER FOUND IN YORK COUNTY, VIRGINIA

By: Peter B. Tirrell
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Newport News, VA.

A new specimen in the collection of the Peninsula Nature and Science Center at Newport News, VA, will be of interest to VaHS members. A 6" eastern tiger salamander (Ambystoma t. tigrinum) was collected in YORK County, VA., on 13 October 1973. The specimen was one of two which were dug up in a garden. The collector said the salamander which escaped was much larger. The specimen was collected in a garden; found when a tomato plant was pulled up. The escapee was seen earlier in the year in the same garden. Parents of VaHS members may be able to get their gardens turned over after harvest -- on a voluntary basis. The site is suburban, with some woods and an intermittent fresh water stream about ½ mile away. A farm and some fields are nearby.
The tiger salamander died shortly after and is preserved, labeled, and part of the preserved collection at the Nature and Science Center. (It was identified by Mr. Peter B. Tirrell, education director at the center.) Confirmation of the identification has been made from photographs of the specimen sent to Dr. John B. Funderburg, Randolph-

VaHS members will be able to calculate the importance of this find by reviewing the article on the "mole salamanders" in VaHS BULLETIN No. 66.

In recent months, we have made an effort to upgrade the collection material and records. ... Review of VaHS BULLETINS #37-38, 57-58, and 67-68, as well as Conant's (1958) "FIELD GUIDE TO REPTILES AND AMPHIBIANS" indicated that some judicious collecting in the Peninsula would help to establish the distribution of Virginia's herpetofauna. A goal of our program is a collection of the Peninsula's reptiles and amphibians. VaHS BULLETINS have been most helpful in checking specimens in our collection. ... The center owes much of its herpetological collection to the efforts of a VaHS member, Lt. Glen A. Engeling, USN (see VaHS BULLETIN No.62). Although the center does not have an in-the-field collecting program, many specimens have been collected by way of donations. Most were re-

Reptiles and Amphibians are involved in much of our educational program at the center, especially in the public schools classes. However, we are now completing an exhibit devoted solely to local snakes and their natural history. The exhibit makes use of live snakes, a mini-theatre, a fact versus fallacy game, drawings and photographs. Subject matter includes the identification of some species, unique adaptations, moving, shedding, eating, anatomy, and the importance of snakes to man. Our hope is for a better co-existence of snake and man. . . .

The key staff of the center is alert to species records and specimens necessary to complete a collection representative of the lower Peninsula.

The Peninsula Nature and Science Center is near the approach to the James River Bridge (Rt.#17) in Newport News, VA., It is in the vicinity of The Mariners Museum.

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* VaHS member

VaHS MET IN NORFOLK, VA., at OLD DOMINION UNIVERSITY

VaHS met on April 20,1974 in the Science Building of Old Dominion University - Norfolk, VA. Thanks were expressed to Dr. D. Delzell, and the University for the hospitality.

Dr. Delzell, our host, is an ornithologist and a natural historian. He is interested in the distribution and behavior of amphibians of the coastal region from Maine to Key West. He took time away from students already out in the field to greet the VaHS members and guests and described the program at Old Dominion University's biology department.

Work at ODU is oriented toward the natural history of the Great Dismal Swamp an area which is in part a National Wildlife Refuge under the control of the Department of the Interior. Entry into the refuge is now limited to people making serious studies. A program of study must be accepted by the Refuge Manager, D/I, in order to gain access.

Delzell said he was interested in the physiology of sperm and egg mortality. Some of the work has involved hylids in the Great Dismal Swamp.

Others on the program are represented in the form of articles in this VaHS BULLETIN. (See Mitchell piece on corn snake distribution and Hollowell item on yellow-bellied turtles in southeastern Virginia.)

MASSACHUSETTS DELEGATION

We were privileged to have as guests of VaHS a delegation from the Massachusetts Herpetological Society: Mr. David Taylor, editor of the MaHS REVIEW and Mrs. Betsy Taylor who is Treasurer of the Massachusetts Herp Society, plus about seven students. Mr. Peter B. Tirrell, education director of the Peninsula Nature & Science Center, and Mr. James R. Martin of the Ocean View Park Serpentarium gave resumés on their respective institutions. It was great to meet Mr. Tirrell who has been in the area two years, and to see Jim Martin once again.

Another VaHS veteran, Mr. Gary Williamson of Chesapeake, Va., introduced Dr. and Mrs. Sterling Williamson of Chesapeake.

A short review of some Virginia specimen finds (slides) was presented at the end of the program by Franklin J. Tobey,Jr. who gave credit to collectors involved. Among attendees not already named were:

John Payne, Newport News; Tom Wild, Newport News; Jerry Clifford,Portsmouth; Michael Clifford, Amelia; Beaver Cullen, Chesapeake; Michael Miller, Richmond; Mrs. Ginny Mitchell, Richmond; Greg C. Greer, Virginia Beach.

Guests from Massachusetts included: Mr. David Taylor, Mrs. Betsy Taylor, and son Rick Taylor; Pete Barbaro, Debbie Doak, Jennifer Trussel, Kevin Batchelder, Mike Stanton, and George Green. These guests represented the communities of Byfield, Rowley, Salisbury, and Newbury, Massachusetts.

Among the several people notably missing was our old friend Roger Rageot who is in Santiago,Chile.

We have promised our host a list of the herpetofauna of the Dismal Swamp with the names of the collections in which the recorded specimens are located, for ODU studies.

DISTRIBUTION OF THE CORN SNAKE IN VIRGINIA

by Joseph C. Mitchell*
RICHMOND, VIRGINIA

The corn snake (Elaphe g. guttata) has long been thought to be limited to the highlands of Virginia.

This concept of the distribution of the corn snake was based on the literature of Dr. E. R. Dunn (1915 and 1918) for ALLEGHANY, MADISON, NELSON and ROANOKE counties and specimens in the U.S. National Museum of Natural History (USNM) collection. The only other known localities were in WESTMORELAND Co., (Reed, 1957), GLOUCESTER Co. (Wood, and later Musick), and CAROLINE County, VA., (Brittle 1969, 1970) all in the Coastal Plain. This was the basis for Norden's (1971) statement that there appears to be two disjunct populations of the corn snake in both Maryland and Virginia.

New evidence has recently been brought to my attention and it is my purpose here to summarize all the available material in an up-to-date review of the distribution of this species in Virginia.

The central Piedmont region was unrepresented until Mitchell (1973) reported specimens from HANOVER and POWHATAN counties. I have also recorded one from CHESTERFIELD Co. (VaHS slide collection) and have just recently discovered a specimen from the City of Richmond (V.C.U. 164). Clifford* (1973) reported Elaphe g. guttata from AMELIA County and, since, has added a specimen to the Agriculture Extension Office collection there.

A corn snake (Elaphe g. guttata) was collected by Mr. Stanley Alford as a DOR$^{\Phi}$ southwest of Scottsville, BUCKINGHAM County, VA on 30 September 1973. Though badly mangled, the specimen is preserved in the US National Museum of Natural History collection (USNM #196,498) in Washington, D.C., through Mr. Wm. M. Palmer, Curator of Vertebrate Zoology at N.C. State Museum of Natural History, Raleigh.

Specimens have been reported from the York-James Peninsula (Rageot, unpublished manuscript) however, there are no specimens on record. No specimens are known from the Eastern Shore counties although it is recorded from Somerset Co., Md. (Reed 1957) just N of ACCOMACK Co., VA.

$^{\Phi}$ DOR = Dead on the road.

+ = New county records
* = Member, VaHS

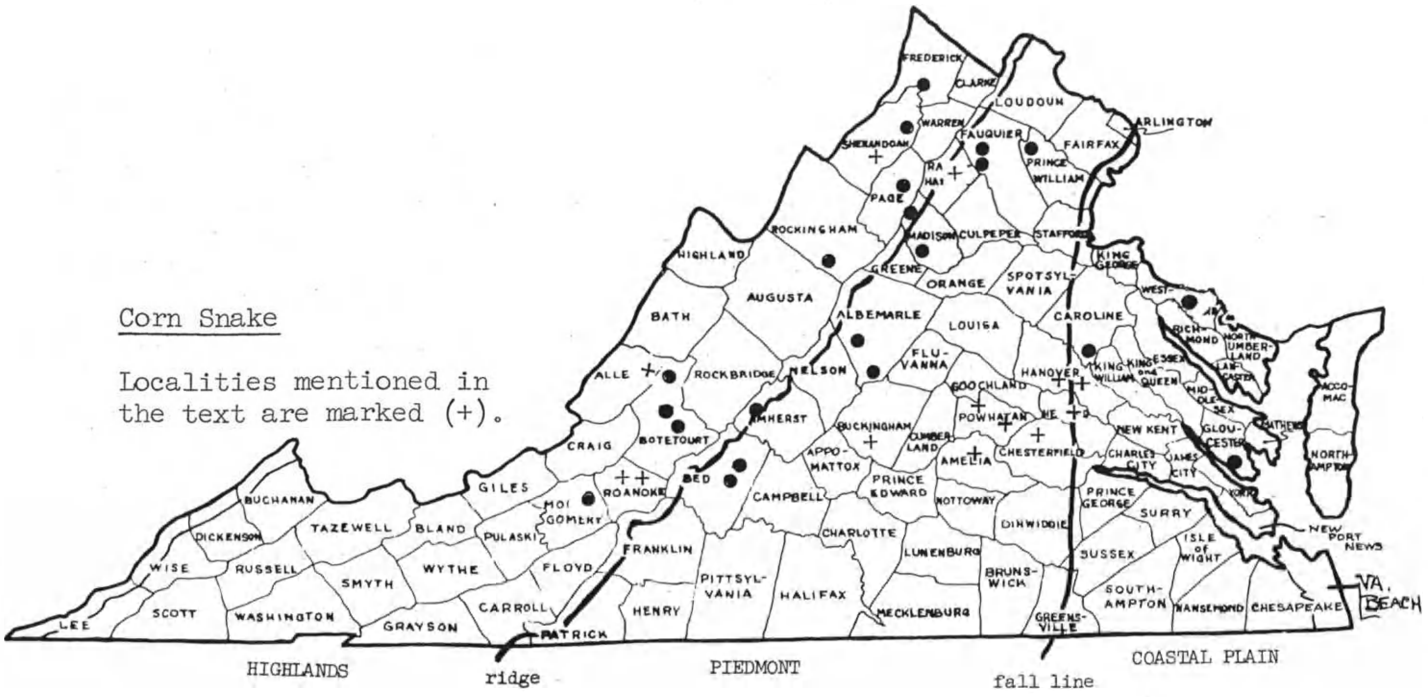
I found several specimens in the U.S. National Museum of Natural History that were not previously recorded. These are:

(1) ALLEGHANY Co. VA
Clifton Forge
(1910) USNM-55,416
(2) +RAPPAHANNOCK Co. VA
1.mi. E. Massies Cor.
(1962) USNM-148,457
(3) ROANOKE Co. VA
Catawba
(1953) USNM-159,522
(4) +ROANOKE Co. VA
no locality given
(18__)? USNM-2,193
(5) SHENANDOAH Co. VA
Old Rag View
(1947) USNM-124,730

DISCUSSION:

On the basis of the new evidence the distribution of the corn snake in Virginia appears to be statewide even though there are no records for the counties along the southern (North Carolina) border. Conant (1958), indicates that this species is present in all of North Carolina except the area north of Albemarle Sound. This indicates that the southern counties are also included in this species' range.

(Bibliography on page 5)



The burrowing habit of the corn snake is probably the main factor that has hindered complete knowledge of its distribution. Many of the known county records are based on specimens killed on the road. Far fewer have been found while actually collecting. Finding a corn snake is largely a matter of being in the right place at the right time (more so than most other species). It is plausible, then, that the collecting that has been done has just not been in the right place at the right time. The known habitat preferences of this species (Conant, 1958 and Wright & Wright, 1957) suggest nothing special that would explain its absence from the S.E. counties where collecting has been extensive over the past decade. Again, the burrowing habit is probably the answer. On the basis of the above, I propose that Elaphe g. guttata be considered a statewide species.

Acknowledgements: I would like to thank Dr. George R. Zug, USNM, for allowing me to examine specimens in that collection, and F.J. Tobey, Jr., for providing information from the VaHS files. This paper is part of a study funded by a grant-in-aid-of-research from the Society of the Sigma Xi.

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COLLECTING NOTES:

THE CORN SNAKE IN PRINCE WILLIAM COUNTY, VA.

by Scott Rae*, Vienna, Va.

On 3 June 1973 some friends and I had the good fortune of finding a corn snake (Elaphe g. guttata) which later laid eggs in captivity. The capture site was near a rocky outcrop close to the top of small mountain (elev. 800 ft.) in western PRINCE WILLIAM County, Virginia. The surrounding vegetation included chestnut oak, low-bush blueberries, mountain laurel, Virginia pine and pitch pine. Perhaps the pines are noteworthy because their presence indicates a poor growing site and a more open sunny area in an otherwise broad-leaved forest. In any case, three other snakes --Timber Rattlers, (Crotalus h. horridus) -- were found nearby.

The temperature at 10:30 a.m. EDT was in the 70's. The corn snake was lying motionless and outstretched amidst some blueberry bushes. It was an unusually docile individual showing no sign of alarm and making no attempt to escape even after being picked up.

A couple of days after capture it was offered a gerbil which it did not eat. About 3 weeks later it shed its skin and then took an adult pre-killed mouse. A few days later, it refused an adult mouse but took a pink one.

On 5 July, near noontime, the corn snake began laying eggs. As a temporary measure, my wife placed them in a bowl with some damp paper towels. The procedure used for hatching was essentially that recommended by Stebbins[1]. A gallon jar and a glass turtle bowl were filled with 2 to 3 inches of moist sand which was then covered with a half-inch layer of fresh peat moss to provide an acid medium which would, hopefully, inhibit the growth of micro-organisms. A small depression was made for each egg and care was taken to leave space between the eggs so that in the event of spoilage one egg would be less likely to contaminate the rest. The lid on the jar was left loose and a glass-plate was used to cover the bowl. The containers were placed in a warm location on some cupboards where they received indirect sunlight. (Stebbins believes that light may tend to inhibit the growth of mold.) A thermometer was taped to the

COLLECTING NOTES, cont'd:

Prince William County, Va.

outside of the jar. Most of the time, it read between 80 and 85°(F) although on one cool morning it read 73° and some afternoons almost 90°. With this much change in temperature, droplets of water condensed and evaporated so that they were an unreliable indicator of moisture in the hatching medium. Also some of the peat moss appeared light-colored and dry. However, the sand was clearly moist and additional water was added only once. The container was opened and checked daily. Mold was my chief concern here but the airing probably helped, too.

I made no measurements of the eggs, but it seemed as though the majority of the increase in size occured during the first two or three weeks when they changed from their original capsule shape to one resembling a short, slightly flattened hen's egg. Perhaps it would be wise, at this point, to mention that if reptile eggs are moved, it is important to keep the same vertical orientation. A mark made on top of the eggs with a felt-tip pen will help. The containers themselves were moved and opened almost daily to check the condition of the eggs.

Slits appeared in 8 eggs on 5 September. By 10:00 p.m. on the 6th, fourteen had opened and four hatchlings had left their eggs. It was not until the evening of the 8th that all 15 had emerged. An attempt was made to measure them at this time. Not wishing to stretch them out manually, I decided to take advantage of the fact that snakes will often straighten if placed in a V-shaped trough. Four co-operated to the point of straightening and holding still while a ruler was placed alongside. Two measured 11¼" and two 11". The rest seemed to be about the same length although some appeared considerably heavier than others. A deeper trough arrangement with graduations and set-up for photographing might have resulted in accurate records of all of them.

Except for the head markings (characteristic corn snake spearpoint and post-ocular stripe extending through the mouth line) they resembled young black rat snakes (Elaphe o. obsoleta). The ground color was a medium gray while the blotches were a dark chocolate, almost black. The mother was a dark individual (as corn snakes in northern Va. are apt to be.) She was approximately 45 inches, or 1.1 meter in length. The hatchlings shed their skins over the 12th and 13th of September and some lightening of the blotches was noticeable.

Dr. Slemmer gave a good account of his method of incubating corn snake eggs at the October 1973 ESHL meeting (Philadelphia). His females lay eggs in burrows that they form in a mixture of peatmoss and vermiculite. The roof of the burrow doesn't cave in because a glass plate has been placed a couple of inches below the surface. This keeps the female from laying her eggs in a water dish and permits easy observation. The clutches are removed to containers of damp vermiculite for hatching.

(Mr.) Scott Rae
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Reference/footnote:

1/ A Field Guide to the Western Reptiles and Amphibians (1966) by Robert C. Stebbins, Houghton Mifflin Co. Boston, MA pp. 16-17

LETTERS, IDEAS, COMMENTS:

"... A few years ago, I turtle hunted around the lakes in my area usually several times a week. There were several species to be caught. Of these the common snapping turtle (Chelydra s. serpentina), the eastern painted turtle (Chrysemys p. picta) and the yellow-bellied turtle (Chrysemys scripta scripta) were the most common. I was then surprised to read in the VaHS BULLETIN a few months ago that the yellow-bellied turtle didn't seem to be known around the Portsmouth area. We used to catch dozens of turtles every summer, mostly juveniles, and the yellow-bellied turtles were anything but rare.

Two and three years ago, I had an aquarium with different species from the area in it. One was caught in the west Norfolk area of Portsmouth. When he grew too big for the aquarium I let him go and caught another in a lake down the street from my house in the Churchland area. When looking for turtles for my aquarium, I found a lake in what was then NANSEMOND, now Suffolk, which was 10 or 11 miles down the road. I hunted there and in a couple of other ponds in NANSEMOND and never saw a yellow-bellied turtle! I never really thought about it until I read the BULLETIN. Turtles aren't as common around here as they used to be. This due, in part, to so many being caught by children who don't care for them properly. They hate to part with them, keep them over the winter and without proper care they die. Some fall victim to guns. I will check again this summer. There is one spot, a little inlet from a large lake where, believe it or not, I used to dip up 2 or 3 in a net sometimes; they were so common in this one spot. In this particular spot I sometimes caught the red-bellied turtle (Chrysemys r. rubriventris).

It is an interesting fact that the lakes which provide a habitat for these yellow-bellied turtles are all man-made. One should leave open the possibility that someone introduced them into the area from further south.

(Mr.) D. R. Hollowell
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STUDENTS (junior high) interested in fossil hunting will find this book worthwhile. It is written by a person who has been affiliated with the American Museum of Natural History's NATURAL HISTORY & JUNIOR NATURAL HISTORY magazines. It introduces concepts of geologic time, changing climate, and diversity of life forms. Fossil hunting can be a good partner to an interest in reptile and amphibian watching.

To Find a Dinosaur, by Dorothy E. Shuttlesworth, 128 pp. $4.95 Doubleday & Co., N.Y.C. 10017 (1973)

The Society for the Study of Amphibians and Reptiles (SSAR) has decided to continue the listing of HERPETOLOGICAL TITLES formerly published by the Herpetological Information Search Systems (HISS).

(Dr.) Kraig Adler (SSAR)
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VaHS is co-operating with Dr. Adler in this project by seeing to it that he receives copies of the VaHS BULLETIN promptly following issuance.)FJT(

SSAR, we understand, will also continue publication of:

THE CATALOGUE OF AMERICAN AMPHIBIANS AND REPTILES

started a few years ago by the American Society of Ichthyologists and Herpetologists (ASIH). In our view, this is one of the more laudable programs.

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The National Environmental Policy Act of 1970 requires each Federal agency to prepare an environmental impact statement in advance of each major action that may significantly affect environmental quality. Examples are: construction of dams, highways, bridges, federal buildings, nuclear powerplants, and municipal wastewater treatment facilities. The act also established the Council on Environmental Quality which has responsibility for seeing that all Federal activities take environmental considerations into account. What is required is an objective identification of the possible adverse and beneficial effects of an action upon the environment. A final judgment has to be made of the action after considering all environmental factors.

Environmental Impact Statements are prepared in order to meet the requirements of the law. These are formal statements which describe the impact of a given action. As early as possible, an agency must prepare a draft statement and submit it for comment by Federal, state, and local agencies, as well as to the public. After comment, the statement is prepared in final form, incorporating all comments and objections.

Both the draft and final statements are then filed with the Council on Environmental Quality and made available to the public upon request.

Letters, Comments, cont'd:

Early in March 1974, a group based in Vienna, VA -- EcolSciences, Inc. --- which is in the business of preparing Environmental Impact Assessments, wrote the VaHS Treasurer --Dr. P. H. Knipling, as follows:

"EcolSciences was recently given some excellent species lists of amphibians and reptiles for specific locations in Va. by Mr. Franklin J. Tobey. These lists were extremely valuable to us in the preparation of two environmental assessments. We wish to express our gratitude to the Society and to contribute $25 to its treasury."

/s/ Piet deWitt (PhD)
Project Manager
Ecol/Sciences, Inc.
VIENNA, Virginia

VaHS Treasurer, Dr. Phoebe H. Knipling noted that this swells the VaHS fund to nearly $200. With renewed membership support we hope we can soon reach or exceed the $400 mark.

" . . . It was especially gratifying to know that the VaHS is actively pushing photographic records as an alternative to collecting (preserved specimens). It had worried me that so many were encouraged by teachers - in furthering a Science Fair project, perhaps, to collect plants, insects, or even vertebrates.

Encouragement of budding scientists is fine, but, not to the point of threatening the very existence of the species.

We need more nature photographers and artists, and sound recorders -- people who can be eyes and ears for thousands who must know nature vicariously. ..."

(Mr.)Lawrence G. Gibson*
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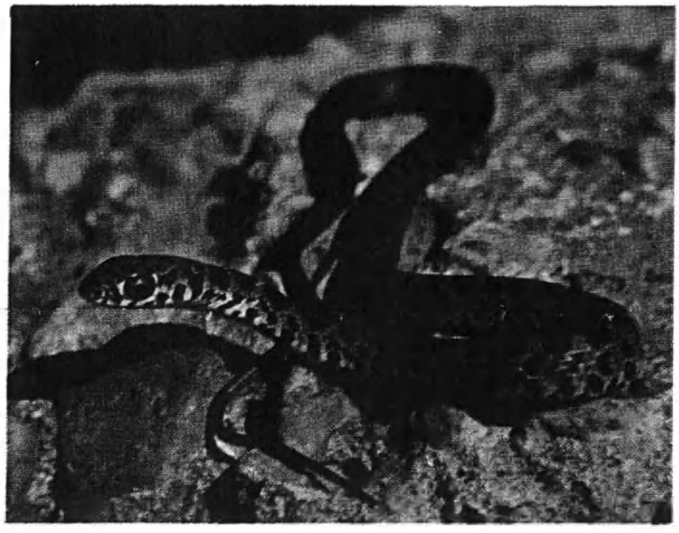
An article, text and pictures, on the bog turtle, (Clemmys muhlenbergi) is tentatively scheduled for VIRGINIA WILDLIFE magazine.

Part Two of "Snakes of Virginia" has appeared in the April 1974 issue of VIRGINIA WILDLIFE.

(FINAL TEXT PAGE of VaHS B #74 mailed in early June 1974)

THE SNAKES OF VIRGINIA

By JOSEPH C. MITCHELL
Undergraduate, Department of Biology
Virginia Commonwealth University
Richmond



Some young snakes, like this baby black racer, look little like their parents until they get older.

THERE is no group of animals more maligned than the snakes. Countless numbers are killed in Virginia each year because they are considered "poisonous" when, in fact, most are actually harmless. Many are beneficial to man in one way or another. Several species are important because their diet consists mainly of rodents. Ask any farmer who has a blacksnake or two around his barn. He'll tell you that if it wasn't for the snakes, his barn would be overrun with rats. But there are many other species besides the blacksnake which are beneficial—*and harmless.* Too many of the latter kind are killed simply because they *look like* poisonous snakes.

Snakes are important links in the natural environment just as fish or deer. They, too, deserve to be recognized as such by man.

My purpose here is to discuss the identification of snakes, especially how to tell which ones are poisonous and which ones are not. Part I consists of the poisonous snakes and those that may be confused with them; Part II will contain the remainder of the species found in Virginia. Many other aspects of the habits and behavior of snakes are omitted for various reasons. I suggest that the reader check the references for more specific information.

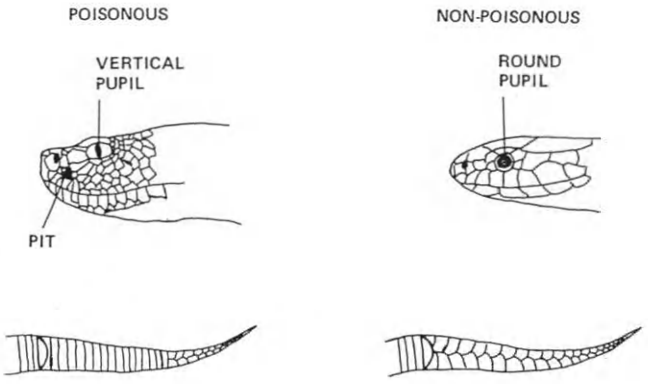
Identifying Poisonous Snakes

Of the 36 species and subspecies of snakes in Virginia only 4 are poisonous. How do you tell them apart? It is easy to identify rattlesnakes, but what if the snake has no rattle? The following lists five points which I think are important to remember in order to recognize poisonous snakes:

1. All the poisonous snakes of Virginia are pit vipers; that is, they possess a heat-sensing pit. It is located a little below the mid-point between the eye and nostril on each side of the head. No nonpoisonous species have it.
2. Our poisonous snakes have a single row of scales going clear across the underside of the forward portion of the tail. Nonpoisonous snakes have two rows down the entire tail. (See illustration)
3. The eyes of our poisonous snakes have vertically elliptical pupils—the pupil is round in nonpoisonous snakes.
4. Study the range maps for the individual species. If you are any considerable distance outside the shaded areas, you can be fairly assured that you will not run across that particular species.
5. The best method, by far, is to be able to recognize the color patterns and body form from a distance. Read the descriptions and compare these with the illustrations. Go to a zoo or museum and study them. It is always wise to look at caged live snakes or preserved ones—it gives an added perspective.

Let me point out that the differences apply only as a general rule. Never handle a snake unless you are absolutely sure it is nonpoisonous. Unless you have a good reason, it is best to leave them alone. They will avoid you if it is at all possible.

Reprinted from VIRGINIA WILDLIFE February and April 1974



Underside of tail.

VIRGINIA'S POISONOUS SNAKES

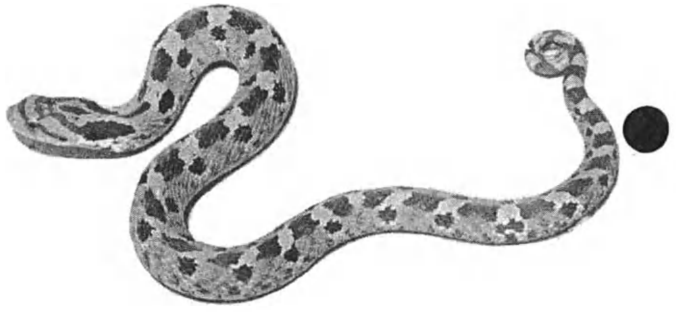
NORTHERN COPPERHEAD, *Agkistrodon contortrix mokeson.* Found state-wide. Look for the hourglass patterns of dark or reddish brown on a background of light brown to reddish gray. Head: usually a coppery color. Dark spots along the sides of the belly. Young: like adults but brighter with a sulfur-yellow tip of the tail. Length: 8 to 48 inches. Habitat: almost anywhere there are rodents—barns, lumber, junk, and sawdust piles, berry thickets, rock ledges, edges of fields, haystacks, etc. Some hibernate with the timber rattlesnake in the mountains. Food: essentially rodents and insects but birds and frogs are also eaten. One to seventeen young are born from mid-August to early October.

EASTERN COTTONMOUTH, Water Moccasin, *Agkistrodon piscivorus piscivorus.* Found only in the southeastern corner of Virginia. None found above or farther west than Colonial Heights. Generally, a drab snake with dark, wide, brown, olive or black crossbands on a lighter background of the same colors. Old ones are almost uniformly dark. Inside of the mouth is white. Young with brown bands on a cream-to-light-brown background with the tip of the tail colored sulfur-yellow. Length: 8-60 inches. A water-loving species found near quiet bodies of water—swamps, ponds, slow streams, and ditches. Will eat almost anything including rodents, birds, other reptiles, amphibians and small turtles. One to fifteen young are born alive from mid-August to mid-September.

TIMBER RATTLESNAKE, *Crotalus horridus horridus.* Found only in the western, mountainous portion of Virginia. Two color phases. Black phase: the head and posterior 1/3 of body black and the black saddles and incomplete chevrons are almost obscured by amounts of black pigment in the ground color areas on the rest of the body. Yellow phase: head with little black pigment; saddles and chevrons always evident, these being black or brown. The tail is black in both phases, with no stripe on side of the head. Young: patterned like the yellow phase but less brightly colored. Length: 10-60 inches. Hibernates in rock outcroppings in winter and scatters in the summer to areas such as second-growth clearings, berry patches, orchards, and other rocky areas. Food: primarily rodents but small birds, frogs, and other snakes are occasionally eaten. Five to 17 young born alive in August and September.

CANEBRAKE RATTLESNAKE, *Crotalus horridus atricaudatus.* Found only in the southeastern corner of Virginia. Similar to the Timber but has a dark reddish stripe running down the middle of the back splitting the blotches or chevrons on the anterior one third of the body. Background: grayish brown to pink. Major feature is the dark stripe running from the eye through the back of the jaw to the belly. Young: like adults but paler. Length: 11-72 inches. Inhabits lowlands near swamp, cane fields, low pine woods, and ridges and glades of the Dismal Swamp. Food: primarily rodents but also eats insects, birds, and other reptiles. Five to 17 young are born in late summer.

CORAL SNAKE, *Micrurus fulvius.* **Not** found in Virginia.



Sinister looking but harmless hog-nosed snake.

HARMLESS LOOK-ALIKES

EASTERN SCARLET SNAKE, *Cemophora coccinea copei.* A coral snake look-alike found in the Eastern Piedmont and Coastal Plain. A sharp-snouted snake having bands of red, bordered by black with white or cream interspaces. The bands do not go all the way around. The snout is red. Length: 6-24 inches. Found in or near areas of sandy or loamy soil, under boards, logs, and rocks. Food includes mice, lizards, and small snakes. Lays three-eight eggs in June.

EASTERN HOG-NOSED SNAKE, *Heterodon platyrhinos platyrhinos.* Found state-wide. Coloration is highly variable: may be spotted with black, brown or red on a background of yellow, gray or brown. May be completely black. The most distinctive feature is the upturned snout which is used for burrowing. Belly: usually gray mottled with darker gray or brown. Young: like adults but brighter. Length: 5½-30 inches.

Poisonous Snakebite

The most frequent question I hear is, "What should one do if bitten by a poisonous snake?" My first answer is always to immediately seek medical help. The doctors have the knowledge and equipment to handle such cases; most of us do not. Therefore the safest thing is to get the patient to a hospital as soon as possible.

The venom of Virginia's poisonous snakes is primarily hemotoxic: that is, it destroys blood and lymph cells. This process takes a little time and a bitten person can usually reach medical help before any major damage is done. However, if you are far away from any transportation the following measures can be taken to slow down the effects:

1. Make *absolutely* sure that it was a poisonous snake that bit you. Otherwise these steps may do more harm than good.
2. STAY CALM! An excited person's blood and lymph circulates faster and helps distribute the venom quicker. Do not drink alcohol.
3. Apply a constriction band or ligature between the bite and heart. Do not make it too tight and it should be released for 90 seconds every 10 minutes.
4. Make a longitudinal incision 1/8 to 1/4 inch long and about 1/4 inch deep at the site of the bite with a sterile blade. Do not make multiple incisions.
5. Apply suction at this point with a suction bulb or with the mouth if there are no cavities or ulcers. Steps 4 and 5 are of little value if not done within the first 30 minutes.
6. Administer antivenin yourself only if absolutely necessary. This should be left up to the doctor.

It is a rare case in Virginia when these steps have to be taken. In most cases there has been sufficient time to get the patient to the hospital.

Protective measures should always be taken when in the field. You should always be careful of where you place your hands and feet. Most bites occur from situations where the person did not look before he acted. The only measure that can be taken to keep poisonous snakes from your yard and work areas is to minimize the attraction of these places to rodents. Where there are mice and rats, snakes will soon follow.

Suggested Reading

A Field Guide To Reptiles and Amphibians, by Roger Conant, Houghton and Mifflin Co., New York, 1958.

Field Book of Snakes, by K. P. Schmidt and D. D. Davis, G. P. Putnam's Sons, New York, 1941.

The World of the Snake, by Hal H. Harrison, J. B. Lippincott Co., Philadelphia and New York, 1971.

Poisonous Snakes of the World, United States Government Printing Office, Washington, D.C.

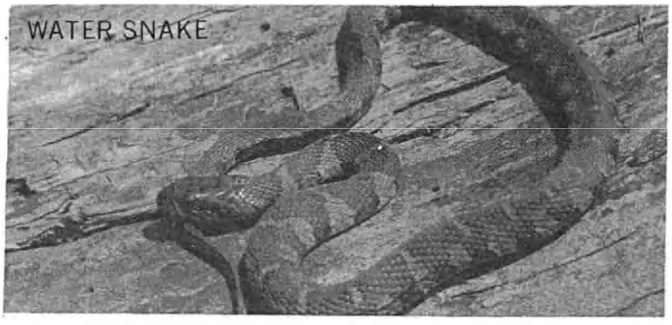
Usually associated with sandy soil. Hognosed snakes are most often found above ground rather than under objects. Lays 4 to 46 eggs in June and July. Food: primarily toads but frogs, salamanders, fish, insects, worms, and small rodents are sometimes taken. Called spread-head moccasin by some people, it will bluff by spreading its head and hissing, eventually "playing possum" if molested.

SCARLET KING SNAKE, *Lampropeltis triangulum elapsoides.* Found only in the extreme southeastern corner of Virginia, having a red snout and red, black and yellow (or white) bands that completely surround the body. The black always separates the red and yellow. Length: 5 to 24 inches. Very secretive; found beneath bark, logs, boards, near or in pine woods. Food: mice, small birds, lizards, small snakes. Lays 5-17 eggs in June.

EASTERN MILK SNAKE, *Lampropeltis triangulum triangulum.* Found in the western and extreme northern counties. A rather slender snake with a triangular blotch on the back of the head, three rows of blotches (1 large and 2 smaller rows) of reddish-brown color bordered by black. Background color is light gray; is white with square blotches of black. The young have bright red blotches. Length: 7-40 inches. Secretive; usually found under boards, rocks, and logs in barns, mountainous fields, and rocky hillsides. Food: primarily rodents, but also eats snakes, lizards, frogs, salamanders, birds and their eggs, and insects. Six to 24 eggs are laid in June.

COASTAL PLAIN MILK SNAKE, *Lampropeltis triangulum temporalis.* Piedmont and Coastal Plain of Virginia including Eastern Shore—very much like the eastern milk snake, but the large brown blotches look almost like bands by extending downward to the belly which is colored with black spots. Ground color: gray, tan, or yellowish. Usually a light "collar" around the neck. Young: like adults but brighter. Length: 5-35 inches. Usually found in association with sandy soil under logs and rocks, sometimes plowed up in fields. Lays 6-20 eggs in June.

Leonard Rue photo



NORTHERN WATER SNAKE, *Natrix sipedon sipedon.* Found state-wide. Coloration: extremely variable—pale gray to dark brown with reddish brown to black markings. Old adults may be almost black or

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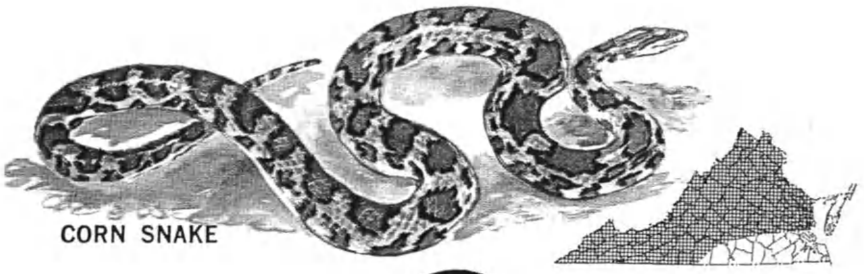
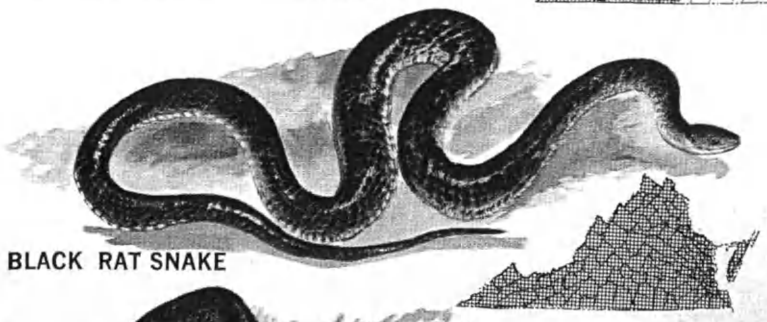
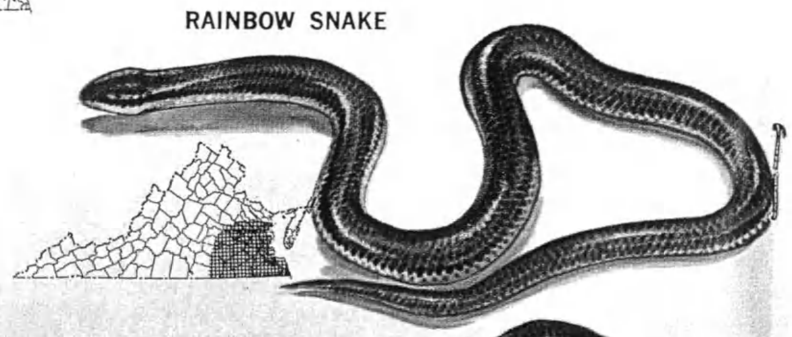


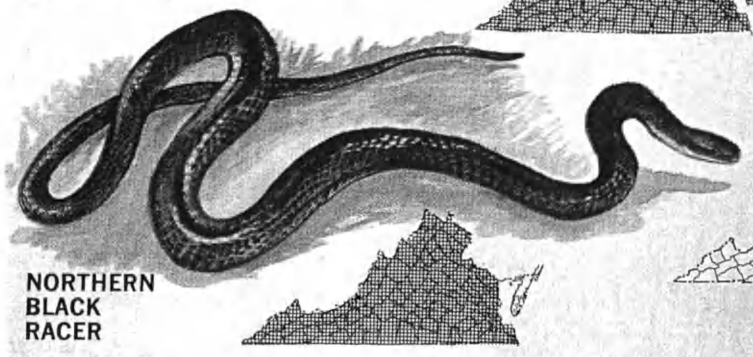
CORN SNAKE



BLACK RAT SNAKE

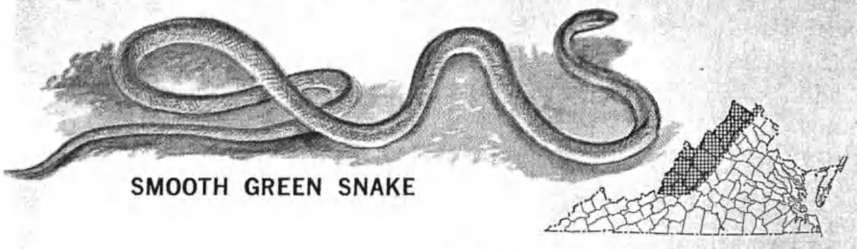


RAINBOW SNAKE

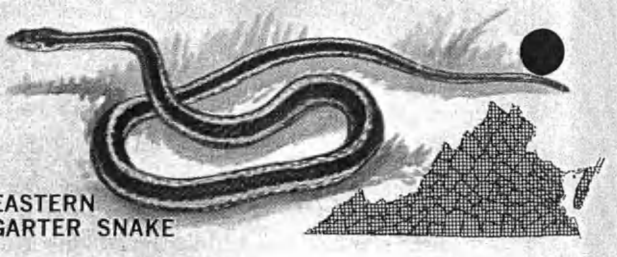


NORTHERN BLACK RACER

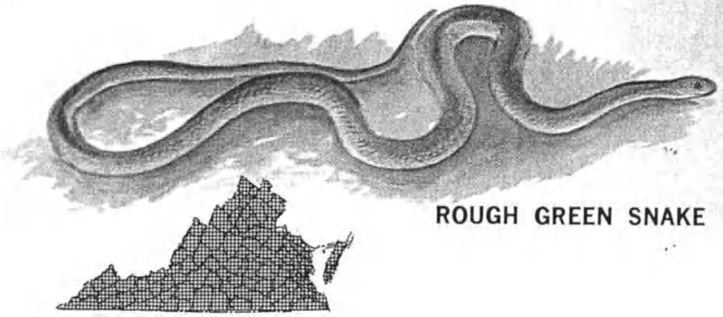
EASTERN MUD SNAKE



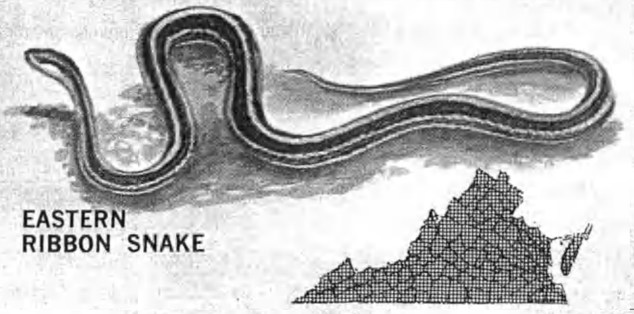
SMOOTH GREEN SNAKE



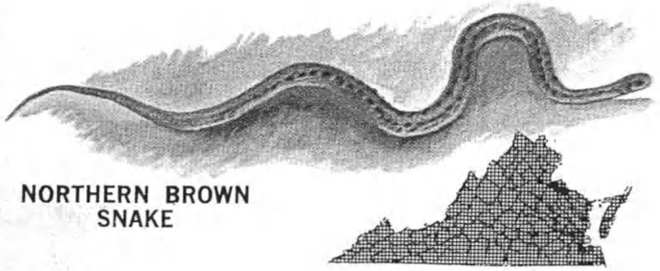
EASTERN GARTER SNAKE



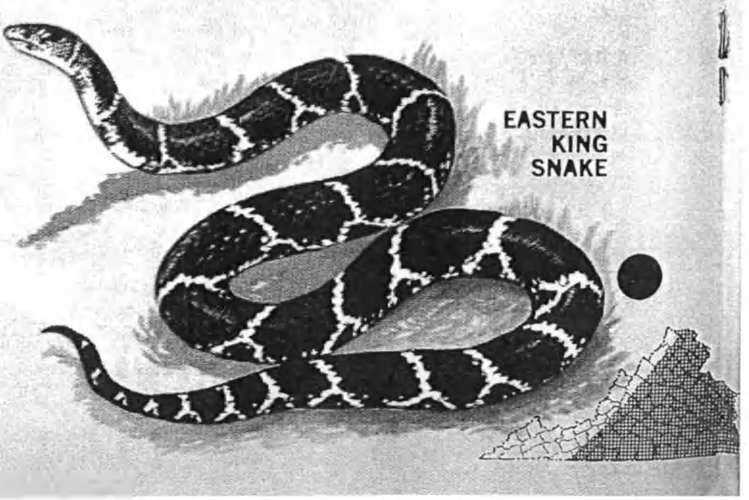
ROUGH GREEN SNAKE



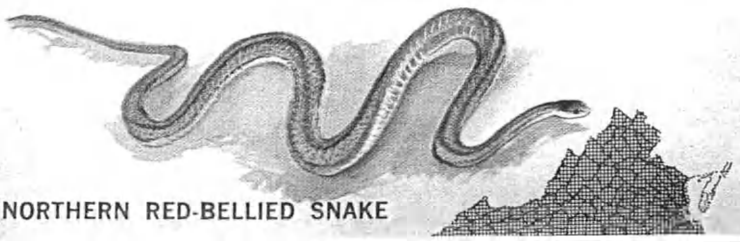
EASTERN RIBBON SNAKE



NORTHERN BROWN SNAKE



EASTERN KING SNAKE



NORTHERN RED-BELLIED SNAKE

)ISONOUS SNAKES

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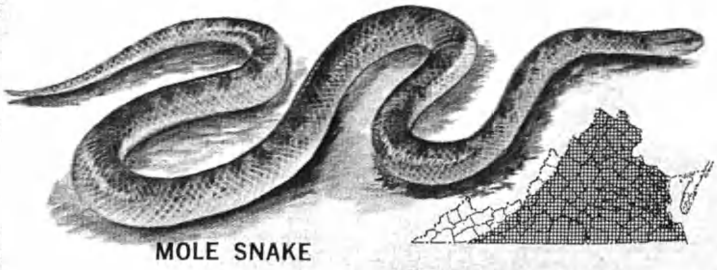
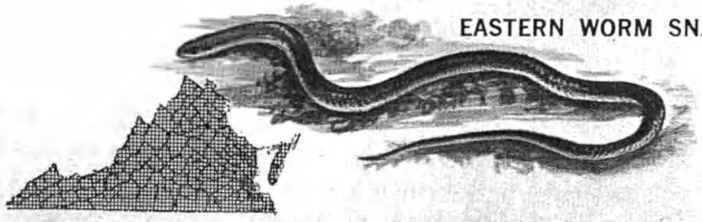
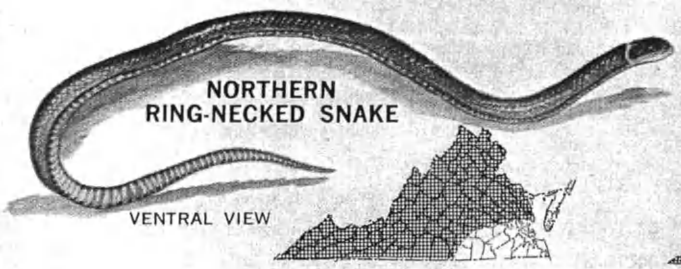
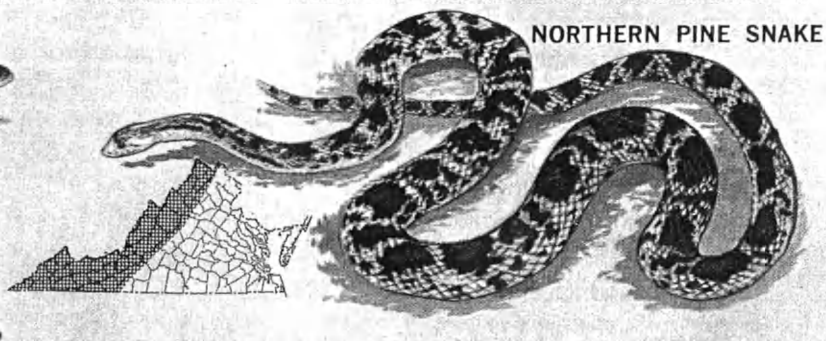
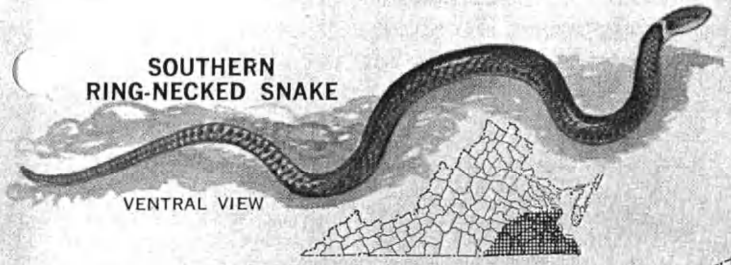
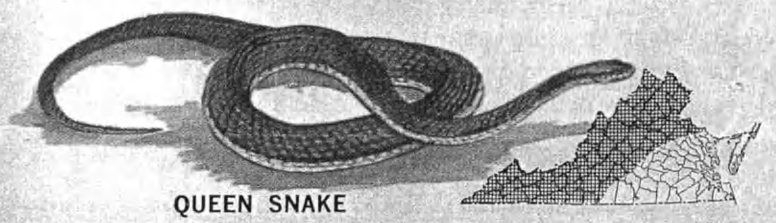


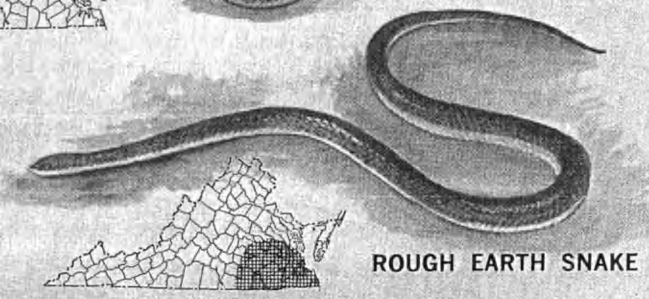


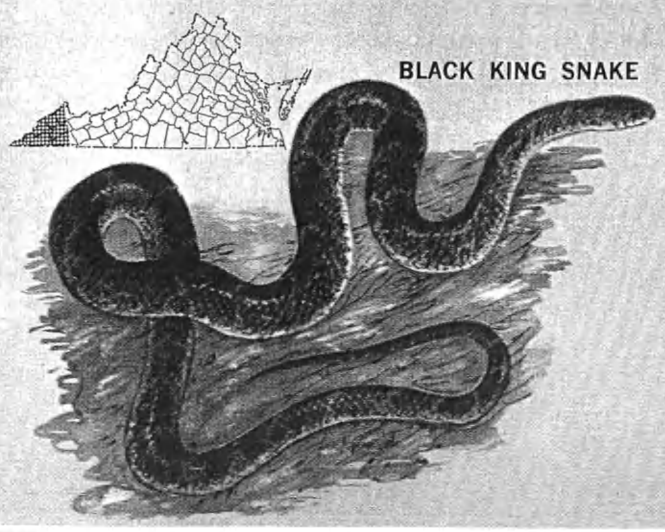


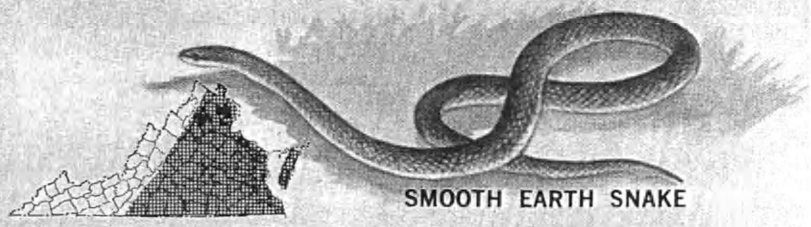












dark brown. Look for three major characteristics: (1) dark crossbands on anterior 1/3 of the body, blotches on rest (2) blotches and bands are larger than areas between them and (3) red to black half moons on the light (cream to yellow) belly. Young: brightly patterned. Length: 5½-48 inches. A snake of streams, ponds, ditches and swamps—virtually anywhere there is water. Can be found under rocks, logs, in vegetation and debris in or near water. Food is primarily slow-moving fish, frogs, salamanders, and crayfish. Eight to 30 young born alive in August and September.

BROWN WATER SNAKE, *Natrix taxispilota.* Only in the southeastern corner of Virginia. One row of squarish, dark-brown blotches down the back and a row of similar spots on the sides, alternating with each other on a background of lighter brown. Blotches in old ones obscured. Belly: white to brown, marked with spots or half-moons. Young: like adults but brighter. Length: 3½-60 inches. Inhabits quiet waters such as ponds, lakes, swamps, and large ditches. Feeds on fish, frogs, and salamanders. Nine-40 young are born alive in August and September.

Harmless Snakes That Benefit Man

NOT all snakes are as bad as most people like to think, and I hope the reader will understand that from reading both parts of this article.

NONPOISONOUS SNAKES

EASTERN WORM SNAKE, *Carphophis amoenus.* Found statewide. Looks like an earthworm but has scales. Coloration is plain brown with a pink belly. Look for the eyes and pink tongue. Length: 3½-12 inches. Almost always found in moist soil under boards and rocks. Food includes earthworms and soft bodied insects. Lays one to five eggs in June.

NORTHERN BLACK RACER, *Coluber constrictor.* A common shiny black snake found throughout Virginia. Adults have a little white on the chin and throat. Young are born with a pattern of dark gray blotches on a background of light gray and fades as the snake grows. Length: 10-60 inches. Usually found in fields, open woodlands and pinewoods as well as around barns and old houses. Food: primarily rodents but small birds, lizards, other snakes and frogs are also eaten. 9 to 16 eggs are laid in July and August.

RINGNECK SNAKE, *Diadophis punctatus.* Two races of this species are found statewide. Both are plain dark black to brown with a neck collar of yellow to orange. The difference lies in the belly pattern. The NORTHERN RINGNECK SNAKE, *Diadophis punctatus edwardsi,* has a plain yellowish belly with an occasional black dot and is found west of an imaginary line stretching from Prince George to Mecklenburg Counties. The SOUTHERN RINGNECK SNAKE, *Diadophis punctatus punctatus,* has a red to yellow belly with a uniform row of black half moons down the middle and is found east of that imaginary line. Length: 4-20 inches. Both are found under boards and in rotting logs and stumps. Food includes salamanders, frogs, small snakes and earthworms. One to eight eggs are laid in June and July.

CORN SNAKE, *Elaphe guttata.* Has been found throughout most of Virginia except the southeastern corner. Coloration: 30-45 dark brown blotches on a background of light to dark gray, belly usually white with a checkerboard pattern of black. Length: 9-60 inches. Found in pinewood areas, rocky hillsides and in barns where it searches for its primary food—rodents. 5 to 18 eggs are laid in July and August.

BLACK RAT SNAKE, *Elaphe obsoleta.* Found statewide. A stout bodied snake with a cream colored belly and evidence of checkerboarding of black or gray. Chin white. Young are patterned with dark gray blotches on a background of pale gray. Length: 11-72 inches. Found almost anywhere there are rodents, its primary food: rocky hillsides, fields, barns and is often seen in trees. 5 to 24 eggs are laid in June and July.

MOLE SNAKE, *Lampropeltis calligaster rhombomaculata.* Found throughout Va. except the southwestern corner. A shiny snake with narrow brown blotches on a background of faded brown. Young are sharply patterned with 2 dark stripes on the neck. Length: 8-40 inches. Usually found underground in rodent burrows, it is also turned up under boards and by the plow. Rodents are a primary food source. 6 to 17 eggs are laid in June.

EASTERN KINGSNAKE, *Lampropeltis getulus getulus.* Distributed statewide. A black snake with a yellow or white chain-like pattern. Length: 9-60 inches. Usually found near a water source, under boards or debris where they search for rodents, lizards, turtle eggs and snakes, even poisonous ones. 5 to 17 eggs are deposited in July and August.

BLACK KINGSNAKE, *Lampropeltis getulus niger.* Has been found only in Lee County. Looks like the Eastern Kingsnake except the chain pattern is reduced to a few small spots. Length: 9-56 inches. Found in open woods, ravines and along streams. Food consists of rodents, birds, snakes and frogs. 3 to 24 eggs are laid in August.

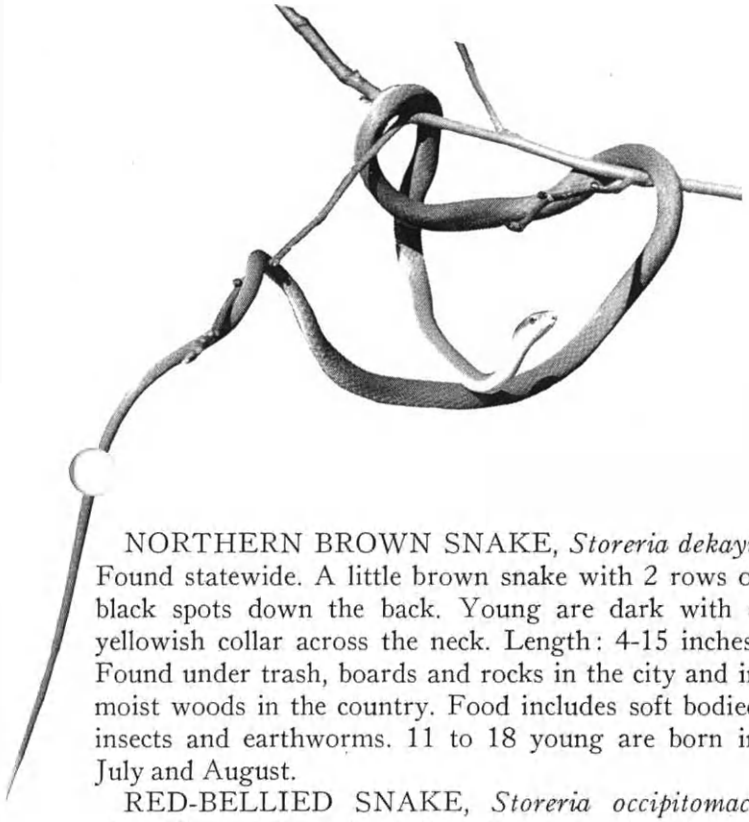
RED-BELLIED WATER SNAKE, *Natrix erythrogaster.* Found in the southeastern corner. A plain dark brown or drab black snake with a reddish or coppery belly. Young are born in September with a pattern which fades with age. Length: 8 to 60 inches. Habitat is near water where it feeds on fish, frogs, salamanders and crayfish.

ROUGH GREEN SNAKE, *Opheodrys aestivus.*

Our thanks to the Virginia Herpetological Society and Dr. G. C. Schaefer, Univ. of Richmond, who contributed to this article and its illustrations.

Occurs statewide. A slender light green snake with a whitish belly. Length: 7-40 inches. Usually found in dense growths of vegetation especially along streams and lakes. It eats primarily insects. 3 to 12 eggs are deposited in July and August.

SMOOTH GREEN SNAKE, *Opheodrys vernalis.* Occurs only in the extreme western part of the state. Looks like the Rough Green Snake except the scales are smooth. Length: 4-20 inches. Habitats are meadows, low bushes and open woods. Food includes insects and salamanders. The eggs are laid in July.



NORTHERN BROWN SNAKE, *Storeria dekayi.* Found statewide. A little brown snake with 2 rows of black spots down the back. Young are dark with a yellowish collar across the neck. Length: 4-15 inches. Found under trash, boards and rocks in the city and in moist woods in the country. Food includes soft bodied insects and earthworms. 11 to 18 young are born in July and August.

RED-BELLIED SNAKE, *Storeria occipitomaculata.* Occurs throughout Va. A small snake of gray or brown with a red belly and light spots on the back of the head. Length: 3-14 inches. Found under boards and rocks in or near open woods or sphagnum bogs. Eats insects and earthworms. 2 to 21 young are born in July and August.

EASTERN GARTER SNAKE, *Thamnophis sirtalis.* Found throughout the state. This snake has 3 stripes of yellow or cream on a background of dark brown or olive. There may be a row of squarish spots between the stripes. Length: 5-48 inches. Habitat includes fields, woods and along streams. Frogs, salamanders, fish and earthworms are its source of food. 3 to 85 young are born in August.

EASTERN RIBBON SNAKE, *Thamnophis sauritus.* Found statewide. Looks very much like the Garter Snake but is more slender and is usually without the rows of spots. Length: 7-36 inches. Found in closer association with water than the Garter, streams and ponds. Fond of salamanders, frogs and small fish, no earthworms. 3 to 20 young born in August.

RAINBOW SNAKE, *Farancia erythrogramma.* Coastal Plain of Va. An iridescent snake with red and black stripes; double row of black spots down the red belly. Length: 8-48 inches. Seldom seen because it burrows in swamps and sandy fields. Eats aquatic salamanders and eels. 20 to 52 eggs are laid in July.

MUD SNAKE, *Farancia abacura.* Southeastern corner of Va. A shiny black snake with the red or pink coloration of the belly extending into the sides as blotches. Length: 6-60 inches. Inhabits lowlands and swamps where it feeds on aquatic salamanders. 4 to 54 eggs are laid in September.

NORTHERN PINE SNAKE, *Pituophis melanoleucus.* Only in the extreme western part of the state. This is a stout snake with black blotches on a background of dull white. Length: 15-60 inches. Found on dry mountain ridges in or near pine woods. Eats primarily rodents. Eggs laid in June.

QUEEN SNAKE, *Regina septemvittata.* Has been found throughout Va. except the southeastern corner. A slender brown snake with a yellowish belly that has 4 stripes. Length: 8-36 inches. Always found near water where it searches for crayfish among the rocks. Young are born in September.

GLOSSY WATER SNAKE, *Regina rigida.* Has been found only in New Kent Co. A shiny olive brown snake with 2 rows of black dots down the yellowish belly. Length: 7-30 inches. Found in swamps where it feeds on frogs, fish and crayfish. 6 to 30 young are born in August and September.

SMOOTH EARTH SNAKE, *Virginia valeriae.* Coastal Plain and Piedmont. It is smooth scaled, gray or reddish brown with a white belly. Length: 4-10 inches. Seldom seen. Found under debris in or near deciduous forests. Eats mainly earthworms and soft bodied insects. The 2 to 12 young are born in September.

ROUGH EARTH SNAKE, *Virginia striatula.* Southeastern third of the state. Rough scaled with a pointed snout. Length: 4-12 inches. Found under boards and in rotting logs. Eats earthworms and insects. Young born in August.

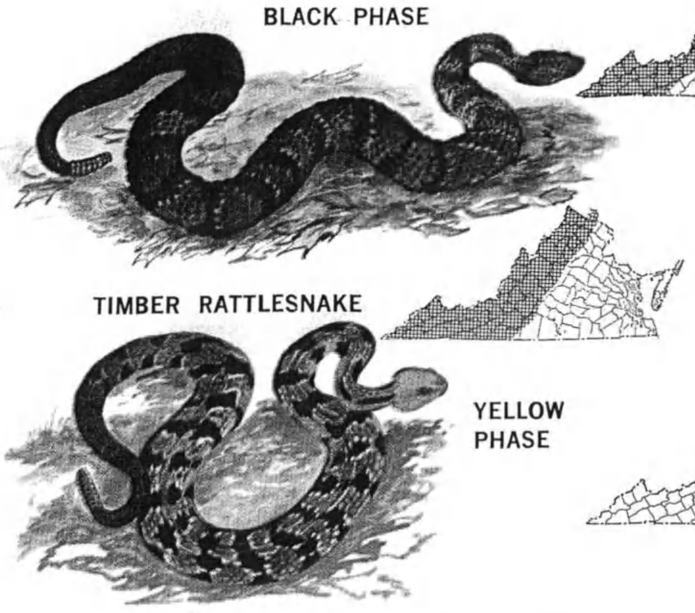
MOUNTAIN EARTH SNAKE, *Virginia valeriae pulchra.* Has been found only in Highland Co. Like the Smooth Earth Snake except the scales are intermediate in roughness between it and the Rough Earth Snakes. Length: 4-10 inches. Found in mountainous deciduous forests under boards and rocks. Eats earthworms.

SOUTHEASTERN CROWNED SNAKE, *Tantilla coronata.* Southwestern Piedmont. Plain brown; black head cap; a light and dark collar across neck. Length: 3-13 inches. Burrows under rocks and boards in search of insects and centipedes. It is mildly poisonous to prey; not harmful to man. 1 to 3 eggs laid in July.

POISONOUS SNAKES
and their *look-alikes*

ILLUSTRATED BY DUANE RAVER

POISONOUS SPECIES



NON-POISONOUS SPECIES