

AN AID TO IDENTIFICATION OF
THE SNAKES OF VIRGINIA

by

Franklin J. Tobey, Jr.
Secretary, Editor, VHS

The varieties of Virginian snakes are arranged according to the most noticeable pattern, its absence, or other outstanding markings. The basic pattern groups are as follows:

UNIFORM (no pattern)

BANDED (or ringed)

SADDLED (blotched)

CHECKERED (spotted)

and, LINED (striped)

Color is covered within each of these categories from darker to lighter shades. First attention is given to the dark markings. The lighter colors, except for stripes or lines, are considered as background to the stronger pattern.

Be careful not to handle any venomous snake. Study them first! Note their appearance in museum or zoo collections and in illustrated books or pamphlets on reptiles.

This aid in naming the Virginian snakes assumes that sight at fairly close range is sufficient. Such observation improves with practice. It helps to have native aptitudes for (1) distinguishing colors, and (2) memory for design. A freshly-washed specimen is, of course, more easily identified.

For best results, the snake should be relatively quiet and the person doing the observing must be at ease.

There is nothing to gain from being emotional. There is danger.

Unless relaxed a person is likely to provide an exaggerated description of color as well as behavior and size. Yet, how does one convince the public that there is a greater potential hazard in panic than presented by the snake?

Snakebite can be avoided by using common sense. Remain cool; do not get excited. Take all precautions necessary to assure that you are in the most advantageous position.

THE SNAKES OF VIRGINIA

| | |
|---------------------------------|--|
| 1. BROWN WATER SNAKE | <u>Natrix taxispilota taxispilota</u> |
| 2. RED-BELLIED WATER SNAKE | <u>Natrix erythrogaster erythrogaster</u> |
| 3. NORTHERN WATER SNAKE | <u>Natrix sipedon sipedon</u> |
| 4. QUEEN SNAKE | <u>Natrix septemvittata septemvittata</u> |
| 5. GLOSSY WATER SNAKE | <u>Natrix rigida rigida</u> |
| 6. NORTHERN BROWN SNAKE | <u>Storeria dekayi dekayi</u> |
| 7. NORTHERN RED-BELLIED SNAKE | <u>Storeria o. occipitomaculata</u> |
| 8. EASTERN GARTER SNAKE | <u>Thamnophis sirtalis sirtalis</u> |
| 9. EASTERN RIBBON SNAKE | <u>Thamnophis sauritus sauritus</u> |
| 10. ROUGH EARTH SNAKE | <u>Haldea striatula</u> |
| 11. EASTERN SMOOTH EARTH SNAKE | <u>Haldea valeriae valeriae</u> |
| 12. MOUNTAIN EARTH SNAKE (Va.?) | <u>Haldea valeriae pulchra</u> |
| 13. EASTERN HOUSNOSE SNAKE | <u>Heterodon platyrhinos platyrhinos</u> |
| 14. SOUTHERN RINGNECK SNAKE | <u>Diadophis punctatus punctatus</u> |
| 15. NORTHERN RINGNECK SNAKE | <u>Diadophis punctatus edwardsi</u> |
| 16. EASTERN WORM SNAKE | <u>Carphophis amoenus amoenus</u> |
| 17. RAINBOW SNAKE | <u>Abastor erythrogrammus</u> |
| 18. EASTERN MUD SNAKE | <u>Farancia abacura abacura</u> |
| 19. NORTHERN BLACK RACER | <u>Coluber constrictor constrictor</u> |
| 20. EASTERN COACHWHIP (Va.?) | <u>Masticophis flagellum flagellum</u> |
| 21. ROUGH GREEN SNAKE | <u>Opheodrys aestivus</u> |
| 22. EASTERN SMOOTH GREEN SNAKE | <u>Opheodrys vernalis vernalis</u> |
| 23. CORN SNAKE | <u>Elaphe guttata guttata</u> |
| 24. BLACK RAT SNAKE | <u>Elaphe obsoleta obsoleta</u> |
| 25. NORTHERN PINE SNAKE | <u>Pituophis melanoleucas melanoleucas</u> |
| 26. EASTERN KING SNAKE | <u>Lampropeltis getulus getulus</u> |
| 27. BLACK KING SNAKE | <u>Lampropeltis getulus niger</u> |
| 28. EASTERN MILK SNAKE | <u>Lampropeltis doliata triangulum</u> |
| 29. COASTAL PLAIN MILK SNAKE | <u>Lampropeltis doliata temporalis</u> |
| 30. SCARLET KING SNAKE | <u>Lampropeltis doliata doliata</u> |
| 31. MOLE SNAKE | <u>Lampropeltis calligaster rhombomaculata</u> |
| 32. SCARLET SNAKE | <u>Cemophora coccinea</u> |
| 33. SOUTHEASTERN CROWNED SNAKE | <u>Tantilla coronata coronata</u> |
| 34. NORTHERN COPPERHEAD | <u>Agkistrodon contortrix mokeson/</u> |
| 35. EASTERN COTTONMOUTH | <u>Agkistrodon piscivorus piscivorus/</u> |
| 36. CAROLINA PIGMY RATTLESNAKE | <u>Sistrurus miliarius miliarius/</u> |
| 37. TIMBER RATTLESNAKE | <u>Crotalus horridus horridus /</u> |
| 38. CANEBRAKE RATTLESNAKE | <u>Crotalus horridus atricaudatus /</u> |

/ Deadly Poisonous species.

(See notes in VHS Bulletin No.38)

SNAKES OF A UNIFORM COLOR:
(no pattern)

| <u>Color above:</u> | <u>Color beneath:</u> | <u>Proportions:</u> |
|--|--|---|
| <u>BLACK</u> often with a brownish cast. Scales weakly keeled. Juvenile pattern may show. Hatchlings (10 in.) see "Saddled". | White, chin to mid-belly; gray to tail. | Moderately stout. Not over 9 feet; not under 2 feet. Head distinct |
| ----- BLACK RAT SNAKE | | |
| <u>BLACK</u> to dark gray with a bluish cast. Scales smooth, satiny. Hatchlings (10 in.) see "Banded". | White, chin and throat only, gray to tail. | Slender. Not over 7 feet; not under 2 feet. Head not distinct. |
| ----- NORTHERN BLACK RACER | | |
| <u>BLACK</u> obscuring dark brown bands across back. Scales rough. Born alive (12 in.) see "Banded". | Yellowish-green, gray or black patches. Tail ends in rattle. | Stout to heavy bodied. Not over 6 feet; not under 2 feet. Head very distinct. |
| ----- TIMBER RATTLESNAKE | | |
| <u>BLACK</u> with white or yellowish scales or flecks scattered on back. Smooth scales. Hatchlings (10 in.) have distinct chain-like pattern, see "Checkered". | Color underneath is similar to that on back. (so. western Va. only) | Slender. Not over 6 feet; not under 2 feet. Head not distinct. |
| ----- BLACK KING SNAKE | | |
| <u>DARK GRAY-BROWN</u> to <u>OLIVE</u> almost obscures black bands on sides enclosing olive to tan background. Scales weakly keeled. | Yellowish-white clouded with brown, darker to tail. No red on belly. Born alive (12 in.) see "Banded". | Heavy-bodied, stout. Not over 6 feet; not under 3 feet. Head very distinct. |
| ----- EASTERN COTTONMOUTH | | |
| <u>DARK GRAY TO BLACK</u> obscuring 25 to 30 dark blotches on mid-back, neck to tail. Scales keeled. | White, chin and throat, belly gray to vent. Lighter under tail. Hatchlings (6 in.) see "Checkered". | Moderately stout. Not over 4 feet; Up-turned snout. |
| ----- EASTERN HOGNOSE SNAKE | | |
| <u>BLuish-Black</u> to <u>BLACK</u> sometimes with a dark purplish cast. Glossy. Scales smooth. Hatchlings (6 in.) red chevrons meet on back near neck. | Red with black markings. Red inverted "Vs" or triangles on sides, usually 53 or more. | Slender. Not over 6 feet; average 2 to 3 ft. Head barely distinct |
| ----- EASTERN MUD SNAKE | | |

SNAKES OF A UNIFORM COLOR:
(no pattern)

| <u>Color above:</u> | <u>Color beneath:</u> | <u>Proportions:</u> |
|---|--|---|
| <u>BROWN</u> , dark to gray-brown. Scales rough. Born alive (8 in.) see "Banded". | Yellowish-white; may be spotted with red, brown and black. | Often stout. Not over 5 feet; Not under 2 feet. Head distinct. |
| ----- NORTHERN WATER SNAKE | | |
| <u>BROWN</u> , chocolate with traces of darker squarish blotches on sides. Scales keeled. Born alive (8 in.) see "Checkered". | Yellow to brown with spots of dark brown or black, arranged or scattered randomly. | Often heavy-bodied. Not over 6 feet; not under 3 feet. Head very distinct; /triangular. |
| ----- BROWN WATER SNAKE | | |
| <u>BROWN</u> , chocolate to plain brown; sides grayish to greenish brown. Scales keeled. | Plain red, orange-red. Born alive (8 in.) see "Saddled". | Moderately stout. Not over 5 feet; not under 3 feet. Head distinct. |
| ----- RED-BELLIED WATER SNAKE | | |
| <u>BROWN</u> , medium golden brown almost obscures small saddles on back. Scales smooth. Hatchlings (8 in.) "Saddled". | Yellowish-white sprinkled with gray or black dots. | Slender to stout. Not over 4 feet; not under 3 feet. Head barely distinct. |
| ----- MOLE SNAKE | | |
| <u>BROWN TO OLIVE</u> , two faint dark stripes on back. Glossy despite heavily keeled scales. | Yellow, with two rows of dark spots. Born alive (7 in.). | Moderate to stout. Not over 3 feet. Head very distinct. |
| ----- GLOSSY WATER SNAKE (rare) | | |
| <u>DARK BROWN TO BLACK</u> forward; lighter toward tail. Smooth scales; arrangement suggests braided whip. | Color underneath is similar to color on back; lighter toward tail. Hatchlings (12 in.) see "Banded". | Long, slender. Not over 8 feet; average 4 feet. Head barely distinct. |
| ----- EASTERN COACHWHIP (rare) | | |
| <u>GREEN</u> , dull leaf green. Scales weakly keeled. Head distinct, eyes large. Hatchlings (7 in.) grayish-green. | Yellow-green to greenish-white. | Slender, long, thin. Not over 3½ feet; Average 2 feet. |
| ----- ROUGH GREEN SNAKE | | |
| <u>GREEN</u> , bluish cast. Highly polished, smooth scales. Hatchlings (5 in.) olive-gray. | Light green to greenish-white. Rarely, yellow-green. | Slender to moderate. Not over 2 feet; Average 1 foot. Head barely distinct. |
| ----- EASTERN SMOOTH GREEN SNAKE | | |

SNAKES OF A UNIFORM COLOR:
(no pattern)

| <u>Color above:</u> | <u>Color beneath:</u> | <u>Proportions:</u> |
|---|--|--|
| <u>GRAY-BLUE</u> , dark gray to slate-blue; more rarely dark brown. Scales smooth. Hatchlings (4 in.) darker than adult. | Orange-yellow which circles neck in a thin ring. | Slender to moderate. Not over 2 feet; Average 1 foot. Head, dark brown. |
| ----- NORTHERN RINGNECK SNAKE | | |
| <u>BLUE-BLACK</u> , to dark brown. Scales smooth. Hatchlings (4 in.) darker than adult. | Orange-yellow which makes an incomplete ring about neck. Row of black dots on belly. | Slender to moderate. Not over 2 feet; Average 1 foot. Head dark brown. |
| ----- SOUTHERN RINGNECK SNAKE | | |
| <u>BROWN-TAN</u> , plain to reddish-brown. Scales smooth. Dark head; white or ivory collar followed by a black band on neck. | White to tan with a pinkish tinge. No dots or dark markings. Hatchlings (4 in.) same as adult. | Slender. Not over 1½ feet; Average 8 inches. Head barely distinct |
| ----- SOUTHEASTERN CROWNED SNAKE | | |
| <u>BROWN TO TAN</u> Scales keeled. | White to pinkish-white beneath. | Slender. Not over 1 foot; Ave. 10 in. May have light band across head. |
| Born alive (4 in.) may have light band on head. | | |
| ----- ROUGH EARTH SNAKE | | |
| <u>GRAY TO TAN</u> with scattered black dots. Scales smooth to faintly keeled near tail. 15 scale rows. | Yellowish-white Hatchlings (3 in.) no markings on body. | Moderately stout. Not over 1 foot; average 8 inches. Head distinct. |
| ----- EASTERN SMOOTH EARTH SNAKE | | |
| <u>GRAY TO REDDISH BROWN</u> Scales weakly keeled. 17 rows of scales. | yellowish-white (W.Va. & Md.) | (Same as above.) |
| ----- MOUNTAIN EARTH SNAKE | | |
| <u>BROWN TO PURPLISH-BLACK</u> . Scales smooth, glossy. Hatchlings (3 in.) darker than adult. (Skin gray over back just before shedding, pink beneath.) | Pink, up to 2d row of scales on sides. | Moderate to stout. Not over 1 foot; Average 8 inches. Head small, indistinct |
| ----- EASTERN WORM SNAKE | | |

SNAKES OF A UNIFORM COLOR:
(no pattern)

| <u>Color above:</u> | <u>Color beneath:</u> | <u>Proportions:</u> |
|---|--|---|
| <u>BROWN</u> with three dark stripes on back. Scales keeled. Born alive, see "Lined". | Yellowish to buff with four dark brown stripes. Stripes merge toward tail in older specimens. | Slender to moderate. Not over 3 feet; Not under 1½ feet. Head small, darker. |
| ----- QUEEN SNAKE | | |
| <u>GRAY-BROWN TO TAN</u> , or chestnut brown. Two parallel rows of dots down center of back. Scales keeled. | Pinkish-white to pink-gray. No markings. Born alive (4 in.) darker than adult; light ring at neck. | Moderately stout. Not over 1¼ feet; Head distinct; dark streak runs top to bottom behind eye. |
| ----- NORTHERN BROWN SNAKE | | |
| <u>BROWN</u> , chestnut to tan. Scales keeled. Born alive (3 in.) | Brilliant red edged with gray scales along sides. darker than adult; neck ring. | Moderately stout. Not over 1 foot. Head distinct, light spots just behind it. |
| ----- NORTHERN RED-BELLIED SNAKE | | |
| <u>WHITE TO LIGHT TAN</u> rust to tan markings may be discernible. | Pink, whitish. (Complete or near-complete absence of pigment. | White to pinkish head, pink eyes. Any size. |
| ----- Albino specimen (species ?) | | |
| <u>BLACK</u> to dull dark gray. Does not have characteristics of known blacksnakes. | Black or dark gray. (Totally pigmented, no light markings. | Any size, or shape -- slender to stout. Head and eyes dark. |
| ----- Melanistic specimen (species?) | | |

Note: Completely unpigmented or totally-pigmented snakes should be kept alive, or preserved if dead, and presented to the local museum, zoo, college or high school biology department. VHS would appreciate having a copy of the collection data sheet and note on the place where the collector deposited the specimen. See "notes" in VHS Bulletin No. 38.

SNAKES WITH A BANDED PATTERN:
(may appear ringed)

| <u>Bands:</u> | <u>Background and underneath:</u> | <u>Proportions:</u> |
|---|--|---|
| <u>BLACK-BROWN</u> , wavy, in three sections in neck area; bands are complete mid-body to tail. Scales heavily keeled. Black tail ends in a rattle or blunt button. | Gray-brown to buff with a pink cast. Rusty stripe at center of back divides bands. Underneath: grayish-yellow with dark blotches. Born alive (12 in.) paler. | Very heavy-bodied. Not over 6 feet. Head very distinct; broad dark cheek patch runs back from eye. |
| ----- CANEBRAKE RATTLESNAKE | | |
| <u>BLACK-BROWN</u> , wavy, margined in lighter color. Three parts on neck; complete on body. Scales heavily keeled. Black tail ends in rattle or blunt button. | Sulfur-yellow, tan, dark brown to black. Underneath: Yellowish-tan speckled with gray. Dark spots at regular intervals along sides. Born alive (12 in.) subdued color. | Stout to heavy. Not over 5½ feet; Head very distinct, no cheek patch. |
| ----- TIMBER RATTLESNAKE | | |
| <u>BLACK-BROWN</u> narrow on center back, on sides broadens enclosing some tan or olive background. Scales weakly keeled. Light line from eyes to neck. | Dull olive-brown, pales to tan on sides. Round dark spots spaced alternately. Underneath: Yellowish, blotched with brown; dark under tail. No red marks. Born alive (10 in.) dark to reddish-brown bands broad dark streak on cheek. Tip of tail yellow. | Very heavy, stout. Not over 6 feet. Head very distinct; broad dark cheek patch, <u>lips white to yellow</u> . |
| ----- EASTERN COTTONMOUTH | | |
| <u>DARK BROWN</u> to rich chestnut brown bands hourglass shape when viewed from above; narrow on ridge of back, wider at sides, dark margins. Scales weakly keeled. | Tan or light gray-brown; dark round spots at sides. Underneath: Tan to buff, dark spots edge abdomen. Born alive (8 in.) narrow dark line through eye tip of tail sulfur yellow up to 2 years. | Moderately heavy. Not over 4 feet. Head very distinct; coppery cast on top no cheek patches. |
| ----- NORTHERN COPPERHEAD | | |
| <u>DARK BROWN</u> to reddish brown with darker margin; wider over center of back; narrower on sides. Scales keeled. Mid-body to tail is checkered. | Tan or gray between dark bands. Underneath: Yellowish-white spotted with red, brown and black markings, or plain. Born alive (8 in.) black bands on gray or tan. | Moderate to stout. Not over 3 feet; older specimens - 3 to 5 ft. under "Uniform". Head distinct. |
| ----- NORTHERN WATER SNAKE | | |

SNAKES WITH A BANDED PATTERN:
(may appear ringed)

| <u>Bands:</u> | <u>Background and underneath:</u> | <u>Proportions:</u> |
|--|---|---|
| <u>BROWN</u> , dark to rich red-brown, wide oval-shaped bands. Saddle-like when seen from the side. Dark spots. Scales smooth | Pale gray to bluish-gray; small dark spots on sides. Underneath: gray-white with brown or black dots. Hatchlings (10 in.) as described here. Adult specimens described under "Uniform". | Slender. Not over 1½ ft. Head large, eyes big (juvenile). |
| ----- NORTHERN BLACK RACER | | |
| DARK BROWN forward, lighter toward tail. Narrow bands, close together. Resembles juvenile Black Racer. Scales smooth. | Dark head; brown forward, lighter toward tail. Underneath: similar to the color above. (juvenile) | Slender; long tail Head distinct; eyes large. Not over 1½ feet. Adult loses bands -- see "Uniform". |
| ----- EASTERN COACHWHIP | | |
| <u>RED</u> , wide, edged in black. Top of head red; black bar across eyes. Scales smooth. Hatchlings (5 in.) same as adult. | White, tan or yellow. Small black markings at sides near belly. Beneath: White or yellow. Hatchlings (5 in.) same as adult. | Cylindrical. Not over 3 feet; average 1½ feet. Head indistinct. |
| ----- SCARLET SNAKE (<u>Cemophora</u>) | | |
| <u>SCARLET TO RED-BROWN</u> , narrow black margin. Bands extend to belly. Smaller brown marks on side. Smooth scales. | White or yellowish between black-margined red bands. Beneath: white or yellow with black squares. Hatchlings (6 in.) | Moderate to stout Not over 3 feet; Average 1½ feet. Head barely distinct. |
| ----- COASTAL PLAIN MILK SNAKE | | |
| <u>SCARLET</u> , wide bands separated from background by narrower black bands or rings which meet on belly. Scales smooth. Snout red, black cap. | Yellow or white. Underneath: All rings -- red, black, yellow(white) should encircle body. (See "notes" VHS-B No.38). Hatchlings (5 in.) same. | Cylindrical. Not over 2½ feet; Average 1 foot. Head indistinct. |
| ----- SCARLET KING SNAKE | | |
| <u>YELLOW TO ORANGE</u> ring around neck is only marking. See "Uniform" | | |
| ----- RINGNECK SNAKE (top, page 5) | | |

SNAKES WITH A SADDLED PATTERN:
(blotches along ridge of back)

| <u>Saddles:</u> | <u>Background and beneath:</u> | <u>Proportions:</u> |
|--|--|--|
| <u>BLACK</u> , so large as to reduce the background color to narrow margins between saddles and series of black blotches on sides. Scales smooth, glossy. | White or greenish-yellow lines hemmed in by black -- creates tire chain effect. Underneath: white or yellow with black squares. Hatchlings (7 in.) same. | Slender to cylindrical, tapering slowly to tail. Not over 8 feet; Average 4 feet. Head not distinct. |
| ----- EASTERN KINGSSNAKE | | |
| <u>BLACK</u> on forward half of body; brown-black on latter half. Smaller blotches on sides. Scales strongly keeled. | White to tan, whiter on sides. Underneath: White, spotless except for row of black spots near sides. Hatchlings (15 in.) same as adult. | Moderately stout. Not over 7½ feet; average 4 feet. Head small. |
| ----- NORTHERN PINE SNAKE | | |
| <u>BLACK TO DARK BROWN</u> diamond-shaped saddles on center of back, each outlined with cream or yellowish scales. Olive-brown tail ringed with black bands. Scales strongly keeled. | Olive-brown or dark gray. Some background color is included within diamonds. Underneath: Dull yellow. Tail ends in rattle or blunt button. Born alive (12 in.) same as adult. | Stout to heavy-bodied. Head is very distinct. Only rattler with two light stripes on face. (See "notes") |
| ----- NOT NATIVE TO VIRGINIA ----- EASTERN DIAMONDBACK RATTLER | | |
| <u>OLIVE-BROWN TO RED-BROWN</u> bordered with black. One or two rows of smaller blotches alternating on each side. Scales smooth. | Gray to tan or white. Underneath: white with black squarish blotches arranged; checkerboard. Hatchlings (6 in.) redder than adult. | Slender to cylindrical. Not over 3 feet; average 2 feet. Head barely distinct from body. |
| ----- EASTERN MILK SNAKE | | |
| <u>BROWN</u> , small, dark reddish blotches; wavy outline with narrow black margin. A series of smaller markings on sides; spaced. Scales smooth. | Light brown becoming tan on sides. Waffle brown almost obscuring dark red saddles on center of back in older adult specimens. Underneath: White to yellow, marbled with brown or speckled with gray. | Slender to stout. Not over 4 feet; Average 2 feet. Head barely distinct from body. Hatchlings (7 in.) same as adult; a gold-yellow cast. |
| ----- MOLE SNAKE | | |

SNAKES WITH A SADDLED PATTERN:
(blotches along ridge of back)

| <u>Saddles:</u> | <u>Background and beneath:</u> | <u>Proportions:</u> |
|--|---|--|
| <u>DARK RED OR ORANGE</u> with strong black border or margin. No ringed effect. Spearhead marking on top of head and neck. Scales weakly keeled. Smaller blotches on sides alternate with those on center back. | Brown, pale yellow, gray, red or orange. Underneath: White with large squares of black turning to stripes under tail. Hatchlings (10 in.) dark red-brown saddles. | Slender to stout. Not over 6 feet; Average 3 feet. Small head. |
| ----- CORN SNAKE | | |
| <u>BROWN TO GRAY-BLACK</u> Saddles squarish. Scales weakly keeled. *Pattern sometimes (rare) carried throughout life. | Gray-white to tan; darker as snake grows older. Underneath: white with gray or black blotches. Adult specimen described under "Uniform". | Slender. Not over 2 feet;* Hatchlings 10 in. Head distinct, eyes large. (Immature) |
| ----- BLACK RAT SNAKE (juvenile) | | |
| <u>BROWN TO GRAY-BLACK</u> Saddles oval. Scales smooth. Adult specimen-- see "Uniform". | Pale gray to white on sides, bluish cast. Small brown spots. Underneath, pale gray. (juvenile) | Slender. Not over 2 feet; Hatchlings 10 in. Head and eyes large. (Immature) |
| ----- NORTHERN BLACK RACER | | |
| <u>DARK BROWN</u> saddles alternating with small dark markings on sides. Scales keeled. Adult: (see "Uniform".) | Tan or pinkish-brown. Underneath: Plain red to brick red; no markings. (juvenile) | Slender. Not over 2 feet; Born alive (8 in.) Head distinct. (Immature) |
| ----- RED-BELLIED WATER SNAKE | | |

SNAKES WITH A CHECKERED PATTERN:
(spotted, alternate rows)

| <u>Spots:</u> | <u>Background and Beneath:</u> | <u>Proportions:</u> |
|---|---|--|
| <u>BLACK TO CHOCOLATE</u> brown squares, one row centered, an alternate row on each side, spaced. Scales keeled. | Plain brown or dark tan. (Old adult -- see "Uniform".) Underneath: Yellow with brown or black markings. Born alive (8 in.) same pattern as adult. | Stout to heavy. Not over 5 feet; average 3 feet. Head very large, triangular. (Not poisonous.) |
| ----- BROWN WATER SNAKE | | |
| <u>DARK BROWN TO BLACK</u> checkered pattern on latter half of body; banded on forward half (see "Banded"). Scales keeled. | Tan or gray. Underneath: Yellow-white spotted with red, brown and black markings; or plain. Born alive (8 in.) black bands on gray or tan. | Moderately stout to heavy-bodied. Not over 5 feet; older specimens (3 to 5 ft.) see "Uniform". |
| ----- NORTHERN WATER SNAKE | | |
| <u>BLACK</u> irregular but squarish blotches obscure most of background. Smaller row of black blotches on sides. Scales smooth. | White, yellow, or tan to yellow-green in tire-chain pattern. Underneath: same as on top. Hatchlings (7 in.) same as adult. | Slender, cylindrical. Not over 7 feet; average 3 feet. Head indistinct. |
| ----- EASTERN KING SNAKE | | |
| Same as above. (southwestern Va.) | Hatchlings 7 in. and young snakes to 1½ or 2ft. may be young of | BLACK KING SNAKE (see "Uniform"). |
| <u>BLACK</u> squares, sometimes irregular in outline; smaller rounder series on sides. Scales are keeled. | Yellow, tan, brown, to reddish or gray. Varied. Underneath: yellowish to yellow-green or gray. Sometimes pink. Hatchlings (6 in.) same as adult. | Stout. Not over 4 feet; Average 2 feet. Head with upturned snout. |
| ----- EASTERN HOGNOSE SNAKE | | |
| <u>BLACK TO OLIVE BROWN</u> roundish squares on each side of central stripe. (See "Lined"). Scales keeled. | Dark green to olive brown. Underneath: Dull yellow to greenish-yellow. Born alive (7 in.) same pattern as adult. | Slender to moderate. Not over 4 feet; average 2 ft. Head distinct. |
| ----- EASTERN GARTER SNAKE | | |

SNAKES WITH A CHECKERED PATTERN:
(spotted, alternate rows)

| <u>Spots:</u> | <u>Background and Beneath:</u> | <u>Proportions:</u> |
|--|--|--|
| <u>BLACK TO DARK GRAY</u> rounded spots, well-spaced, five rows; large series center of back, two rows of smaller spots along sides. Scales keeled. | Gray to pinkish gray. Red stripe from behind head on center of back. Underneath: White, marbled with gray spots or blotches. Born alive (6 in.) same. | Stout. Not more than 2 ft. Tail slender, ends in rattle or blunt button. 9 large scale plates forward on top of head. |
| ----- CAROLINA PIGMY RATTLESNAKE | | |
| <u>RED-BROWN TO OLIVE</u> squarish blotches on center of back, two rows of smaller spots on sides. Scales smooth. | White, gray, or tan on top. Underneath: checkered with white and black; no stripes underneath tail. Hatchlings (7 in.) brighter red, same pattern. | Slender to moderate. Not over 4 feet; Average 2 feet. Head barely distinct. |
| ----- NORTHERN MILK SNAKE | | |
| <u>BROWN</u> chestnut to medium brown or tan on each side of tan central stripe. Scales keeled. | Light tan to gray-tan. Underneath: Pink to tan; no markings. Born alive (3 in.) gray-black, light neck ring. | Slender to moderately stout. Not over 2 feet. Head distinct, dark. |
| ----- NORTHERN BROWN SNAKE | | |

(The VHS BULLETIN is mimeographed by trainees at the George Mason Occupational Training Center in the County of Arlington, Virginia..)

SNAKES WITH A LINED PATTERN:
(striped, lengthwise)

| <u>Lines or stripes:</u> | <u>Background and Beneath:</u> | <u>Proportions:</u> |
|---|---|--|
| <u>Yellow or green-</u> yellow stripes (3) one on center back one on each side. Scales keeled. | Olive-brown, dark green to black. Varied. Underneath: yellow-green. Born alive (6 in.) same. | Slender. Not over 4 feet; average 2 feet. Head distinct. |
| ----- EASTERN GARTER SNAKE | | |
| <u>Tan, ivory or yellow</u> stripes (3) center stripe may have a greenish or orange tinge. Born alive (7 in.) | Green-brown to velvet black between stripes; green, tan or chestnut- brown below side stripes. Underneath: Clean yellow to greenish-white. | Very slender. Not over 3 feet; Average 1 foot. Tail long. Head distinct. |
| ----- EASTERN RIBBON SNAKE | | |
| <u>Yellow to ivory</u> (two) stripes; one on each side; narrow black stripes (three) on back obscured by dark background in most specimens. Scales keeled. | Dark brown to olive brown. Underneath: Yellow with 4 olive-brown stripes, dis- tinct on forward half, to- ward tail merge in adults. Born alive (7 in.) same as adult. | Slender to moderately stout. Not over 3 feet; Average 1½ feet. Head distinct. (See "Uniform") too.) |
| ----- QUEEN SNAKE | | |
| <u>Dark red</u> stripes (three). Scales smooth, glossy. Blue before shedding. Hatchlings (7in.). | Blue-black to bluish in between red stripes. Underneath: Yellow and red with two rows of dark spots running lengthwise. | Slender to stout. Not over 5 feet; Average 2 feet. Head barely dis- tinct; tongue small |
| ----- RAINBOW SNAKE | | |
| <u>Tan to gray-white</u> (1) on center of back. Stripe bordered by a row of black dots Scales keeled. | Darker brown to chestnut- brown, or gray. Underneath: Pale tan to pinkish; unmarked. Born alive (4 in.) gray-black; light neck ring. | Slender to moderately stout. Not over 1½ feet; Average 10 inches. |
| ----- NORTHERN BROWN SNAKE | | |
| <u>Tan stripe</u> (1) as in just above: OR Narrow dark stripes (four). Scales keeled. | Brown above; plain red on the underside. Bluish-gray above; plain red underneath. Born alive (3in.) darker. | Slender to moderately stout. Not over 1½ feet; average 1 foot. Head distinct; light spots at neck. |
| ----- NORTHERN RED-BELLIED SNAKE | | |

SNAKES WITH A LINED PATTERN:
(striped, lengthwise)

| <u>Lines or stripes:</u> | <u>Background and Beneath:</u> | <u>Proportions:</u> |
|--|---|--|
| Red to rusty-brown (one) down ridge of back. No other lines. Other patterns are stronger; checkered. | Black saddle spots with an alternate row of dark gray spots on each side; see "Checkered". Born alive. May have pinkish cast. | Slender. Head distinct. Tail ends in rattle or blunt button. |
| ----- CAROLINA PIGMY RATTLESNAKE | | |
| Same as above except Banded pattern is stronger; grayish cast. Large cheek patches. | Dark brown or black bands. See "Banded". Born alive (12 in.). | Stout to very heavy-bodied. Tail ends in rattle or blunt button. |
| ----- CANEBRAKE RATTLESNAKE | | |

If you see an unusual reptile or amphibian alive, save it; Let VHS, or the nearest zoo, museum, university or college zoology department know about it as soon as possible.

If the unusual specimen is dead, and not too badly damaged or decayed, preserve it in a 40 percent solution of formalin -- available at your drug store without prescription. Let VHS know about it.

Communications may be sent to the Secretary, or to the VHS officers.

WILLIAM L. WITT

Bill Witt first visited the US National Museum at age 12. While still in Washington-Lee High, Arlington, Va., he collected amphibians and reptiles throughout Arlington and Fairfax Counties. A number of these specimens are now part of the U.S. National Museum collection. As recent and past issues of VHS Bulletin bear witness, he has added many other Va. county records to the original collection.

Bill was working on "every VHS herpetological project that seemed interesting" to him when he was called back into military service in late 1963. He is an Airman. One of these interesting projects was the distribution of the Milk Snakes in Virginia -- a Herculean task all by itself -- on which he has made more than a large dent.

He has compiled a monumental work on the reptiles and amphibians of the Shenandoah National Park which is being reviewed by others in advance of publication. This manuscript includes keys to species and notes on distribution and ecology. The National Park Service, Department of Interior, has expressed interest in publishing the work to fill a gap in the natural history of the Park. Before VHS, Bill was recognized as an authority on the herpetology of the Park by the earlier naturalists at the Luray headquarters, as well as the present staff.

Bill has worked off his great enthusiasm for herpetology in a number of interesting spots:

-- summertime jobs at the reptile house of the National Zoo; spare hours at the Division of

Reptiles and Amphibians, National Museum, under the guidance of Dr. Doris M. Cochran; and at assorted universities in Florida, Colorado, etc.--on an earlier Air Force tour between 1956 and 1960.

He checked the American Museum of Natural History (N.Y.) and also the Museum of Comparative Zoology collections for Virginia records. Many hours were spent going over preserved specimens and data slips in these institutions and others. In some cases he actually worked as a week-end assistant cataloging or indexing the collections. He has gone over the U.S. National Museum collection often and, in between college sessions, worked as an aide on loan from the U.S. Fish and Wildlife Service, Bureau of Commercial Fisheries, (Interior), with Smithsonian ichthyologists.

His energy has been boundless--besides being one of the co-founders of VHS, he has amassed a large reference collection and a series of distribution maps which he has kept posted with verified Va. herpetological data. Only a portion is reflected on the accompanying pages. (See VHS Bulletin No. 38).

Bill is Co-chairman of VHS and sits on the editorial board of the VHS Bulletin. The Air Force may not let him light in one spot for long but he keeps both of these VHS positions warm enough to give strong evidence of his interest in Virginian herpetology.

He has recently successfully completed a long technical electronics course under Air Force auspices. Bill was assigned this summer to important USAF work requiring high professional standards. FT

ABOUT THE EDITOR:

An early fondness for the Old Dominion and an interest in nature -- particularly herpetology -- grew up with Franklin Tobey, Jr., born in New Jersey on Washington's Day in 1919.

Earliest herpetological recollections (1928-1929) are of catching Garter Snakes on rocks edging Mount Pocono's Wiscasset Golf Course and examining auto-flattened snakes on asphalt roads in the Pocono-Swiftwater, Pa. area.

Winter evenings in the early thirties were spent reading Ditmars while listening to "dreamy Southland" radio music. He joined the Newark (N.J.) Museum's natural science club in 1933 and participated in the re-survey of N.J. snakes. Fifty high schools in New Jersey's 21 counties took part.

Active in Scouting since '30, he won several nature study awards including Reptile Study Merit Badge - his first. He held the job of assistant scout camp naturalist from 1932 through '35. A 1932 "Camp Mohican Mirror" quote: "Speaking of the reptile addition to the museum, the nature director added, largely because of the addition of Franklin Tobey..."

Summers, 1936 through 1940, he was assistant to the scout camp's physician. Eagle Scout, 1938.

Prep school employed him as an assistant in the biology lab when he was still a student.

Columbia College (New York) gave him an A.B. (Class of '42). Ten days later, to his delight, the Army assigned him to Camp Pickett, Blackstone, Va.

In 1943, as a young Medical Administrative Corps Officer after OCS at Carlisle, Pa., he was sent to Tenn., Georgia, and Mississippi before joining Patton's Third U.S. Army in Europe. His principal off-duty pursuit was archeology - but herpetology was not forgotten. He is now Lt. Colonel, USA Reserve.

Back at Columbia University for graduate work in 1946-'47 he received a Master's in Political Economy. 1947 summer he moved his young family to Washington, DC where he took a position as an associate editor with a national magazine. Home, 1948-1959, was in Fairfax County, Va. Now, as temporary residents of Maryland, the Tobey's look forward to building on their homesite at Great Falls, Va.

In 1958 Tobey became an information officer with the U.S. AEC. Duties include announcements on the AEC bio-medical research programs. He contributes features on atomic energy to the Colliers Encyclopedia Yearbook (1960-'64). Member: National Press Club.

In 1958 he organized the Virginia Herpetological Society after consultations with the five other co-founders. At the first statewide meeting ('58) he was elected Secretary and holds this post to the present.