

GUIDE TO THE MORE COMMON
SNAKES OF THE
SHENANDOAH NATIONAL PARK
VIRGINIA ,

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COMMON SNAKES OF THE SHENANDOAH NATIONAL PARK, VIRGINIA

SMALL SNAKES - under 20 inches

1. Northern Ring-necked Snake - usually 10 - 15 inches (record length 22.5)
Diadophis punctatus edwardsi
- 2» Smooth Green Snake - usually 14 - 20 inches (record length 26)
Opheodrys vernalis vernalis

MEDIUM SIZED SNAKE - under 48 inches

3. Eastern Garter Snake - usually 18 - 26 inches (record length 48)
Thamnophis eirtalis sirtalis

LARGE SNAKES • under 72 inches

4. Northern Milk Snake - usually 24 - 36 inches (record length 47 1/4)
Lampropeltis doliata triangulum
5. Northern or Common Water Snake - usually 24- 42 inches (record length 51)
Natrix sipedon sipedon
6. Northern Copperhead - usually 24 - 36 inches (record length 53)
Agkistrodon contortrix wokeson

VERY LARGE SNAKES - under 72 inches

7. American or Common Blacksnake - usually 36-60 inches (record length 73)
Coluber constrictor constrictor
8. Timber Rattlesnake - usually 36 - 54 inches (record length 74)
Crotalus horridus horridus
9. Black Ratsnake or Pilot Blacksnake - usually 42- 72 inches (record length 101)
Elaphe obsoleta obsoleta

A KEY TO THE COMMONLY OBSERVED SNAKES OF THE SHENANDOAH NATIONAL PARK

1. A pit on each side of the head behind the nasal; if not visible proceed using colors. Copperhead - Rattlesnake
 No pit (visible). , , , 2
2. Pattern of stripes or bars on back. 3
 No pattern on back but a ring may be present around the neck, 7
3. One or more (three) longitudinal stripes yellow in color.
 Eastern Garter Snake. *Thamnophis sirtalis sirtalis*
 No stripes as above. , ... , ... 4
4. Crossbands broken or unbroken. 5
 Blotches on back rectangular in shape, usually reddish in color.
 A single large row of blotches, with a second smaller row along the sides, some tending to fuse with the large blotches on dorsal (back) and belly white with black checkers.
 Northern Milk Snake, *Lampropeltis dolia* *triangulum*
5. Crossband3 complete on first quarter of body but becoming broken and staggered on the remainder. If snake is dry, pattern becomes obscure and assumes a dull gray color.
 Northern Water Snake, *Natrix sipedon sipedon*
 Not as above. * ** . . . 6
6. Black crossbands, satiny with yellow or brown interspacings, snake heavy and equipped with rattle.
 Timber Rattlesnake, *Crotalus horridus horridus*
 Hourglass or regular crossbands, often coppery in color but may vary in other shades of brown; two small black dots on rear of head. May smell of cucumbers if found in the spring.
 Northern Copperhead, *Agkistrodon contortrix mokeson*

7. Top of snake blue-gray in color; a yellow or orange ring about the neck: belly the same color as the ring. A row of black dots to half-moons may be present in varying degrees along the centerline of the belly.

Northern Ring-necked Snake, Diadophis punctatus edwardsi

Not as above..... 8

8. Black satiny may have black throat..... 9

Body green, or glossy black with white throat..... 10

9. Black: satiny or dull, elongated body, belly and throat black,.

Black Racer, Coluber constrictor constrictor

Black, satiny with rattle, may have yellow crossbands.

Timber Rattlesnake, Crotalus horridus horridus

10. Glossy Black, throat white, body square in X-section.

Pilot Blacksnake, Elaphe obsoleta obsoleta

Green in color..... 11

11. Green in color, scales smooth.

Smooth Green Snake, Opheodrys vernalis vernalis

Green in color; scales peeled or rough to the touch.

Rough Green Snake, Opheodrys aestivus

POISONOUS SNAKES

Unless one is familiar with snakes in general, some difficulty will be experienced with identification, if some part of a snake is seen other than the head or tail. There are several harmless snakes that more or less resemble either the Copperhead or the Rattlesnake. The Gorn, Milk, and Northern Water Snake have a blotched pattern or crossbands. There are several snakes that are black, the Black Racer, and the Pilot Blacksnake. In addition, there are two snakes with black phases, they are the Timber Rattlesnake and the Eastern Hognosed Snake.

While no harmless snake has a rattle (anywhere in the world) the rattlesnake isn't the only snake that can produce a buzzing sound. Some species, such as the Black Racer, Rat and the King Snakes, will vibrate their tails rapidly and should there be a dried leaf or other sounding board-like material in contact, a buzzing sound will result. This habit is a sign of nervousness for snakes can be nervous too.

In the spring, Copperheads release an odor suggesting a fresh cucumber. This can be smelled several feet away from the animal. Hikers should take notice. When this smell is noticed, stand still and CAREFULLY inspect the ground around your feet. Using a long stick stir the ground in front of the party as you move along the trail. This stirring should reveal your snake if it should be on the trail ahead. Should you have passed the snake, it will remain motionless

until your party has departed. Since it's unlawful to kill anything, even Copperheads, it should be escorted to the edge of the trail and eased into the underbrush. Since the purpose of the odor is to attract lady Copperheads, the presence of one snake should taken as notice of the chance that more may be in the area. Outdoorsmen can readily see Copperheads and this is by far a person's best defense. DO NOT ATTEMPT TO PICK UP ANY SNAKE - ESPECIALLY POISONOUS SNAKES, THE CHANCES OF BEING- BITTEN ARE THE GREATEST WHEN A WOULD-BE, AND USUALLY INEXPERIENCED, SNAKE CATCHER TRIES TO SHOW OFF!

help

There are five (5) suggestions to/Park visitors avoid unpleasant meetings with our two poisonous snakes. Remember that there is absolutely no way to insure that once you set foot upon any of the two hundred miles of trails here in the Park that a poisonous snake will not be encountered.

- 1, Do not attempt to collect, handle, or kill any snake whether harmless or poisonous, living or dead.
2. Remember the cucumber smell when hiking in the spring and early summer.
3. Be careful where you sit. There are records of Copperheads being sat upon. Never place your hands out of your sight when climbing on rocks.
- it. When crossing logs on the trails, step on the log, then a short hop will carry you beyond any snake sunning on the other side. This should apply for rock scrambles, also.
5. Campers should carefully check campsites, especially the temporary sites along the east side of the Big Meadows area.

SHAKES

Of all the animals that man is in common association with, snakes are the most feared and yet the most fascinating. Snakee are a large part of the amphibians and reptile fauna of the Park, being exceeded in number of species only by the seldom seen salamanders. There are seventeen species expected. Of the seventeen known snakes only two are poisonous, the Northern Copperhead and the Timber Rattlesnake. In this guide eleven of the most commonly seen varieties will be covered, although related species are mentioned.

Snakes may be found in this guide according to their adult sizes, ranging from less than 24 inches to more than 108 inches. A key located in the front will aid in determining these nine species based on both color and patterns. The patterns of the two baby Black Snakes cannot be keyed out but will be covered in the text.

UNDER 24 INCHES LONG

RING-NECKED SNAKE

The RING-NECKED SNAKES are among the prettiest snakes in the state. The back is blud-gray in color While the belly ranges in color from bright orange to yellow. The center of the belly on some individuals have a row of black dots. The Ring-neck Snake is a constrictor, in much the same way as the jungle pythons and boa constrictors. The Ring-necks (as they are frequently called) feed on salamanders, insects, and other snakes. The Ring-necks all prey. to larger snakes, such as Milk Snakes and hawks. The Ring-necks reproduce by either the laying of eggs or by giving birth to living young. If eggs are to be laid, then several females will often

nest together in a pile of rotten logs. In one area of the Park there is a pile of rotten wood that regularly serves as a community nursery. A given female may lay eggs one year and then the following year give birth to living young. Just why this is remains as one of the many unanswered questions about nature. Ring-necks are to be found abroad crawling in forest clearings, crossing the parkway during the day and under rocks. In the areas of the Park where terrestrial salamanders, such as the Wood Salamander, occur in large number the Ring-necks are also in abundance.

GREEN SNAKES

There are two species of Greensnakes known from the Park. The SMOOTH GREENSNAKE has been seen in number only at Big Meadows in the Central District. The other is the ROUGH GREENSNAKE which is not usually to be seen except along the lower slopes of the Park. The only sure way to tell which snake you may have is by examination of the scales on the back. If there is a ridge along the center of each scale and if the eye is large for the size of the head and if the neck is distinct from head, then chances are that the snake is a Rough Greensnake. However, if there are no ridges on the scales, the eye is small for the size of the head, and if the neck is indistinct from the head, then the snake is the Smooth Greensnake.

Both Greensnakes eat insects, mostly spiders. Both fall prey to hawks and snake-eating snakes as well as mammals such as skunks. Greensnakes lay elongated eggs in the early summer in usually the same sort of places that the Ring-necks do. The Smooth Greensnakes usually is to be found down on the ground where it often burrows while the Rough Greensnake is usually found up off the ground in bushes.

UNDER 48 INCHES

GARTER SNAKES

Elsewhere the EASTERN GARTER SNAKE is one of the very common snakes, well known as a pet of small boys, however here in Shenandoah, the Garter Snake is not often seen. His yellow stripes will be found down in the moist valley such as the Rapidan River where he hunts for frogs and salamanders, while baby Garter Snakes search for juicy earthworms. Garter Snakes bear living young in the late summer. Their alternate black squares between the yellow stripes distinguishes them from their relative, the EASTERN RIBBON SHAKE, which has brown below the yellow stripe on its back and are quite slender for its length. Both Garter and Ribbon Snakes have a pair of yellow dots at the rear of their heads. Ribbon Snakes are quite rare in the Park.

UNDER 22 INCHES

MILK SNAKES

The famous MILK SNAKE is found here, even though it isn't milking anything. Snakes, of course, do not drink milk, The name MILK SNAKE stems from the species being found in dairy and other barns, where they were searching for mice. There are several snakes that bear superficial resemblance to this. The CORN SNAKE, quite rare here, is square in body cross-section while the Milk Snake is rounded; the body blotches of the Corn Snake are square while the Milk Snake are more often saddle-like extending over on the sides. Corn Snakes are generally brighter in color, Milk Snakes prey upon amphibians, reptiles, birds, and mammals, and are in turn prey of hawks and skunks among other. Milk Snakes, like the other King Snakes are egg layers. Milk Snake eggs are often found in the same community nursery

with the Ringed-neck and Smooth Greensnakes. No "fights" between Milk Snakes and poisonous species have been so far observed even though Copperheads and Milk Snakes have often been found within a few feet of each other.

WATER SNAKES

Almost every fisherman, not well informed on snakes, believes that WATER MOCASSINS, BANDED, COMMON, OR NORTHERN WATER SNAKES consume huge numbers of savory trout as witnessed by fat snakes and no fish. Perhaps a snake was found once in a while eating a trout. It is known among both fish biologists and snake people that water snakes are a control on keeping down sick and otherwise ailing fishes. If a healthy trout can't outswim a water snake, except in drying pools, then it should be eaten! Normally its food consists of mostly amphibians, and the slower fishes, usually minnows and darters. The usual hawks and skunks are the natural enemies but *man* is a destroyer of this and untold number of others thought to be dangerous animals. They aren't noted for their pleasant dispositions. They are capable of delivering a telling bite if forced. While they carry no venom, the wound should be given first aid. Water snakes bear living young in the late summer. Here in Shenandoah, the Northern water Snake is encountered along the shores of the larger streams, either under cover of large flat rocks or in the case of one individual I have often seen living in the rock retaining wall at the side of a fire road.

COPPERHEAD

The NORTHERN COPPERHEAD is our most common and smallest poisonous snake. The only snake that really resembles a Copperhead is a Copperhead.

Corn, Milk, and Water Snakes are mistaken for this species•

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(For that matter, I have been shown dead Blacksnakes thought to be Copperheads) Copperheads eat almost any amphibian and mammal, such as mice with occasional ground bird for variety. Copperheads give birth to living young, usually less than a half dozen. They are born in the late summer. Baby Copperheads are nearly as poisonous at birth as their mother. Each baby comes equipped with a bright sulphur yellow tail, seemingly used to attract small amphibians by acting as a bright colored worm. As the baby Copperhead grows, the yellow fades into the black tail of the adult. They rarely climb, usually no higher than a couple of feet into low bushes. As yet, no Copperhead has been found up off the ground. In passing, a specimen, 36 inches long, was found at Simmons Gap. This is the largest so far found in the Park, but which is not particularly large for the species. To escape danger Copperheads will try to rely upon their protective coloring. If a Copperhead is found in a resting coil or at any rate not in motion, it will usually remain quiet. The least physical contact will result in an instant strike. A motionless Copperhead should be left alone. If once aroused, a Copperhead will usually retreat if given a chance, but will fight if cornered. Remember that it could be a long walk for someone to locate assistance for your few minutes of foolish bravery, Copperheads tend to be more frequent in number in the damper portions of Shenandoah such as Whiteoak Canyon; Rose, Rapidan, and Conway rivers, and less so in Big, Madison, and Paines runs area in the South district.

ORDER 96 INCHES

BLACK RACER

The BLACK RACER is seen in number in the area of Big Meadows and several open meadows along the top of ridge. Racers are prone to sunning themselves while intertwining through the upper branches of the locust tree or bushes. Racers feed on vertebrates including other, and smaller, Black Racers. Black Racers lay eggs although nests have yet to be discovered. Baby Black Racers bear no resemblance to adults especially through the eyes of an untrained observer. Young Black Racers are light gray in color with a darker irregular rectangular blotch on the back. The blotches become cross-bands further back. The head is indistinct from the body. The black color comes with age.

TIMBER RATTLESNAKE

The larger and less common poisonous snake, is the TIMBER RATTLE-SNAKE. The casual visitor isn't likely to see, or for that matter hear a Rattlesnake, (See remarks, page 4, concerning other snakes making buzzing sounds.)

Rattlesnakes here come in several models. We have the sinister satiny black model, the racey one with its black bands against a yellow to tan background and brown with black bands. There is one individual that observed having a zig-zag strip© extending from its head partway back before the normal cross band pattern started. Rattlesnakes prey upon larger mammals, such as rabbits and squirrels, both tree and ground. They bear living young,

OVER 96 INCHES

BLACK RAT SNAKE

The BLACK RAT SNAKE or PILOT BLACK SNAKE is the largest harmless snake in the United States. Adults have been known to reach 108 inches or 9 feet. A snake that large would be as dangerous to catch as a boa constrictor or python of the same size, although no specimen even approaching this size has ever been reported from Shenandoah. A large specimen here is about 60 inches. Black Rat Snakes are powerful constrictors and thus are able to handle almost any bird or mammal, within reason. While very large specimens might die of old age, younger snakes are victims of the usual hawks and skunks, not to mention other snakes. Black Rat Snakes lay eggs, again no nests have been found of this species. Young Black Rat Snakes resemble Black Racers except for the following: blotches regular rectangular; snake is rather long for its thickness; and the head quite distinct from body. They have been observed from the dry South District to the moist Central District.

Further information on snakes may be found in A FIELD GUIDE TO THE REPTILES AND AMPHIBIANS OF THE UNITED STATES, by Roger Conant, published by the Houghton Mifflin Company, Boston, Massachusetts.

For more technical information, consult the two volume set HANDBOOKS OF SNAKES: U. S. AND CANADA, by H. H. Wright, published by Comstock Press, Ithaca, New York, or by writing to:

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United States National Museum
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