

Pedal, Paddle and Hike

By Trent Carbaugh

Ssssssssnakes!

Spend any time out on the C&O Canal during the warmer months and you will, without a doubt, see a snake. Many folks have an unreasonable fear of our ophidian fellow travelers, most of which is baseless folklore. Snakes are not particularly dangerous, other than for the surprise you can get when you see one. All snakes are predators and fulfill an important function in nature, mostly keeping small mammal, reptile, amphibian, and insect populations in check.

There are 27 different kinds of snakes in Maryland. Unfortunately, due to their reclusive, often nocturnal natures, you will probably never see many of these species without some serious luck. Included below are twelve of the species that you can see along the C&O Canal or close to it. The remaining fifteen species are inhabitants of the eastern coastal plain, though as our local climate is warming some of these species may move west in the future.

Snakes are unique and beautiful creatures; they are patient hunters and supremely adapted to a lifestyle of concealment and surprising their prey. The fear so many people have of snakes is in part due to snakes accidentally surprising *them*. This leads to much animosity and hostility to our legless pals.

Snakes also suffer from a serious philosophical bias; many cultures have and often still do, regard snakes as a personification of evil. Linguists, though, have pointed out that in many early religious texts “serpent” is actually a description of a dragon. Note: we don’t have many dragons around anymore, a possible dire warning for the snakes.

As with all of nature’s creatures, snakes deserve our respect and our protection, even if you personally don’t like them. If you take the time to learn and observe you may come to realize just how amazing snakes are and how they fit so well into the environment.

Colubridae (Non-venomous Snakes)

I have chosen to list non-venomous snakes in the order that I see most. This order will probably be true for anyone out on the towpath or on the Potomac.

Please note that most humans have a slight allergy to reptile saliva, so even a non-venomous snakebite (or a lizard bite) can cause problems. Usually this manifests itself as slight swelling, itching, and redness that goes away quickly. If you get bitten by a non-venomous snake and the symptoms don’t go away quickly, seek medical attention.

Racers, Rat Snakes, and Red Corn Snakes. The two most common snakes you will see on the towpath are what are commonly called “black” snakes. These two similar looking snakes are different sub-species. Northern racer (*Coluber constrictor*) and the eastern rat snake (*Pantherophis alleghaniensis*). The closely related red corn snake, (*Pantherophis guttatus*), though much rarer to see, is related to both racers and rat snakes. Eastern rat snakes and red corn snakes have a “bread loaf” body cross section instead of a rounded cross section like most other snakes have. This facilitates climbing which both of these snakes do very well. All three of these snakes lay eggs in clutches of 5 to 20 eggs, often guarded by the mother.

Northern racers are long snakes, normally 36 to 48 inches long, but can grow to over 72 inches. Racers are distinguished by coloration. Adult specimens usually are black all over except for a white chin. Young racers can be dark gray with reddish brown blotches on the body. They get their name from their ability to “race” away with burst of high-speed slithering when encountered and will sometimes leap limb-to-limb in trees.



Left – Northern racer in the process of shedding its skin. As snakes grow their outer layer of skin dries and sloughs off to accommodate the new skin of the slightly bigger snake within.

Right – Northern racer hanging out in a tree.

All photos by Trent Carbaugh unless otherwise credited.



Eastern rat snakes look similar to racers with a black back but have a white chin and belly shading to gray towards the tail. Rat snakes average 54 to 60 inches long but can grow up to 84 inches with age. They are also gifted climbers and can climb large trees by clinging to the bark and are seen frequently on stone outcroppings. I often see them on vertical surfaces of locks and on culvert facings.

Red corn snakes are a more colorful subspecies of rat snake. Usually associated with Maryland coastal areas, there is a population of these fellows in Washington and Allegany



Above – An eastern rat snake relaxing before a long day of looking for rodents.

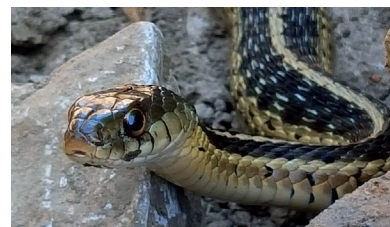
Left – A handsome red corn snake posing for a close-up.

Below – Full view of a red corn snake.

Above – Adult garter snake.

Right – Garter snake.

Below – Ribbon snake. Ribbon snakes and garter snakes can look very similar and some can only be identified by light markings on the head.



Counties. Though considered to be a rare and shy species, I see them fairly often in Allegany County. The average size of the red corn snake is 30 to 48 inches with older specimens sometimes reaching 72 inches.

Northern Water Snakes. Though there are two water snake species in Maryland, only one officially lives in the Potomac watershed, the northern water snake (*Nerodia sipedon*). This large bodied snake ranges from 24 to 54 inches long, can be frighteningly aggressive and is an impressive swimmer. One of the interesting things about this snake is the diversity in its coloration. Usually their coloration is a pleasing gray body color with brownish blotches down the back. Northern water snakes can also be plain gray with very light brown or rust colored blotches, solid gray, or gray green with brown blotches. The diversity in coloration is considered an adaption to local environments. Northern water snake young are born live in litters of 12 to 36 little aggressive snakes in the late summer to early fall. There are reports of the plain bellied water snake (which has a red belly), which is common in eastern Maryland, being seen on the towpath around the eastern terminus.

Garter and Eastern Ribbon Snakes. Garter snakes (*Thamnophis sirtalis*) and ribbon snakes (*Thamnophis sauritus*) are closely related. Garter snakes grow to about 24 inches in length and can vary in coloration. Most have a dark body with three lighter stripes down the back with lighter spots along the stripes with a light cream or white underbody. There are small populations that are completely black with a light underbelly. They are named for their resemblance to woven cloth knee garters worn in the 18th and 19th centuries. Garter snakes tend to flee when a human gets close and if cornered will bite and emit a foul smelling musk from a gland near the tail. Garter snakes feed on small frogs, toads, and salamanders. Habitat is just about any environment except water but they can and do swim at times. Garter snakes are live bearing with litters of six to 60 young; litter size is probably dependent on the size of the mother. Birth occurs in the late spring/early summer.

Eastern ribbon snakes grow to about 3 feet in length and have a thin graceful body shape. The dark upper body is set off with long yellow stripes that run to the tail with a cream colored underbody. Their preferred prey are small amphibians, earthworms, and insects. Ribbon snakes are semi-aquatic and are often found around ponds and marshes. Eastern ribbon snakes bear live young early in the spring, generally about 10 offspring are born. Ribbon snakes can have two litters a year under good conditions.

Garter snakes and ribbon snakes can be difficult to tell apart as they can look very similar in some locations. They can be distinguished by a white patch in front of the ribbon snake's eye which is lacking in garter snakes.



Left – A fine example of a northern water snake, this one was quite aggressive. He took exception to my presence, but leapt off his log and quickly fled.

Right – Another northern water snake decorating a rock. If you look closely you can see the variation in color in the two pictured water snakes.

King Snakes and Eastern Milk Snakes. I personally don't see many king snakes or the closely related milk snakes along the C&O Canal. They do live in areas adjacent to the park though and you may run into them on side trails and areas off of the canal proper.

King snakes (*Lampropeltis getula*) are the more eastern dwelling of the two, in Frederick and Montgomery counties, but can rarely be seen further west into Washington County. It is a handsome snake with a black body color and cream or white thin bands the length of the body and spots of the same color on the head. The pattern continues to the snake's belly. This non-aggressive snake is usually 36 to 48 inches in length with rare specimens over 72 inches long. King snakes are egg-layers, depositing clutches of three to 29 eggs at a time. These guys will eat any small vertebrates but are known for eating other snakes, even pit vipers such as copperheads, and are highly resistant to toxins.

You will have a better chance to see eastern milk snakes (*Lampropeltis triangulum*) along the western parts of the canal. Milk snakes are named for their habit of living around barns for the supply of small mammals usually found in such places. Milk snakes have a brown or reddish brown body color with white stripes edged with black along the length of the body. The under belly is of a black and white checkerboard pattern. The average length is around 24 to 36 inches but longer specimens are known. These very adaptable snakes range in Maryland from Montgomery county west through the mountains. Milk snakes may appear more brown in overall color to blend into woodland terrain better in the western part of their Maryland range. Their diet is similar to king snakes but with an apparent preference for rodents. Milk snakes are egg-layers depositing six to 24 eggs in a clutch in rotting vegetation or tree stumps. The young, when hatched, are comparatively large, up to 10 inches, compared to the 4 to 6 inch young of other oviparous snakes.

Eastern Hognose Snakes (also known as puffadders, spreading adders, blow vipers and hissing sand snakes). Hognose snakes (*Heterodon platirhinos*) are one of the more comically unique snakes and one the most confusing that you may see (and my personal favorite reptile). Hognose snakes range from 20

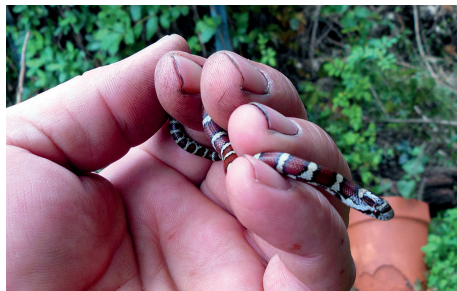
to 35 inches long though they can be a little longer with a heavy body shape, and can have a tan, brown, gray, orange, or red body color with a pattern of dark splotches down the back. Others can have a black or dark gray body with no splotches. Identification, despite the variance in coloration, is not difficult due to this odd snake's unique behavior. When surprised, a hognose snake will flatten out its head just like a cobra's hood and hiss in an effort to make you go away and may strike without opening its mouth. If this doesn't work it will roll over and play dead, *with its tongue hanging out!* If you turn it back over, it will immediately roll back over and stick its tongue back out and will continue to do this until you get tired and go away.

Eastern hognose snakes are specialist hunters of toads and to a lesser extent frogs and salamanders. They have a snow-plow shaped scale on their nose to assist in their efforts to find toads under leaf litter. Technically a mildly venomous snake, they have two short saw edged fangs in the back of their mouth that are only dangerous to toads and pose no threat to humans. Toads often inflate their outer skin with air to be hard to swallow. The snake's rear fangs are used to deflate the skin. With the toad deflated and relaxed from the toad specific venom, the victim is easily swallowed. Hognose snakes also have enlarged adrenal glands that offset the bufotoxin, a heart-suppressing toxin, secreted by toad skin as a defense. If you've ever seen a dog pick up a toad with its mouth and spit it out immediately this is why. Hognose snakes are egg-layers, the usual clutch is on average 22 eggs. The eggs hatch in mid- to late-summer.

Northern Ring-necked Snakes. These small snakes are quite beautiful and relatively docile when handled. They are rather secretive and tend to prefer mixed



Eastern king snake. Achim Raschka /en.wikipedia.org/wiki/User:Dawson



The lovely eastern milk snake.

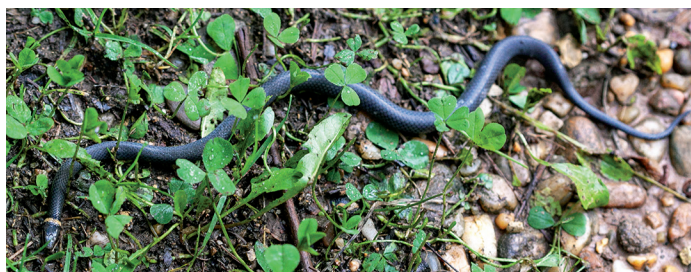


The feared Potomac forest cobra, no – what am I thinking! This is a hognose snake faking a fierce appearance.



A hognose snake – if the cobra imitation doesn't work, it will roll over and play dead; note the tongue sticking out.

forest terrain. Ring-necked snakes average around 10 to 15 inches with a slender body of dark gray, bluish black, or brown coloring. The belly is a cream or yellow color. The belly color matches the narrow ring just behind the head which gives the snake its name. Ring-necked snakes are gregarious and it is not uncommon to see a few of them together. Their prey is typically small salamanders but small lizards and worms are also eaten. Ring-necked snakes lay eggs in clutches of 1 to 12 with hatchlings being about 5 inches long. Young ring-necked snakes often enter buildings in the fall seeking warmth and insects for food.



Ring-necked snake. Photo by Steve Dean

Viperidae (Pit Vipers)

Of the four venomous species of snake present in North America only two live in the Potomac River watershed, the copperhead and the timber rattlesnake. Both are of the viperidae family, subfamily crotalinae, commonly known as pit vipers. Pit vipers are named for the small “pit” between their nostril and eye on each side of their head. This pit is a heat sensor that allows the snake to locate prey and accurately strike, kind of like a heat seeking venom missile.

Pit vipers “look” like they are going to hurt you. The distinctive triangular shape of the head and the way that they focus on you with their heat sensing “pits” is unmistakable. This is true of pit vipers anywhere in the world; their very appearance is a warning.

Timber Rattlesnakes. Timber Rattlers (*Crotalus horridus*), though a large, scary looking snake, are typically not aggressive and usually polite enough to rattle a warning if you get too close. You will probably never see a timber rattler along the canal, as riverside conditions are not to their liking. They have a preference for higher, dryer terrain. (They are seen quite frequently on the Great Allegheny Passage trail, though). Personally, in my adventures in and about the Potomac, I rarely see timber rattlers and then only at higher elevations in the mountains. They are annoyingly shy about being photographed and are rarely aggressive.

Adult timber rattlers range from 36 to 60 inches long and can grow to over 70 inches. There are two color phases, a yellow/gray body with black chevrons or black chevrons on a dark brown or black body. The distinctive rattle at the end of the tail is formed when the snake sheds its skin to

accommodate growth. Timber rattler habitat is in higher country from Frederick County west to Garrett County, though historically they are reported further east. Timber rattlers produce live young litters of, on average, 10 little pit vipers every second or fourth year in late summer. Low birth rates are one of the reasons this is a protected species.



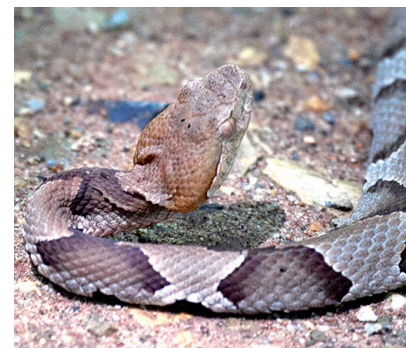
The mighty Timber Rattler. I stepped on this fellow while wandering in the mountains north of Big Pool. Despite my inadvertent rude behavior he was quite well behaved and didn't bite me; in fact was quite shy even after I apologized. After this incident I did invest in a good pair of snake boots, though.

Northern Copperheads. Copperheads (*Agkistrodon contortrix*) you may or may not see; they can be very difficult to spot, especially in the fall as their orange copper coloring camouflages them quite well on leaf litter. Copperheads can be very aggressive and will strike without warning. The first copperhead I ran into many years ago, close to Harpers Ferry while approaching a climbing area, repeatedly struck without warning, unsuccessfully thankfully, but it was an unpleasant surprise.



Above – Northern copperhead, found lounging on the towpath at Seneca in summer. Walkers and bikers were warned about it, until it finally left. You can see by the snake's coloration they could be very hard to see on the forest floor or on the leaf covered towpath in the fall.

Right – A detail of the copperhead.



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