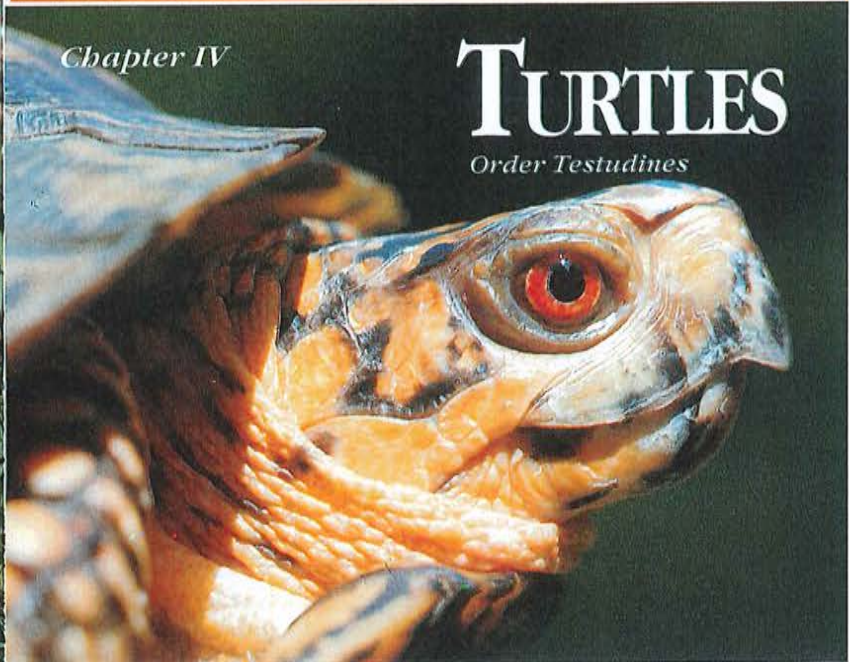




Figure IV-3, Wetlands are crucial to the survival of many species of turtles.



Chapter IV

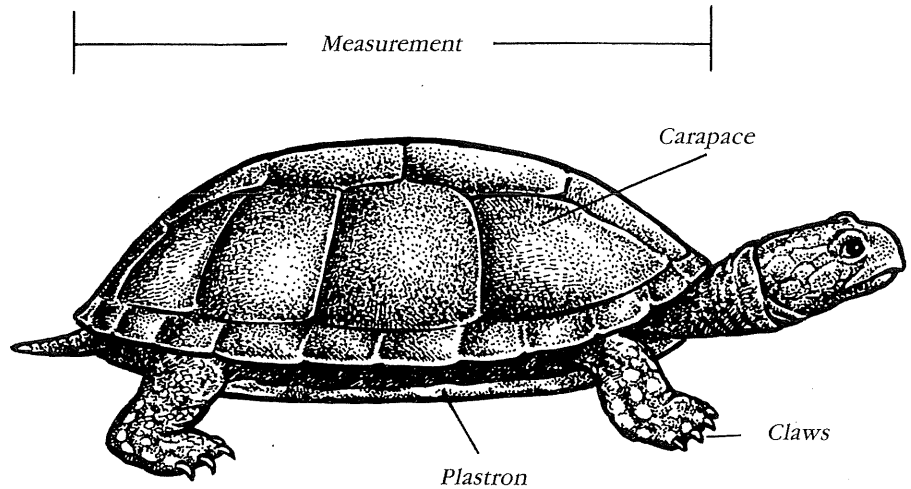
TURTLES

Order Testudines

Figure IV-1, The down-turned beak and red eye aid in identifying this male box turtle.

The unusual physical structure of the turtles makes them one of the most familiar and easily recognized of all our amphibians and reptiles. The distinctive shell that protects the turtle's body is unique and known to nearly everyone. The shell's shape, size, color and pattern can help identify several of the species. The upper shell, called the carapace, comes in a variety of shapes and markings (See Figure IV-5). The plastron, or lower shell, varies in size and in some species is equipped with one or two hinges that allow it to move or swing open and shut. This feature provides these turtles effective protection when they withdraw their legs and head and close up the shell tightly. Large scales, which actually are horny plates called scutes, cover the shells.

Figure IV-5



Turtles are our oldest living reptiles and have gone practically unchanged in the 200 million years they have been in existence. They also are considered to be the more intelligent of the reptiles. Turtles have adapted to a variety of environments. Some are fully aquatic, never leaving the water except to lay eggs. Others, though they reside near water, seldom enter it. All turtles enjoy basking and often can be seen soaking up the rays of the warm sun.

All turtles lay eggs and they must leave the water to perform this annual ritual. The female digs a hole, usually in well-drained soil, in which to deposit her clutch. After carefully covering the eggs with soil, she departs, leaving the eggs to incubate and hatch on their own.

Turtles have dry, scaly skin, claws on the toes (See Figure IV-5) and an upper and lower shell. Turtles lost their teeth sometime during the course of evolution, and they have been replaced by a hard, sometimes very sharp, horny beak.

Occasionally when turtles are discussed, the term *tortoise* may be used. This term usually refers to the large turtles that dwell on land. A "terrapin" normally is one of the aquatic, hard-shelled, often edible species.

In Pennsylvania, turtles make up four families, representing 10 genera and 14 species and subspecies.

Snapping turtles (Family Chelydridae)

Common snapping turtle—*Chelydra serpentina serpentina*

The snapping turtles, of which there is only one species in Pennsylvania, are among the largest turtles inhabiting fresh water. They have long tails (our other turtles do not) with saw-toothed projections running down the upper side. Their huge heads are equipped with a powerful set of jaws. The flexible plastron is shaped somewhat like a cross (not the usual oval or round) and it is smaller in proportion to the rest of the body, compared to those of other turtles.

Musk and mud turtles (Family Kinosternidae)

Eastern Mud turtle—*Kinosternon subrubrum subrubrum*

Stinkpot turtle—*Sternotherus odoratus*

Members of this family have smooth, oval-shaped upper shells, with 11 scutes (large scales) on the margin along each side. The tail of the female is very short. The tail of the male extends just beyond the outer margin of the carapace. These turtles are almost fully aquatic, content to crawl along the bottom of the stream or pond. They rarely leave the water except to deposit their eggs. Members of this family may sun themselves in shallow water when only the highest point of the upper shell is exposed. Two pairs of musk glands are located beneath the edge of the carapace. These glands emit an offensive odor and confirm that the stinkpot turtle is aptly named.

Only two species from this family occur in Pennsylvania, one of which, the eastern mud turtle, once thought to be extirpated in Pennsylvania, may still occur in limited numbers.

Pond, marsh and box turtles (Family Emydidae)

Midland painted turtle—*Chrysemys picta marginata*

Spotted turtle—*Clemmys guttata*

Wood turtle—*Clemmys insculpta*

Bog turtle—*Clemmys mublenbergii*

Blanding's turtle—*Emydoidea blandingii*

Map turtle—*Graptemys geographica*

Red-eared slider—*Trachemys scripta elegans*

Redbellied turtle—*Pseudemys rubriventris*

Eastern box turtle—*Terrapene carolina carolina*

Many members of this family live in the eastern part of the United States. It is the largest living family of turtles in the world with more than 80 species. Eight species reside in Pennsylvania.

This family of turtles includes species that are aquatic, semi-aquatic and terrestrial. Their hind feet are more flattened and elongated than members of some other families. There also is some webbing between the toes. In most members of this family in Pennsylvania, the upper shells are not highly domed but appear more flattened and from the side project a low profile. Basking is a popular pastime with these turtles.

Softshell turtles (Family Trionychidae)

Midland smooth softshell turtle—*Trionyx muticus muticus*

Eastern spiny softshell turtle—*Trionyx spiniferus spiniferus*

Only a single genus and two species typify this family in Pennsylvania. There is one other species in the United States, a total of 22 worldwide. The shells of these turtles are covered with soft, leathery skin rather than the bony plates common to most turtles. The carapace, or upper shell, is circular and often described as resembling a pancake. The feet are fully webbed with three very sharp claws. The snout is tubular-shaped, ending in a blunt point. Extended slightly above the waterline, they use this snorkel-like snout to breathe as they cruise just below the surface of the water, or when lying buried in the mud under the shallow water.

This family of turtles is aquatic. They are strong swimmers, but at the same time quick and agile on land. At times they actually seem to run when moving over land. The softshells prefer moving water rather than lakes or ponds. In addition to the spiny softshell turtle, which is illustrated and described in detail, one other member has been known to occur in Pennsylvania. Midland smooth softshell turtle (*Trionyx muticus muticus*)—Now believed extirpated in Pennsylvania, the original range of this softshell turtle included parts of several western countries. It extends from there to a broad portion of the Midwest. It likes larger streams and rivers, especially those with a moderate flow of current and bottoms of mud or sand. Only infrequently does it inhabit lakes or ponds. It is seldom seen more than a few feet from water.

This turtle's carapace, or upper shell, is smooth and without the tubercles along the front edge and rough texture that mark the spiny softshell, a close cousin. The upper shell is olive to brownish and splattered with dots only slightly darker than the background. The long snout, which is typical of the family, ends in round nostrils.

The smooth softshell turtle breeds in May to July. Its nest is actually a cavity six to nine inches deep, dug out by the turtle using its hind feet. From one to three clutches of spherical hard-shelled eggs are laid. Up to 30 eggs could be included in each clutch. Two to 2½ months pass before the eggs hatch. It takes seven years for the hatching females to mature, and thus begin the cycle again.

The smooth softshell turtle is very much an aquatic animal and feeds on crayfish, frogs and fish.

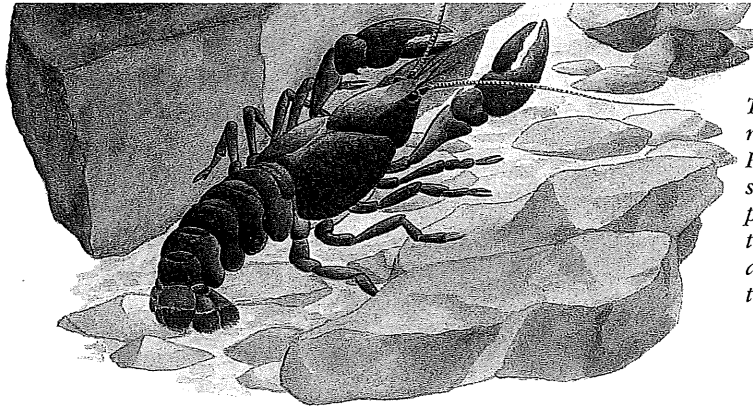


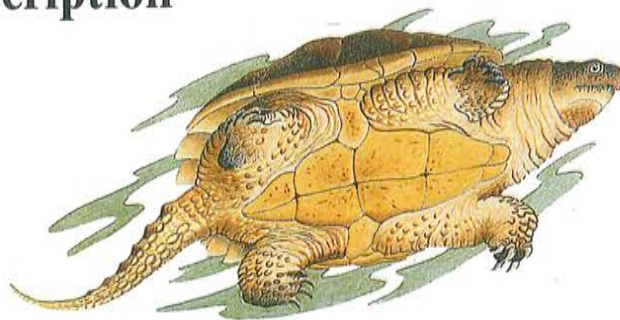
Figure IV-6

The crayfish resides in many Pennsylvania streams and provides food for the largely aquatic softshell turtle.

Species Description

Common Snapping Turtle

Chelydra serpentina serpentina

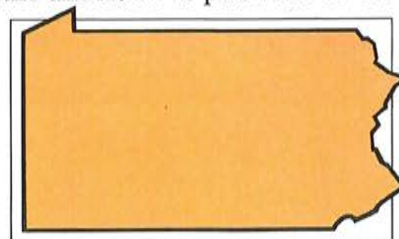


General characteristics. The common snapping turtle is sometimes referred to as the freshwater "loggerhead," and is the only turtle in Pennsylvania with any economic value. This turtle is commonly sought for its meat, which is considered a delicacy and a base for snapper soup. In Pennsylvania a fishing license is required to take snapping turtles and traps or set lines may be used.

Many people think the snapping turtle is ugly, both in appearance and disposition. Although on land it may lash out viciously, it is generally inoffensive when submerged in water where it spends most of its time. It does not bask in the sun nearly as much as many other turtles do. The snapping turtle is a good swimmer but more often than not prefers to walk across the bottom of its watery habitat, which it does quite well. Confronted on land, the common snapping turtle is quick to assume its offensive stance, in which the hind quarters are elevated above the rest of the body, and the jaw is opened wide, at which time the turtle may lunge forward repeatedly. During such shows of strength, the snapper may emit a loud hissing sound to discourage further any would-be adversary. The common snapping turtle is one of our largest turtles. Its carapace may measure up to 12 inches in length.

Identification. The snapping turtle is easily recognized by its large head, a plastron smaller in relation to the rest of the body compared to other turtles, and a tail proportionately longer than on other turtles. The tail is at least as long as the carapace and supports a series of large saw-toothed keels on its upper side. The neck is covered with loose, warty skin. The strong jaws end in a distinct hook. The carapace of the common snapping turtle is tan to dark brown, sometimes nearly black. The carapace is quite rough, serrated along its rear margin, and has three rows of keels running its length. These keels may be difficult to discern in older specimens. The unpatterned plastron is yellow to tan and it is cross-shaped and relatively small. It does not cover nearly as much of the underside as plastrons do on most other turtles.

Range. This large turtle resides in a broad area of the country. Its natural range extends from southern Canada to the Gulf of Mexico, and from the east coast to the Rocky Mountains. Thus, the common snapping turtle is distributed throughout Pennsylvania.



Habitat. An aquatic reptile, the snapping turtle has little preference for the type of water in which it resides. Snappers have been found in small streams as well as large rivers, in the smallest ponds to the largest lakes. It likes soft mud bottoms, especially if abundant vegetation is convenient. Rarely seen basking, the snapper prefers to rest in shallow water with just the eyes and nostrils exposed. The snapping turtle hibernates beneath the water. It ends its hibernation in April, emerging from an overhanging mud bank, muskrat hole or from under a collection of vegetative debris.

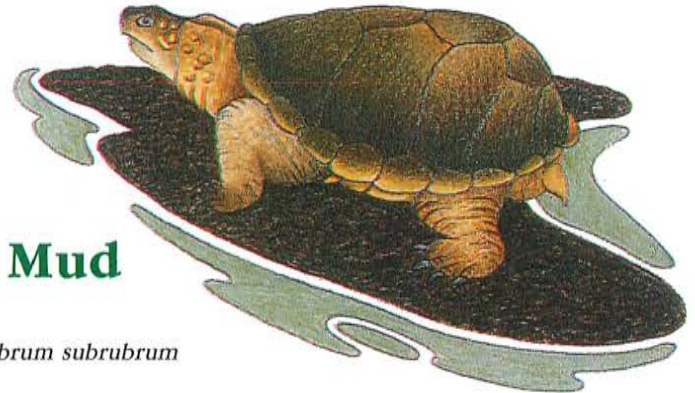
Reproduction. For the snapping turtle, the peak time for laying eggs is June. A usual clutch includes 25 to 50 eggs. The eggs are round and just over one inch in diameter. The nest, a cavity four to seven inches deep, might be dug some distance from the water (See Figure IV-7). Depending on the weather and locale, nine to 16 weeks could be needed to incubate the eggs. When the eggs finally break open, young snappers barely more than an inch long emerge.

Food. To some extent, the snapping turtle is considered a scavenger because it feeds on a certain amount of carrion. But the snapper does not limit itself to that. It eats a variety of invertebrates as well as fish, small mammals and even birds. Ducklings, for instance, have been known to fall prey to a snapping turtle. Walking casually along the bottom of a lake, eyes alert, the snapping turtle could surface quickly to snatch a feathery meal. Omnivorous in its feeding habits, the snapping turtle also consumes a variety of aquatic plants.



Figure IV-7

The round eggs of the common snapping turtle are laid in a cavity four to seven inches deep.



Eastern Mud Turtle

Kinosternon subrubrum subrubrum

General characteristics. Now believed extirpated, this turtle was recently removed from the List of Endangered Species in Pennsylvania. In most cases, its decline in numbers can be attributed to loss of habitat. It is more an aquatic animal, so draining wetlands and filling in swamps and marshlands has had a predictable adverse effect on the population. A small turtle, the eastern mud turtle reaches an upper shell length of only three to four inches.

Identification. The eastern mud turtle has few, if any, distinctive field marks. The carapace may range from an olive to a dark brown or almost

black. There is no definitive pattern or markings. The upper shell is smooth and the scales, or scutes, have no keels. The plastron is yellow to brown and may be marked at times with black or brown. The lower shell is double-hinged and contains 11 scutes. The head of the eastern mud turtle is brown and marked with numerous widespread yellow spots or streaks. On the male, the tail ends in a well-developed blunt spine.

Range. In Pennsylvania, the eastern mud turtle inhabited the extreme southeastern corner of the state, particularly in the lower Delaware River Valley. In this heavily populated area much of its habitat has been destroyed, accounting for its dwindling numbers. Its natural range extends south from here to the Gulf Coast, and north to Connecticut.



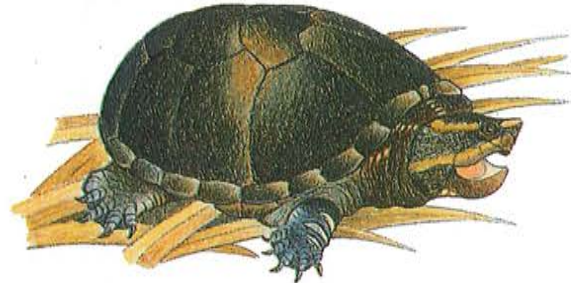
Habitat. Even though it is essentially aquatic, the mud turtle travels some distance over land in search of a new home if that becomes necessary. It prefers shallow, slow-moving water, either fresh or brackish, and it likes streams with a soft bottom. Marshes, ditches and even wet meadows satisfy the mud turtle's need for a water-based environment.

Reproduction. The eastern mud turtle is sexually mature at five to seven years old and breeds in mid-March to May. Its nest is a three- to five-inch cavity carved from either a pile of vegetative debris or sandy or loamy soil commonly found in its habitat. In June, the mud turtle lays one to six eggs that are elliptical and hard-shelled. About one inch long, the shell is pinkish or bluish white. When hatched, the young mud turtle has a rough carapace that becomes smooth as it matures.

Food. The eastern mud turtle is carnivorous, preferring to search beneath the water for its meals. Insects are the main diet staples.

Stinkpot Turtle

Sternotherus odoratus



General characteristics. The stinkpot is the only musk turtle inhabiting Pennsylvania. Although abundant in many waters within its range, it often is not seen because it is primarily an aquatic animal. Nonetheless, it likes to leave the water to bask in the sun, and quite mobile, often climbs slanted trees or logs to find a resting place. An apparent ability over other turtles to climb steeper surfaces is provided by a smaller plastron, which allows greater movement of the legs. The carapace measures three inches to just over four inches in adults. In clear water the stinkpot might be observed walking across the bottom in search of food. It often is caught by a surprised angler. When disturbed, it is liable to secrete a foul-smelling yellowish fluid. This fluid, which acts in many cases as a deterrent to would-be attackers, is discharged from two pairs of musk glands located under the

border of the upper shell. Some have described the stinkpot as pugnacious, almost vicious. It is said to have a short temper and strong jaws.

Identification. The stinkpot's carapace is smooth, highly domed and elongated. It is normally olive-brown to dark gray and may be marked with irregular streaks or spots of a darker color. The small plastron has 11 scutes with small patches of skin visible between them. There is a single hinge that is difficult to locate on most specimens. The female's tail is very short. The male's tail tends to be a bit longer and ends in a blunt, horny nail. Small fleshy barbels protrude from the chin and throat. On most individuals, two light stripes stand out on an otherwise black head.

Range. Although thought at one time to be distributed statewide, recent studies show that the stinkpot does not inhabit the Allegheny Mountains. These same studies indicate that the stinkpot dwells in two separate ranges in opposite corners of the state. In the northwest, it is found in the swampy areas of the Shenango River Watershed and Lake



Erie. It also is found in a larger area of southeastern Pennsylvania and particularly in the more centrally located counties where prosperous populations of stinkpots have been discovered in the limestone streams. The stinkpot is distributed from New England, southern Ontario and Wisconsin, south to Texas and Florida.

Habitat. The stinkpot prefers quiet, slow-moving, shallow streams and rivers, preferably with a mud bottom. In early spring the stinkpot seeks out waters shallow enough so that it can bask with the center of its carapace exposed to the warm sun.

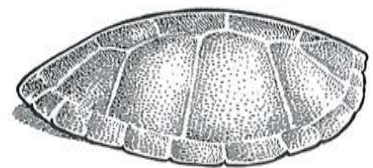
Reproduction. The stinkpot is one of the first turtles to nest, beginning in May but going as late as August. Mating occurs under water. Then, leaving the water, the female lays one to nine eggs in a shallow nest dug under a rotting stump or within the confines of an old muskrat hole. The eggs are off-white but circled with a stark-white band. They are thick-shelled, elongated and just a bit more than one inch long. The eggs take nine to 12 weeks to incubate. The carapace of the newly hatched turtle is black, three-quarters to one inch in length, and it has a rough texture.

Food. The stinkpot is carnivorous and seems to eat nearly anything it is able to catch. A sampling of the stinkpot's diet includes small fish, snails, aquatic insects, clams, worms and fish eggs. Apparently hungry a large portion of the time, the stinkpot has been known to forage for a meal day and night.

Figure IV-8



Stinkpot Turtle

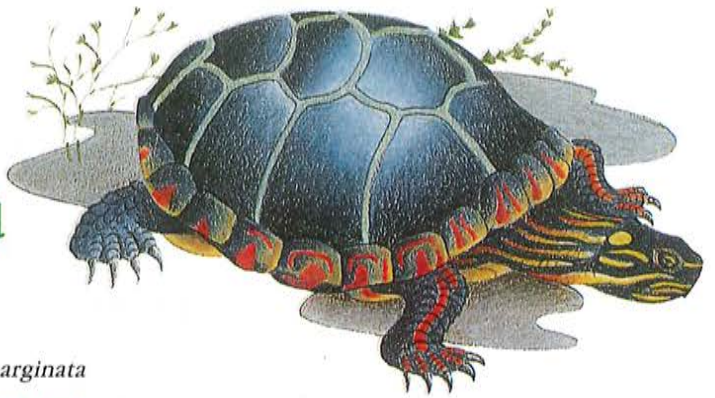


Other Turtles

The upper shell of the stinkpot is raised in the shape of a high dome. Others tend to be only slightly raised or rounded.

Midland Painted Turtle

Chrysemys picta marginata



General characteristics. The attractive painted turtle is the most widespread of any in North America. One subspecies with intergrades, which may show characteristics from other subspecies in adjoining areas, is found in Pennsylvania. Not a particularly large turtle, it attains adult sizes of four to six inches along the upper shell, or carapace.

Identification. The carapace is olive or black, oval, smooth, and somewhat flattened. Red and black markings on the edges of the shell, in the form of bars or crescent-shaped patterns, are good identifying characteristics. The plastron is an unmistakable yellow or red with a dark blotch in its center. Each side of the head is marked with bright-yellow spots and stripes (See Figure IV-9), and yellow and red stripes define the neck, legs and tail. The upper jaw is notched.

Range. Its range extends from southern Quebec and Ontario in Canada southward to Tennessee. It misses most of Virginia and North Carolina. In Pennsylvania, the painted turtle is found from border to border in all directions.

Habitat. It is fond of basking and often is observed sunning itself on a large rock beside a slow-moving stream or river. Shallow areas of lakes or ponds also attract the painted turtle. It particularly likes streams with soft bottoms, generously sprinkled with vegetation and dotted with submerged logs.

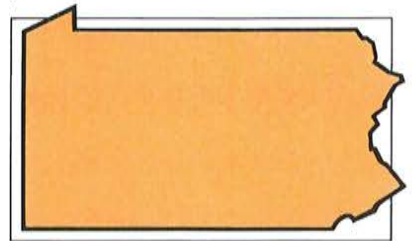
Reproduction. The male painted turtle is sexually mature at two to five years of age. The female matures from four to eight years of age. One to two clutches, consisting of two to 20 elliptically shaped eggs, are laid in May to July on land in a flask-like nest about four inches deep. The eggs incubate for 10 to 11 weeks before splitting open to reveal hatchlings an inch or less in shell length. The young may spend the first winter in the nest.

Food. While young, the painted turtle is basically carnivorous but becomes more herbivorous with age. It eats insects, crayfish and mollusks in the beginning, then turns to a variety of aquatic plants.



Figure IV-9

Bright yellow spots and stripes mark the side of the head of the painted turtle.



Spotted Turtle

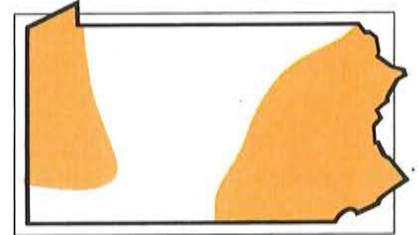
Clemmys guttata



General characteristics. The spotted turtle is found in fairly good numbers throughout its range, unlike its close cousin, the endangered bog turtle. This turtle is small with an upper shell length of only three to slightly more than four inches. It likes to bask in clumps of grasses, especially during the cooler spring months, and is more often seen during the spring than any other time of the year.

Identification. The carapace of this small turtle is black and without keels on the scales. Its upper shell is sprinkled with round yellow spots that vary greatly in number from one specimen to another. The head, neck and legs are marked with yellow or orange spots. Its black head has an orange spot over the eyes. The lower shell, or plastron, is creamy yellow and bordered with large black blotches. The female has orange eyes and a yellow chin. The male has brown eyes and a tan chin. The male also has a long, thick tail.

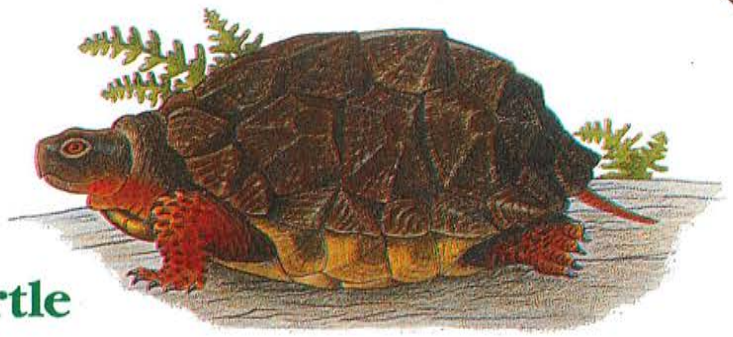
Range. The spotted turtle resides in states along the Atlantic Coast from Georgia northward to southern Maine. Beginning at Maryland, its range swings to the west extending into eastern Illinois. In Pennsylvania, the spotted turtle is found east and west of the Allegheny Mountains, its range encompassing perhaps two-thirds of the state.



Habitat. Marshy meadows, bogs, wet woodlands and similar moist areas attract the spotted turtle. It likes shallow, often spring-fed mud-bottomed streams. It spends winters hibernating in the mud or debris accumulated along the stream bottom, or if it can locate one, takes up residence in an abandoned muskrat hole cut into the stream bank.

Reproduction. Mating occurs in March to May. The spotted turtle chooses a sunny area on land in which to dig a flask-shaped nest that receives three to five eggs in June or a bit later. The eggs are white and elliptical and hatch in late August to September.

Food. The spotted turtle is primarily carnivorous. It occasionally eats plants, but it prefers a variety of animal life, including insects, worms, larvae, mollusks and tadpoles.



Wood Turtle

Clemmys insculpta

General characteristics. The wood turtle is often called the “sculptured turtle.” Looking at its upper shell, it is easy to understand how it obtained this descriptive nickname. Its carapace appears as if an artist had taken a fine-edged knife and carefully carved an intricate, nearly symmetrical pattern from a piece of dark wood. Adults grow until the upper shell measures five to almost eight inches in length. Other than the box turtle, the wood turtle is Pennsylvania’s most terrestrial turtle. During the late 1800s to early 1900s, this turtle was available at market for its meat.

Identification. The upper shell of the wood turtle is brown and keeled. Its scutes, or large scales, are pyramidal, a series of concentric growth ridges and grooves, larger on the bottom, becoming smaller as they approach the top. These exaggerated scales appear sculptured and are rough to the touch. The plastron, or lower shell, is yellow, and each of the scutes is margined on the outer edge with black blotches. The plastron is hingeless and can aid in distinguishing this turtle from the box and Blanding’s turtles, which are considered “land” turtles like the wood turtle. The lower shell of the male is concave. The female’s lower shell is flat or slightly convex. The skin on the neck and front legs is frequently reddish orange. The tail is moderately heavy and nearly as long as the carapace, or upper shell.

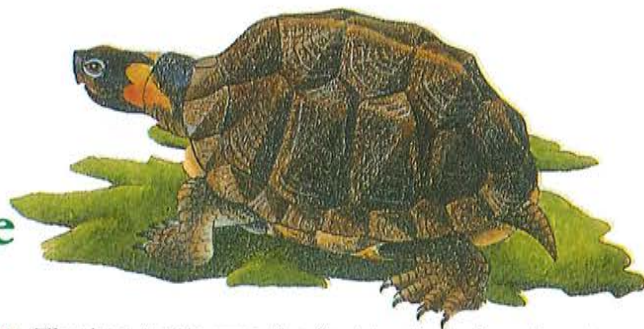
Range. The wood turtle’s range extends from Nova Scotia south to Virginia. The wood turtle is found in most of the state’s 67 counties but is missing from the western border.

Habitat. Although a terrestrial turtle, the wood turtle is very much at home in the water. In fact, it hibernates in water during the winter months. In Pennsylvania, only the box turtle is considered more terrestrial. The wood turtle wanders from home, ranging far afield if necessary to find its favorite habitat, which includes cool streams. It is especially fond of streams running through a hardwood forest. It can be found in marshy meadows and other farmland and is attracted to swampland with stands of red maple. It is an excellent climber, and even manmade barriers such as fences do not necessarily stop the wood turtle from going where it desires.

Reproduction. The wood turtle lays one clutch of four to 12 eggs a year. The elliptical eggs have shells that are flexible. The eggs are normally deposited by the female some time in May or June. They hatch in September or October, and it is not unusual for the young wood turtles to remain in the nest through the winter.



Food. Although omnivorous, the wood turtle is partial to vegetation, feeding voraciously on wild fruit. It favors strawberries and low-bush blueberries. Other plants, such as dandelion and sorrel with its heart-shaped leaflets, also are favored. The wood turtle eats slugs, insects and tadpoles and can be seen searching newly plowed ground for worms, especially after a cool spring rain.



Bog Turtle

Clemmys muhlenbergii

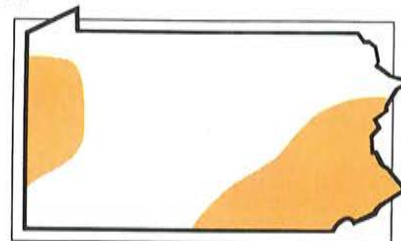
Endangered Species

General characteristics. The bog turtle was the first turtle to be placed on the Pennsylvania List of Endangered Species. It now appears only in isolated populations. Loss of habitat has been the biggest factor in its decline. Mankind's propensity for draining bogs, marshes and swampland has taken its toll on the bog turtle. Its habitat left high and dry, the bog turtle simply had no place to go. Some years ago, the pet trade also was a factor in the decline in populations of this species.

The bog turtle, sometimes referred to as Muhlenberg's turtle, is a secretive reptile. Scientists actively engaged in restoration efforts find that the bog turtle's retiring attitude makes it a difficult animal to study. In spite of its shy nature, it still likes to bask in full sunlight, often atop tufts of grass or perched on a log. The bog turtle is active from April through mid-October, perhaps a bit longer period than some turtles. It may bury itself and become inactive during the hot days of summer. The bog turtle is a small turtle, never reaching more than three or four inches long along its shell.

Identification. The bog turtle's carapace, or upper shell, is light brown to mahogany. Its large scutes sometimes have a tinge of yellowish or reddish marks in their centers. The plastron, which is hingeless, is brownish black with some yellow along the mid-line. The head is black and marked with a yellow, orange or red blotch on each side, an important identification characteristic. The male has a medium-thick tail.

Range. The bog turtle has been found in separated ranges across parts of New York and extending southward to the western border of North Carolina. Its range includes New Jersey. The bog turtle's distribution in Pennsylvania splits into two separate historic ranges—two areas where this turtle was once found in stable populations. The largest range includes southeastern Pennsylvania as far west as Franklin County and north to near the Pocono Mountains. The smaller of the two original ranges includes portions of three counties in the northwestern part of the state near the Ohio border. However, it's doubtful whether the species still occurs in this range.



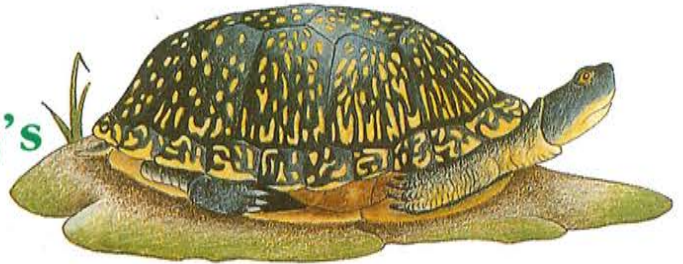
Habitat. Wetlands, such as bogs, marshes and swamps, are preferred, but wet pastures also have been known to hold populations of the bog turtle. It likes narrow, shallow, slow-moving rivulets of unpolluted spring water flowing over a soft mucky bottom. The bog turtle seeks relief during periods of extremely hot weather and buries itself in mud or vegetative debris. It hibernates during the coldest winter months buried deeply in mud flooded over by water.

Reproduction. The bog turtle matures sexually at five to seven years of age. Mating occurs during the first warm days of spring. Nesting is completed in June when the female lays a clutch of one to six eggs in a two-inch deep cavity. The eggs, barely more than one inch in length, are elliptical and flexible. They hatch in August or September after a six to nine-week incubation period.

Food. The bog turtle is omnivorous, allowing it to enjoy a varied menu. It eats wild berries and also feeds on slugs, tadpoles, snails, worms and insects. The diet also includes the shoots of tender plants.

Blanding's Turtle

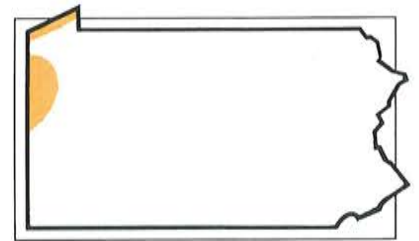
Emydoidea blandingii
Candidate Species



General characteristics. This turtle, which has been placed on Pennsylvania's List of Candidate Species, was named for Dr. William Blanding, a nineteenth-century Philadelphia naturalist who first observed the species. It grows to an average adult shell length of five to just over seven inches. The Blanding's turtle is more tolerant of cold temperatures than most other turtles.

Identification. The Blanding's turtle has a carapace that is smooth and shaped like a helmet. It is sprinkled with a heavy profusion of pale-yellowish spots, which in some areas become connected to form vermiculations. The plastron, or lower shell, is yellow and accented with large black blotches. The chin and throat are both bright yellow. In Pennsylvania, only the softshell turtle has a longer neck. Large protruding eyes serve only to emphasize a flat head. The plastron is hinged so that it can be closed toward the carapace, but not to the extent the box turtle is able to close up.

Range. The Blanding's turtle extends from Nebraska eastward to Ohio and Ontario. Its range is spotty east of Ohio. Although perhaps not found at all today, the Blanding's turtle in Pennsylvania never occupied a large area. Its original range included the vicinity of Lake Erie and a portion of southwestern Crawford County. Conneaut Lake and the swampy

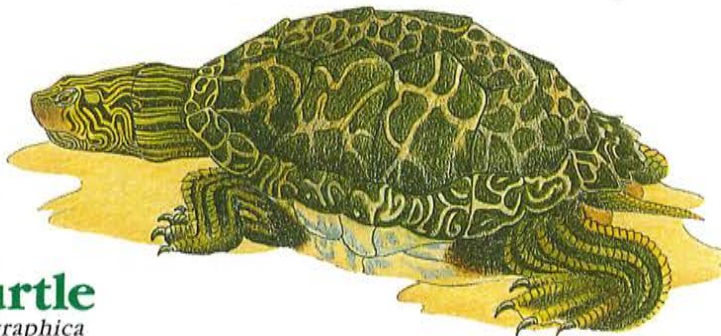


areas that now encompass Pymatuning Lake were included in the original habitat of the Blanding's.

Habitat. It is primarily an aquatic reptile. Still, the Blanding's likes to bask in the sun on land, although it will not wander far from the water's edge. Wetlands are a favorite of the Blanding's turtle, and marshes, ponds and similar watery environments are potential habitats for this animal. It especially favors areas covered with a dense growth of aquatic vegetation.

Reproduction. The Blanding's turtle lays its eggs in June or July. The clutch consists of about eight oval, dull-white eggs, approximately 1½ inches in length. They are hard-shelled and hatch in August or September. When hatched, the young Blanding's turtle is barely more than one inch long.

Food. The diet of the Blanding's turtle is varied. It is a carnivore and feeds primarily in the water. Crayfish make up most of its diet. It may come ashore in search of food, prowling through the undergrowth to seek out insects and snails. It also eats wild berries and the tender shoots of plants. When it is able to catch them, frogs are also added to the Blanding's menu.



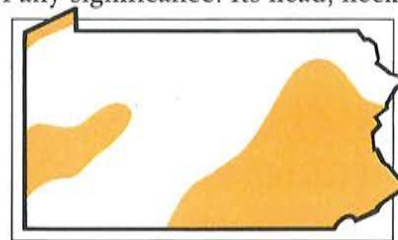
Map Turtle

Graptemys geographica

General characteristics. A moderately large turtle, though certainly not the largest found in Pennsylvania, the map turtle reaches an average seven to 11 inches in shell length. It is fairly common throughout its Pennsylvania range. Perhaps due to limited basking sites, individual turtles often pile on top of one another while basking on rocks or logs, which is a favorite pastime. But it also is a shy animal and if disturbed will slip quickly into the water to avoid a potential predator.

Identification. The carapace of the map turtle is greenish to olive-brown. Its irregular pattern of thin, yellow-orange lines networking randomly across the upper shell like roads on a map give this turtle its name. The carapace is somewhat flattened and marked with a distinct keel. The plastron is yellowish and bears no markings of any significance. Its head, neck and tail are accented with narrow yellow lines. A yellow, somewhat triangular spot appears behind each eye.

Range. The distribution of the map turtle in Pennsylvania is scattered into one larger and two smaller portions of the state. It is found along Lake Erie and in a small portion of the Ohio River Drainage. Its largest range encompasses a major portion of the Susquehanna River Basin and the lower Delaware River Basin. An interesting, recently developed theory suggests that the map turtle reached the lower Delaware by way of a series of canals. According to some experts, the map turtle was



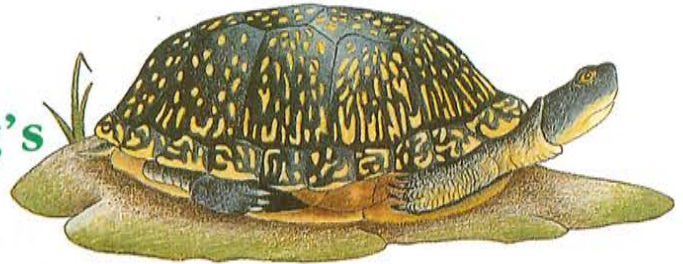
Habitat. Wetlands, such as bogs, marshes and swamps, are preferred, but wet pastures also have been known to hold populations of the bog turtle. It likes narrow, shallow, slow-moving rivulets of unpolluted spring water flowing over a soft mucky bottom. The bog turtle seeks relief during periods of extremely hot weather and buries itself in mud or vegetative debris. It hibernates during the coldest winter months buried deeply in mud flooded over by water.

Reproduction. The bog turtle matures sexually at five to seven years of age. Mating occurs during the first warm days of spring. Nesting is completed in June when the female lays a clutch of one to six eggs in a two-inch deep cavity. The eggs, barely more than one inch in length, are elliptical and flexible. They hatch in August or September after a six to nine-week incubation period.

Food. The bog turtle is omnivorous, allowing it to enjoy a varied menu. It eats wild berries and also feeds on slugs, tadpoles, snails, worms and insects. The diet also includes the shoots of tender plants.

Blanding's Turtle

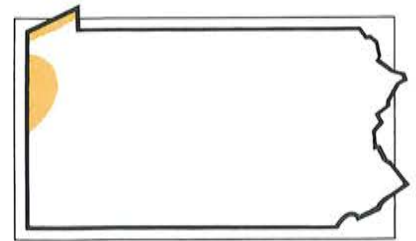
Emydoidea blandingii
Candidate Species



General characteristics. This turtle, which has been placed on Pennsylvania's List of Candidate Species, was named for Dr. William Blanding, a nineteenth-century Philadelphia naturalist who first observed the species. It grows to an average adult shell length of five to just over seven inches. The Blanding's turtle is more tolerant of cold temperatures than most other turtles.

Identification. The Blanding's turtle has a carapace that is smooth and shaped like a helmet. It is sprinkled with a heavy profusion of pale-yellowish spots, which in some areas become connected to form vermiculations. The plastron, or lower shell, is yellow and accented with large black blotches. The chin and throat are both bright yellow. In Pennsylvania, only the softshell turtle has a longer neck. Large protruding eyes serve only to emphasize a flat head. The plastron is hinged so that it can be closed toward the carapace, but not to the extent the box turtle is able to close up.

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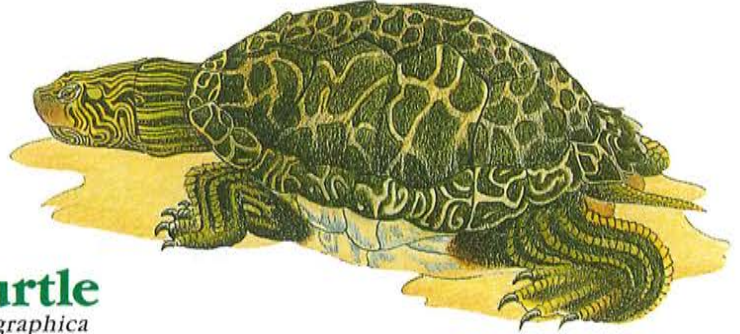


areas that now encompass Pymatuning Lake were included in the original habitat of the Blanding's.

Habitat. It is primarily an aquatic reptile. Still, the Blanding's likes to bask in the sun on land, although it will not wander far from the water's edge. Wetlands are a favorite of the Blanding's turtle, and marshes, ponds and similar watery environments are potential habitats for this animal. It especially favors areas covered with a dense growth of aquatic vegetation.

Reproduction. The Blanding's turtle lays its eggs in June or July. The clutch consists of about eight oval, dull-white eggs, approximately 1½ inches in length. They are hard-shelled and hatch in August or September. When hatched, the young Blanding's turtle is barely more than one inch long.

Food. The diet of the Blanding's turtle is varied. It is a carnivore and feeds primarily in the water. Crayfish make up most of its diet. It may come ashore in search of food, prowling through the undergrowth to seek out insects and snails. It also eats wild berries and the tender shoots of plants. When it is able to catch them, frogs are also added to the Blanding's menu.



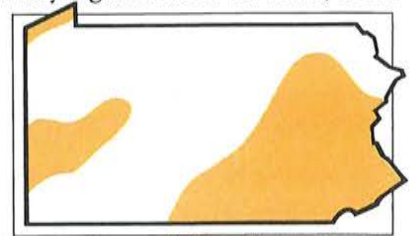
Map Turtle

Graptemys geographica

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Identification. The carapace of the map turtle is greenish to olive-brown. Its irregular pattern of thin, yellow-orange lines networking randomly across the upper shell like roads on a map give this turtle its name. The carapace is somewhat flattened and marked with a distinct keel. The plastron is yellowish and bears no markings of any significance. Its head, neck and tail are accented with narrow yellow lines. A yellow, somewhat triangular spot appears behind each eye.

Range. The distribution of the map turtle in Pennsylvania is scattered into one larger and two smaller portions of the state. It is found along Lake Erie and in a small portion of the Ohio River Drainage. Its largest range encompasses a major portion of the Susquehanna River Basin and the lower Delaware River Basin. An interesting, recently developed theory suggests that the map turtle reached the lower Delaware by way of a series of canals. According to some experts, the map turtle was



able to leave its native Lake Erie home and travel through canals to the Hudson River, which in turn gave it access to the Delaware River through a similar system of canals. In any event, the distribution of the map turtle in Pennsylvania is scattered and broken into several sections. Elsewhere, this turtle is found across upper New York to Wisconsin and then south into Louisiana.

Habitat. The map turtle prefers slow-moving, large rivers over smaller, faster waters. Lakes, rather than ponds, are considered choice habitat. Mud bottoms with profuse stands of vegetation top its list of preferred habitat. It is not in any hurry to hibernate and comes out of hibernation sooner than other species of turtles.

Reproduction. The map turtle may have two or more clutches of eggs a year, depending on just how far north it is living. The female lays 12 to 14 eggs in May to mid-July in a nest about four inches deep. The eggs hatch mid-August to September. In some cases, the hatchlings do not leave the nest until May or June of the following year.

Food. The map turtle includes some vegetative matter in its diet, but the mainstays probably are mollusks and crayfish. The female, equipped with powerful jaws, can crush freshwater clams and large snails to feast on an even wider array of food.

Red-Eared Slider *(Trachemys scripta elegans)*

General characteristics. Red-eared sliders are non-native to Pennsylvania. They are included in this book because they have gained a foothold in Pennsylvania waters and wetlands and are seen with increasing frequency. Red-eared sliders from Pennsylvania have been recorded with shell lengths of up to 10 inches. This species is native to the southcentral and southeastern United States. However, for decades these turtles have been sold in pet stores in Pennsylvania and other states outside of its natural range. People have illegally released their pet turtles into the wild in Pennsylvania, thereby creating self-sustaining populations. This is ecologically undesirable because these turtles compete with native species for food, basking areas and nesting areas.

Identification. Red-eared sliders could be confused with map turtles, red-bellied turtles and even painted turtles because they exhibit some characteristics common to each of these species. However, only the red-eared slider contains, as its name suggests, a bright-red patch or stripe immediately posterior to the eye on the side of its head.

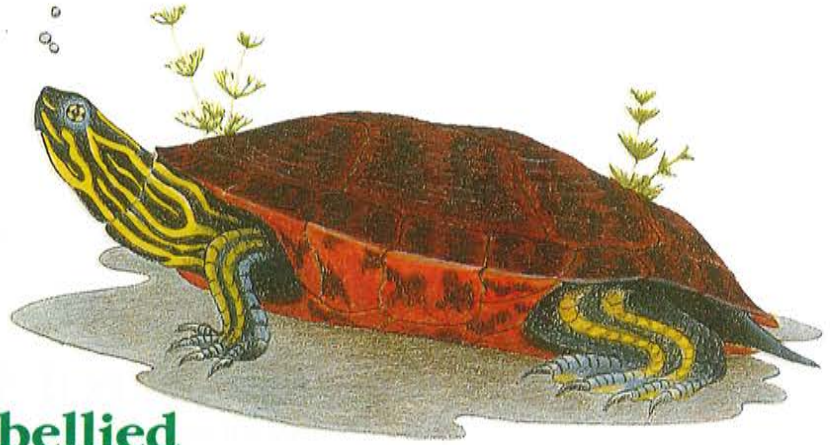
Range. New information comes in each year regarding the distribution of red-eared sliders in Pennsylvania. They are well-established in many waters of the Delaware River drainage, around some of the larger cities in the state and in several isolated locations. Their clustered distribution in areas around cities is directly related to the release of former pets into neighboring parks, lakes and rivers.

Habitat. This turtle prefers areas that offer slow-moving water, soft, muddy bottoms and an abundance of aquatic vegetation. These habitats can be found in large rivers, canals, ponds and lakes. Basking sites are important for proper thermoregulation and may cause sliders to congregate.

Reproduction. Depending on the growth rates of an individual, the age of first reproduction can range from two to eight years, with age three to four a typical average. Little is known about the specifics of reproduction in Pennsylvania populations, but elsewhere, egg laying occurs during May, June

or July with clutch sizes averaging from six to 10 eggs. Incubation time is from two to three months and depends on environmental temperatures. The young may leave the nest or overwinter until the following spring.

Food. Red-eared sliders primarily consume aquatic plants, but like many turtle species, they feed opportunistically on animal matter, live or dead. Aquatic invertebrates, fish, tadpoles or plants such as pondweed or coontail may be on the menu on any given day.



Redbellied Turtle

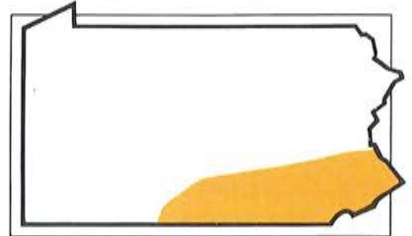
Pseudemys rubriventris

Threatened Species

General characteristics. This sun-loving turtle is one of our largest. It is alert and active, but at the same time, a shy reptile. Another of Pennsylvania's threatened species, the redbellied turtle, like so many other animals, is a victim of people's desire for the better life. Destruction of the habitat frequented by this colorful creature is blamed for its declining populations. A fairly large turtle, the redbellied turtle grows to an average upper shell length of 10 inches to better than 12 inches.

Identification. The carapace varies from brown to black and it usually has a mottled pattern of reddish brown. Several vertical red bars run from the center of the shell to its outer edge. The lower shell, or plastron, while sometimes coral-colored, more often is yellow to reddish. There is a prominent notch at the tip of the upper jaw, and an arrow-shaped stripe runs atop the head between the eyes to the snout.

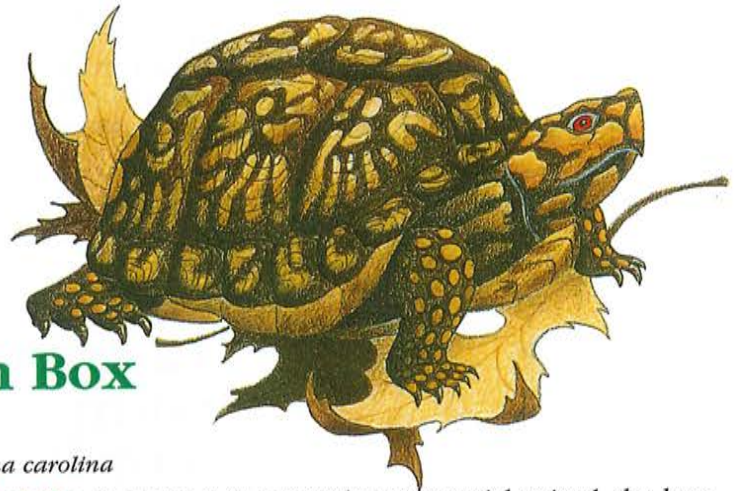
Range. Although recent sightings have been sparse at best, the redbellied turtle was known, at one time at least, to have inhabited the lower Delaware River, the lower Susquehanna River and a portion of the Potomac River Basin, which reaches into a small section of southcentral Pennsylvania. Today it is found primarily in the lower Delaware River Drainage and at one known location in the Potomac River Basin. Its range extends from southern New Jersey and eastern West Virginia to northeast North Carolina.



Habitat. It likes large waters. Deep ponds, lakes, rivers and streams are potential homes for the redbellied turtle. Dense aquatic vegetation is a must where its habitat is concerned. Where populations still exist, it might be seen basking on a favorite sun-drenched rock in company with painted turtles, a close cousin. The redbellied turtle, however, is the much larger of the two.

Reproduction. The redbellied turtle nests in June or July, preferring a sandy loam in which to dig its four-inch-deep nest. This frequently occurs in cultivated ground, especially if it is located next to water. Eight to 20 elliptically shaped eggs are laid in the cavity, and once safely deposited are usually covered. The eggs hatch in 10 to 15 weeks, producing colorfully marked hatchlings one to two inches long. The newly hatched reptiles may spend their first winter in the nest.

Food. The redbellied turtle is largely a vegetarian, although it may vary its diet with prey from its watery environment. An assortment of aquatic vegetation provides a feast, but snails, crayfish and tadpoles also supplement the menu.



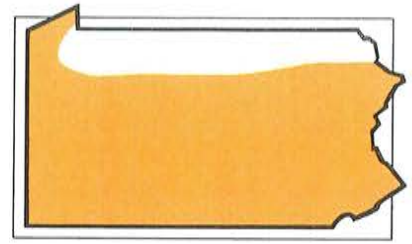
Eastern Box Turtle

Terrapene carolina carolina

General characteristics. Because it is primarily a terrestrial animal, the box turtle is perhaps the one turtle species most often seen in its range. Many people have had the opportunity to identify a box turtle because it occurs in urban as well as suburban areas. It usually moves about in the early part of the day or soon after a summer rain. The eastern box turtle reaches an average shell length of just over four inches to as much as six inches as an adult.

Identification. The carapace of the eastern box turtle is high-domed and keeled. Color and patterns vary greatly, but black or brown are probably most often seen, with markings of yellow, orange or olive. The sharply rising dome-shaped upper shell is a good identifying characteristic. The colors on the plastron are quite varied. Markings may range from yellow-orange to olive, on a tan, brown or black background. The plastron has a single broad, movable hinge that allows the box turtle to close it tightly against the upper shell. It thus becomes effective protection from predators or other disturbances. The male usually has red eyes, and the eyes of the female are normally yellowish brown. The upper jaw ends in a down-turned beak (See Figure IV-1).

Range. The eastern box turtle inhabits an area encompassing a large segment of the eastern states. It extends from the lower New England states to Georgia and west to Tennessee and Illinois. It inhabits a large portion of Pennsylvania. It resides over most of the southern two-thirds of the Commonwealth. Its range in the west also reaches northward into the Lake Erie Basin.



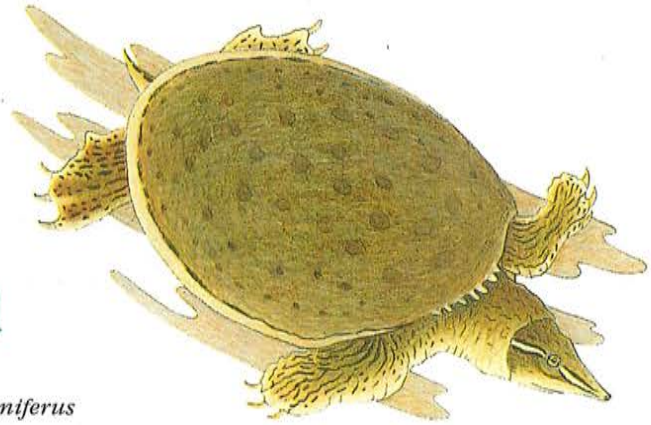
Habitat. Although essentially a terrestrial animal, the box turtle enjoys soaking for hours at a time in wet mud or water. It likes moist, forested areas but does not insist on woodlands, and often can be seen in wet meadows or flood plains. During the hot, steamy months of summer, the box turtle actively seeks out a swampy area where it burrows in the cooling retreat of logs or rotting vegetation.

Reproduction. The eastern box turtle matures in five to seven years. Nesting activity takes place in May to July when three to eight eggs are laid. They are elliptical and thin-shelled. The eggs, which average just over an inch in length, are placed in a deep cavity that may have been dug in the soft earth of a cultivated field.

Food. The box turtle is omnivorous and enjoys a widely varied diet consisting of all kinds of vertebrates and invertebrates and carrion. It also feeds on an assortment of wild fruits and berries.

Eastern Spiny Softshell Turtle

Trionyx spiniferus spiniferus

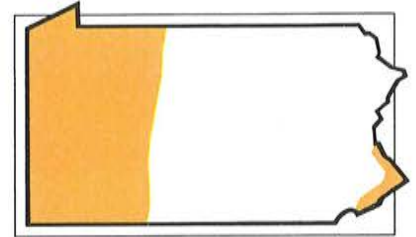


General characteristics. The eastern spiny softshell turtle is a completely aquatic reptile, leaving the water only to deposit its eggs or on occasion to bask on a sun-baked log or the shoreline. Even then, it suns itself only in an area that provides quick access to the water. It might also be seen atop a mass of floating debris, soaking up the warming rays of the sun. In shallow water, the softshell turtle has a habit of lying buried in the sand or mud with only its eyes and snout exposed. By extending its long neck the nostrils can reach the surface to take in air. Thus, the softshell turtle is able to soak itself in this manner for extended periods. The softshell turtle is able to move fast

on land and in the water. It is a powerful swimmer and extremely agile on land where it nearly runs if it needs to. The eastern spiny softshell turtle can reach large sizes. The length of the carapace in adults may reach from five inches to as much as 17 inches.

Identification. The carapace, or upper shell, of the eastern spiny softshell turtle gives this reptile its name. The shell easily bends at its sides and across its rear margin. The carapace is olive to tan or yellowish brown. Spots, which are slightly darker than the background color, are bordered with black. They are more predominant toward the center of the shell. On the female, these spots are larger and appear more as dark blotches. The large carapace is also marked with a dark line around its rim. The shell is covered with a soft, leathery skin. It does not have scales, or scutes. The plastron is white and for the most part unmarked. The feet are deeply marked with streaks and spots. On adult males, the carapace is covered with very small projections that feel like sandpaper to the touch. They help distinguish the spiny softshell turtle from the smooth softshell turtle. Overall the body of the softshell turtle is flat, almost pancake-like, and oval-shaped. The snout is tubular, like a snorkel and ends in a blunt point.

Range. The eastern spiny softshell turtle extends from western New York and West Virginia to Wisconsin and south to Tennessee. Distribution of the eastern spiny softshell turtle in Pennsylvania is limited to the western third of the state. It is found generally in the Lake Erie and Ohio River watersheds. Eastern spiny softshells have recently been found in the Delaware River and several of its tributaries in southeastern Pennsylvania. This is apparently the result of an introduced population originating in southern New Jersey.



The eastern spiny softshell turtle primarily is a lake and large river dweller. Its favorite habitat includes sand and mud bars into which it can easily dig and bury itself. Although it prefers fast-flowing rivers, it may also inhabit lakes, farm ponds and marshy creeks.

Reproduction. The eastern spiny softshell turtle may nest more than once a season. The nesting season is extended, running from May to August. The eggs, numbering from four to 32, are laid in a flask-shaped cavity dug in a bank of sand or gravel. This turtle prefers to dig a nest in an area exposed to full sunlight. The eggs are white, spherical and a little over one inch in diameter. They hatch in late August to October. In some instances, the hatchlings may remain in the cavity to emerge the following spring.

Food. The eastern spiny softshell turtle has a voracious appetite. It is carnivorous, feeding entirely on animal life. Its prey includes tadpoles and frogs, but with its strong beak it also crushes and consumes mollusks. It also preys on other forms of aquatic life.

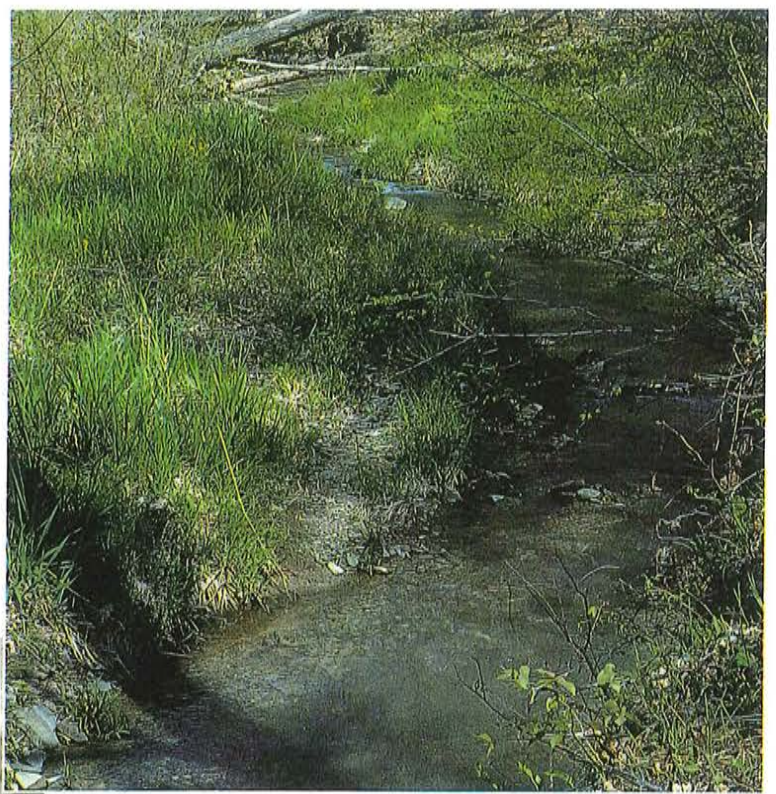


Figure V-1, Appearing smooth and shiny, the body of the five-lined skink is covered with scales.



Figure V-4, The northern fence lizard could deposit two to four clutches of eggs after its first year.

Figure V-2, This stream-laced, tree-lined ravine could provide the humid woodlands favored by most of Pennsylvania's lizards.



Chapter V
LIZARDS

Order Squamata
Suborder Lacertilia



Figure V-3, The northern coal skink rummages among its surroundings for insects.

Lizards make up the largest living group of reptiles, numbering about 3,000 worldwide. They are more predominant in warmer, drier areas, and in this country most are found in the southwest. Pennsylvania has four species from two genera and two families. They become more rare as they move northward. The lizards common to Pennsylvania are harmless.

Snakes are closely related to lizards, from which they evolved. However, lizards have movable eyelids and external ear openings (See Figure V-5);

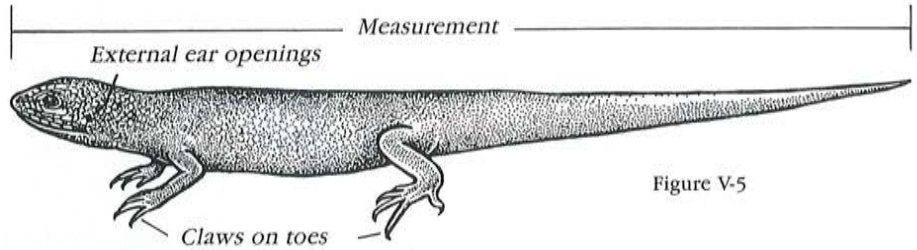


Figure V-5

snakes do not. Snakes also have no limbs, as do most lizards. (There also are some species of lizards in other parts of the country that do not have legs.) Lizards can swallow prey larger than might reasonably be expected. However, unlike the jaw of the snakes, the lower jaw bones of the lizards are firmly connected in front. This restricts the lizard's prey to smaller sizes than snakes can handle.

On the surface, salamanders (which are amphibians, not reptiles) may resemble lizards. However, there are several distinctly different features separating the two. The skin of lizards is scaly and dry, compared to the smooth, moist skin of salamanders. Lizards have clawed feet and external ear openings. The feet of salamanders are clawless (See Figure I-II) and these amphibians lack external ear openings.

Lizards for the most part are diurnal. They live in trees, on the ground and in burrows beneath the ground. They breed in the spring and most lay eggs following internal fertilization. Lizards possess the sensations of smell and taste much as we know them. Snakes do not. However, like snakes, many lizards are also able to use the tongue and Jacobson's organ to sample the air around them. (This organ is described in the opening section to the snakes.)

Many lizards, without apparent harm, can lose a tail to an attacker. An effective escape mechanism, special bone structures in a portion of the tail allow it to separate easily from the rest of the tail. This characteristic is called autotomy. In time, a new tail grows to replace the one lost, although its coloration is different.

Iguanid lizards (Family Iguanidae)

Northern fence lizard—*Sceloporus undulatus hyacinthinus*

Only one species of this family is found in Pennsylvania. The iguanids are most predominant in warm, dry regions and more than 40 different species inhabit North America. This family is very large both in the numbers of species and in their physical size. Some species reach 72 inches or more. Some of the iguanids are egg layers. They are territorial in nature. Males defend their home stakes with an elaborate display of head bobbing and

dramatic push-ups of the body, using the front legs. With mouth agape, they boldly inflate the chest and throat to present a menacing pose to any who would enter. Other displays, all designed to scare off intruders, are used as well.

Members of the family have five clawed toes on each leg. They also have a long tail.

Skinks (Family Scincidae)

Northern coal skink—*Eumeces anthracinus anthracinus*

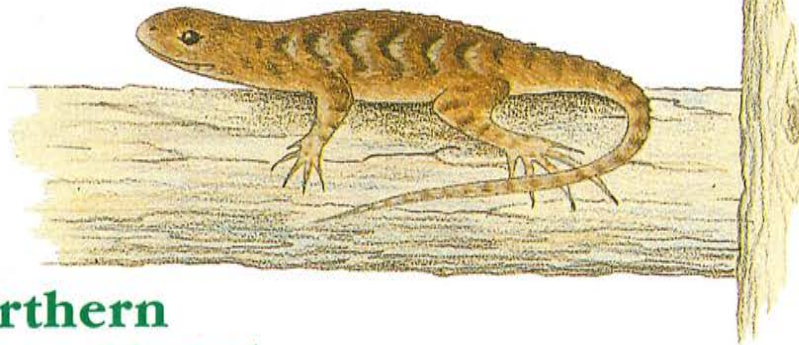
Five-lined skink—*Eumeces fasciatus*

Broadhead skink—*Eumeces laticeps*

The skink family is a group of smooth, shiny, almost slippery lizards. The cylindrical body and tail are covered with smooth scales. This group is found on every continent with the exception of Antarctica. Over 1,200 species occur worldwide; three species are found in Pennsylvania.

This family of reptiles is diurnal and likes a moist or damp area in which to live. Most are insect eaters. In some species, the female tends the eggs during the incubation period.

Species Descriptions



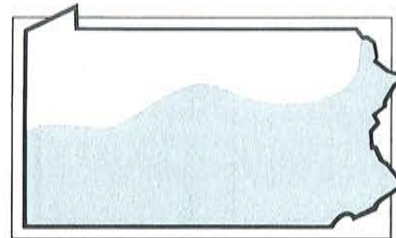
Northern Fence Lizard

Sceloporus undulatus hyacinthinus

General characteristics. The northern fence lizard belongs to a group of lizards commonly known as “spiny lizards.” It is the only one of its genus in Pennsylvania. The northern fence lizard is not a large lizard. Adults range in size from four to seven inches, even though other members of its family in other parts of the world may reach 72 inches in length. It is diurnal and can be seen sunning itself, like many other reptiles. It spends a great amount of its time in trees where it hunts, rests and finds safety when frightened.

Identification. The northern fence lizard varies from gray to brown. Colors on the belly range from whitish to greenish blue to pale blue. There may be dark, wavy crossbars on the back, which are most evident normally on the female. The male has a blue patch near the base of the throat. The scales on the back of this lizard are keeled and pointed. They are jagged and rough to the touch, which explains its nickname, “spiny” lizard.

Range. This reptile, territorial by nature, is located in roughly the southern two-thirds of Pennsylvania. Its range might extend a bit farther north within the Delaware River Basin. It can be found from New York to Georgia and west to Kansas and central Texas.

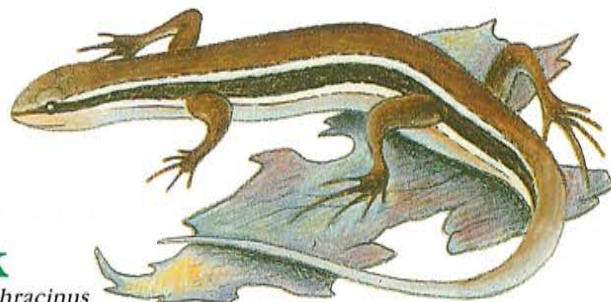


Habitat. The fence lizard defends its territory with an elaborate physical display that includes head-bobbing and open-mouthed gestures. Then, while appearing to do push-ups from its two front legs, the northern fence lizard inflates its chest and throat in an all-out effort to threaten an intruder.

Generally, the preferred habitat that it so vigorously defends is a sunny area of grassy or open woodland. It likes rotting logs and outcrops of rocks from where it can survey its domain. It often sits on a tree stump or fence, but usually is not far from a tree or wall where it can flee quickly to safety. When frightened, it scampers up a tree skirting to the opposite side where it remains motionless until it again feels safe. If caught from behind, the lizard quickly parts with its fragile tail. In time the broken appendage is replaced.

Reproduction. The northern fence lizard usually responds to the warming trend in April by seeking its mate. In some cases, mating does not occur until August. In its first year, the northern fence lizard lays one clutch of three to 13 eggs. In subsequent years, the female could deposit as many as two to four clutches. The eggs hatch from June to September and the young lizards measure about two inches as they break away from the egg.

Food. Beetles are a favorite food of the northern fence lizard and are eagerly sought. When beetles are unavailable, the lizard turns to other insects, spiders and even snails when it can locate them. Water is taken by the lizard from small deposits on rocks or droplets found on the leaves of nearby plants.



Northern Coal Skink

Eumeces anthracinus anthracinus

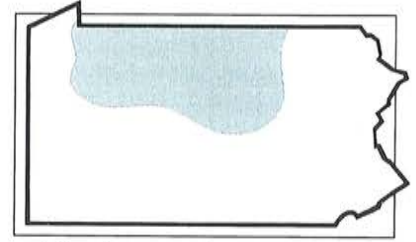
General characteristics. A member of a single, very large family of skinks, the northern coal skink is difficult to distinguish from others of its genus. The coal skink does most of its foraging during daylight hours, as do other skinks. Adult sizes range from five to seven inches.

Identification. The body of the northern coal skink is brown. Two pairs of light stripes, each enclosing a dark band, extend from the neck onto the tail. There are no light lines on the head of the coal skink, which helps distinguish this skink from the two others found in the state. The breeding male might have a reddish head. The young have a blue tail, but otherwise are marked identically to the parents.



Figure V-6 Its bluish tail marks this northern coal skink as a juvenile.

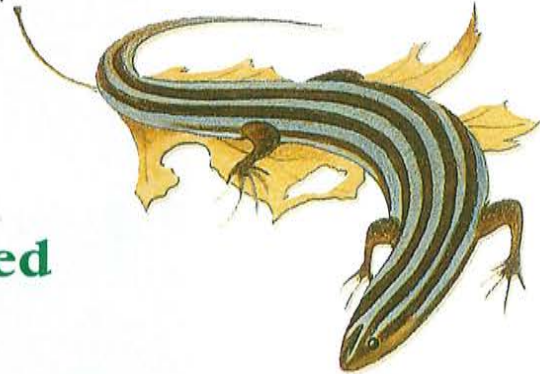
Range. In Pennsylvania, the northern coal skink is known from the northcentral, a portion of the northwest, and one southwestern county. Its population is scattered and does not occur in large numbers anywhere in its range. It is also found in portions of New York, the Virginias and Kentucky.



Habitat. It prefers damp, moist woods, especially those with an abundance of leaf matter or loose stones. Springs, with their welcome supply of cool water, are favorite spots. Even so, this animal often occupies drier, more rocky open areas. When frightened, the coal skink quickly dives into water where it finds shelter beneath a convenient rock.

Reproduction. The northern coal skink mates in the spring to early summer. The female, which guards the eggs, deposits eight or nine of them in a small, protected depression in the ground. This usually occurs in June. They hatch after an incubation period of four to five weeks.

Food. Following the pattern of other skinks, the northern coal skink is insectivorous. It rummages among leaf litter and small stones in search of a variety of insects.



Five-lined Skink

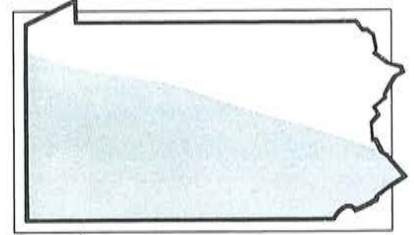
Eumeces fasciatus

General characteristics. The five-lined skink is another of the state's smooth, shiny lizards. It is most comfortable in a temperature range of 78 to 85 degrees. These temperatures suit Pennsylvania's lizards and they are most active in this range. Like other skinks, the five-lined skink is diurnal and spends much of the day in search of food. It reaches an adult size that varies from five to just over seven inches.

Identification. This skink is brown to black with five broad, light stripes running the length of the body. In some adults, the pattern nearly fades completely with age. As the ground color becomes lighter, the stripes be-

come darker. The tail of the juvenile is bright blue, turning gray as the skink grows older. During the breeding season, the head of the male is usually swollen and turns red-orange.

Range. This skink is found from New England to Florida and west to Wisconsin and Texas. The five-lined skink inhabits about two-thirds of the state, generally south of a line drawn from Crawford County in the west to Bucks County in the east.



Habitat. It occasionally is seen in gardens or around homes, especially in damp areas, but it prefers humid woodlands. Decaying matter, abundant in most forests and even small woodlots, attracts the five-lined skink.

Reproduction. Warming temperatures in April and May signal the start of the breeding season. A clutch of four to 15 eggs is deposited in a nest, which is usually a small excavation in the damp earth. The female guards the eggs until they hatch in July to September. The young skinks measure two inches when they break out of their shells.

Food. Although considered terrestrial, the five-lined skink will climb a decayed snag in its forest home where it knows insects can be found in abundance. It consumes insect larvae, spiders, crustaceans, worms and even small mice, a diet perhaps more varied than that of some other skinks.



Figure V-7

Allowed to stand, woodland snags can be a food source and refuge to the five-lined skink as they are to many animals and birds.



Broadhead Skink

Eumeces laticeps

Candidate Species

General characteristics. The broadhead skink is the largest of three skinks that inhabit Pennsylvania. Adult sizes range from just over six inches to a bit more than 12 inches, including the tail. The minimum length of an adult broadhead is barely less than the maximum size attained by Pennsylvania's other skinks. The broadhead skink is most active during the day, similar to others of the family. It has been placed on Pennsylvania's List of Candidate Species.

Identification. The outstanding characteristic of this skink is its head. On the male, it is large and gives the impression of having swollen cheeks. The body of this reptile is brown to olive-brown and the breeding males are striking with their orange-red heads. There may be five light stripes down the body of both sexes during their early adult life, but these usually fade with age to become indistinguishable in the fully adult male. The juveniles are black with a bright blue tail. Five to seven brilliant yellow stripes are quite evident on the young, but patterns and colors fade with age and length.

Range. Pennsylvania is on the extreme northern limit of this reptile's range. It is found only in the southeast corner of the state, and extends to central Florida. It ranges as far west as Kansas.

Habitat. Largely a woodland creature, the broadhead skink is the most arboreal of the state's skinks. It likes moist woods but also resides in open areas that provide adequate protection in the form of vegetative debris or other matter.

Reproduction. The broadhead skink seeks its mate during April or May. In May until July, the female deposits six to 16 eggs, usually in a small depression excavated beneath logs or leaves on the forest floor. The eggs hatch in June to August, after having been tended carefully by the female.

Food. Insects make up the major portion of the diet. A good climber, this skink hunts high in the trees in search of a meal, where it might also take advantage of cavities or small holes for temporary protection from unexpected cool temperatures.





Figure VI-5

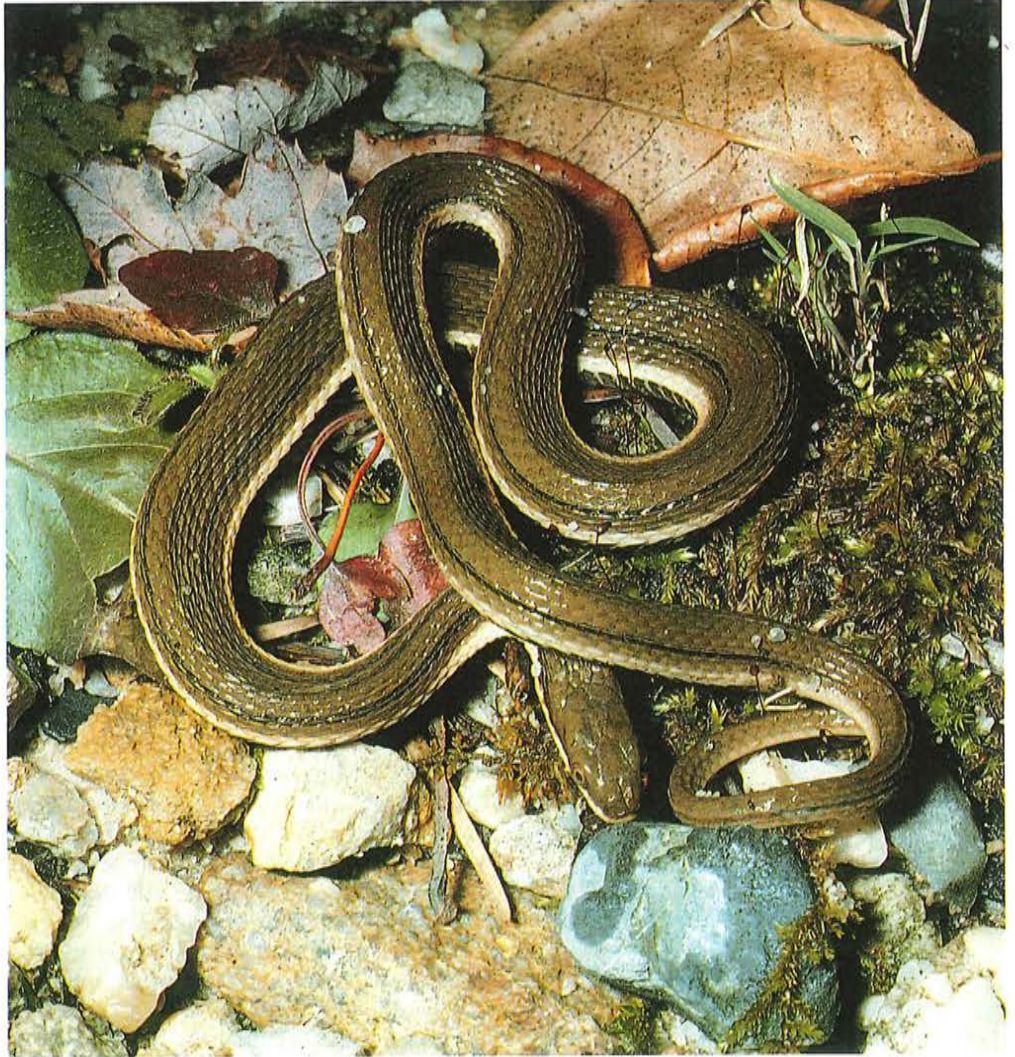


Figure VI-1