

FIELD GUIDE TO NORTH AMERICAN MAMMALS

for Latitude: 40° 15' North Longitude: 74° 30' West

New Jersey, United States

White-tailed Deer

(*Odocoileus virginianus*)

ORDER: Artiodactyla

FAMILY: Cervidae

Conservation Status: The Key deer, *Odocoileus virginianus clavium*, is an Endangered subspecies and the Columbian white-tailed deer, *Odocoileus virginianus leucurus*, is Near Threatened.

The White-tailed Deer is distinguished from the Mule Deer by the smaller size of its ears, the color of its tail, and most strikingly, by antler shape. In Whitetails, the main beam of the antlers grows forward rather than upwards, and each tine develops as its own separate branch rather than being split into a forked pair. The two species also run differently when they are alarmed. Mule Deer stot, a boing-boing-boing motion in which all four feet leave and hit the ground with each bound, whereas White-tailed Deer spring forward, pushing off with their hind legs and landing on their front feet. Today White-tails are very widespread in North America: there may be as many as 15 million in the United States. These Deer are adaptable browsers, feeding on leaves, twigs, shoots, acorns, berries, and seeds, and they also graze on grasses and herbs. In areas where they live alongside Mule Deer, the species naturally separate ecologically, the Whitetails staying closer to moist streams and bottomlands, the Mule Deer preferring drier, upland places.

Also known as:

Deer, Whitetail

Sexual Dimorphism:

Males are about 20% larger than females.

Length:

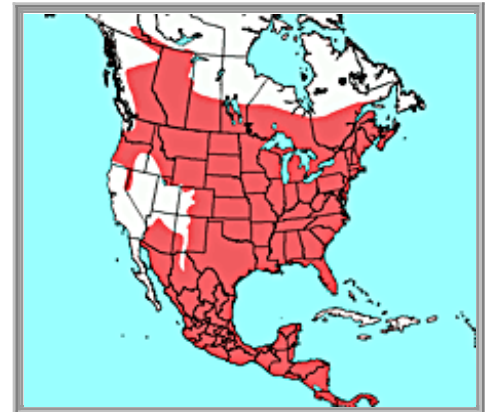
Range: 0.85-2.4 m males

Weight:

Range: 22-137 kg males



Odocoileus virginianus - male, winter coat, left; female, summer coat, right, with fawn
Credit: painting by Elizabeth McClelland from Kays and Wilson's *Mammals of North America*, © Princeton University Press (2002)



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Coyote

(*Canis latrans*)

ORDER: Carnivora

FAMILY: Canidae

Coyotes are among the most adaptable mammals in North America. They have an enormous geographical distribution and can live in very diverse ecological settings, even successfully making their homes in suburbs, towns, and cities. They are omnivorous, eating plants, animals, and carrion. Socially, coyotes live in a variety of arrangements. Some live alone, others in mated pairs, and others in packs, which may consist of one mated pair, their new young, and offspring from the previous season that have not yet left their parents. Packs are an advantage when preying on larger mammals such as deer, or defending food resources, territory, and themselves.

Sexual Dimorphism:

Males are larger than females.

Length:

Range: 750-1,000 mm

Weight:

Range: 8-20 kg males; 7-18 kg females



Canis latrans - eastern animals are larger (top); typical western animal and pups are shown below

Credit: painting by Consie Powell from *Kays and Wilson's Mammals of North America*, © Princeton University Press (2002)



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Common Gray Fox (*Urocyon cinereoargenteus*)

ORDER: Carnivora

FAMILY: Canidae

Gray foxes are adept at climbing trees. They are active at night and during twilight, sleeping during the day in dense vegetation or secluded rocky places. Nursing mothers and pups use a den— a hollow log, abandoned building, tangle of brush, or cracked boulder—for shelter. When she is nursing small pups, the female stays within a few hundred meters of the den, but otherwise adults may range over a 2–5 square km area. Pups begin to forage on their own at about four months of age, and maintain close ties with the mother until they are about seven months old. By about ten months, both males and females are old enough to reproduce, and most females will have a litter annually from then on.

Also known as:

Zorra, Zorra Gris, Gato de Monte

Sexual Dimorphism:

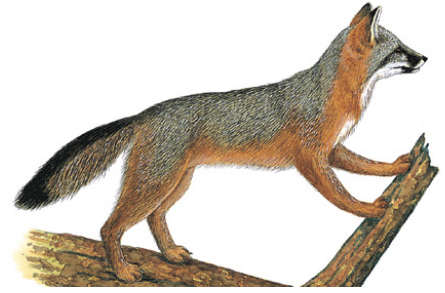
None

Length:

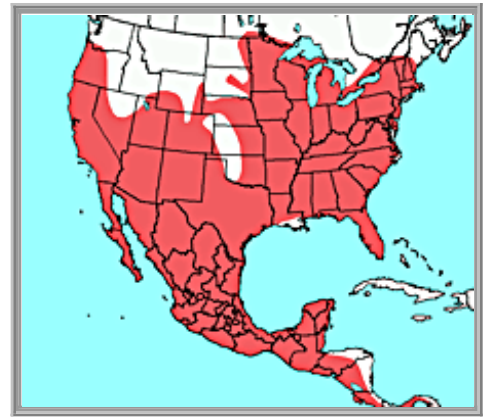
Range: 800-1,130 mm

Weight:

Range: 3-7 kg



Credit: painting by Consie Powell from Kays and Wilson's Mammals of North America, © Princeton University Press (2002)



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Red Fox

(*Vulpes vulpes*)

ORDER: Carnivora

FAMILY: Canidae

Red foxes are the most widely distributed wild carnivores in the world, occurring in North America, Asia, Europe, and North Africa. They are also widespread in Australia, where they were introduced in about 1850 so that fox-hunters would have something to hunt. Their range in North America has expanded since colonial times as their competitors, wolves, were eliminated, but their range has also contracted in areas where they are in competition with coyotes. Red foxes prey on voles, rabbits, hares, and other small mammals, and also eat birds, fruits, and invertebrates even beetles and earthworms. A male-female pair typically inhabits a territory, and older, usually female, siblings help care for the younger offspring by bringing them food. Red foxes are among the main carriers and victims of rabies.

Sexual Dimorphism:

Males can be 15%-25% heavier than females.

Length:

Range: 827-1,097 mm

Weight:

Range: 3-7 kg



Vulpes vulpes - typical coloration, top; silver fox, lower left; cross fox, lower right
Credit: painting by Consie Powell from Kays and Wilson's *Mammals of North America*, © Princeton University Press (2002)



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Striped Skunk (*Mephitis mephitis*)

ORDER: Carnivora
FAMILY: Mephitidae

The Striped Skunk is the most common skunk in North America, yet most of what we know about it comes from studies of captive individuals. Like all skunks, it has a superb defense system, the ability to spray a foul-smelling fluid from two glands near the base of its tail. Skunk musk is oily and difficult to remove. If sprayed in the eyes, it causes intense pain and temporary blindness. Skunk kittens can spray when they are only eight days old, long before they can aim, a skill they exhibit only after their eyes open at about 24 days. Skunks attempt to give a warning before they spray: both Hooded and Striped skunks stamp their front feet before turning around and spraying. Like all skunks, Striped Skunks are nocturnal and eat a variable diet, mostly of insects, but also including small mammals, carrion, and some vegetation.

Also known as:

Skunk, Big/large Skunk, Polecat

Sexual Dimorphism:

Males are 15% larger than females, but females have longer tails.

Length:

Range: 575-800 mm

Weight:

Range: 1,200-5,300 g



Mephitis mephitis - typical pattern, lower left; white tail variant, upper right

Credit: painting by Consie Powell from *Kays and Wilson's Mammals of North America*, © Princeton University Press (2002)



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Northern River Otter

(Lontra canadensis (Lutra canadensis))

ORDER: Carnivora
FAMILY: Mustelidae

River Otters can be thought of - and in a very real sense are - semi-aquatic weasels. Like fishers, martens, and mink, they have long, slender bodies, short limbs, and a short face, plus a set of adaptations for their aquatic lifestyle: an oily, waterproof coat, webbed toes, and small external ears. River Otters are good swimmers and divers, able to stay underwater for up to eight minutes. They feed on crayfish, crabs, fish, birds, small mammals, and some aquatic plants. They once lived in streams, rivers, lakes, swamps, and coastal areas throughout Canada and the United States. Now they are gone from the central and eastern United States, and extinct or rare in Arizona, Colorado, Indiana, Iowa, Kansas, Kentucky, Nebraska, New Mexico, North Dakota, Ohio, Oklahoma, South Dakota, Tennessee, Utah, and West Virginia. Scientific studies have shown them to be sensitive to pollution. Still these animals are commercially harvested: 20,000 - 30,000 are taken annually for their lustrous fur.

Also known as:
River Otter, Common Otter

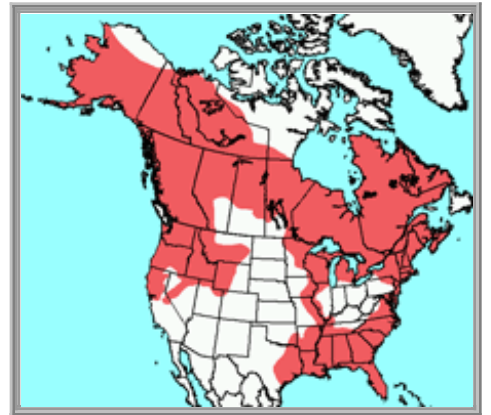
Sexual Dimorphism:
Males are larger than females.

Length:
Range: 889-1,300 mm

Weight:
Range: 5-14 kg



Credit: painting by Consie Powell from Kays and Wilson's Mammals of North America, © Princeton University Press (2002)



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Ermine

(Mustela erminea)

ORDER: Carnivora

FAMILY: Mustelidae

Ermine are highly adaptable predators, easily invading small burrows to feed on voles, mice, and young rabbits. They also eat earthworms, frogs, and squirrels, climbing trees and swimming if necessary. Mother Ermine teach their young to hunt. Litters of 4–9 young are born in nests that are often located in rodent burrows. The newborns are blind and helpless, but in six weeks are almost adult-size. In the summer, the Ermine's coat is brown, but in the winter it is pure white except for the tip of the tail, which stays black. Ermine population density tends to fluctuate as rodent populations fluctuate.

Also known as:

Short-tailed Weasel, Stoat

Sexual Dimorphism:

Males are approximately twice the size of females.

Length:

Average: 272 mm males; 240 mm females

Range: 219-343 mm males; 190-292 mm females

Weight:

Average: 80 g males; 54 g females

Range: 67-116 g males; 25-80 g females



Mustela erminea - summer coat depicted here; winter coat is white except for black tail tip

Credit: painting by Consie Powell from Kays and Wilson's Mammals of North America, © Princeton University Press (2002)



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Long-tailed Weasel (*Mustela frenata*)

ORDER: Carnivora
FAMILY: Mustelidae

Long-tailed Weasels are voracious predators, foraging day and night for small vertebrates, and scavenging for carrion when necessary. In captivity, adults can consume an amount equal to one-third their own body weight in 24 hours. In the wild they may store food in a burrow or near a kill site. They are solitary except for the July-August breeding season. Both males and females maintain territories, marking them with chemical secretions from anal glands. Litters usually comprise 4-5 pups, born in a den. In 12 weeks they reach full adult body weight and begin hunting for food, pursuing mates, and establishing territories. Foxes, raptors, Coyotes, domestic dogs and cats, and rattlesnakes all prey on Long-tailed Weasels, and although they can live in a variety of habitats, population densities are low. In some locations they are endangered, and in others, considered threatened or species of concern.

Also known as:
Bridled Weasel

Sexual Dimorphism:
Males are larger than females.

Length:
Range: 330-420 mm males; 280-350 mm females

Weight:
Range: 160-450 g males; 80-250 g females



Mustela frenata - winter coat, left; summer coat, center; "Bridled Weasel", right
Credit: painting by Consie Powell from Kays and Wilson's *Mammals of North America*, © Princeton University Press (2002)



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American Mink (*Mustela vison*)

ORDER: Carnivora
FAMILY: Mustelidae

The American Mink, with its luxurious brown coat, is now bred on farms, or mink ranches, to provide fur to the clothing industry. This has relieved some of the stress natural populations endured from trapping over the past two centuries. The nocturnal, semi-aquatic Mink is now common along streams, lakes, and marshes throughout much of North America. Like other mustelids, Mink are good hunters. They consume crayfish, frogs, fish, birds, and small mammals. For some reason, few animals prey on them.

Sexual Dimorphism:

Males are about 20% heavier than females.

Length:

Range: 550-700 mm males; 470-600 mm females

Weight:

Range: 550-1,250 g males; 550-1,000 g females



Credit: painting by Consie Powell from Kays and Wilson's Mammals of North America, © Princeton University Press (2002)



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Northern Raccoon (*Procyon lotor*)

ORDER: Carnivora
FAMILY: Procyonidae

Raccoons are among the most adaptable of the Carnivora, able to live comfortably in cities and suburbs as well as rural and wilderness areas. They use small home ranges, as small as 1–3 square km, and show flexibility in selecting denning sites, from tree hollows to chimneys to sewers. A varied diet is at the root of their adaptability. Raccoons eat just about anything, finding food on the ground, in trees, streams, ponds, and other wet environments, and from unsecured trash cans, which they open adroitly by hand. They can live anywhere water is available, from the deep tropics well into southern Canada. Even in the suburbs, Raccoons can occur at densities of almost 70 per square km. Females can breed when they are not yet a year old, and typically have litters of four young, which they raise themselves. The female nurses her cubs for about 70 days. The cubs' eyes open at 18–24 days and they begin exploring the world outside the den when they are 9–10 weeks old. By 20 weeks of age they can forage on their own.



Credit: painting by Consie Powell from Kays and Wilson's Mammals of North America, © Princeton University Press (2002)

Also known as:

Coon

Sexual Dimorphism:

Males are 10%-30% larger than females.

Length:

Range: 603-950 mm

Weight:

Range: 1.8-10.4 kg



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Big Brown Bat (*Eptesicus fuscus*)

ORDER: Chiroptera
FAMILY: Vespertilionidae

Big brown bats make their homes in rural areas, towns, and cities, sometimes choosing barns, houses, or other buildings as roosts. Males usually live alone; females gather in maternity colonies in the spring and summer to give birth and raise their young. A maternity colony may include 20 - 75 adults and their offspring. Females in the eastern United States usually give birth to twins; those in the West usually have a single pup each year. Females may return to the same colony year after year. On warm, dry evenings, the bats leave the roost shortly after sunset to forage for insects especially flying beetles which they catch and eat in the air. When the weather is cold or wet, they may stay in the roost, dropping their body temperature and living on stored fat. In the winter, they hibernate. Many migrate a short distance (less than 80 km) to find mines or caves for hibernation, but some spend the winter in attics or walls where the temperature is cool but stays above freezing.

Also known as:

Brown Bat

Sexual Dimorphism:

Females are larger than males.

Length:

Average: 112 mm

Range: 87-138 mm

Weight:

Average: 16 g

Range: 11-23 g



Credit: painting by Wendy Smith from Kays and Wilson's Mammals of North America, © Princeton University Press (2002)



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Silver-haired Bat

(Lasionycteris noctivagans)

ORDER: Chiroptera

FAMILY: Vespertilionidae

Somewhat resembling the larger hoary bat, the silver-haired bat has frosted tips on the black or dark-brown fur of its back. Silver-haired bats occur in both grassland and forest, and are abundant in old-growth forest. They feed on small flying insects, especially moths, using echolocation to navigate and hunt. They start foraging after sunset, finding their prey at treetop level or over streams and ponds. Seasonal changes in the numbers of bats have been observed: more individuals are seen farther north in the summer and farther south in winter, suggesting that the species is probably migratory. However, these bats can enter torpor for energy conservation, and some individuals may not migrate.

Sexual Dimorphism:

Females are larger than males.

Length:

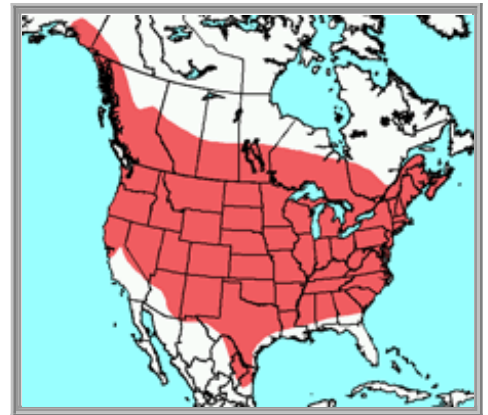
Range: 90-117 mm

Weight:

Range: 9-12 g



Credit: painting by Wendy Smith from Kays and Wilson's Mammals of North America, © Princeton University Press (2002)



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Red Bat

(Lasiurus borealis)

ORDER: Chiroptera

FAMILY: Vespertilionidae

Common and widespread from far southern Canada throughout most of the United States and Mexico, and farther south through Central America and into South America, the red bat requires trees and shrubs for roosting. It is remarkable for its richly-colored reddish pelage, with the male brighter than the female. Although the red bat is solitary, it migrates in groups. Females often give birth to twins and sometimes to quadruplets. The young are born hairless, with eyes closed, and weigh only 0.5 g, but by 3-6 weeks they are covered with fur, have their eyes open, are half their mother's weight, and can fly.

Sexual Dimorphism:

Females are larger than males.

Length:

Average: 112.3 mm

Range: 95-126 mm

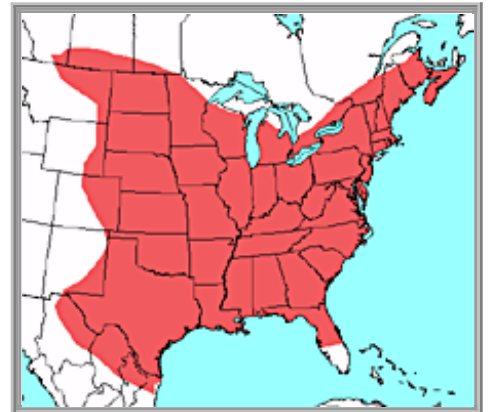
Weight:

Range: 7-16 g



Lasiurus borealis - female (left) and male (right)

Credit: painting by Wendy Smith from *Kays and Wilson's Mammals of North America*, © Princeton University Press (2002)



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Hoary Bat

(Lasiurus cinereus)

ORDER: Chiroptera

FAMILY: Vespertilionidae

Hoary bats are found from northern Canada all the way to Guatemala, and also in South America and Hawaii. They are solitary and roost in trees. Their frosted, or hoary, look comes from a tinge of white over their grayish-brown fur. Their flight is distinctively fast and direct and can be used as an identifying trait. Hoary bats eat moths, beetles, grasshoppers, wasps, and dragonflies.

Sexual Dimorphism:

Females are larger than males.

Length:

Average: 80.5 mm males; 83.6 mm females

Range: 77-87 mm

Weight:

Range: 20-35 g



Credit: painting by Wendy Smith from Kays and Wilson's Mammals of North America, © Princeton University Press (2002)



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Northern Yellow Bat (*Lasiurus intermedius*)

ORDER: Chiroptera
FAMILY: Vespertilionidae

Clumps of Spanish moss make good daytime roosting places for northern yellow bats. Small groups of males or slightly larger groups of females are often found roosting together in forested areas near a permanent source of water. They are seldom found roosting in houses or other manmade structures. They feed over open spaces: they are seen over golf courses, beaches, and along the edges of ponds, hunting for mosquitoes, flies, and other insect prey. Barn owls are known to prey on them. Unlike most other *Lasiurus* bats, they have only two nipples, and if a female gives birth to more than two offspring, usually only two survive. Young are born in May or June and are flying by June or July.

Also known as:

Eastern Yellow Bat, Florida Yellow Bat, Greater Yellow Bat, Big Yellow Bat

Sexual Dimorphism:

Females are larger than males.

Length:

Range: 121-131.5 mm

Weight:

Average: 17 g

Range: 14-20 g



Credit: painting by Wendy Smith from Kays and Wilson's *Mammals of North America*, © Princeton University Press (2002)



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Seminole Bat (*Lasiurus seminolus*)

ORDER: Chiroptera
FAMILY: Vespertilionidae

Seminole bats, sometimes called mahogany bats, can be mistaken for red bats where the two species overlap (the red bat has a much larger range). The two are similar in color, size, and appearance. Both have broad, rounded ears and long, pointed wings. The traditional - and still important - way to determine an animal's species when external features are so similar is to dissect it: in this case, a scientist would compare a feature of the skull called the lacrimal shelf to make a positive identification of the species. New tools that are proving useful include DNA analysis (a DNA sample can be taken from a live bat), and bat detectors. Bat detectors are electronic instruments that pick up bats' ultrasonic echolocation calls. They are becoming increasingly sophisticated and can sometimes be used to distinguish one bat species' calls from another's. Seminole bats begin foraging for flies, beetles, and other flying prey in early evening, sometimes feeding on insects that have been attracted to street lights. They occasionally swoop down to the ground to snap up a cricket. Like northern yellow bats, Seminole bats often roost in Spanish moss. The commercial collecting of Spanish moss may, in places, threaten the survival of this species.

Also known as:

Mahogany Bat

Length:

Average: 97.7 mm males; 103.5 mm females

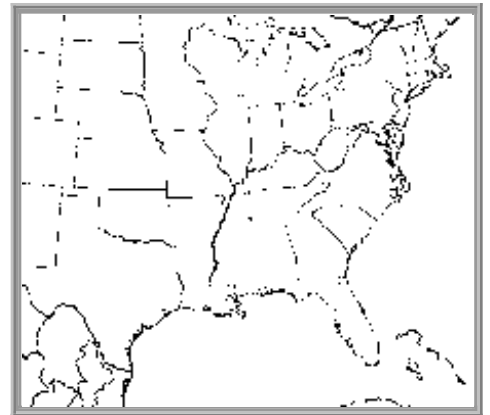
Range: 89-114 mm

Weight:

Range: 9.3-13.8 g



Credit: painting by Wendy Smith from Kays and Wilson's Mammals of North America, © Princeton University Press (2002)



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Eastern Small-footed Myotis (*Myotis leibii*)

ORDER: Chiroptera
FAMILY: Vespertilionidae

The eastern small-footed myotis is one of the smallest North American bats. It has a limited range, occurring only in eastern deciduous and coniferous forests. This bat tolerates colder temperatures than many bats, entering hibernation later than many (November to December) and leaving it rather early (in March). It has a slow, erratic flight that is characteristic and can be used to help identify the species. Rather remarkable for a mammal of such small size, this bat is known to live to 12 years. By comparison, most small rodents and shrews live only about 18 months or less.

Also known as:
Small-footed Myotis, Least Myotis, Leib's Myotis

Length:
Range: 73-82 mm

Weight:
Range: 3-7 g



Credit: painting by Wendy Smith from Kays and Wilson's Mammals of North America, © Princeton University Press (2002)



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Little Brown Bat (*Myotis lucifugus*)

ORDER: Chiroptera
FAMILY: Vespertilionidae

Echolocation of little brown bats has been well studied since the invention of bat detectors, electronic devices that can "hear" the ultrasonic calls bats make, which are usually beyond the range of human hearing. Little brown bats typically produce calls lasting about 4 milliseconds. While cruising, they emit echolocation calls about 20 times per second, spacing the pulses at 50 millisecond intervals. When attacking airborne prey, the pulse rates rise drastically, to 200 per second, with only 5 millisecond gaps between calls. The information the bats receive through echolocation allows them to orient themselves, and to locate, track, and evaluate their insect prey. Little brown bats feed near or over water, mainly on aquatic insects such as caddis flies, mayflies, and midges, and typically consume half their body weight in insects each night. Nursing females may eat up to 110 percent of their body weight each night.

Also known as:
Little Brown Myotis

Sexual Dimorphism:
Females are slightly larger than males.

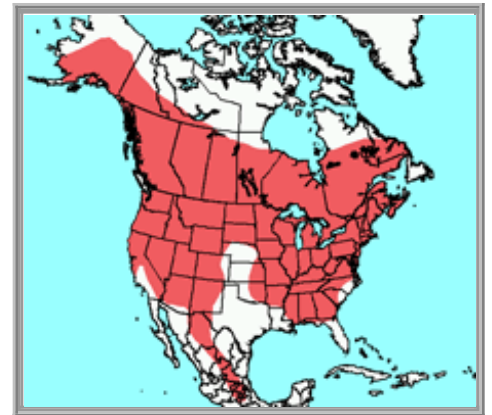
Length:
Average: 87 mm
Range: 60-102 mm

Weight:
Average: 10 g
Range: 7-13 g



Myotis lucifugus - inset shows long toe hairs

Credit: painting by Wendy Smith from Kays and Wilson's *Mammals of North America*, © Princeton University Press (2002)



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Northern Long-eared Myotis (*Myotis septentrionalis*)

ORDER: Chiroptera

FAMILY: Vespertilionidae

Although the northern long-eared myotis is common and widespread, much remains to be learned about its roosting habits, reproduction, and longevity. This bat is known to hibernate in caves and mines and to roost under tree bark. It is one of the gleaners, plucking insects from the surfaces of leaves, branches, and the ground rather than taking them from the air in flight. Northern long-eared myotis hang from a perch to eat, which lets them take larger insects than they could if they ate on the wing.

Also known as:

Northern Long-eared Bat

Sexual Dimorphism:

Females are slightly larger than males.

Length:

Average: 86 mm

Range: 80-96 mm

Weight:

Average: 7.4 g

Range: 4.3-10.8 g



Credit: painting by Wendy Smith from Kays and Wilson's Mammals of North America, © Princeton University Press (2002)



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Eastern Pipistrelle (*Pipistrellus subflavus*)

ORDER: Chiroptera
FAMILY: Vespertilionidae

Not as small as its western cousin, the eastern pipistrelle weighs in at 6 to 10 g and is comparable in size to many bats in the family Vespertilionidae. Eastern pipistrelles are stronger fliers than western pipistrelles, and some migrate several hundred miles in late summer and early fall, to the caves where they hibernate. Like their cousins, female eastern pipistrelles give birth to twins. The neonates are hairless, but develop rapidly and are able to fly when they are two to three weeks old. Males have been known to live to 15 years of age; the maximum recorded longevity for females is 10 years.

Also known as:
Pipistrelle

Sexual Dimorphism:
Females are larger than males.

Length:
Range: 75-90 mm

Weight:
Range: 6-01 g



Pipistrellus subflavus - inset shows tri-colored hair

Credit: painting by Wendy Smith from *Kays and Wilson's Mammals of North America*, © Princeton University Press (2002)



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Virginia Opossum (*Didelphis virginiana*)

ORDER: Didelphimorphia

FAMILY: Didelphidae

The Virginia opossum, the only marsupial found north of Mexico, is an adaptable omnivore at home on the ground and in the trees. Opossums prefer forested habitats, but they are quite successful even in urban areas. They are active at night, year-round: in freezing weather, an unlucky opossum can lose its ear-tips and the end of its tail to frostbite. Like all marsupials, opossums give birth to tiny, undeveloped young. The embryos develop in the mother's womb for less than two weeks, then the newborn opossums crawl from the birth canal to the mother's pouch, where they fasten tight to a nipple. They stay there, attached to the nipple, for 55 or 60 days. A female opossum usually has 13 nipples, and litters are usually smaller than that, but a baby that cannot attach to a nipple dies. After about 60 days the young opossums leave the pouch, but they stay close to their mother—sometimes riding on her back when they are out at night—and nurse for another month or more.

Also known as:

Opossums, Possum

Sexual Dimorphism:

Males are slightly larger and much heavier than females, with larger canine teeth.

Length:

Average: 740 mm

Range: 350-940 mm

Weight:

Range: 0.8-6.4 kg males, 0.3-3.7 kg females



Credit: painting by Todd Zalewski from Kays and Wilson's Mammals of North America, © Princeton University Press (2002)



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FIELD GUIDE TO NORTH AMERICAN MAMMALS

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New Jersey, United States

Northern Short-tailed Shrew (*Blarina brevicauda*)

ORDER: Insectivora

FAMILY: Soricidae

Northern Short-tailed Shrews have poisonous saliva. This enables them to kill mice and larger prey and paralyze invertebrates such as snails and store them alive for later eating. The shrews have very limited vision, and rely on a kind of echolocation, a series of ultrasonic "clicks," to make their way around the tunnels and burrows they dig. They nest underground, lining their nests with vegetation and sometimes with fur. They do not hibernate. Their day is organized around highly active periods lasting about 4.5 minutes, followed by rest periods that last, on average, 24 minutes. Population densities can fluctuate greatly from year to year and even crash, requiring several years to recover. Winter mortality can be as high as 90 percent in some areas. Fossils of this species are known from the Pliocene, and fossils representing other, extinct species of the genus *Blarina* are even older.

Also known as:

Short-tailed Shrew, Mole Shrew

Sexual Dimorphism:

Males may be slightly larger than females.

Length:

Range: 118-139 mm

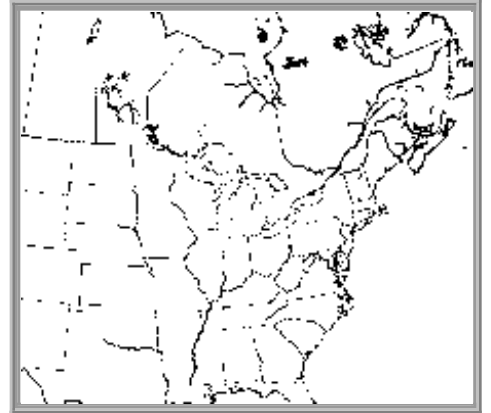
Weight:

Range: 18-30 g



Blarina sp. - summer coat

Credit: painting by Nancy Halliday from
Kays and Wilson's Mammals of North America, © Princeton University Press
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New Jersey, United States

Least Shrew (*Cryptotis parva*)

ORDER: Insectivora
FAMILY: Soricidae

Least Shrews have a repertoire of tiny calls, audible to human ears up to a distance of only 20 inches or so. Nests are of leaves or grasses in some hidden place, such as on the ground under a cabbage palm leaf or in brush. Weighing in at only a few grams, this shrew is remarkably adaptable, as its extensive north to south distribution attests. From southern New England to northern Panama, the Least Shrew inhabits grassy fields, marshes, and woodland habitats.

Also known as:

Small Short-tailed Shrew, Little Short-tailed Shrew, Bee Shrew

Sexual Dimorphism:

None

Length:

Average: 75 mm

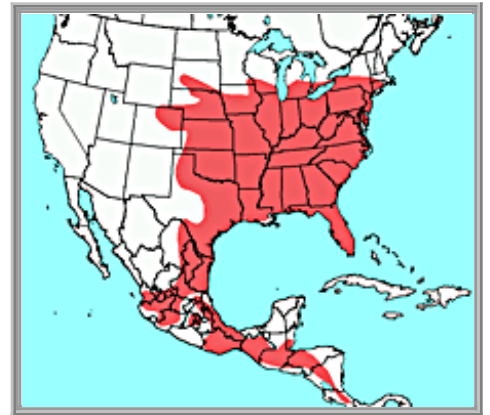
Range: 61-89 mm

Weight:

Range: 3-10 g



Cryptotis parva - summer
Credit: painting by Nancy Halliday from
*Kays and Wilson's Mammals of North
America*, © Princeton University Press
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New Jersey, United States

Cinereus Shrew (*Sorex cinereus*)

ORDER: Insectivora

FAMILY: Soricidae

Mainly nocturnal and rarely seen, the Cinereus Shrew is nonetheless common and widespread below the timberline in northern deciduous and coniferous forests, in both wet and dry habitats. It is also known as the Masked Shrew and the Common Shrew. Litter size ranges from 4-10, averaging 7. The newborns are about 15-17 mm long and are hairless, with fused eyelids. Their eyes open after 17 or 18 days, and they are weaned at approximately 20 days. The Cinereus Shrew is not distinctly marked. The back is brown, the underside is grayish white, and the tail has a blackish tip.

Also known as:

Masked Shrew, Common Shrew

Sexual Dimorphism:

None

Length:

Average: 96.6 mm

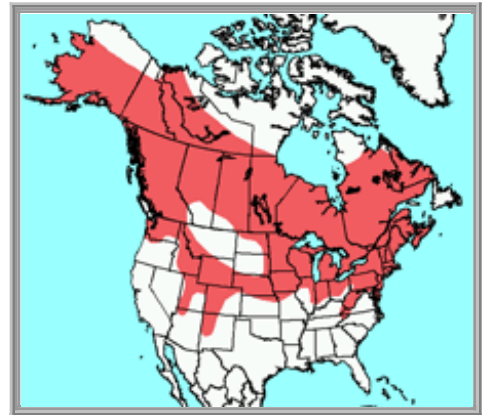
Range: 75-125 mm

Weight:

Range: 2.2-5.4 g



Credit: painting by Nancy Halliday from Kays and Wilson's Mammals of North America, © Princeton University Press (2002)



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New Jersey, United States

Water Shrew (*Sorex palustris*)

ORDER: Insectivora
FAMILY: Soricidae

Water Shrews are almost invariably found near streams or other bodies of water, where they find food and also escape from predators. These shrews readily dive to stream bottoms, paddling furiously to keep from bobbing to the surface—their fur, full of trapped air, makes them buoyant. They feed on aquatic invertebrates, insect larvae, and even small fish. In the water they are susceptible to predation from larger fish and snakes. On land, Water Shrews have a more typical shrew diet, feeding on a variety of invertebrates, including earthworms, snails, and insects. They also eat fungi and green vegetation.

Also known as:

American Water Shrew, Northern Water Shrew

Sexual Dimorphism:

Males average slightly heavier and longer than females.

Length:

Average: 151.4 mm

Range: 130-170 mm

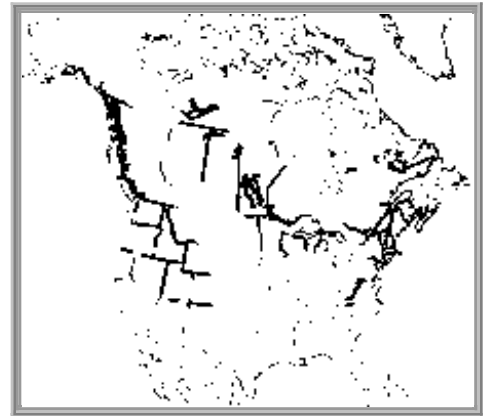
Weight:

Average: 13.8 g

Range: 8-18 g



Credit: painting by Nancy Halliday from Kays and Wilson's Mammals of North America, © Princeton University Press (2002)



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New Jersey, United States

Star-nosed Mole (*Condylura cristata*)

ORDER: Insectivora

FAMILY: Talpidae

No other mammal in the world looks like the star-nosed mole, which has 22 fingerlike appendages surrounding its nostrils. It has recently been discovered that these very sensitive tactile organs are used for object manipulation, and perhaps even for detection of electrical signals emitted by prey in the water. Star-nosed moles are able swimmers, and often forage in water for small fish and aquatic invertebrates, including insects, mollusks, and crustaceans.

Sexual Dimorphism:

None

Length:

Range: 132-230 mm

Weight:

Range: 40-85 g



Credit: painting by Nancy Halliday from Kays and Wilson's Mammals of North America, © Princeton University Press (2002)



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New Jersey, United States

Eastern Mole (*Scalopus aquaticus*)

ORDER: Insectivora

FAMILY: Talpidae

Eastern Moles have the widest distribution of any North American mole, and are common throughout most of the eastern United States where soils are favorable. They prefer moist loamy or sandy soils and are scarce or absent in heavy clay, stony, or gravelly soils. They avoid areas that are too wet or too dry. Well-adapted to a fossorial (underground) life, the eastern mole has short, fine fur that can lie flat facing forward or backward, depending on whether the animal is moving forward or backward through a tunnel. Its eyes are covered by skin, there are no external ears; and the mole's body is streamlined and powerful, equipped with broad side-facing hands for digging.

Also known as:

Topos

Sexual Dimorphism:

Males are larger than females.

Length:

Average: 151 mm males; 149 mm females

Range: 103-208 mm males; 129-168 mm females

Weight:

Average: 90 g males; 70 g females

Range: 40-140 g males; 32-90 g females



Scalopus aquaticus - northern form
Credit: painting by Nancy Halliday from
Kays and Wilson's Mammals of North America, © Princeton University Press
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New Jersey, United States

Eastern Cottontail

(*Sylvilagus floridanus*)

ORDER: Lagomorpha

FAMILY: Leporidae

Eastern Cottontails share habitats with seven other cottontails and six species of hares. They have been transplanted to areas outside their historically widespread range, which included swamps, prairies, woodlands, and forests. They have two ways of escaping danger: a zig-zag dash or a slink, in which they creep along, low to the ground, with their ears back. Eastern Cottontails are among the most prolific lagomorphs. Females can have seven litters a year, producing as many as 35 young. Litters, usually of 36, are born in a fur-lined nest of dried grasses and leaves.

Also known as:

Florida Cottontail

Sexual Dimorphism:

Females are larger than males.

Length:

Average: 430 mm

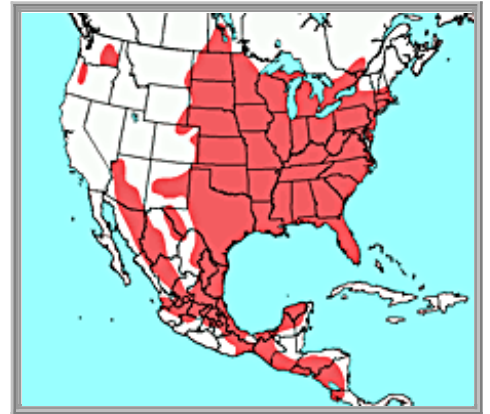
Range: 395-477 mm

Weight:

Range: 801-1,533 g



Credit: painting by Ron Klinger from Kays and Wilson's Mammals of North America, © Princeton University Press (2002)



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New Jersey, United States

American Beaver (*Castor canadensis*)

ORDER: Rodentia
FAMILY: Castoridae

The largest North American rodent and the only one with a broad, flat, scaly tail, the Beaver is now common and widespread, even in areas it did not inhabit during pre-colonial times. The modifications it makes to the environment by felling trees and building dams result in changes to plant, animal, and microbial communities that are sometimes desirable and sometimes not. The Beaver itself is not easily seen, being nocturnal and secretive, but it can be spotted in ponds, lakes, or large streams at twilight by a quiet observer. Its pelage is brown, with gray underfur, and is prized by trappers. The webbing on its hind feet help it to swim; claws on the digits of its forefeet give it dexterity in handling food; comblike claws on its hind feet help it in careful grooming; and it can close its mouth behind its front teeth, so that it can carry woody material without taking in water. Beavers cache and consume the inner bark of both deciduous and evergreen shrubs and trees, as well as terrestrial and aquatic plants. Their young, called kits, leave the colony at the age of six months.

Also known as:

Canadian Beaver, North American Beaver

Sexual Dimorphism:

None

Length:

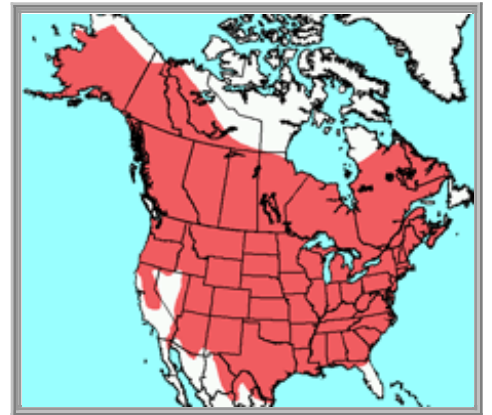
Range: 1,000-1,200 mm

Weight:

Range: 16-30 kg



Credit: painting by Todd Zalewski from Kays and Wilson's Mammals of North America, © Princeton University Press (2002)



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New Jersey, United States

Meadow Jumping Mouse (*Zapus hudsonius*)

ORDER: Rodentia
FAMILY: Dipodidae

Conservation Status: Preble's Meadow Jumping Mouse, *Zapus hudsonius preblei*, is Endangered; the Black Hills meadow jumping mouse, *Z. hudsonius campestris*, is Vulnerable and *Z. hudsonius luteus* is Near Threatened.

Meadow Jumping Mice have very long tails and very large feet. They are most common in grassy or weedy fields, where they use runways made by other rodents. If they are frightened, they may creep away through the grass, or make a series of short jumps. They have to put on about six grams of fat in the fall, because they burn about a gram a month in their six months of hibernation. Jumping Mice have litters of 3-6 young after an 18-day gestation period. Most of the Mice born late in the summer are not able to put on enough weight to survive hibernation.

Also known as:
Hudson Bay Jumping Mouse, Kangaroo Mouse

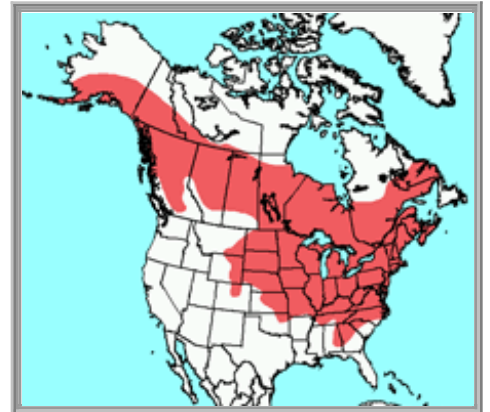
Sexual Dimorphism:
None

Length:
Average: 202 mm
Range: 180-234 mm

Weight:
Range: 12-30 g



Credit: painting by Ron Klinger from Kays and Wilson's *Mammals of North America*, © Princeton University Press (2002)



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New Jersey, United States

Southern Red-backed Vole (*Clethrionomys gapperi*)

ORDER: Rodentia

FAMILY: Muridae

Conservation Status: The Kentucky red-backed vole (*C. gapperi maurus*) is Near Threatened.

Southern Red-backed Voles, like other voles, are active year-round. They do not hibernate or reduce their metabolism and enter a state of torpor to conserve energy against the cold. They breed from March through November, producing two or three litters of 4-5 young each year. By three months of age, the young voles are sexually mature and ready to reproduce. This species is semi-fossorial, using burrow systems built by other rodents and natural aboveground runways through logs, rocks, and roots of trees.

Also known as:

Red-backed Vole, Gapper's Red-backed Mouse, Boreal Red-backed Vole, Red-backed Mouse

Sexual Dimorphism:

None

Length:

Range: 116-172 mm

Weight:

Range: 6-42 g



Clethrionomys gapperi - grayish-brown and reddish variants

Credit: painting by Todd Zalewski from Kays and Wilson's *Mammals of North America*, © Princeton University Press (2002)



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New Jersey, United States

Meadow Vole

(*Microtus pennsylvanicus*)

ORDER: Rodentia

FAMILY: Muridae

Conservation Status: The Florida saltmarsh vole (*M. pennsylvanicus dukecampbelli*) is Vulnerable; four subspecies are Near Threatened (*M. pennsylvanicus admiraltiae*, Admiralty Island meadow vole; *M. pennsylvanicus kincaidi*, Potholes meadow vole; *M. pennsylvanicus propectus*, Block Island meadow vole; and *M. pennsylvanicus shattucki*, Penobscot meadow vole).

Meadow Voles have a remarkable reproductive output: they are the world's most prolific mammals. Females can breed when they are a month old and produce litters of 3-10 pups every three weeks for the rest of their lives. A captive female produced 17 litters in one year. They are known for their boom-bust population cycles. Population density can vary from several Voles to several hundred per hectare over a 2-5 year period. Biologists have been studying - and trying to explain - these boom-bust cycles for more than half a century. At peak density, Meadow Voles are capable of real damage to farms and orchards. They are also a very important food source for many predators.

Also known as:

Meadow Mouse, Field Mouse

Sexual Dimorphism:

None

Length:

Average: 167 mm

Range: 140-195 mm

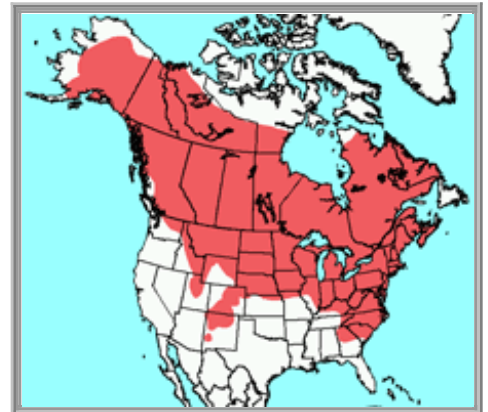
Weight:

Range: 33-65 g



Microtus pennsylvanicus - adult (right), juvenile (left)

Credit: painting by Todd Zalewski from *Kays and Wilson's Mammals of North America*, © Princeton University Press (2002)



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New Jersey, United States

Woodland Vole

(Microtus pinetorum)

ORDER: Rodentia

FAMILY: Muridae

Fossil finds have helped document shifts in the geographic distribution of the Woodland Vole over the centuries. During the Pleistocene, when glaciers covered much of North America, this species ranged well into Texas and northern Mexico. As the climate warmed and the Southwest got drier, Woodland Voles, which prefer habitats with a thick leaf layer or dense grassy patches, became concentrated in the eastern United States. Other small mammals found in the same habitats as Woodland Voles include Jumping Mice, White-footed Mice, Deermice, Red-backed Voles, Prairie Voles, Meadow Voles, Smoky Shrews, and Short-tailed Shrews. Hairy-tailed Moles frequently share their burrow systems.

Also known as:

Pine Vole, Pine Mouse, Mole Mouse, Potato Mouse, Mole Pine Mouse, Bluegrass Pine Mouse

Sexual Dimorphism:

None

Length:

Average: 121 mm

Range: 111-139 mm

Weight:

Range: 14-37 g



Credit: painting by Todd Zalewski from Kays and Wilson's Mammals of North America, © Princeton University Press (2002)



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New Jersey, United States

Muskrat

(Ondatra zibethicus)

ORDER: Rodentia

FAMILY: Muridae

Musk rats, so-called for their odor, which is especially evident during the breeding season, are highly successful semi-aquatic rodents. They occur in both brackish and freshwater lakes, ponds, streams, rivers, and marshes throughout much of North America, except in parts of the South where tidal fluctuation, periodic flooding, or drought limit their distribution. Musk rats have a variety of aquatic adaptations, including a rudder-like tail that is flattened side-to-side, partially webbed hind feet, and fur that traps air for insulation and buoyancy. Because their fur has commercial importance, they were taken to Japan, South America, Scandinavia, and Russia, and there are now feral populations in some places where they were introduced.

Also known as:

Mudcat, Muskbeaver, Musquash

Length:

Range: 410-620 mm

Weight:

Range: 680-1,800 g



Credit: painting by Todd Zalewski from Kays and Wilson's Mammals of North America, © Princeton University Press (2002)



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New Jersey, United States

Marsh Rice Rat (*Oryzomys palustris*)

ORDER: Rodentia
FAMILY: Muridae

Marsh rice rats are among the most common mammals inhabiting tidal marshes of the Gulf and Atlantic coasts. Being good swimmers, diving to 10 m and crossing 300 m stretches of water, and able climbers, these rice rats are suitably equipped for life in an environment where water levels fluctuate. They and Coues's rice rats are carnivores: they prey on crabs, clams, snails, fish, insects, baby turtles, and birds. As opportunistic feeders, they will also eat carrion and even some plant material. In some places, they breed throughout the year, and in other places, they breed from March to October. A litter of five, after a gestation of about 25 days, is typical. In a little over a week, the newborn rats' eyes open and they are beginning to nibble solid food. They are weaned before they are three weeks old. As with many nocturnal rodents, owls are the main predator.

Also known as:

Rice Rat

Sexual Dimorphism:

Males are larger than females.

Length:

Average: 226 mm males; 217 mm females

Range: 193-262 mm males; 191-253 mm females

Weight:

Average: 56 g males; 48 g females

Range: 46-80 g males; 40-60 g females



Oryzomys palustris - lower image is silvery subspecies *O. p. argentatus* of Florida Keys

Credit: painting by Ron Klinger from *Kays and Wilson's Mammals of North America*, © Princeton University Press (2002)



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New Jersey, United States

White-footed Mouse (*Peromyscus leucopus*)

ORDER: Rodentia

FAMILY: Muridae

The White-footed Mouse has a very wide distribution. It is the most abundant rodent in mixed deciduous and coniferous forests in the eastern United States, and is probably equally abundant near farms. Its habitat preferences are very different in southern Mexico, however, as it prospers in semi-desert vegetation. White-footed Mice are excellent swimmers, and so are able to colonize islands in lakes with relative ease. They are not agricultural pests, and they are important ecologically because owls, weasels, snakes, and many other predators eat them. Individuals may live several years in captivity, but an almost complete turnover occurs annually in wild populations. In some places they carry the tick that transmits Lyme disease.

Also known as:

Wood Mouse, Deermouse

Length:

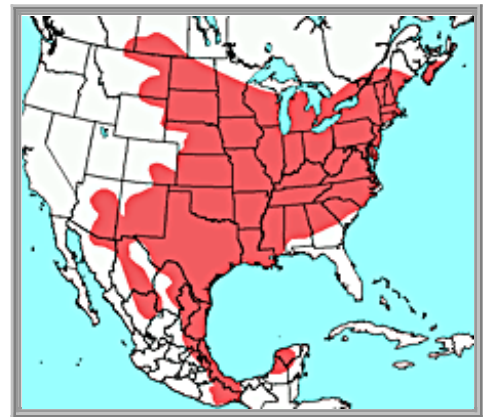
Range: 150-205 mm

Weight:

Range: 15-25 g



Credit: painting by Wendy Smith from Kays and Wilson's Mammals of North America, © Princeton University Press (2002)



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New Jersey, United States

Southern Bog Lemming (*Synaptomys cooperi*)

ORDER: Rodentia

FAMILY: Muridae

Conservation Status: Two subspecies are Extinct, *S. cooperi paludis*, the Kansas Bog Lemming, and *S. cooperi relictus*, the Nebraska Bog Lemming.

Southern Bog Lemmings are born with whiskers and a scattering of hairs on their heads and backs. They are well-furred when they are a week old, and look like miniature adults at two weeks of age. By three weeks, they are weaned and are almost full grown. They live in a wide variety of habitats, including grasslands, mixed deciduous/coniferous woodlands, spruce-fir forests, and freshwater wetlands. They eat grasses, sedges, mosses, fungi, fruit, bark, and roots. Fossils indicate that they once lived where the Northern Bog Lemming is found today, and Southern Bog Lemmings occurred as far south as Texas and Mexico.

Also known as:

Southern Lemming Mouse

Sexual Dimorphism:

None

Length:

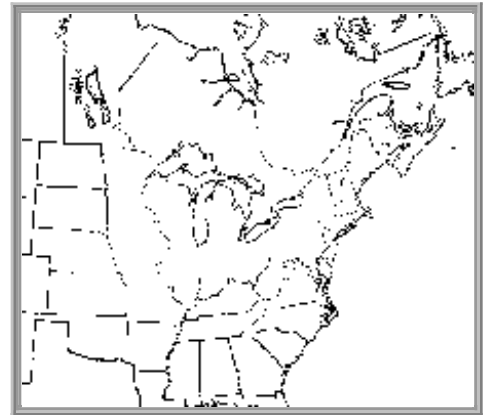
Range: 94-154 mm

Weight:

Range: 21.4-50 g



Credit: painting by Todd Zalewski from Kays and Wilson's Mammals of North America, © Princeton University Press (2002)



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New Jersey, United States

Southern Flying Squirrel (*Glaucomys volans*)

ORDER: Rodentia

FAMILY: Sciuridae

Most of the Southern Flying Squirrel's range is east of the Mississippi River, but it occurs west of the river in central Texas, and as far south as Honduras, in Central America. Like the Northern Flying Squirrel, it has a gliding membrane (patagium) and a flattened tail. Flying squirrels are nocturnal and are much smaller than most tree squirrels, which are diurnal. Although primarily associated with hardwoods, especially oaks and hickories, Southern Flying Squirrels inhabit forests of diverse types, and even live in cities and suburbs. A natural cavity or old woodpecker hole in a live or dead tree is the typical nest site. Where the ranges of the two species of flying squirrels overlap, it appears the Southern Flying Squirrel may out-compete its larger relative.

Also known as:

Eastern Flying Squirrel

Length:

Average: 231 mm

Range: 198-255 mm

Weight:

Average: 70 g

Range: 46-85 g



Glaucomys volans - left (with *G. sabrinus*); *G. volans*' belly hairs are white at base and tip

Credit: painting by Todd Zalewski from *Kays and Wilson's Mammals of North America*, © Princeton University Press (2002)



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New Jersey, United States

Woodchuck

(*Marmota monax*)

ORDER: Rodentia

FAMILY: Sciuridae

Also known as the Groundhog or the Whistle-pig, the Woodchuck thrives in forest borders through much of the eastern United States, across Canada, and into Alaska. Socially, Woodchucks live singly from the time they are weaned at six weeks of age. They are diurnal vegetarians, consuming clover, dandelion, chickweed, alfalfa, sorrel, beans, peas, grains, grasses, and other plants. In their burrows, they sleep through the night, raise their young, and spend the winter in hibernation. When it is hibernating, the Woodchuck's body temperature drops almost to the air temperature in its den and its heartbeat slows from 75 beats per minute to about 4. Curled into a tight ball, with its head between its front legs, it seems to be dead.

Also known as:

Ground Hog, Whistle-pig

Sexual Dimorphism:

Males are 3% heavier than females.

Length:

Range: 415-675 mm

Weight:

Range: 3-4 kg



Marmota monax - reddish cinnamon variant (Canada, Alaska) on right
Credit: painting by Todd Zalewski from Kays and Wilson's *Mammals of North America*, © Princeton University Press (2002)



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New Jersey, United States

Eastern Gray Squirrel (*Sciurus carolinensis*)

ORDER: Rodentia

FAMILY: Sciuridae

The adaptable, omnivorous, diurnal Eastern Gray Squirrel is the native American mammal people most frequently see east of the Mississippi River. It prefers to den inside trees, but will construct large nests of leaves in the canopy if tree cavities are not available. An average of two to three blind, hairless young make up a litter. Litters are produced once or twice a year, in February and March and again in July through September. The young are weaned at eight or nine weeks, when their previously protective mother abandons them. In September, yearlings and some adults strike out to establish their own home ranges in a process called the "fall reshuffle." These home ranges are rarely more than one or two hectares in size. Successful as they are, Eastern Gray Squirrels live only 11-12 months on average, but some individuals have survived more than ten years in the wild. Factors affecting survival include the severity of winter, abundance of food, and parasites. One parasite, the mange mite, may cause enough hair loss to threaten survival through winter.

Also known as:

Cat Squirrel, Migratory Squirrel

Sexual Dimorphism:

None

Length:

Average: 473 mm

Range: 383-525 mm

Weight:

Average: 520 g

Range: 338-750 g



Sciurus carolinensis - typical gray, left; black variant, right

Credit: painting by Todd Zalewski from *Kays and Wilson's Mammals of North America*, © Princeton University Press (2002)



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New Jersey, United States

Eastern Chipmunk (*Tamias striatus*)

ORDER: Rodentia

FAMILY: Sciuridae

Eastern chipmunks are found in forests, but also in suburban gardens and city parks, as long as there are rocks, stumps, or fallen logs to provide perching sites and cover for burrow entrances. They dig complex burrows with many entrances and chambers as well as short escape tunnels, and each chipmunk defends a small area around its burrow, threatening, chasing, and even fighting with a neighbor who invades the space. The chipmunks spend the winter underground, but venture to the surface occasionally on mild, sunny days. They enter torpor for a few days at a time, and then arouse to feed on stored nuts and seeds. Life expectancy in the wild is slightly more than a year.

Sexual Dimorphism:

None

Length:

Average: 255 mm

Range: 215-285 mm

Weight:

Average: 130 g

Range: 80-150 g



Credit: painting by Nancy Halliday from Kays and Wilson's Mammals of North America, © Princeton University Press (2002)



FIELD NOTES

DATE: _____ LOCATION: _____

FIELD GUIDE TO NORTH AMERICAN MAMMALS

for Latitude: 40° 15' North Longitude: 74° 30' West

New Jersey, United States

Red Squirrel

(*Tamiasciurus hudsonicus*)

ORDER: Rodentia

FAMILY: Sciuridae

Conservation Status: The Mount Graham red squirrel, *T. hudsonicus grahamensis*, is Critically Endangered.

Red Squirrels are very vocal. They bark at intruders, including humans, and can bark continuously for more than an hour if they are annoyed. They also chatter, especially to stake out a territory and protect their stored food supply (conifer cones, which they harvest in great numbers) from other squirrels. They are especially noisy during the breeding season, when they chase each other through tree branches making a distinctive call that sounds almost like the buzz of cicadas. They readily nest in attics and cabins, and are trapped for their fur.

Also known as:

Pine Squirrel, Chickaree, Barking Squirrel, Mountain Boomer, Boomer

Length:

Range: 280-350 mm

Weight:

Range: 140-250 g



Tamiasciurus hudsonicus - lower three images: white eye ring is distinctive in all seasons; summer coloration on left, winter coloration in center. (*T. douglassii* is above)

Credit: painting by Todd Zalewski from Kays and Wilson's Mammals of North America, © Princeton University Press (2002)



FIELD NOTES

DATE: _____ LOCATION: _____
